Katahdin Region Comprehensive Plan

Millinocket, East Millinocket, and Medway Maine

2020



Millinocket
Maine's Biggest Small Town

EMDC EASTERN MAINE DEVELOPMENT CORPORATION

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Introduction to Maine Comprehensive Plans

Historic Background

A comprehensive plan is a document adopted by a local government and created by local people. This document is actually a map to the town's future that guides the decision making process regarding the community and the vision that the residents have for their future. The essential characteristics of the plan makes it comprehensive, general, and long-range. The plan is comprehensive since it encompasses *all* aspects of the community; general because the plan summarizes policies and implementation strategies but does not include detailed regulations; and long-range, since the plan looks to the future to envision problems and possibilities.

During the economic boom of the 1980s, the State of Maine experienced substantial growth not only in the urban areas but also in rural communities. This growth was a blend of industrial, commercial and residential types and occurred in many communities that were not prepared to deal with increased demand on municipal budgets, and built environment. In response to this growth and in an effort to reduce the impact on local taxes, community character, and environmental integrity, the Maine State Legislature enacted land use laws intending to provide municipalities with the tools to anticipate future growth and development. The "Comprehensive Planning and Land Use Regulation Act" of 1988 – frequently referred to as the "Growth Management Act" – requires municipalities throughout the state to adopt a Growth Management Program consisting of a comprehensive plan and land use ordinances. It provides the framework for municipalities to guide their future growth and development while maintaining their community character and identity. The program was subsequently repealed by the Legislature, eliminating the mandatory aspect of the law; however, many communities have recognized the value and necessity of this program and continue to aspire to the original Act's goals.

In January 2001, Public Law 776 "*An Act to Implement the Land Use Recommendations of the Task Force on State Office Building Location, Other State Growth-related Capital Investments and Patterns of Development*" went into effect. This act was developed to ensure that government investments are made in a manner that will not spur development sprawl and will concentrate public facilities and improvements in locally designated *growth areas*. Whether investment uses State, Federal, or other public funds in the form of a purchase, lease grant, loan, loan guarantee, credit, tax credit or other financial assistance, **"growth-related capital investment"** refers to investment by the State in the following projects:

- Construction or acquisition of newly constructed multifamily rental housing;
- Development of industrial or business parks;
- Construction or extension of sewer, water and other utility lines;
- Grants and loans for public service infrastructure, public facilities and community buildings; and
- Construction or expansion of state office buildings, state courts, and other state civic buildings that serve public clients and customers.

"Growth-related capital investment" **does not** include investment in the following:

- Operation or maintenance of a governmental or quasi-governmental facility or program;
- Renovation of a governmental facility that does not significantly expand the facility's capacity;
- General purpose aid for education;
- School construction or renovation projects;

- Highway or bridge projects;
- Programs that provide direct financial assistance to individual businesses; community revenue sharing; or
- Public health programs.

Statutory Basis

The Katahdin Region's multi-jurisdictional Comprehensive Plan was developed pursuant to the statutory requirements of the Comprehensive Planning and Land Use Regulation Act of 1988 (MRS Title 30, Section 4861). The adoption of the Plan can assist the towns in receiving preferential consideration when applying for Federal or State funded grants that affect their community development (MRSA Title 30-A, Section 4349).

Purpose

The purpose of a comprehensive plan is to provide the factual basis and policy framework for future planning, regulatory, and community development decision-making in both the public and private sectors for the Towns. The plan is a valuable working instrument for the future growth and development of the towns of Millinocket, East Millinocket, and Medway, and will qualify them for preferred status with state competitive grant programs.

Consultancy

Eastern Maine Development Corporation (EMDC) is pleased to assist the towns of Millinocket, East Millinocket, and Medway with their collaborative comprehensive planning efforts and looks forward to working with the communities.

State of Maine's Goals

In order for the plan to be deemed consistent by the State of Maine, it must address the state's ten goals of Growth Management:

1. To encourage orderly growth and development in appropriate areas of each community, while protecting the State's rural character, making efficient use of public services, and preventing development sprawl;
2. To plan for, finance, and develop an efficient system of public facilities and services to accommodate anticipated growth and economic development;
3. To promote an economic climate, which increases job opportunities and overall economic well-being;
4. To encourage and promote affordable, decent housing opportunities for all Maine citizens;
5. To protect the quality and manage the quantity of the State's water resources, including lakes, aquifers, great ponds, estuaries, rivers, and coastal areas;
6. To protect the state's other critical natural resources, including without limitation, wetlands, wildlife and fisheries habitat, sand dunes, shorelands, scenic vistas, and unique natural areas;
7. To protect the State's marine resources industry, ports, and harbors from incompatible development and to promote access to the shore for commercial fishermen and the public;
8. To safeguard the State's agricultural and forest resources from development which threatens those resources;
9. To preserve the state's historic and archeological resources; and
10. To promote and protect the availability of outdoor recreation opportunities for all Maine citizens, including access to surface waters.

To go along with these, the towns of East Millinocket, Millinocket, and Medway have included their own local goals within each chapter, not only supporting but also building upon the requirements of the State of Maine.

Scope of Work

This comprehensive plan involves the following:

- A survey of existing and potential resources;
- Analysis of past, present, and future community needs;
- Development of policy proposals to abate, resolve or prevent local problems;
- Adoption and implementation of these policies by town officials and residents; and
- Continuous monitoring of the plan's policies and implementation strategies.

A comprehensive plan follows an established framework set forth by the State of Maine. Within the plan, however, are the collective thoughts and actions of the Katahdin Region's residents. The entire comprehensive plan must be applicable now and in the future. Consequently, the towns must periodically review the plan and update it to reflect needed changes in local policies and to incorporate updated information. This comprehensive plan looks at local as well as regional issues that concern or affect the towns of East Millinocket, Millinocket, and Medway. It will guide the towns over the next ten years and provide a reasonable approach to land-use regulation by preparing the towns for future development while retaining, or even enhancing, local quality of life.

This comprehensive plan examines the following components:

- Public and Regional Participation
- Historic and Archaeological Resources
- Water, Topography, and Soil Resources
- Habitats and Critical Natural Resources
- Agriculture and Forestry
- Population and Demographics
- Housing
- Economy
- Transportation
- Recreation and Tourism
- Public Facilities and Services
- Fiscal Capacity and Capital Investment
- Existing and Future Land Use

While many comprehensive plans deal with Marine Resources, the Katahdin Region is well inland. Any pertinent resources related to the Penobscot River are listed in Water, Topography, and Soil Resources.

Implementation

As important as the preparation of the plan, implementing the included policies and measuring their impacts should be a top priority for the town councilors and select-boards of Millinocket, East Millinocket, and Medway. Follow official adoption, this plan should be integrated into decision making vertically as well as horizontally across each town's government. Finally, this document can be used to coordinate private business activities as well as quasi-public and other entities that operate in the Katahdin region.

Regional Coordination Program

The towns of Millinocket, East Millinocket, and Medway lie within the northern portions of the Penobscot River in the West Branch Penobscot, East Branch Penobscot, and Lower Penobscot Subbasins. Additional water bodies connect the communities in the Katahdin Region, including Dolby Pond, Shad Pond, the Quakish Lake Subwatershed, the Millinocket Stream Subwatershed, and the Schoodic Stream Subwatershed. Various roadways and transportation facilities such as Millinocket Municipal Airport link Millinocket, East Millinocket, and Medway. The interconnections between these water and transportation systems and other shared resources and facilities signify that their management will require regional coordination efforts. To represent regional coordination efforts and coordinate management of shared resources and facilities, a review board will convene on an annual basis or as needed. In addition to each town manager or administrative assistant, two representatives from each community will serve on the tri-town review board, for a total of nine individuals. The two representatives that will serve on the board will be decided upon by each community. The review board's conversation topic areas will revolve around economic development, transportation, land use management, natural resource protection, housing, and municipal services, as they pertain to the region. Other tasks will be to update this document and plan the implementation of recommended initiatives, which may include discussing resource sharing, writing grants together, and other collaboration.

Conflicts with other Communities' Policies/Strategies

Within the Katahdin Region, the Town of Millinocket borders Norcross to the west. Grindstone is situated north of East Millinocket and Woodville and Mattawamkeag are located southeast of Millinocket. As a result of the lack of comprehensive plans in these bordering communities, no policy or strategy conflicts were identified.

Evaluation

In order to evaluate the degree to which future land use plan strategies have been implemented, the percent of municipal growth-related capital investments in growth areas, the location and amount of new land development, and the protection of critical natural resources, the Katahdin region's review board will discuss these topics at their scheduled meetings. Materials will be filed for a 5-year review, which will consist of code enforcement and a compilation of building permits. This regional conversation will serve as a time to assess progress made, discuss impacts to natural resources, and plan for future growth in Millinocket, East Millinocket, and Medway. Town departments within the region should read this plan and integrate its recommendations for policy change and/or implementation with their partners, commissions and committees.

Limitations

This comprehensive plan has been assembled and compiled such that all data and information contained was gathered from sources cited. Where appropriate, applications of the information contained in this plan should be preceded by a verification of the original source to note additional or revised information. While this information is suitable for general planning, it may not be appropriate for site-specific decisions.

Disclaimer

The information used to create the maps and data visualizations in this Comprehensive Plan have been derived from multiple sources. The map and data products as provided are for reference and planning purposes only and are not to be construed as legal documents or survey instruments. Eastern Maine Development Corporation (EMDC) provides this information with the understanding that it is not guaranteed to be accurate, correct, or complete; that it is subject to revision; and that conclusions drawn from such information are the responsibility of the user. Due to ongoing road renaming and addressing, the road names shown on the maps may not be current. Any user of the maps and data accepts AS IS, WITH ALL FAULTS, and assumes all responsibility for the use thereof, and further agrees to hold EMDC harmless from and against any damage, loss, or liability arising from use of any content.

American Community Survey Data from the US Census

Datasets from the US Census come in a variety of geography levels and products. The Decennial Census occurs every ten years and is a point-in-time count of every person in the US. The American Community Survey is released every year and measures only a portion of the entire population in either 1-year or 5-year estimates. The Decennial Census values are given without margins of error, whereas the ACS sampling method requires the use of margins of error.

The geographies we are most familiar with – Census Tracts, Block Groups, and Blocks – are generated to create consistent populations between tracts or blocks. However, these can be problematic in rural places with relatively low populations. For much of this analysis, the County Subdivision has been used as it describes every municipality in its entirety (as opposed to a Census Designated Place, which is generally a small area within a municipality). In order to provide statistically valuable data estimates, however, the American Community Survey uses a sampling technique that allows only for 5-year estimates at the County Subdivision level. For example, the dataset labeled "2018" spans the years 2014 through 2018. The dataset labeled "2017" spans the years 2013 through 2017. Comparisons between these two datasets are inappropriate because the sample data in years 2014, 2015, 2016, and 2017 are identical for each dataset. The different sample years – 2013 and 2018 – contain too few data points to draw any statistically valuable comparisons. However, it is appropriate to directly compare two non-overlapping datasets such as 2009-2013 and 2014-2018 or 2007-2011 and 2012-2016.

This comprehensive plan uses both Decennial Census and American Community Survey data at the State, County, and County Subdivision levels. Every attempt has been made to clearly address the limitations of each data product. At the time of writing, the most current ACS products available were from the 2018 5-year estimates released in December 2019. For more information visit data.census.gov.

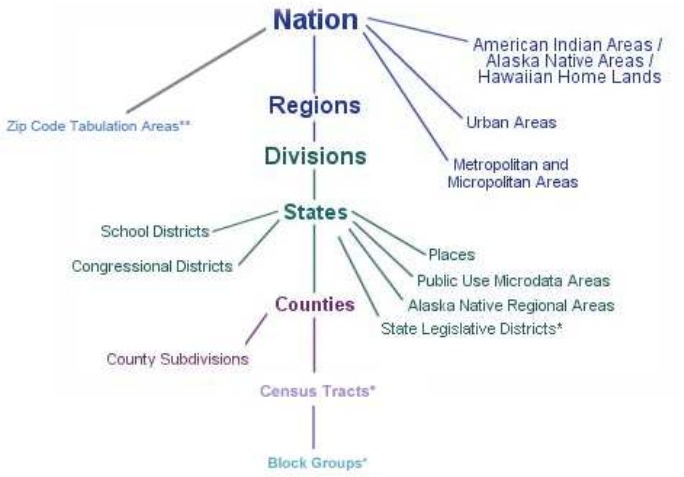


Figure 1 US Census Geography Hierarchy

Chapter One:
A Vision for the Katahdin Region

The Katahdin region is made up of the communities of Millinocket, East Millinocket, and Medway surrounded by Island Falls, Mount Chase, Patten, Sherman, Stacyville, and others. These communities are bound both by geography and by a shared history. With a view of Mount Katahdin from all directions, the region is rooted in its forests, lakes, rivers and mountains. This relationship is manifest in the successes of Baxter State Park and the designation of the Katahdin Woods and Waters National Monument in 2016.

Historically, regional identity was enmeshed with the forest industry. Whether through the absence of operational lumber mills and paper manufacturers or through workforce or supply chain businesses, the recent downturn of this region's major industry has greatly affected the region. Efforts to revitalize paper and pulp mills have remained largely unsuccessful and measures to rebuild economic vitality are central to the region's future. In 2014, the grassroots and volunteer-driven organization *Our Katahdin* was launched with a mission to advance community and development across the region. Constructing a vision for *Our Katahdin* was an early and pivotal step in rejuvenating these communities:

> "Distinct, welcoming and gritty. The Katahdin Region is a premier four-season outdoor recreation destination in New England known for enduring natural beauty and authentic experiences. We promote economic growth and development that respects the natural environment, bolsters communities, accounts for climate impacts and builds on the diversity of resources that surrounds us. Our robust forest economy produces a new wave of innovative forest products and our world-class outdoor recreation activities are legendary. People who live here and visitors alike enjoy walking, biking, hiking, snowmobiling, ATVing, skiing, and paddling on well-connected and well-marked paths and trails that wind throughout the region. Our communities support people of all ages and abilities with excellent healthcare and education, wheelchair and stroller-friendly sidewalks, and access to affordable housing and broadband service. Our town centers are alive with bustling small businesses and unique eateries. The Katahdin Region is a robust string of dynamic communities, working and wild lands, and crystalline rivers and lakes. People who live here fiercely support and welcome new businesses, new neighbors, and new visitors to our special corner of Maine. Welcome to Katahdin."[1]

Our Katahdin was joined by a wide range of non-profit and community-based organizations to promote positive change. Among these were the Katahdin Collaborative, Katahdin Tourism Project, Katahdin Citizens Group, Katahdin Chamber of Commerce, Millinocket Memorial Library, Friends of Baxter State Park, Katahdin Area Trails, Thrive Penobscot, The Nature Conservancy, Eastern Maine Development Corporation, Maine Development Foundation, and Katahdin Higher Education Center.

[1] https://katahdincollaborative.org/initiatives/#KatahdinGazetteer Published May 2019 by Katahdin Collaborative, Accessed December 13, 2019.

Working within these new partnerships, several efforts were undertaken to identify a road to recovery:

- Hosting the Katahdin Revitalization Speaker Series;
- Initiating a regional survey, conducted by the Katahdin Higher Education Center, to engage businesses, organizations, local government, and residents in identifying business needs, gaps, and opportunities;
- Building the *Katahdin Collaborative*, an effort that resulted in the publication of the "Katahdin Gazetteer: A Roadmap to the Future";
- The Katahdin Region Socioeconomic Indicators report, led by Adam Daigneault, Assistant Professor of Forestry, Conservation and Recreation at the University of Maine and the George Mitchell Center for Sustainability Solutions; and
- Broadband needs assessment and planning, with technical support from the EPA's Cool and Connected Program and the State of Maine's Connect ME planning process.

The "Katahdin Gazetteer" was the realization of collaboration between communities and organizations working with The University of Maine Senator George J. Mitchell Center for Sustainability Solutions and with consulting firm Adam Burk & Co. The objective of this collaboration was to create a vision and action plan identifying what matters to people in the region and charting a roadmap to sustainable growth. The effort included community events, strategic planning sessions, workshops, surveys, and outreach to engage a broad representation of the region.

Because of this visioning, the following themes were identified:

1. **Foster vibrant villages that enhance the region;**
2. **Make the Katahdin region the premier four-season outdoor destination in New England;**
3. **Be a place that supports and attracts people of all ages;**
4. **Cultivate local jobs and a new regional economy;**
5. **Grow the next wave of forest product manufacturing;**
6. **Future-proof the region.**

Moving forward, regional collaboration will continue to assure that the visioning continues, that projects are supported, and that efforts result in revitalization of the region. This multi-jurisdictional comprehensive plan – an endeavor by Millinocket, East Millinocket, and Medway – will incorporate this vision and serve as a model for regional planning across the state.

Throughout the text of the plan, the description *Katahdin Region* will refer to Millinocket, East Millinocket, and Medway and their joint comprehensive plan. This is simply for the sake of convenience rather than attempting to define a geographically bounded region.

Chapter Two:
REGIONAL AND LOCAL STAKEHOLDER ENGAGEMENT

Following the regional visioning process completed for the Katahdin Gazetteer project, the towns of Millinocket, East Millinocket, and Medway agreed to use their shared experiences to embark on a multi-jurisdictional comprehensive plan. This effort is a continuation of the momentum and interest generated by the Gazetteer, but focuses on these three communities. The intention is to create a unique platform for improved regional coordination, cooperation, and participation at all levels of governance. Future collaboration with residents of nearby towns including Woodville, Grindstone, Mattawamkeag, Winn, Chester, and Lincoln will help to identify opportunities for future collaboration and implementation of this comprehensive plan.

During the construction of this Katahdin Region Multi-Jurisdictional Comprehensive Plan, the towns of Millinocket, East Millinocket, and Medway actively encouraged participation from all of their residents. A committee of individuals from each town and Eastern Maine Development Corporation (EMDC) staff regularly met to collect and review information for the plan. The committee and EMDC chose to hold four public meetings for the public to review and voice support or concerns for the plan. These meetings were held at the completion of three- to four-chapter sections. All meetings were publicized and the public were encouraged to attend.

Additionally, the Town of Millinocket initiates a yearly survey with the mindset of enhancing communications between the local municipality and the community. The survey was developed, conducted, and reviewed by the Millinocket Economic Development Committee and responses from years 2017 and 2018 were integrated into this plan. It consisted of three parts: Demographics, Closed Response Questions, and Open Response Questions. The raw data was then compiled into a report and was made available to the public.

Participants within the Closed Response section were asked to answer the questions on a scale of Not Important, Somewhat Important, Neutral, Important, or Very Important. Of the responses worth noting, nearly half of participants agree that there is progress in the economic development efforts within the Town of Millinocket. Over three quarters of participants believe that recreation and industry are important to the future of Millinocket and the region.

Participants within the Open Response section were asked five questions relating to the current economic development and thoughts of the future. Overall, participants spoke of the beauty of living in a small town where everyone knows everyone, and the ease of access to the outdoors. Participants, when asked about the future, spoke about attracting new industry to the Katahdin region to help employ the youth and the lowering of the tax rate to residents. The eight-town Visioning activity conducted for the Katahdin Gazetteer addressed these and other issues important for the growth and revitalization of the Katahdin region.

Regional committees have also been formed to address economic and community initiatives described in this comprehensive plan. The Broadband Committee Utility is composed of two representatives from each of the towns of Millinocket, East Millinocket, and Medway as well as an Administrator who fills a seventh board position. This organization is granted by the State of Maine contingent upon having at least two communities incorporated to form the committee and furthermore, a public utility. The Committee is collaborating to develop and improve broadband internet capability throughout the region. The *Three Ring Binder* – a 1,100-mile fiber optic network crossing rural parts of Maine – interconnects to major urban service centers of the state, to adjacent states, and to Canada. This

network allows users in rural Maine access to some of the fastest internet service in the country. The center ring runs along ME Route 11, through Millinocket, East Millinocket, and Medway, where it then hits a junction heading North and South. Initial plans include building an open access fiber utility that allows multiple Internet Service Providers to compete on the same fiber optic infrastructure.

In early 2020, the three towns hired Casco Bay Advisors to complete a broadband network engineering study and construction RFP. This study will be completed in August of 2020 and provide the communities with a network design that covers the entirety of Medway, East Millinocket, and Millinocket. With the information provided by this study, the towns can move forward with constructing a reliable and affordable municipal broadband network.

The Mental Health and Wellness Coalition is formed by the towns of Millinocket, East Millinocket, Medway, Woodville, and Lincoln. The coalition's purpose is to combine efforts in a regional approach by banding our resources together to identify needs of the region while limiting the duplication of efforts. The goal is to continue to grow and host more community leaders, recovery coaches, law enforcement, emergency medical responders, and concerned members of the public. The coalition hopes that applying for grants as a larger body; it will increase the chances that funds are distributed efficiently based on identified regional needs.

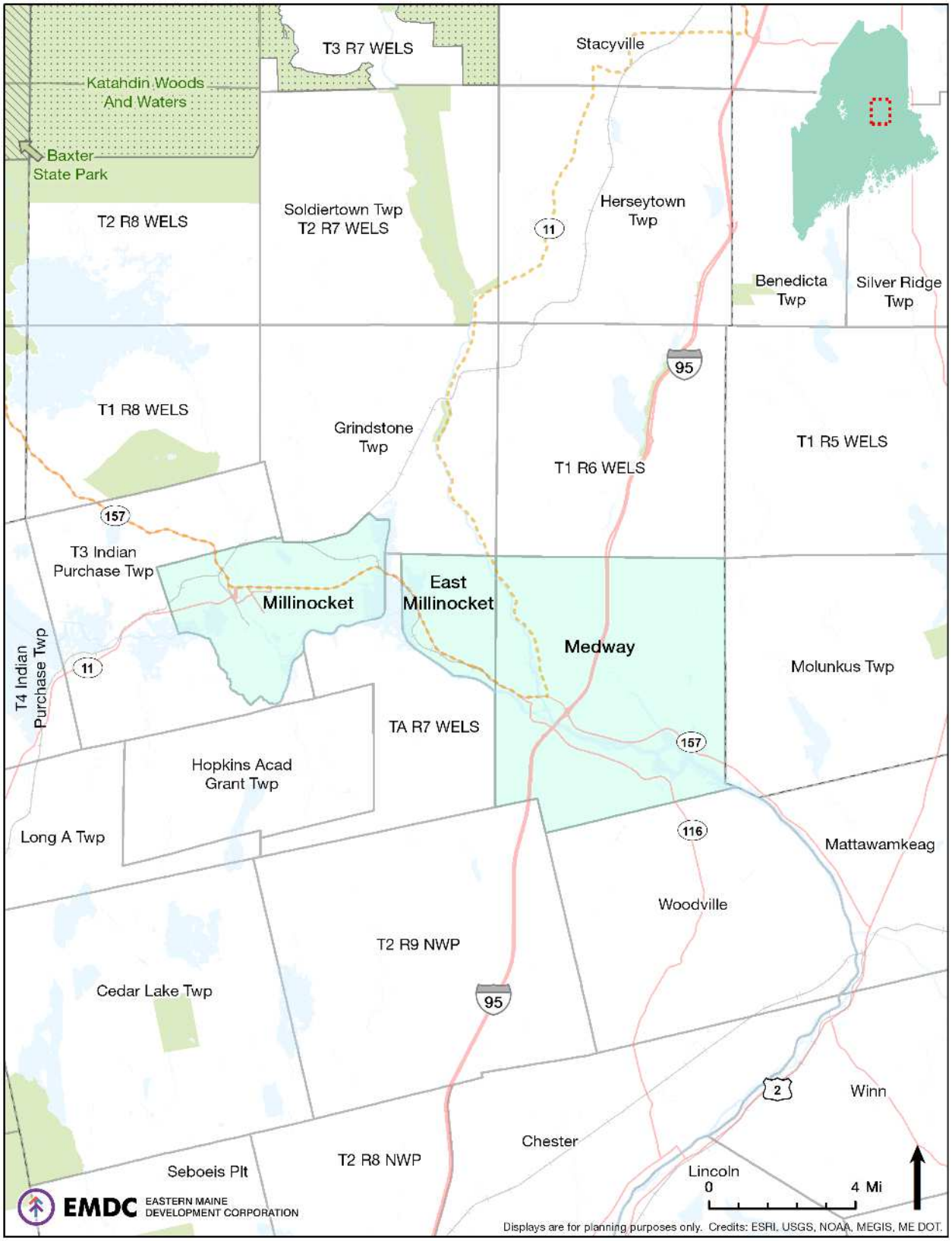


Figure 2 Regional Map showing Millinocket, East Millinocket, and Medway

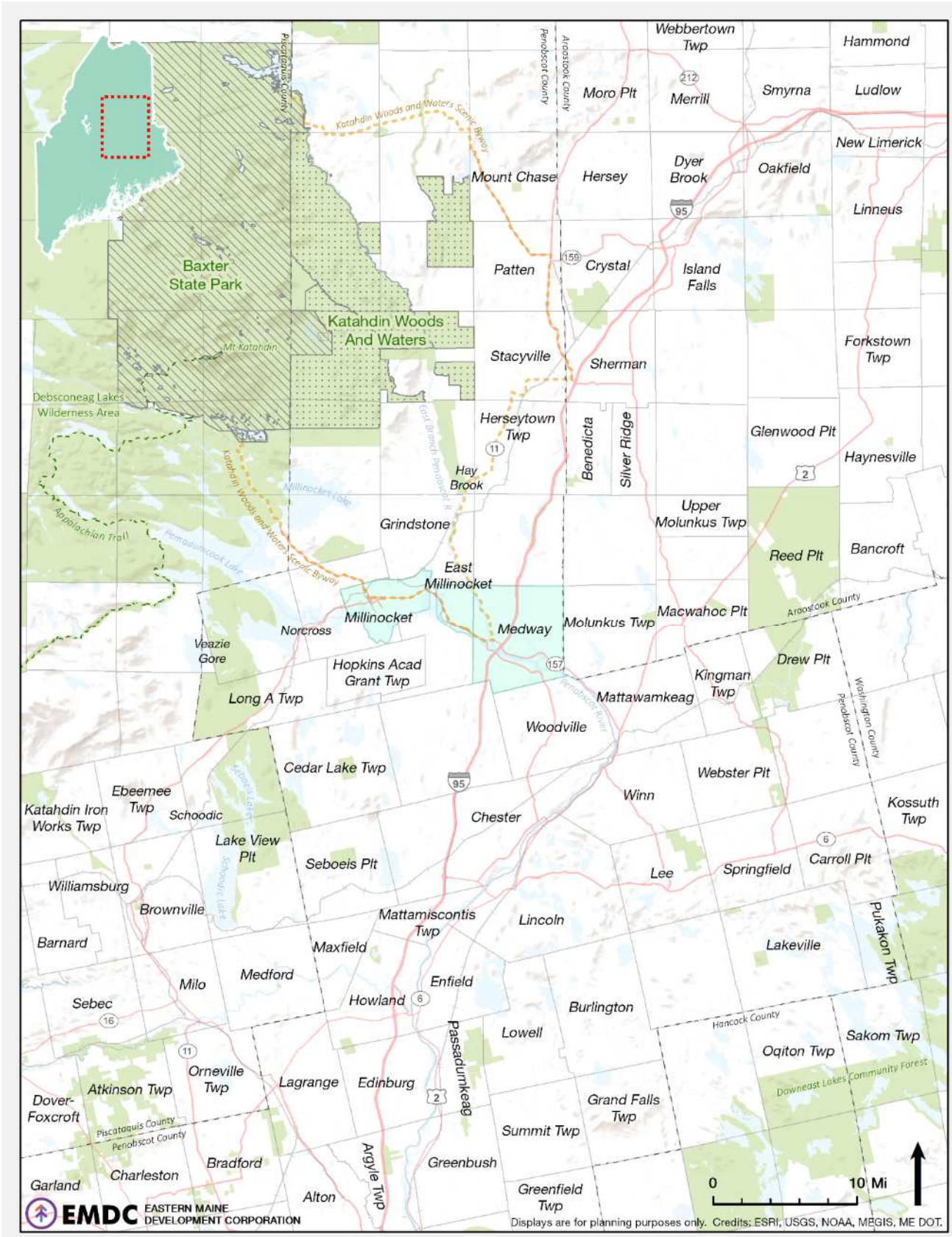


Figure 3 Regional Map showing Millinocket, East Millinocket, and Medway

Chapter Three:

HISTORIC & ARCHAEOLOGICAL RESOURCES

Goals/Vision

State Goal

To preserve the State's historic and archaeological resources.

Local Goals

Millinocket

To assess current and potential sites for historic preservation, to provide interpretive materials or displays to educate the public on these important resources, to work alongside projects and organizations with similar missions and to identify, prioritize, and seek funding through available agencies to reclaim, restore and recognize historic properties, both residential and commercial within our existing community.

East Millinocket

To help honor and retain the history of the Town and its reason for existence as the "Town that Paper Made." To honor and preserve the history of the original and early settlers of the Town and Region.

Introduction

Our shared history takes many forms: folklore, music, houses, churches and religious ceremonies, farms, trade halls, mills, villages, neighborhoods, libraries, and archaeological sites to list a few. These landmarks and edifices contribute meaning to our societal struggles and triumphs. We learn from that past as we continue to build on it. In 1966, the Congress passed the National Historic Preservation Act to preserve that heritage, ensuring that "its vital legacy of cultural, education, aesthetic, inspirational, economic, and energy benefits will be maintained and enriched for future generations of Americans" (§1, 16 USC 470.b.4). The Maine Historic Preservation Commission (MHPC) is responsible for overseeing this and other actions that steward our State's historic resources. Since the 1970s, the MHPC has recorded 4,601 historic archaeological sites, 6,373 prehistoric sites, and registered 179 historic districts and over 1,400 individual properties.[1]

[1] https://www.maine.gov/mhpc/sites/maine.gov.mhpc/files/inline-files/Heritage%20for%20the%20Future%202016-2021.pdf Accessed December 27, 2019.

A Brief History

Human habitation in the Katahdin region started with the retreat of the Laurentide ice sheet and the arrival of the first humans to the area, as early as 10,000 years ago.[1] This first period of pre-Columbian human habitation in New England and Atlantic Canada are known as the Red Paint people for their burials containing large amounts of red ochre. First contact between Native Americans and Europeans in Maine potentially dates back much earlier than the first written interactions in the 16th and 17th centuries. Norse settlement at L'Anse aux Meadows, Newfoundland, as well as documented exploration of maritime Canada suggest that these seafarers may have explored Maine as early as the 11th century. Early forays by John and Sebastian Cabot in 1497 and 1498 establish the earliest recorded explorations of the east coast of North America. The Portuguese explored Penobscot Bay as early as 1525, the English in 1527, and the French in 1556.[2] Early incursions into Maine's interior occurred during an era of expansion by European interests, coinciding with the devastating depopulation of native peoples due to warfare, disease, and famine. Estimates are that approximately 90% of native peoples died between 1492 and 1600, removing enough global CO_2 emissions to substantially cool the planet.[3]

In the beginning of the 17th century, Maine's first nations formed the allied Wabanaki Confederacy - the "People of the Dawn." These included the Mi'kmaq and Maliseet in the north; the Passamaquoddy in the east; the Abenaki in the west and south; and the Penobscot in central Maine.[4] Historians estimate somewhere between 12,000 and 20,000 Wabanaki lived in Maine at the confederacy's inception. Prosperous settlements at Portland, York, Kittery, Saco, and Wells became part of the Massachusetts Bay Colony in 1651. However, enduring wars with neighboring French territories and with Native populations during the 17th and 18th centuries meant that settlement across the State was tenuous, with an estimated population of 10,000 settlers in 1750. The conclusion of the French and Indian Wars (1763), the Revolutionary War (1783), and the War of 1812 (1815) ended a period of violence and insecurity for the State, officially inducted in 1820 to the United States of America and had then a population of 300,000.[5]

Proximity to the Penobscot River meant that the three communities of Millinocket, East Millinocket, and Medway were critically situated for a boom in the lumber industry. This region was known as Nicatou, or "the forks," and sat at the junctions of the East and West branches of the Penobscot River.[6] Early settlers in Medway – then Kilmanock – constructed saw mills along the Penobscot River in the 1820s. Thomas Fowler arrived in what would eventually become Millinocket in 1829, followed by other families in the ensuing decade. In 1830, George McCauslin became the first white settler in East Millinocket. Settlement increased in the following years, drawn to the region to exploit the vast timber resources of the north woods. These settlements would eventually become townships: Medway on February 8, 1875, Millinocket on March 16, 1901, and East Millinocket on February 1907.

Water-powered sawmills dotted river corridors and drove the extension of the Bangor and Aroostook Railroad in 1893, which connected the region to trade hubs to the south. In 1899, the Great Northern Paper Company constructed its first facility in Millinocket, expanding to a second mill in East

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[1] Miller, Steven. 1993. The Evolution of 12,000 Years in Maine. *Museum Management and Curatorship, 12.* Pgs. 63-72.

[2] https://maineanencyclopedia.com/timeline-of-maine-history-02-exploration-and-early-european-settlement/ Accessed December 27, 2019.

[3] https://www.pri.org/stories/2019-01-31/european-colonization-americas-killed-10-percent-world-population-and-caused Accessed December 27, 2019.

[4] http://www.native-languages.org/maine.htm Accessed December 27, 2019.

[5] https://maineanencyclopedia.com/brief-history-of-maine/ Accessed December 27, 2019.

[6] https://maineanencyclopedia.com/medway/. Accessed December 27, 2019.

Millinocket in 1907. The region began to grow rapidly and prosper, inviting immigrants from Europe, Canada, and other parts of Maine. Following World War II, the Katahdin region began to experience rapid changes. The loss of the Great Northern Hotel and other historic institutions, the passage of the Federal Highway Act and the construction of the Maine Turnpike, and a shift towards suburban development all began to change the physical character of these three communities. Separated single-family houses, strip malls, and suburban commercial developments dominated new growth patterns.

In the late 1980s, a decline in the domestic paper industry began to be felt across the state and the nation. In 1989, Georgia-Pacific acquired the Great Northern Paper Company in a takeover and, in turn, sold their Maine holdings to Bowater in 1991 and again to the Canadian company Inexcon in 1999. The uncertainty of the local paper and pulp industry continued through the 2000s with numerous acquisitions and de-acquisitions. In 2011, Katahdin Paper Company sold the mills to Cate Street Capital of Portsmouth, New Hampshire. They revived the name Great Northern Paper Company and hired over 250 people at the East Millinocket mill site. However, Millinocket had permanently shut their doors and – despite some revived demand – East Millinocket followed in 2014. The implications of this shift are further discussed at length in Chapter 7: Population and Demographics, Chapter 8: Economy, Chapter 9: Housing, and Chapter 11: Transportation.

Inventory of Historic & Archaeological Sites

Pre-Historic Archaeological Sites

An archeological site is any place that contains physical remains of human use. In Maine, human habitation dates back to the retreat of the last glaciers – as far back as 10,000 years ago. Many of these sites exist before any written record and are called *Prehistoric Archaeological Sites.*[1] These might include villages, cemeteries, monuments or art, or sites people created stone tools or harvested natural resources. Many of these locations are not publicly disclosed to prevent damage to the sites. Common threats to prehistoric archaeological sites include construction of buildings and roads, erosion from rivers and streams, and damage from artifact hunters.

Based on a study from the Maine Historic Preservation Commission, there are as many as twelve prehistoric sites in the Town of Millinocket. These sites are located on the shores of Dolby Pond, Shad Pond, and on the banks of the West Branch of the Penobscot River.

There is no information regarding prehistoric sites in the Town of East Millinocket.

An inventory of the Town of Medway disclosed nine prehistoric archaeological sites. All of these sites are located along the banks of the Penobscot River, on islands in the river, or in the mouth of the East Branch of the Penobscot River. Professional surveying has been limited to small areas of the riverbanks concurrent with road, bridge, and hydroelectric dam relicensing projects.

Both Millinocket and East Millinocket have adopted ordinances regarding land use and structures, but neither addresses the preservation of historic sites or buildings. Medway has not adopted a building code.

[1] https://www.saa.org/about-archaeology/what-is-archaeology Accessed December 30, 2019.

Historic Archaeological Sites

Where an archeological site can be identified or understood through written record, it is known as a *Historic Archaeological Site*. These can include shipwrecks, battlefields, cemeteries, houses, and industrial sites.

Site Name	Site Number	Site Type	Period of Significance	National Register Status	Town
Fowler Farm	ME 281-001	Farmstead	1833 - 1899	Undetermined	Millinocket
Quakish Lake Dam	ME 281-002	Dam, hydroelectric	1900 – present	Undetermined	Millinocket
Powers Farm	ME 136-001	Domestic	Pre-1890 – 1907	Undetermined	East Millinocket
W. Wait Homestead	ME 275-001	Domestic	n/a	Ineligible	Medway
Medway Village Sawmill Dam	ME 275-002	Dam, sawmill	n/a	Undetermined	Medway
G.H. Backer Homestead	ME 275-003	Domestic	n/a	Ineligible	Medway
W. Reed Homestead	ME 275-004	Domestic	n/a	Undetermined	Medway
Medway Unidentified Foundation	ME 275-005	Domestic	n/a	Undetermined	Medway
Source: Maine Historic Preservation Commission.					

The need for continued surveying, inventorying, and analysis is understood in all three towns. There have been no professional archaeological surveys; any future surveys ought to focus on identifying significant places associated with the earliest European settlements in the region. These settlements date back to the 18th and 19th centuries and are precursors to the region's cultural, agricultural, architectural, and industrial heritage.

Historic Architecture – Buildings, Structures, and Objects

As of April 2017, there are two properties in Millinocket and zero properties in East Millinocket eligible for the National Register of Historic Places. As of October 2016, Medway has one property on the National Register of Historic Places. Based on preliminary research, three locations in Millinocket and two locations in East Millinocket may soon become eligible for recognition. Some of the benefits of federal recognition include funding and preservation resources. Common threats to historic architecture are inappropriate repairs or reuse, structural decay, increasing land values, and fire. Striking a balance between the preservation of a structure and its continued value to a community is important.

Building Name	Eligibility	Location	Town
Great Northern Paper Administration Building	Yes	One Katahdin Ave	Millinocket
Great Northern Paper Engineering & Research Building	Yes	One Katahdin Ave	Millinocket
Bandstand	Preliminary	Katahdin Ave & Poplar Street	Millinocket
George W. Stearns High School	Preliminary	80 Maine Ave	Millinocket
Millinocket Post Office	Preliminary	Penobscot Ave Rd	Millinocket
Millinocket Trust Company, East Millinocket Branch	Preliminary	49 Main St.	East Millinocket
Municipal Building	Preliminary	53 Main St.	East Millinocket
Congregational Church of Medway	Yes	Church St.	Medway
Source: Maine Historic Preservation Commission.			

Other Notable Museums & Historical Sites

Antique Snowmobile Museum

The Antique Snowmobile Museum in Millinocket holds one of the largest collections of antique snowmobiles in the Northeast. The museum was founded by the sons of Earlan Campbell, a pioneer in the development of Maine's snowmobile culture. The Museum features thirty-six reconditioned sleds from early manufacturers dating back to 1943. The Northern Timber Cruisers snowmobile club operates the museum in addition to promoting motor sports and tourism in the area. Once a year these sleds are featured in the annual Snowmobile Parade during the region's Winterfest in February. The museum is located on Millinocket Road just north of Millinocket downtown.

Millinocket Historical Society

Founded in 1979 by Polly and Bud Segee, the Millinocket Historical Society's mission is to gather and preserve historical artifacts of the town Millinocket and the region. Their focus is on elements that shaped the citizens of the town and its generations of tradition. The museum and its office are located at 80 Central Street in Millinocket.

Historical & Archaeological Resources

Maine Historic Preservation Commission

The Maine Historic Preservation Commission is an independent agency within the State government that functions as the State Historic Preservation Office. The commission meets quarterly to review and approve nominations of historic properties to the National Register of Historic Places, to oversee the agency's annual operating budget, and to award grant funds for historic preservation projects.

Maine Preservation[1]

Founded in 1972, this non-profit assists property owners, towns, and cities with project guidance and assistance with tax credits, funding, easements, and advocacy.

[1] https://www.mainepreservation.org/what-we-do Accessed February 21, 2020.

Certified Local Government Program[1]

The CLG program is a state-operated program that promotes towns and cities in preservation planning and cultural resource protection. To become a CLG, a town must:

- Establish a historic preservation ordinance;
- Create a preservation commission;
- Provide for public education and participation;
- Conduct and maintain a survey and inventory of historic properties.

Maine Downtown Center[2]

The Maine Downtown Center is a part of the Maine Development Foundation that focuses on downtown revitalization efforts across the state. As part of the national Main Street America program, the MDC offers training, support, and marketing for communities and neighborhoods.

Maine Archaeological Society[3]

The Maine Archaeological Society is a non-profit research and advocacy organization that coordinates with local and state agencies on archaeological surveys, education and awareness, and other efforts.

[1] https://www.maine.gov/mhpc/programs/protection-and-community-resources/certified-local-government-program Accessed February 19, 2020.

[2] https://www.mdf.org/program-partnerships/maine-downtown-center/ Accessed February 19, 2020.

[3] http://www.mainearchsociety.org/ Accessed February 19, 2020.

Strategies and Policies

In order to preserve the State of Maine's historic and archaeological resources from development that could threaten those resources, the Towns of East Millinocket, Medway, and Millinocket should adopt local policies and strategies in addition to the following state policies and strategies:

State of Maine

Policies:

Minimum policies required to address state goals:

1. Protect to the greatest extent practicable the significant historic and archaeological resources in the community.

Strategies:

Minimum strategies to meet state goals:

1. For known historic archeological sites and areas sensitive to prehistoric archeology, through local land use ordinances require subdivision or non- residential developers to take appropriate measures to protect those resources, including but not limited to, modification of the proposed state design, construction timing, and/or extent of excavation.
2. Adopt or amend land use ordinances to require the planning board (or other designated review authority) to incorporate maps and information provided by the Maine Historic Preservation Commission into their review process.
3. Work with the local or county historical society and/or the Maine Historic Preservation Commission to assess the need for, and if necessary plan for, a comprehensive community survey of the community's historic and archaeological resources.

Time Frame: Ongoing

Responsible Agent(s): Maine Historic Preservation Commission, East Millinocket, Millinocket, Medway.

Local

Millinocket

1. **Policy:** To identify sites that are eligible for designation and to work with organizations and entities that own those sites to work towards designation.
   Strategies: Assess known sites that are not designated and research unknown sites with potential.
   Time Frame: Ongoing
   Responsible Agent(s): Town of Millinocket, Millinocket Historical Society, Community members and stakeholders at large.

East Millinocket

1. **Policy:** *None at this time.*
   Strategies: To preserve and protect the original and settled heritage when feasible and the opportunity presents itself.
   Time Frame:
   Responsible Agent(s):

Medway

1. **Policy:** *None at this time.*
   Strategies:
   Time Frame:
   Responsible Agent(s):

Chapter Four:
WATER RESOURCES

Goals/Vision

State Goal

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

Local Goals

Millinocket

To expand public access to waterways for recreational purposes and tourism. To create more recreational areas accessible to the public (residents and visitors) along the Millinocket Stream and the lakes around Millinocket.

To protect our water supply and drinking water by testing and public education.

To continue to meet Maine Department of Environmental Protection guidelines for treated wastewater into the Penobscot River and protect that right for needed business development while respecting the interest of local Tribes in having clean waterways.

To continue to protect the neighborhoods, houses, businesses, and school property near the Millinocket Stream from flooding due to excessive rain and regulation of the dam.

East Millinocket

To restore the shore of the West Branch of the Penobscot River along and near Spencer Brook. To create a walking area along the river, to create a canoe and kayak launch area, and to restore Spencer Brook and its head ponds to enable IF & W to restock the brook with trout on an annual basis. To protect the East Millinocket water supply source from the East Branch of the Penobscot along the gravel pack esker to remain viable into the future.

To protect the quality of the Town's water resources.

Introduction

Maine has benefitted from its abundant and healthy water systems. However, these resources have not always been managed in accordance with their value. Rampant pollution and misuse degraded many of the State's waters to the detriment of health, environment, and economy. The passage of the Clean Air Act (1963) and the Clean Water Act (1972) began an era of serious reform and rehabilitation. The benefits of these efforts are clear, and it is incumbent on State and municipal managers to build on those successes. As such, Maine's Growth Management Act requires municipalities to protect and manage "significant water resources such as lakes, aquifers, estuaries, rivers and coastal areas and, when applicable, their vulnerability to degradation" (See MRSA Title 30-A, §4312.3.E, §4326.1.B, and §4326.3-A.C).

Threats & Productive Measures

Threats to Water Quality

Point Source pollution comes from identifiable sources such as outfall pipes, ditches, or channels used by municipal or industrial facilities, bypasses or overflows from municipal sewage systems, or wastewater from oil or gas operations. Wastes discharged into rivers, lakes, streams, or the ocean, are called *effluents*. Quite often, effluent is treated to reduce any dangerous or damaging effects to the waterbody or its natural inhabitants.

Since the early 1970s, point sources of effluent discharge have been regulated by the National Pollution Discharge Elimination System (NPDES) administered by the US Environmental Protection Agency (EPA). In Maine, the Department of Environmental Protection (DEP) – in collaboration with the US EPA and local agencies – create waste discharge and effluent guidelines, issues licenses, and monitor water quality. The Maine DEP permits the Towns of East Millinocket and Millinocket to discharge wastewater effluent through outfall locations located along the West Branch of the Penobscot River. The Town of Medway Public Works Department does not have a treatment facility.

The Maine DEP offers pollution prevention assistance – also known as *point source reduction* – to municipalities and industries by identifying opportunities to reduce pollution creation at its source, increasing the efficiency of equipment and processes, thereby lowering the operating costs of treatment facilities. Where these interventions are successful, costs are recouped both from increased efficiencies in production and in treatment while reducing environmental impacts.

Unlike point source pollution, *Non-Point Source* (NPS) pollution is generated through the aggregation of run-off from lawns, parking lots, roofs, and other diverse sources. They include fertilizers, herbicides, and insecticides from agriculture and residential areas; oil, salt, and sand from road surfaces; sediments from eroding construction sites, logging operations, or stream banks; bacteria from pet or livestock waste, or from poorly maintained septic systems; and from atmospheric deposition, as in the case of acid rain.[1]

The impacts of these pollutants are as diverse as their sources. For example, an increasingly common problem in Maine – algal blooms in ponds, lakes, and the ocean – can be connected to increased nitrogen and phosphorus pollution from agricultural runoff as well as from erosion sediments. Algae reduces the oxygen content of water bodies, suffocating other organisms. Certain algae species also produce toxins, as in the case of red tide. Our planet is capable of filtering many surface water contaminants, however pollution can reach critical drinking water systems, as was the case in the Town of Belgrade.[2] Runoff from road salt detected at noxious and unsafe levels in private well water required reduced salt application, improved road salt storage, and water filtration systems as the town explored expansion of its municipal water services.

NPS pollution is regulated under several federal efforts including the Clean Water Act (§319-320), the Safe Drinking Water Act, the Wetland Protection Program, and the Coastal Zone Management Program. Because these pollutants are so diverse in source and scope, measuring their impact is challenging. States are required to develop a *Total Maximum Daily Load* (TMDL) report for water bodies, analyzing those pollutants and setting limits to ensure water quality. The State of Maine recognizes that stormwater – runoff from rain and snow – is the primary vector for most NPS

[1] https://www.epa.gov/nps/basic-information-about-nonpoint-source-nps-pollution Accessed December 16, 2019.

[2] https://www.centralmaine.com/2018/10/21/salt-seasons-well-water-in-belgrade-triangle-area/ Published October 21, 2018. Accessed December 16, 2019.

pollution. The Maine Pollution Discharge Elimination System (MEPDES), State Stormwater Management Law, and the Municipal Separate Storm Sewer System (MS4) program all aim to establish *Best Management Practices* (BMPs) to reduce point source and nonpoint source pollution.

In many places, the costs associated with managing point source and nonpoint source pollution are exacerbated by outdated sewer systems. Combined sewer systems carry both municipal sewage and runoff from street gutters and storm drains to a wastewater treatment facility. However, during heavy rain or rapid snowmelt, these facilities can be overwhelmed, forcing that runoff – along with any sewage – into adjacent rivers, lakes, or harbors through a Combined Sewer Overflow (CSO). Engineers often recommend separate sewers to mitigate this problem; however, this creates a great financial burden where older infrastructure needs to be retrofit.

In areas without municipal sewer services, septic systems can also cause groundwater contamination. Typical septic systems collect wastewater into an underground tank, then channel it through a porous leach field that filters out contaminants and breaks down wastes. Where soils and topography allow these leach fields to drain too quickly or slowly, or where septic maintenance is lacking, contaminated water can seep into water bodies or into subsurface drinking water. Bacteria and other contaminants can cause acute environmental and health problems. Maine law now requires homes in any shoreland zone – within 250 feet of lakes, great ponds, and rivers – to conduct a septic inspection before home purchase. The Katahdin region towns have not yet adopted best management practices to prevent nonpoint source pollution.

Other methods to address NPS pollution include:

- In Cities and Towns
    - Reduce pet waste, leaves, and debris in gutters and storm drains;
    - Manage lawn and garden chemicals appropriately;
    - Clean up spilled oil, antifreeze, or gasoline properly;
    - Control soil erosion at construction sites;
    - Ensure that septic systems are properly maintained;
    - Purchase low-phosphorus detergents and cleaners.
- On Roads
    - Manage road salt and sand application;
    - Maintain road surfaces, ditches, culverts, and embankments to prevent erosion;
    - Ensure that road surfaces are appropriate for traffic volumes.
- In Forestry and Agriculture
    - Ensure proper construction, maintenance, and closure of logging roads and skid trails;
    - Maintain erosion breaks and stream buffers;
    - Manage animal manure to avoid runoff;
    - Use planned grazing practices on pasture.

Flood Protection

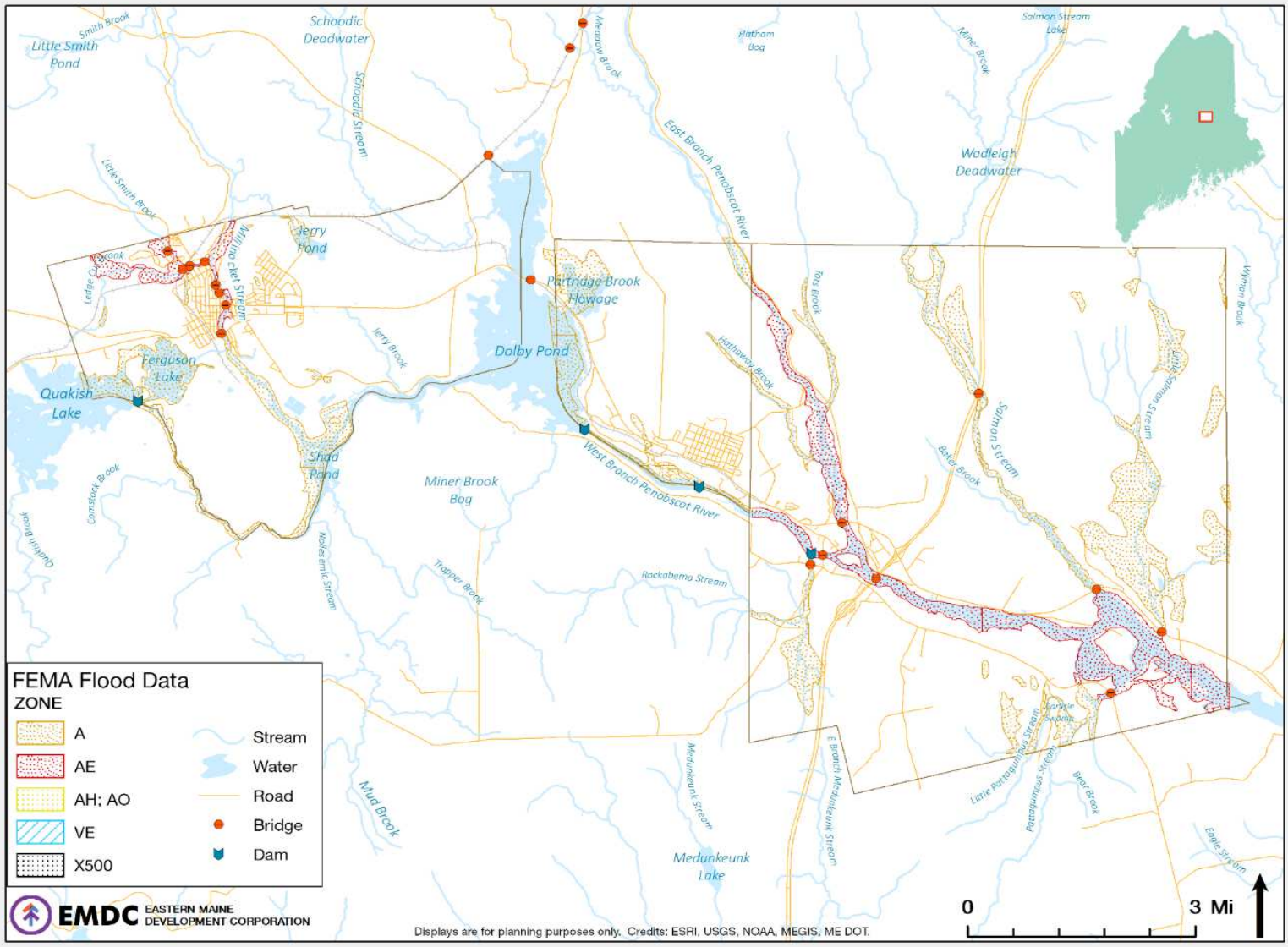
The Federal Emergency Management Administration (FEMA) calculates flood zones, or Special Flood Hazard Areas (SFHAs) for much of the U.S. These areas have a 1% of occurring in any year, also known as a 100-year flood or base flood.[1] In the zones generated for the Katahdin region, zones A, AE, AH, AO, and VE are 1% annual chance zones, while zone X500 is a 0.2% annual chance flood zone, or a 500-year flood zone. In zone A, no Base Flood Elevations (BFEs) are calculated; therefore,

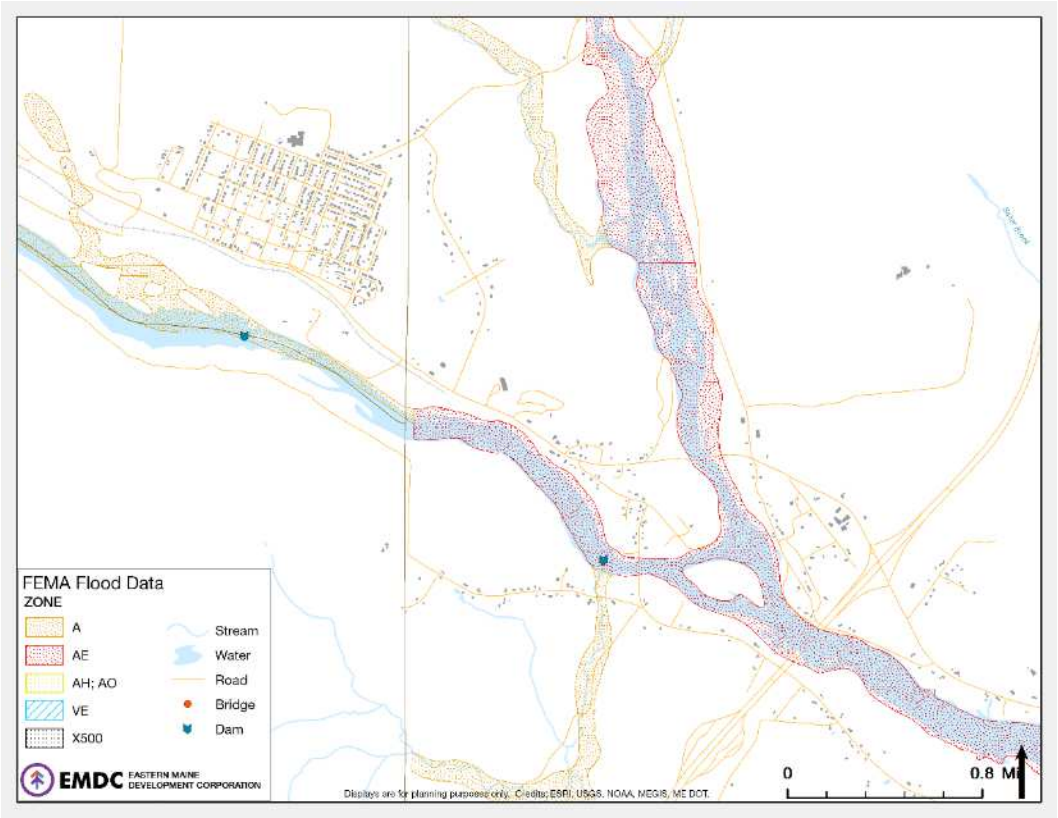
[1] https://www.fema.gov/flood-zones Accessed February 2, 2020.

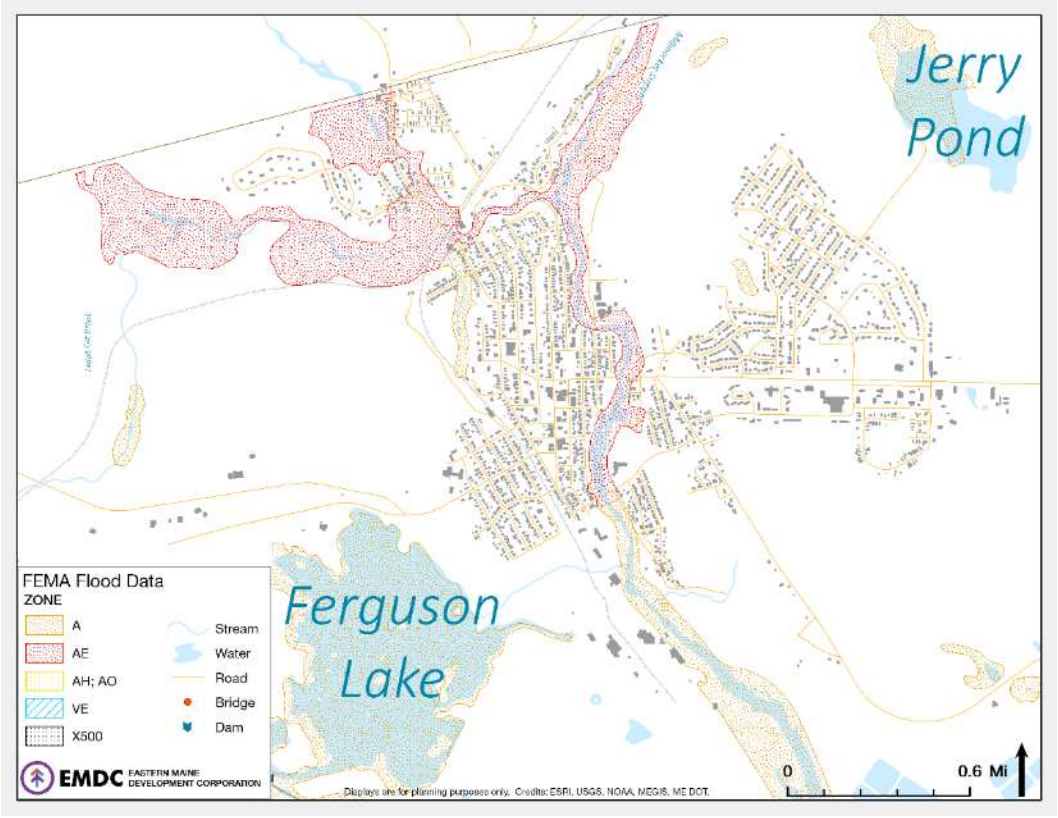
no flood depths are available. Zone AE has calculated BFE data. Zones AH and AO are defined as exhibiting between one and three feet of flooding. Zone VE is subject to coastal storm-induced surge and wave flooding and is not shown in the Katahdin region.

Because each town lies on the course of the Penobscot River, certain areas are vulnerable to flooding. Sections of the East Branch Penobscot River, Tots Brook, and Hathaway Brook in Medway show wide flood areas. The West Branch Penobscot River flood area has the potential to inundate sections of East Millinocket inland from Route 157. Finally, Millinocket has vulnerable areas following Millinocket Stream and Ledge Cut Brook including sections of Bates, Bowdoin, and York Streets.

It should be noted that FEMA struggles to update its Flood Insurance Rate Map (FIRM) catalog. Effective dates for the region are 1987 (East Millinocket and Medway) and 1989 (Millinocket). The lack of current and accurate flood maps remains a significant lapse with respect to risk management resources.


Little Smith Pond
Schoodic Deadwater
Schoodic Stream
Meadow Brook
Hatham Bog
Salmon Stream Lake
Abner Brook
Wadleigh Deadwater
East Branch Penobscot River
Jerry Pond
Partridge Brook Howage
Dolby Pond
Ferguson Lake
Quakish Lake
Shad Pond
Miner Brook Bog
West Branch Penobscot River
Rockabema Stream
Trapper Brook
Nokesemic Stream
Comstock Brook
Mud Brook
Medunkeunk Stream
Medunkeunk Lake
Salmon Stream
Baker Brook
Hathaway Brook
Fox Brook
Wymun Brook
Little Salmon Stream
Beaver Brook
Eagle Stream
FEMA Flood Data
ZONE
A
AE
AH; AO
VE
X500
Stream
Water
Road
Bridge
Dam
EMDC EASTERN MAINE DEVELOPMENT CORPORATION
Displays are for planning purposes only. Credits: ESRI, USGS, NOAA, MEGIS, ME DOT.
0
3 Mi


FEMA Flood Data
ZONE
A
AE
AH; AO
VE
X500
Stream
Water
Road
Bridge
Dam
EMDC EASTERN MAINE DEVELOPMENT CORPORATION
Displays are for planning purposes only. Credits: ESRI, USGS, NOAA, MEGIS, ME DOT.
0
0.8 Mi


Jerry Pond
Ferguson Lake
FEMA Flood Data
ZONE
A
AE
AH; AO
VE
X500
Stream
Water
Road
Bridge
Dam
EMDC EASTERN MAINE DEVELOPMENT CORPORATION
Displays are for planning purposes only. Credits: ESRI, USGS, NOAA, MEGIS, ME DOT.
0
0.6 Mi

Inventory of Water Resources

Wetlands

The term *wetland* is defined under both State and Federal law as "those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support prevalence of vegetation typically adapted for life in saturated soils."[1] Wetlands include freshwater swamps, bogs, fens, marshes, heaths, swales, and meadows.

Wetlands are valuable for their beauty, their recreation opportunities, and the unique habitats they provide. They are also critically important for functions we benefit from directly, called *Ecosystem Services*. These include water storage, flood attenuation, groundwater recharge and discharge, shoreline erosion control, and water filtration. Wetlands are also fragile resources. Even construction on the fringes of a wetland can have significant environmental consequences. The most common sources of alteration include commercial, residential, and urban development; transportation and roads; floodplain development; pollution; timber harvesting; and agricultural and industrial activities.

Reducing these risks is a central part of Maine's Natural Resources Protection Act (NRPA) which attempts to mitigate adverse impacts; minimize those that cannot be avoided; and compensate where those impairments occur.[2] To achieve this, the State implemented the In Lieu Fee Compensation Program (ILF), which accepts a fee in lieu of a mitigation project. The Maine Natural Resource Conservation Program (MNRCP) – administered by the Nature Conservancy – then allocates these funds to target wetland conservation and restoration projects with the overarching goal of achieving a net-zero change in wetlands across the State.

As diverse and dynamic ecosystems, wetlands can be difficult to identify with a boundary. Satellite imaging, aerial photography, and aerial drones have radically improved our understanding of where and when wetlands exist, how they function, and how they change over time. However, because of this complexity as well as certain inaccuracies associated with remote imaging, field verification is required before development occurs.

There are significant wetlands along the Pattagumpus, Salmon, and Little Salmon Streams in Medway; along Hathaway Brook and to the north of Partridge Brook Flowage in East Millinocket; and along Little Smith and Ledge Cut Brooks in Millinocket. Other significant wetlands include Quakish Bog in Hopkins Academy Grant Twp, Wadleigh Deadwater in T1 R6 WELS, Hatham Bog in Grindstone Twp, and Inman and Five Bogs and Carlisle Swamp in Woodville.

Watersheds

A watershed is defined as a geographic region within which water drains into a particular river, stream or body of water and includes constituent hills and lowlands. Watersheds are also known as drainage basins or catchments and are divided by ridges, or a drainage divide. While the ultimate destination of most watersheds is the ocean, it is instructive to consider each smaller region and its constituent structures. The US Geological Survey (USGS) designates watersheds according to their relative hierarchy by assigning each a unique *Hydrologic Unit Code* (HUC).[3] For example, a region contains

[1] https://www.epa.gov/cwa-404/how-wetlands-are-defined-and-identified-under-cwa-section-404 Accessed December 16, 2019.

[2] https://www.maine.gov/dep/land/nrpa/ILF_and_NRCP/index.html Accessed December 17, 2019.

[3] https://www.usgs.gov/special-topic/water-science-school/science/watersheds-and-drainage-basins?qt-science_center_objects=0#qt-science_center_objects Accessed December 16, 2019.

several subregions (HUC 4), which in turn contains basins (HUC 6), each basin containing subbasins (HUC 8), and so on to the smallest designated subwatershed (HUC 12).

Within the watershed, *all waters are connected*: pollution or contamination in one spot will affect another; draining a wetland can shift the flow of an underground aquifer; damming a stream can cause a lake to become a swamp or vice versa. Managing a watershed requires an understanding of the waters flowing into, underneath, and through those waterbodies. Important to consider: political boundaries often overlap and cross cut watershed boundaries. As such, regional collaboration is central to comprehensive watershed management.

The Katahdin region is within the Penobscot River Basin (HUC 6) which spans much of central Maine and flows into the Gulf of Maine and the Atlantic Ocean. The Penobscot River Basin is abutted to the north by the St John River Basin, to the west by the Kennebec and Chaudière River Basins, and to the south by waters that flow to the Atlantic Ocean. The towns of Millinocket, East Millinocket, and Medway lie within the northern portions of the Penobscot River in the West Branch Penobscot, East Branch Penobscot, and Lower Penobscot Subbasins (HUC 8). Streams and rivers flow through the Town of Millinocket from the West Branch Penobscot River – Quakish Lake Subwatershed (HUC 12), the Millinocket Stream Subwatershed, and the Schoodic Stream Subwatershed, joining into the terminus of the West Branch Penobscot River Subbasin and joining the Lower East Branch Penobscot Subwatershed in East Millinocket and Medway. These in turn join water flowing through the Salmon Stream and Mattaseunk Stream Subwatersheds into the Lower Penobscot River Subbasin.

This interconnection underscores two points: those water systems are intimately connected to one another, and managing these assets requires inter- intra-regional cooperation.

Aquifers

Groundwater flows within the cracks and pores of soil and rock beneath the surface of the earth. These waters can collect and flow to water bodies, or can be self-contained water bodies in their own right. These underground waters are called aquifers. Aquifers are central to the function of both natural systems and human infrastructure by storing, circulating, and purifying water.

The characteristics of an aquifer depend on the porosity and permeability of the subsurface rock and soil, the topography of surrounding terrain, local weather and climate patterns, and the geologic history of an area. Water within an aquifer settles to a particular level, or water table. Wells are drilled into the ground, penetrating below the water table and providing a ready source of drinking water to individuals or to whole towns. An unconfined aquifer permeates from the surface to the water table, while a confined – or *artesian* – aquifer flows between layers of impermeable rock.

Aquifers are typically of two types: bedrock aquifers, and sand and gravel aquifers. In a bedrock aquifer, groundwater is stored in fractures and pores in the rock. These aquifers are generally adequate for small yields, sufficient to provide water for a single-family home most everywhere in Maine. A sand and gravel aquifer is a deposit of coarse-grained materials that can supply large volumes of groundwater. The sand and gravel deposits of Maine are often the result of glacial action and occupy roughly 1,300 square miles.[1] The boundaries of an aquifer are determined by geologic sampling and generally describe the area of principal groundwater recharge. Recharge occurs when precipitation refills the aquifer over the course of days, years, or even millennia.

[1] https://www.maine.gov/dacf/mgs/explore/water/facts/water.htm Accessed December 16, 2019.

It is important to protect aquifers from depletion and pollution. While Maine is situated in one of the most water-secure regions – the State's annual average precipitation amounts to over 24 trillion gallons – aquifer-supplied water resources are not infinite. Because bedrock aquifers depend on the permeability and porosity of the underlying rock, they can vary in both capacity and recharge rates. Over-extraction can cause wells in adjacent areas to run dry, can change surface water levels, or can lead to salt-water intrusion of the aquifer. Manmade pollution can contaminate wells, necessitating costly filtration systems or the expansion of a nearby municipal water utility. Maine's underlying geology can also create issues with water safety, as is the case with arsenic-, cadmium-, radon-, and uranium-containing minerals common in the region's bedrock. Finally, water conditions can compound or exacerbate issues with built water infrastructure, especially in the case of lead leached from municipal or household plumbing.

A significant aquifer runs the length of Millinocket Stream from Millinocket Lake, south through the town. This sand and gravel aquifer transmits approximately 10 to 50 gallons per minute between seven and seventeen feet below the surface. A second, less extensive aquifer surrounding the northwest edge of Dolby Pond transmits a similar quantity of water. Potential point sources of pollution for these aquifers include a landfill located just north of the town border along near Little Smith Brook; a closed landfill site along Medway Road south of the Millinocket airport; a landfill site in the southwest just south of Ferguson Lake; a sand and salt storage facility in the west along Golden Road and near Ledge Cut Brook; and a municipal sand and salt storage area along Central Street

A sand and gravel aquifer runs most of the length of the East Branch Penobscot River, through the towns of East Millinocket at Medway. Where it flows through these towns, it transmits approximately 10 to 50 gallons per minute and runs between 6 and 111 feet below the surface. Potential point sources of pollution for this aquifer are a sand and salt storage facility owned by the Town of Grindstone, just north of East Millinocket's border along Route 11; Medway town landfill and municipal and State DOT sand, and salt storage areas along Grindstone Road/Route 11 in Medway.

Another sand and gravel aquifer runs the length of Salmon Stream through Medway. This aquifer transmits approximately 30 gallons per minute and has no identified potential pollution points.

Finally, an aquifer runs along the Pattagumpus and Little Pattagumpus Streams, transmitting 10 to 50 gallons per minute. One potential point source of pollution is the sand and storage area operated by the Town of Woodville, located on Route 116, southwest of Kimball Hill.

Drinking Water Supply

The Maine Drinking Water Program and the Maine Centers for Disease Control (CDC) coordinate public and private providers and consumers of drinking water in order to protect public health. This program is authorized through the Safe Drinking Water Act and the EPA's Primary Drinking Water Regulations. Maine has nearly 2,000 public water systems, 94% of these rely on groundwater.[1] Only 79 surface water bodies are used as public drinking water supplies[2]; the vast majority of Maine's population relies on aquifer-supplied wells for drinking water. Across the State, 48% of the population rely on public water utilities while others rely on privately owned wells. Treating contaminated groundwater is nearly 40 times as expensive as preventing contamination[3]; therefore, many efforts to

[1] https://www.maine.gov/dhhs/mecdc/environmental-health/dwp/documents/DWPAnnualComplianceReport2018.pdf Accessed December 16, 2019.

[2] https://www.maine.gov/dhhs/mecdc/environmental-health/dwp/sitemap/surfaceWater.shtml Accessed December 16, 2019.

[3] https://www.maine.gov/dhhs/mecdc/environmental-health/dwp/documents/DWPAnnualComplianceReport2018.pdf Accessed December 16, 2019.

address drinking water quality begin by ensuring the health and productivity of our groundwater supplies. The Shoreland Zoning Act (described in Chapter 5) also addresses issues of drinking water contamination by preventing point- and nonpoint source pollution to water bodies and aquifers.

The Town of Millinocket, serviced by Maine Water Co., has two public wells and a drinking water intake located at Ferguson Pond. During 2018, there were no reported violations for drinking water contaminants.[1] East Millinocket sources its drinking water supply from an underground, gravel packed aquifer along the East Branch of the Penobscot River. Details for public water sources are listed in the table below:

Town	Name	Source	Type	PWSID
East Millinocket	East Millinocket Water Works	Well #1 24'GP	Well	ME0091150
		Well #2 24'GP		
		Well #3 52'GP		
Medway	None			
Millinocket	Maine Water Co., Millinocket Division	Ferguson Pond	Intake	ME0090990

Lakes & Ponds

Among Maine's most striking natural resources are its lakes and ponds: fisheries, wildlife habitats, recreation, scenic views, and water supplies are all benefits from these 5,779 standing water bodies. However, the distinction between what is a *lake* – typically large and deep – and what is a *pond* – typically small and shallow – can be somewhat murky. Variations in depth and surface area, as well as vegetation and seasonal algae populations, mean that there is no definitive distinction between what is a lake and a pond. Maine State statutes do define any lake or pond with a surface area greater than ten acres as a *Great Pond*. This also includes impounded – or dammed – waters greater than thirty acres.[2]

Maine's reputation as a destination for tourism and recreation represents both an opportunity and a threat to the health of our water bodies. Non-point source pollution, noise pollution, algal blooms, motor boat and Jet Ski traffic, fishing activities, and the threat of invasive species all wax and wane with seasonal visitors and impart stress onto these lakes and ponds. However, development in the form of seasonal homes, camps, and cabins represents an enduring impact to these spaces. In 1971, the State enacted the Mandatory Shoreland Zoning Act, restricting development in areas within 250 feet of lakes, ponds, and freshwater wetlands greater than ten acres in size; rivers with watersheds of at least 25 square miles of drainage; in coastal wetlands and tidal waters; and many land areas within 75 feet of streams.[3] Municipalities are empowered to adopt, administer, and enforce their own shoreland zoning ordinances; where they have not done so, the State implements a model ordinance for that municipality.[4]

Our State also benefits from the dedication of the Lake Stewards of Maine, a non-profit organization that engages local volunteers in testing for indicators of water quality, screens for invasive species, and educates residents on stewardship of this abundant resource. Invasive species affecting lake and wetland health include milfoil, curly-leaf pondweed, European frogbit, brittle waternymph, and hydrilla. As of 2017, none has been detected in or near waters surrounding Millinocket, East

[1] https://www.mainewater.com/media/1779/mlnktme0090990.pdf Accessed December 16, 2019.

[2] https://www.maine.gov/dep/water/lakes/lkepond.html Accessed December 16, 2019.

[3] https://www.maine.gov/dep/land/slz/ip-shore.html Accessed December 16, 2019.

[4] https://www.maine.gov/dep/land/slz/ip-shore.html Accessed December 17, 2019.

Millinocket, and Medway. Other relevant measures of water conditions include: clarity (from sediment or from algae); phosphorous and bacteria (from failing septic systems); chlorides and hydrocarbons (from road surfaces); dissolved oxygen (necessary for fish and wildlife); and temperature, pH, and alkalinity.

Below is an inventory of lakes and ponds in Millinocket, East Millinocket, and Medway. Ferguson Lake is considered threatened by the MDEP, along with 162 other threatened lakes and 21 impaired lakes across the state.[1]

Lake Name	Acreage	Location
Ferguson Lake	253 acres	Millinocket
Dolby Pond	1,941 acres	Millinocket/ East Millinocket
Jerry Pond	64 acres	Millinocket
Partridge Brook Flowage	154 acres	Millinocket/ East Millinocket
Shad Pond	161 acres	Millinocket

Rivers, Streams, and Brooks

According to the Natural Resources Protection Act (NRPA), a river, stream, or brook is a channel that has defined banks (including a floodway and associated floodplain wetlands) created by the action of the surface water. Maine has roughly 32,000 miles of rivers and streams and – according to a 2014 DEP study – fewer than 5% are considered impaired in any way.[2] Erosion, pollution, development, and impoundment (damming) all represent historic and ongoing threats to our riverine systems.

To determine whether Maine's rivers, streams, and brooks meet the goals of the Federal Clean Water Act; the DEP uses bacteriological, dissolved oxygen, and aquatic life criteria to measure threats to the waterbody. All river waters are classified into one of four categories: AA, A, B, and C. Rather than a measurement of quality, this scale indicates risk of degradation given past and current stresses. Class AA waters are at very little risk, as things like waste discharge or impoundments are prohibited. Class A waters allow for more uses – limited discharges and industrial activities – therefore the risk for degradation is slightly higher. Class C waters are still healthy, but also have the fewest use restrictions and are therefore likely to experience degradation in some form.[3] Where a river, stream, or brook has experienced significant degradation of water or flow quality, it is considered impaired and may qualify for rehabilitation funding.

In Millinocket, Little Smith and Ledge Cut Brooks flow into the Millinocket Stream (class C) to the West Branch Penobscot River (class C) at Shad Pond. Jerry Brook joins, flowing into Dolby Pond which is also fed by Schoodic Stream (class A) to the north. The East Branch Penobscot River flows south through East Millinocket and Medway, joined by Tots and Hathaway Brooks, and finally joining the West Branch in Medway. Also in Medway, the Rockabema Stream flows north into the Penobscot River, as do the Pattagumpus and Little Pattagumpus Streams. Finally, Salmon Stream, Baker Brook, and Little Salmon Stream collect waters in the northeast of Medway, flowing then into the Penobscot River.

[1] https://www.maine.gov/dep/land/watershed/nps_priority_list/NPS%20Priority%20List%20-%20Lakes.pdf Accessed January 22, 2020.

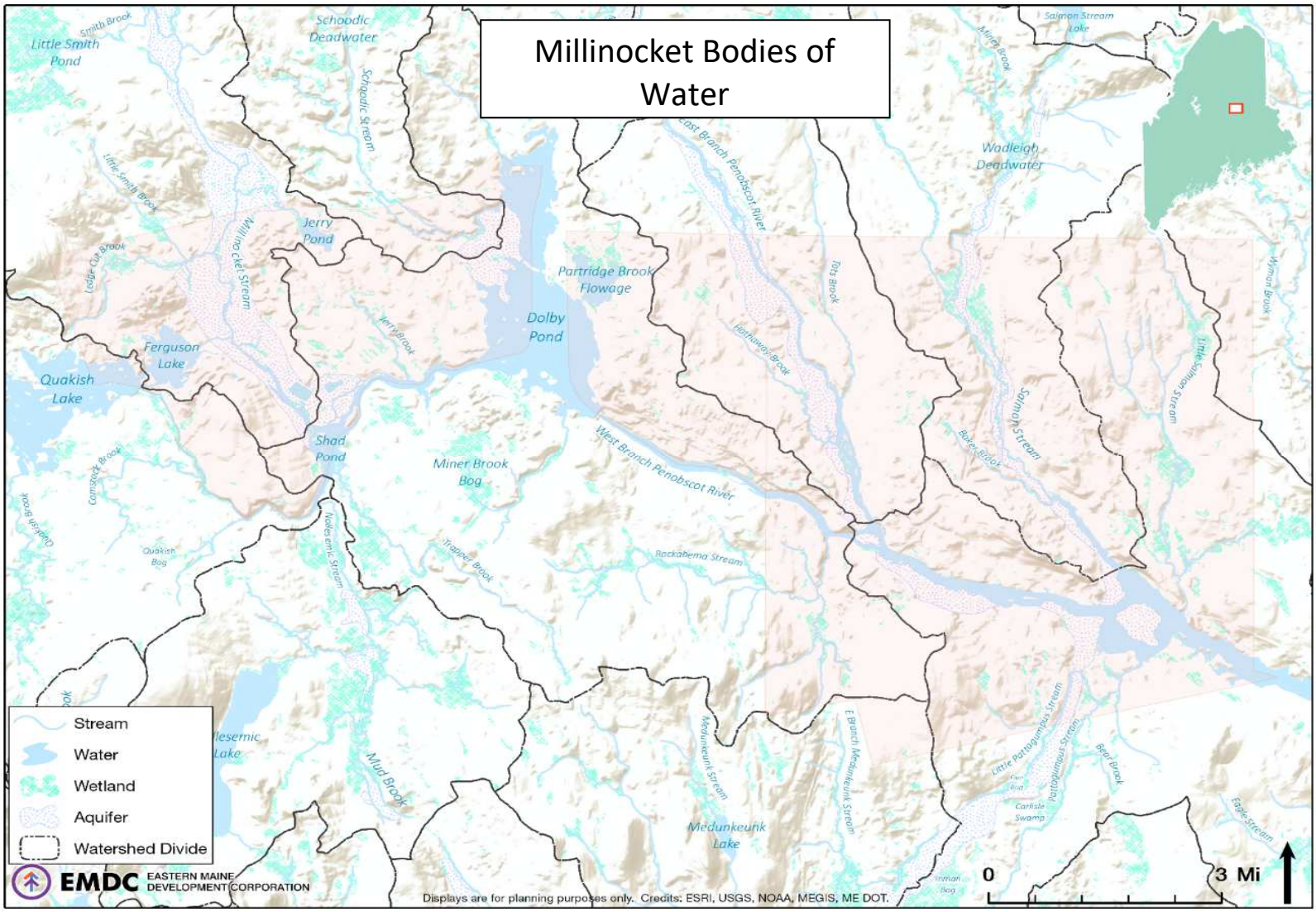
[2] https://www.maine.gov/dep/land/watershed/Stream%20Stressor%20Guide%20October%202019%20Draft.pdf Accessed December 17, 2019.

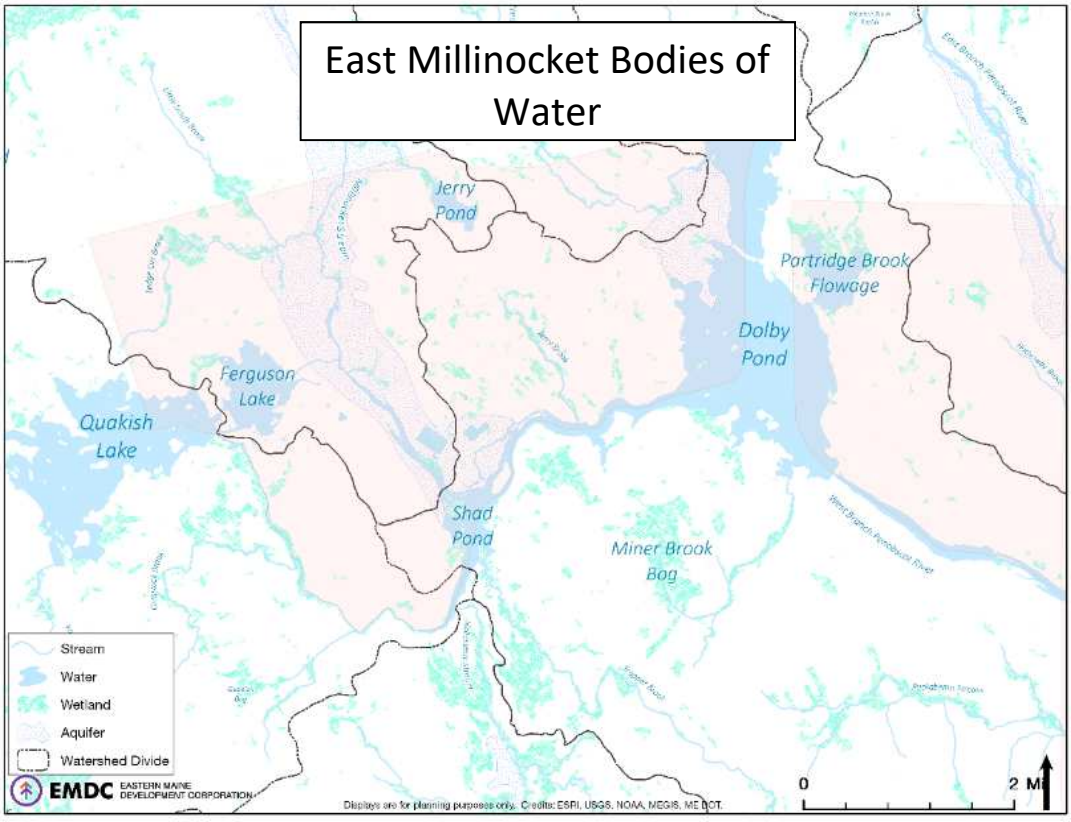
[3] https://www.maine.gov/dep/water/monitoring/classification/ Accessed December 17, 2019.

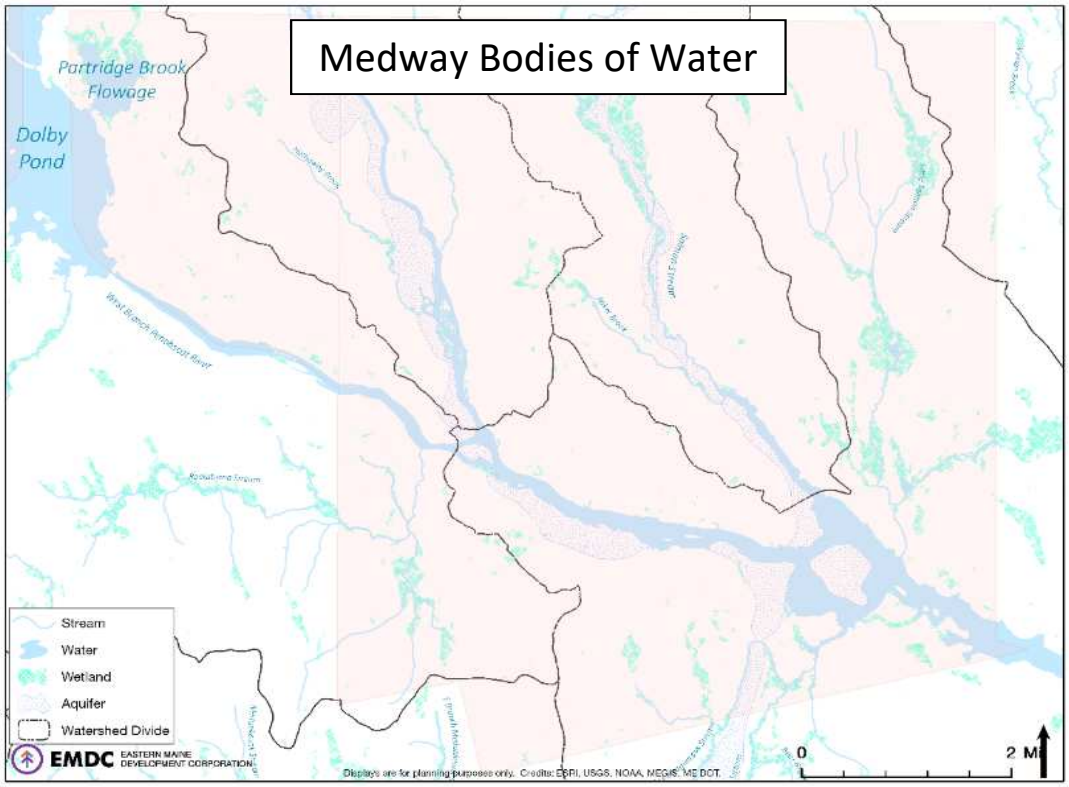
Public Access

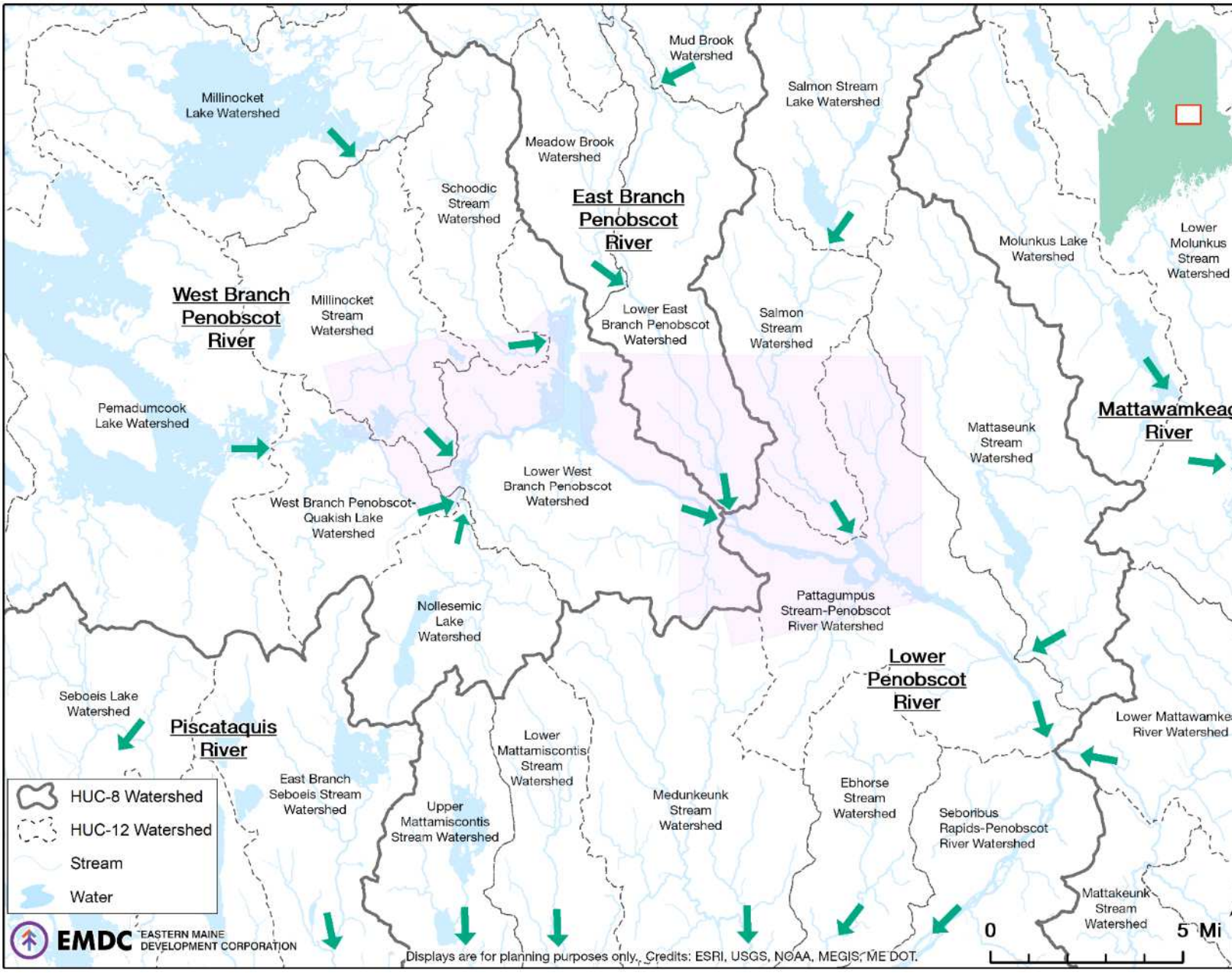
In Millinocket, significant bodies of water include Ferguson Lake, Dolby Pond, Jerry Pond, Partridge Brook Flowage, Shad Pond, and the West Branch Penobscot River. These water bodies offer access to the public for recreational uses. East Millinocket abuts Millinocket and contains portions of Dolby Pond and Partridge Brook Flowage. Spencer Brook and portions of the Penobscot River do not offer public access points/landings.

In Medway, there is the Penobscot River, including portions of the West Branch Penobscot River and East Branch Penobscot River which offer public access for boating and fishing.


Millinocket Bodies of Water
Little Smith Pond
Schoodic Deadwater
Schoodic Stream
Jerry Pond
Millinocket Stream
Partridge Brook Flowage
Dolby Pond
Ferguson Lake
Quakish Lake
Shad Pond
Miner Brook Bog
West Branch Penobscot River
East Branch Penobscot River
Wadleigh Deadwater
Salmon Stream Lake
Salmon Stream
Trout Brook
Rockabema Stream
Nesemic Stream
Mud Brook
Medunkeunk Lake
Medunkeunk Stream
E Branch Medunkeunk Stream
Little Pattagumpus Stream
Pattagumpus Stream
Carlisle Swamp
Bear Brook
Eagle Stream
Stream
Water
Wetland
Aquifer
Watershed Divide
EMDC
EASTERN MAINE DEVELOPMENT CORPORATION
Displays are for planning purposes only. Credits: ESRI, USGS, NOAA, MEGIS, ME DOT.
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East Millinocket Bodies of Water
Jerry Pond
Portridge Brook Flowage
Dolby Pond
Ferguson Lake
Quakish Lake
Shad Pond
Miner Brook Bog
Stream
Water
Wetland
Aquifer
Watershed Divide
EMDC EASTERN MAINE DEVELOPMENT CORPORATION
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Medway Bodies of Water
Portridge Brook Flowage
Dolby Pond
Stream
Water
Wetland
Aquifer
Watershed Divide
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Millinocket Lake Watershed
Mud Brook Watershed
Salmon Stream Lake Watershed
Meadow Brook Watershed
Schoodic Stream Watershed
East Branch Penobscot River
Molunkus Lake Watershed
Lower Molunkus Stream Watershed
West Branch Penobscot River
Millinocket Stream Watershed
Lower East Branch Penobscot Watershed
Salmon Stream Watershed
Pemadumcook Lake Watershed
Mattawamkeag River
Mattaseunk Stream Watershed
Lower West Branch Penobscot Watershed
West Branch Penobscot-Quakish Lake Watershed
Pattagumpus Stream-Penobscot River Watershed
Nollesemic Lake Watershed
Lower Penobscot River
Seboeis Lake Watershed
Piscataquis River
Lower Mattawamkeag River Watershed
Lower Mattamiscontis Stream Watershed
East Branch Seboeis Stream Watershed
Ebhorse Stream Watershed
Upper Mattamiscontis Stream Watershed
Medunkeunk Stream Watershed
Seboribus Rapids-Penobscot River Watershed
Mattakeunk Stream Watershed
HUC-8 Watershed
HUC-12 Watershed
Stream
Water
EMDC EASTERN MAINE DEVELOPMENT CORPORATION
Displays are for planning purposes only. Credits: ESRI, USGS, NOAA, MEGIS, ME DOT.
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Notable Parties

Maine Association of Conservation Commissions[1]

Conservation commissions aim to promote stewardship of our natural resources. They conduct research, collaborate with planning and policy experts, educate local citizens and visitors, and advise government officials. Maine law permits municipalities to establish conservation commissions, requiring them to inventory any undeveloped areas and advise on their best use.[2]

Maine Drinking Water Program[3]

The State of Maine Drinking Water Program (DWP) is responsible for enforcing the Federal Safe Drinking Water Act in Maine and has primary responsibility for administering the State's Rules Relating to Drinking Water. The DWP receives funding from both the United States Environmental Protection Agency and the regulated community. Public water suppliers pay an annual fee, allocated by the DWP, Maine Rural Water Association (MRWA), and the Maine Water Utilities Association (MWUA). This cooperative funding effort was developed to allow Maine companies to be regulated by local regulators. The DWP regulates over 2,200 public water systems in Maine.

Maine Rural Water Association (MRWA)[4]

The MRWA is a non-profit organization that seeks to represent rural water and wastewater operators and consumers across the State. By providing specialized assistance, training, advocacy, as well as hands-on technical support to rural communities, the organization is helping to coordinate Federal and State efforts across a typically underserved and under-resourced region. Services range from education and training, to leak detection, process control, compliance, and water source protection.

Maine Water Utilities Association (MWUA)[5]

The MWUA is a non-profit membership organization of utility operators. The services the organization offer range from education, publication, annual trade shows, member recognition, scholarship funding, and advocacy.

[1] https://www.meaccme.org/ Accessed December 17, 2019.

[2] https://24ee25ec-8bce-4bf0-a92f-c8b231793360.filesusr.com/ugd/42a857_3999169d8e504c22a029c744f4d1f904.pdf Accessed December 17, 2019.

[3] https://www.maine.gov/dhhs/mecdc/environmental-health/dwp/index.shtml Accessed December 17, 2019.

[4] https://www.mainerwa.org/ Accessed December 17, 2019.

[5] https://mwua.org/ Accessed December 17, 2019.

Strategies & Policies

In order to protect, promote, and preserve the quality of the State of Maine's surface water and water resources, including but not limited to lakes, rivers, streams, aquifers, and wetlands, local policies and implementation strategies have been developed in addition to the following state policies and strategies.

State of Maine

Policies:

Minimum policies required to address state goals:

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

Strategies:

Minimum strategies to meet state goals:

1. Adopt or amend local land use ordinances as applicable to incorporate stormwater runoff performance standards consistent with:
    a. Maine Stormwater Management Law and Maine Stormwater regulations (Title 38 M.R.S.A. §420-D and 06-096 CMR 500 and 502)
    b. Maine Department of Environmental Protection's allocations for allowable levels of phosphorus in lake/pond watersheds.
    c. Maine Pollution Discharge Elimination System Stormwater Program
2. Consider amending local land use ordinances, as applicable, to incorporate low impact development standards.
3. Where applicable, develop an urban impaired stream watershed management or mitigation plan that will promote continued development or redevelopment without further stream degradation.
4. Maintain, enact or amend public wellhead and aquifer recharge area protection mechanisms, as necessary.
5. Encourage landowners to protect water quality. Provide local contact information at the municipal office for water quality best management practices from resources such as the Natural Resources Conservation Service, University of Maine Cooperative Extension, Soil and Water Conservation district, Maine Forest Service, and/or Woodland Owners of Maine.
6. Adopt water quality protection practices and standards for construction and maintenance of public and private roads and public properties and require their implementation by contractors, owners, and community officials and employees.
7. Participate in local and regional efforts to monitor, protect and, where warranted, improve water quality.
8. Provide educational materials at appropriate locations regarding aquatic invasive species.

Time Frame: Ongoing

Responsible Agent(s): Maine DEP, Maine DACF, East Millinocket, Millinocket, Medway.

Local

Millinocket

1. **Policy:** To ensure access to waterways for appropriately treated wastewater.
   Strategies: Monitor Maine State Legislation, consult with legal advisors as needed, build relationship with local Tribe(s) to assess similar goals.
   Time Frame: 2020-2030
   Responsible Agent(s): Municipal government, elected officials and Town Manager, Wastewater Department director, Maine Legislature, legal advisors, State Elected Officials.

2. **Policy:** To expand access to waterways for public access to enhance recreation and tourism.
   Strategies: Seek State and/or Federal funding for building of paths, signage, and maps.
   Time Frame: 2020-2025
   Responsible Agent(s): Municipal government, elected officials and Town Manager, Recreation Department director, Recreation Advisory Committee.

East Millinocket

1. **Policy:** *None at this time*
   Strategies:
   Time Frame:
   Responsible Agent(s):

Medway

1. **Policy:** *None at this time*
   Strategies:
   Time Frame:
   Responsible Agent(s):

Chapter Five:
NATURAL RESOURCES

Goals/Vision

State Goal

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

Local Goals

Millinocket

To implement new, and support existing, sustainable harvesting practices as needed to ensure truly renewable and resilient natural resources for the benefit of future generations and habitat regeneration.

East Millinocket

To restore the shore of the West Branch of the Penobscot River along and near Spencer Brook. To create a walking area along the river, to create a canoe/kayak launch area, and to restore Spencer Brook and its head ponds to enable IF & W to restock the brook with trout on an annual basis. To enable the East Millinocket water supply source from the East Branch of the Penobscot along the gravel pack esker to remain viable into the future.

Introduction

Protecting the State's natural resources is vital for our economy, our environment, and our future. Unmitigated air and water pollution led to the passage of the Clean Air (1963) and Clean Water (1972) Acts and the creation of the Environmental Protection Agency (1970). These efforts have paid off: according to the Maine Development Fund and the Maine DEP, Maine experienced 30 days of unhealthy air quality in 2018 – down from 95 days in 1985.[1] Maine's water bodies have also improved: 95% of rivers and streams and 91% of lakes achieve a rating of category one or two, compared to a national average of 47% of rivers and streams and 29% of lakes meeting the same criteria.[2]

These successes are achieved through coordination of Federal, State, and local resources. In Maine, towns and cities are committed to the abundance and preservation of our shared natural resources. This is achieved through the Comprehensive and Land Use Regulation Act (MRSA Title 30-A, §4312, §4326.1.C, and §4326.3-A.D.), which requires planning to preserve and maintain resources such as "wetlands, wildlife and fisheries habitats, significant plant habitats, coastal islands, sand dunes, scenic areas, shorelands, and heritage coastal areas." A municipality may adopt more stringent regulations than required by State law.

[1] https://www.mdf.org/wp-content/uploads/2019/04/MOG-FullReport2019-FNL.pdf Accessed December 23, 2019.

[2] https://www.mdf.org/wp-content/uploads/2019/04/MOG-FullReport2019-FNL.pdf Accessed December 23, 2019.

Inventory of Natural Resources

Topography

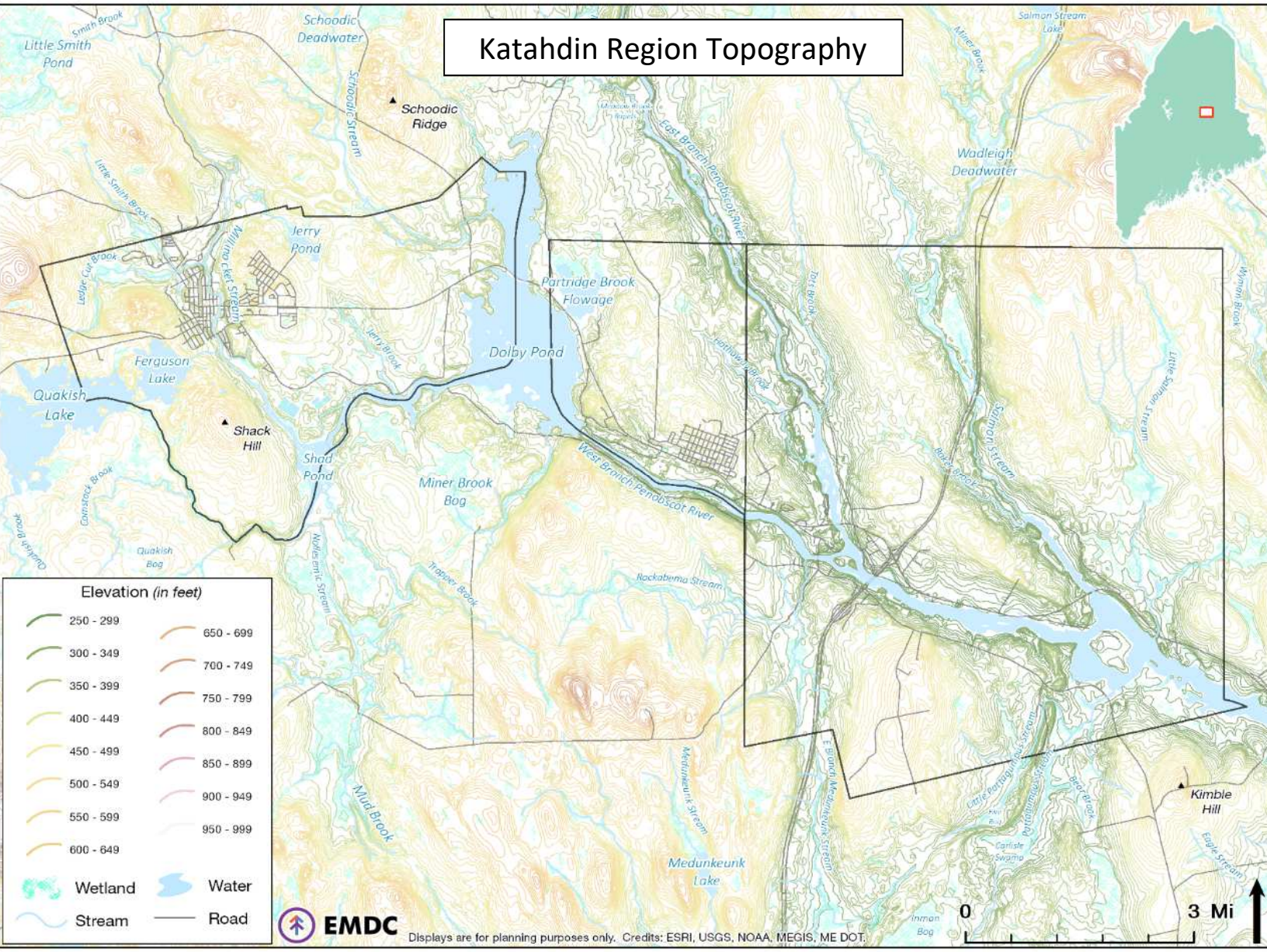
The towns of East Millinocket, Millinocket and Medway are located in northern Penobscot County, Maine. These three communities are accessed directly from the I-95 interstate highway, exiting onto ME-157 to travel through Medway to East Millinocket leading to Millinocket. This region is a gateway to the remote and sparsely populated northern interior: the 3.5 million acre Maine North Woods; the 210,000-acre Baxter State Park and Maine's highest peak – Mount Katahdin at 5,267 feet elevation; as well as the 87,000-acre Katahdin Woods and Waters National Monument and the 89-mile Scenic Byway. Millinocket's highest peak is a hill of 626 feet just north of Ferguson Lake near Golden Road and Route 11. Millinocket's lowest elevation is 336 feet along the western short of Dolby Pond. East Millinocket's highest point is 490 feet just east of the Partridge Brook Flowage and its lowest point is along the banks of the East Branch Penobscot River at 251 feet. Medway's highest point is a hill of 620 feet located east of I-95 crossing into T1 R6 WELS, and its lowest elevation of 239 feet is along the confluence of the East and West Branch Penobscot Rivers.

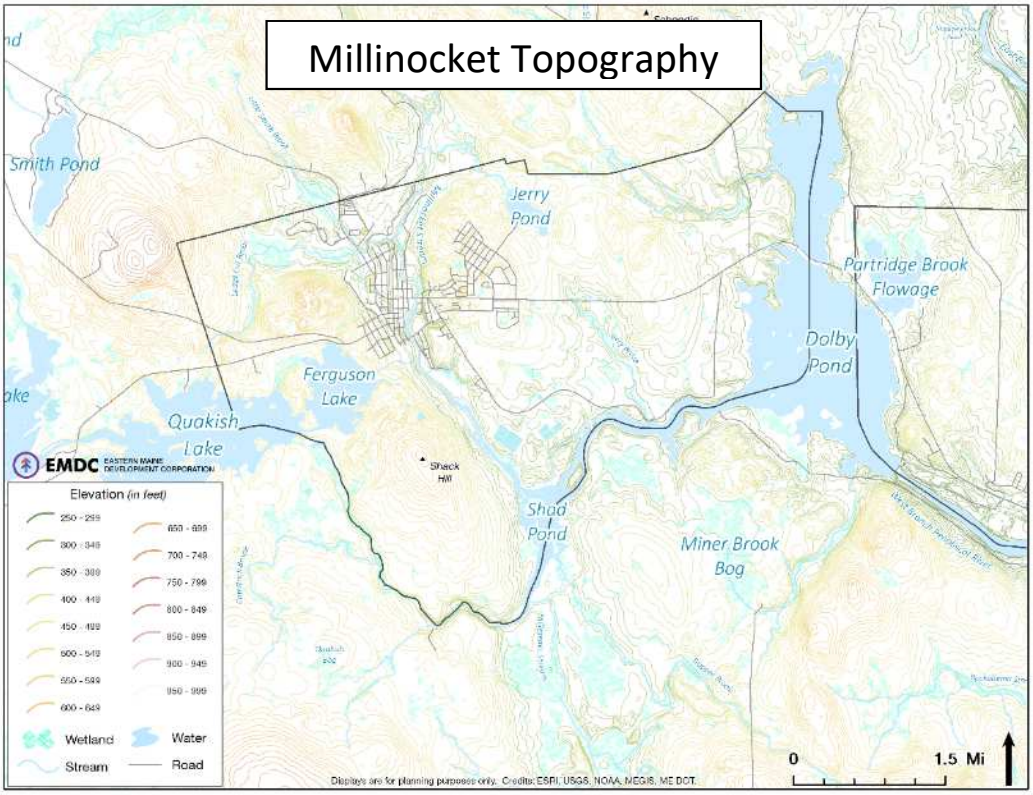
Using Landsat multi-spectrum satellite imagery, the United States Geological Survey (USGS) is able to classify the low resolution land use of much of the country. This is valuable because it reflects real land coverage rather than zoning or use designations. The datasets are collected over the course of several months and compiled every three to five years.

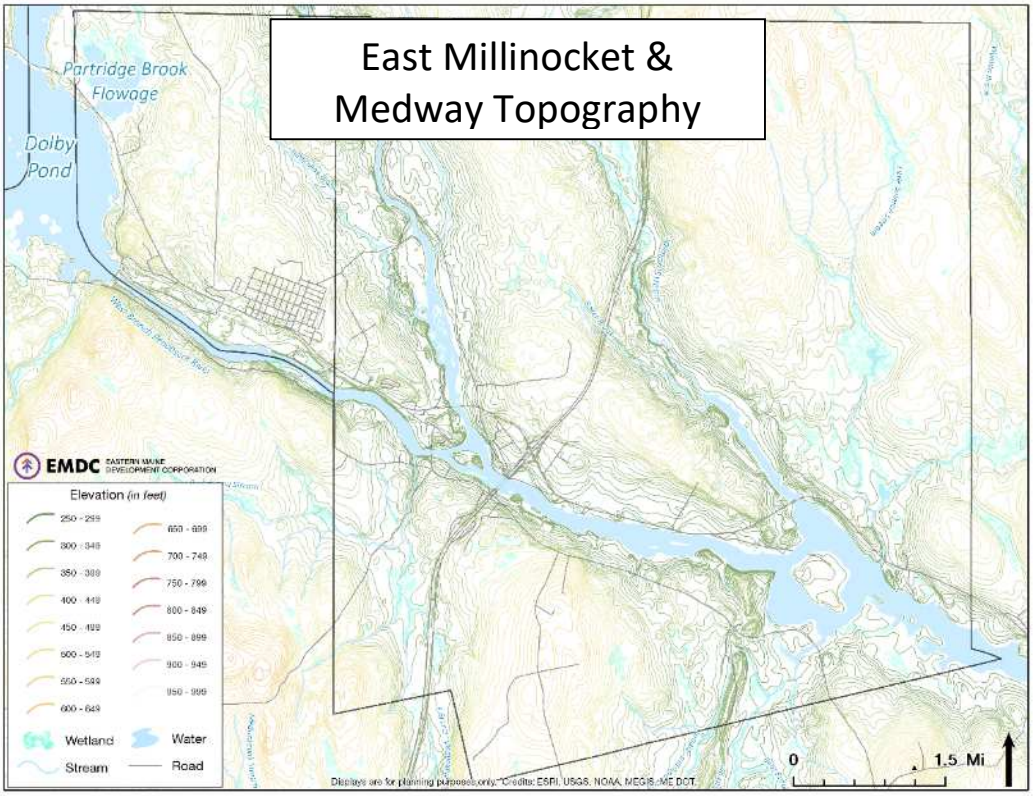
National Land Cover Database, 2016 (area in Square Miles)

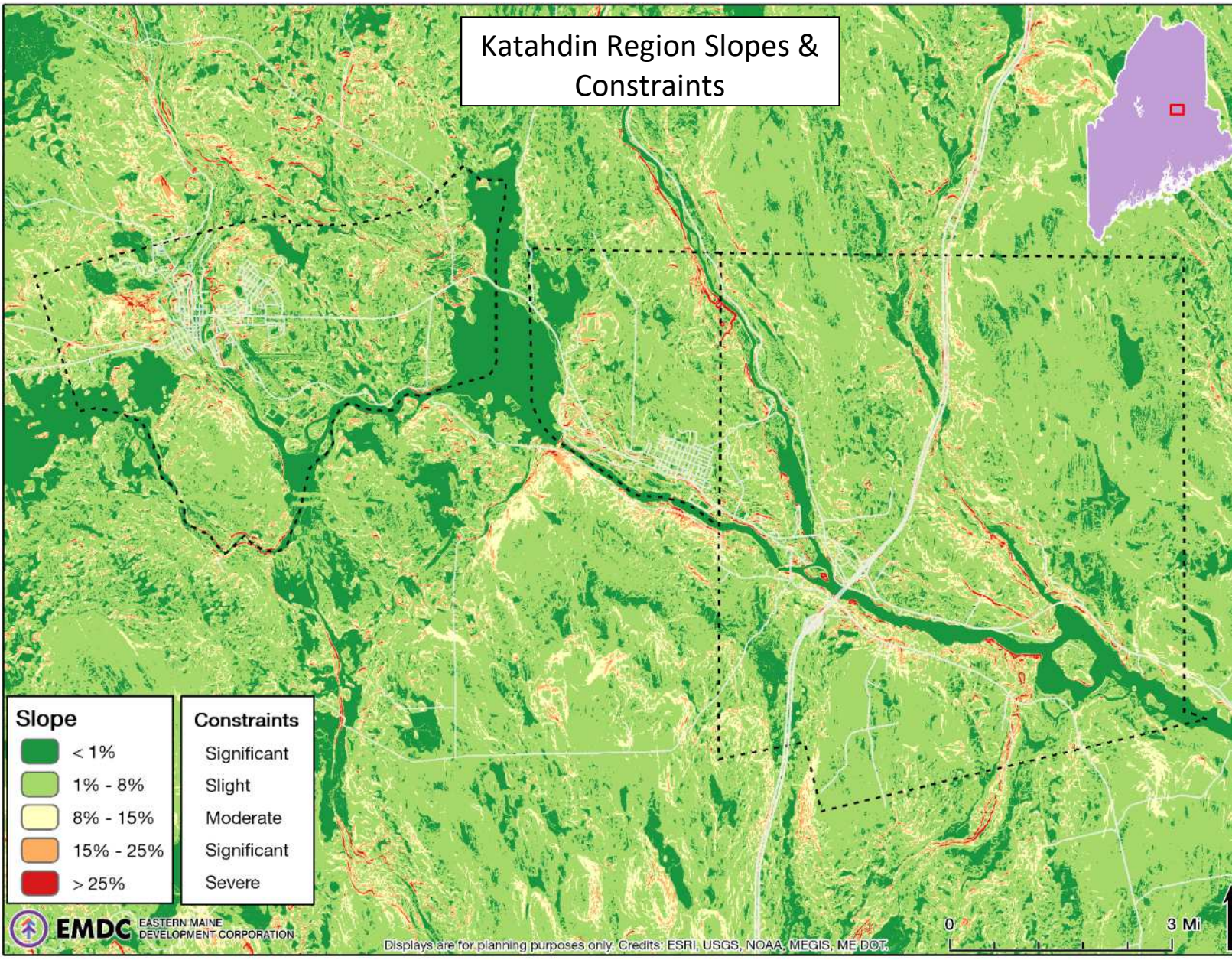
	E Millinocket		Medway		Millinocket	
NLCD Cover Class	Area	%	Area	%	Area	%
Open Water	0.866	10.9%	2.281	5.3%	2.240	12.3%
Developed, Open Space	0.254	3.2%	0.715	1.6%	0.747	4.1%
Developed, Low Intensity	0.295	3.7%	0.785	1.8%	0.649	3.6%
Developed, Medium Intensity	0.367	4.6%	0.300	0.7%	0.942	5.2%
Developed, High Intensity	0.143	1.8%	0.084	0.2%	0.452	2.5%
Barren Land	0.104	1.3%	0.287	0.7%	0.105	0.6%
Deciduous Forest	0.386	4.9%	2.276	5.2%	0.659	3.6%
Evergreen Forest	1.277	16.1%	9.658	22.2%	4.108	22.6%
Mixed Forest	2.100	26.5%	17.525	40.4%	3.744	20.6%
Shrub/Scrub	0.414	5.2%	1.402	3.2%	1.307	7.2%
Herbaceuous	0.329	4.2%	1.584	3.6%	0.584	3.2%
Hay/Pasture	0.160	2.0%	0.478	1.1%	0.177	1.0%
Cultivated Crops	0.002	0.0%	0.015	0.0%	0.001	0.0%
Woody Wetlands	1.107	14.0%	5.735	13.2%	2.268	12.5%
Emergent Herbaceuous Wetlands	0.110	1.4%	0.284	0.7%	0.209	1.1%
Total	7.915		43.407		18.192	

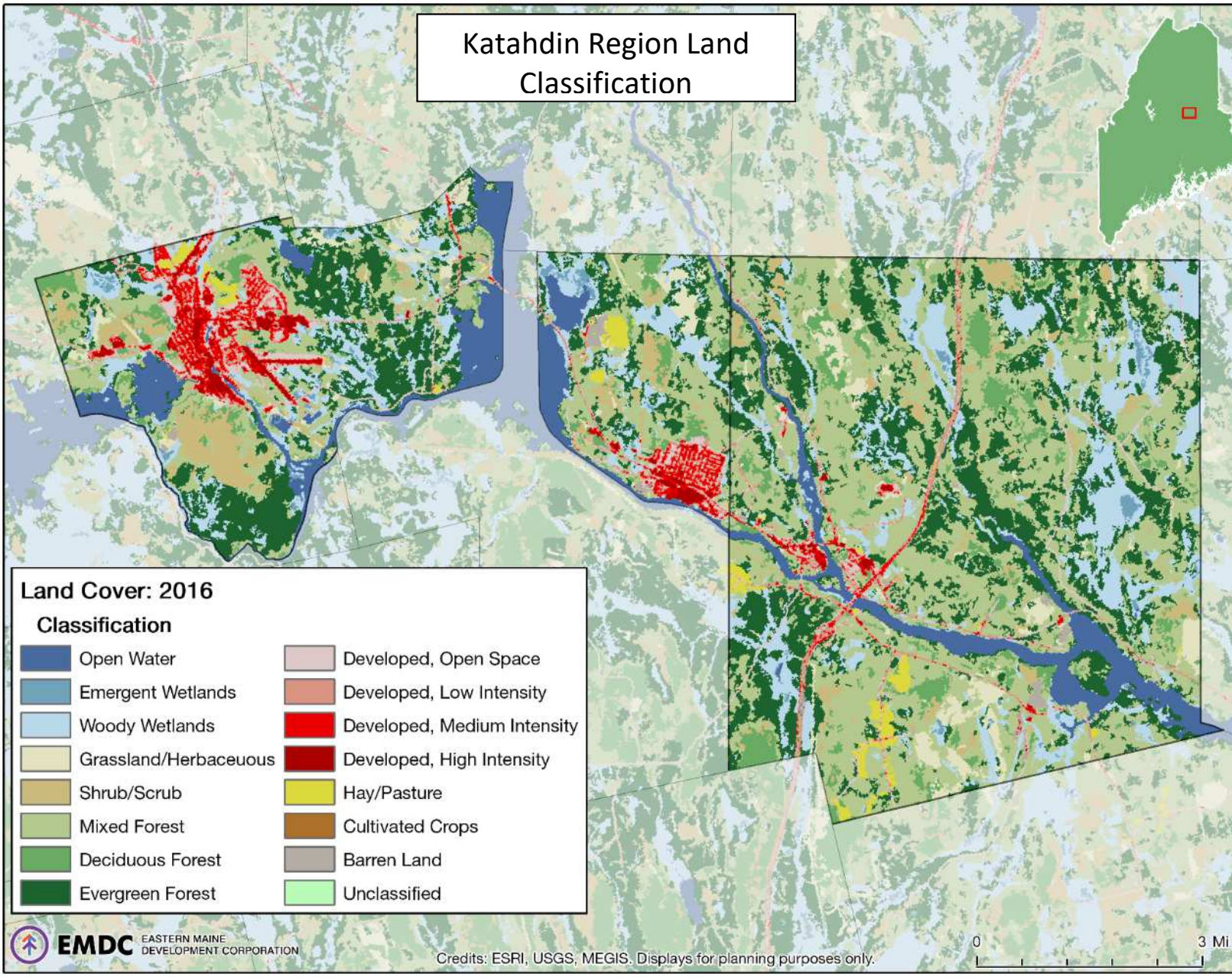
Source: United State Geological Service


Katahdin Region Topography
Schoodic Deadwater
Schoodic Ridge
Schoodic Stream
Little Smith Pond
Smith Brook
Little Smith Brook
Ledge Cut Brook
Millinocket Stream
Jerry Pond
Jerry Brook
Ferguson Lake
Quakish Lake
Shack Hill
Shad Pond
Constock Brook
Quakish Bog
Partridge Brook Flowage
Dolby Pond
Miner Brook Bog
Nahmakanta Stream
Trapper Brook
Mud Brook
East Branch Penobscot River
West Branch Penobscot River
Rockabema Stream
Medunkeunk Stream
Medunkeunk Lake
Salmon Stream Lake
Miner Brook
Wadleigh Deadwater
Dot Brook
Hathaway Brook
Wymon Brook
Little Salmon Stream
Salmon Stream
Baker Brook
Kimble Hill
Little Portage Pond Stream
Portage Pond Stream
Boat Brook
Carlisle Swamp
Eagle Stream
Inman Bog
Elevation (in feet)
250 - 299
300 - 349
350 - 399
400 - 449
450 - 499
500 - 549
550 - 599
600 - 649
650 - 699
700 - 749
750 - 799
800 - 849
850 - 899
900 - 949
950 - 999
Wetland
Water
Stream
Road
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Displays are for planning purposes only. Credits: ESRI, USGS, NOAA, MEGIS, ME DOT.
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Millinocket Topography
Smith Pond
Jerry Pond
Partridge Brook Flowage
Dolby Pond
Ferguson Lake
Quakish Lake
Shad Pond
Miner Brook Bog
EMDC
Elevation (in feet)
Wetland
Water
Stream
Road
0
1.5 Mi


East Millinocket & Medway Topography
Partridge Brook Flowage
Dolby Pond
EMDC
Elevation (in feet)
Wetland
Water
Stream
Road
0
1.5 Mi


Katahdin Region Slopes & Constraints
Slope
< 1%
1% - 8%
8% - 15%
15% - 25%
> 25%
Constraints
Significant
Slight
Moderate
Significant
Severe
EMDC
EASTERN MAINE DEVELOPMENT CORPORATION
Displays are for planning purposes only. Credits: ESRI, USGS, NOAA, MEGIS, ME DOT.
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Katahdin Region Land Classification
Land Cover: 2016
Classification
Open Water
Emergent Wetlands
Woody Wetlands
Grassland/Herbaceuous
Shrub/Scrub
Mixed Forest
Deciduous Forest
Evergreen Forest
Developed, Open Space
Developed, Low Intensity
Developed, Medium Intensity
Developed, High Intensity
Hay/Pasture
Cultivated Crops
Barren Land
Unclassified
EMDC
EASTERN MAINE DEVELOPMENT CORPORATION
Credits: ESRI, USGS, MEGIS. Displays for planning purposes only.
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Soils and Geology

The character of Maine and New England landscapes is inherited from the tumultuous geologic history of our continental crusts. Over 1.5 billion years, volcanism and mountain building events, erosion and sedimentation, and metamorphic processes built up the folds and faults under our feet. Much of the Katahdin region is underlain with bedrock formed in the Silurian (limy marine shale as well as lime-bearing gneiss and schist), and Devonian (marine sandstone and slate with granite, granodiorite, and gabbro) periods between 443 and 359 million years ago.[1] In northern and eastern parts of the State fossils remain in the shale and sandstone and reflect eras of marine deposition.

The Katahdin region bedrock was created during the Ordovician (485 to 444 Million years ago), the Silurian (444 to 420 Mya), and the Devonian (419 to 360 Mya) periods. Millinocket and Medway contain bedrock areas of quartzite, slate, and sandstone, while East Millinocket contains bedrock of slate, sandstone, and mudstone. Deposits of chert to the north in T1 R8 WELS, T2 R8 WELS, and Soldiertown Twp are significant as they are the primary constituent of flint, an important resource for pre-Columbian indigenous peoples.

Between 95,000 and 20,000 years ago, ice buried the region under the 2,000-foot-thick Laurentide and Labrador glaciers.[2] This glacial activity is evident in the mountain cirques, eskers, drumlins, moraines, kettle lakes, and *roches moutonnées* (or sheepbacks) that traverse the landscape. By 10,000 years ago, Maine was mostly free of glacial ice, leaving behind deep valleys and hills covered in till – the jumbled soil and stones scraped from the landscape. Other areas exposed to the grinding action of the glaciers were left with little to no topsoil. As a result, the depth of soil to bedrock in the State is extremely variable. Large sand dunes were spread across the State by winds and by streams, leaving numerous and abundant deposits. As the glaciers retreated, a procession of plant and animal species followed the warming terrain, often stranding glacial relics such as dwarf birch, Katahdin arctic butterfly, alpine bilberry, and Bigelow's sedge.[3]

This complex history somewhat explains the dynamics in soils and minerals found in the region. Many areas of rich, fertile soil were interspersed with mining and quarrying activities for sand and gravel, granite, slate, limestone, gemstones, zinc, and copper. Katahdin Iron Works – in operation between 1843 and 1890 – produced up to twenty tons of pig iron daily, a vital resource for the nation's steel industries.[4] This operation also burned 20,000 cords of wood every year, depleting local forests and greatly limiting the local sustainability of iron production.

Soils in the region are typically mixtures of glacial sediments and till. Widespread regional soil types include:

- Monarda-Burnham Complex Soil (18%): variable slopes, stony to very stony, and found on upland drumlin ridges. The primary parent material is loamy, lodgment till with depth to root restrictive layers between 5 and 27 inches. This soil is generally poorly drained with little water movement, meeting hydric – or wetland – criteria.
- Plaisted Loam Soil (18%): slopes between 8% and 60%, very stony, and found on drumlin ridges, hills, and uplands. The primary parent material is coarse-loamy lodgment till with depth

[1] https://www.fema.gov/media-library-data/20130726-1738-25045-6190/maine_bedrock_map.pdf Accessed December 19, 2019.

[2] https://maineanencyclopedia.com/geology/ Accessed December 19, 2019.

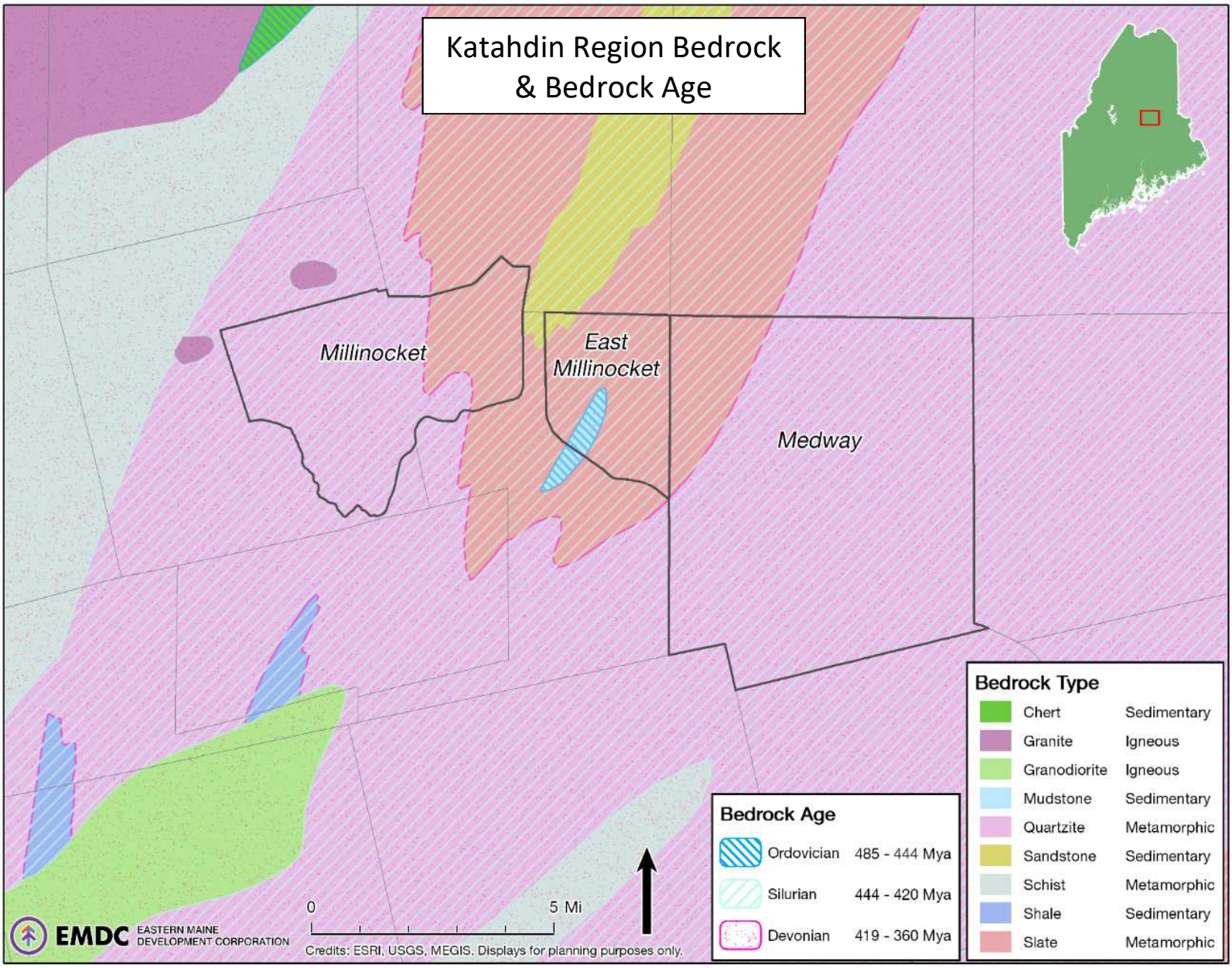
[3] https://www.maine.gov/dacf/mnap/features/communities/dwarfheath.htm Accessed December 20, 2019.

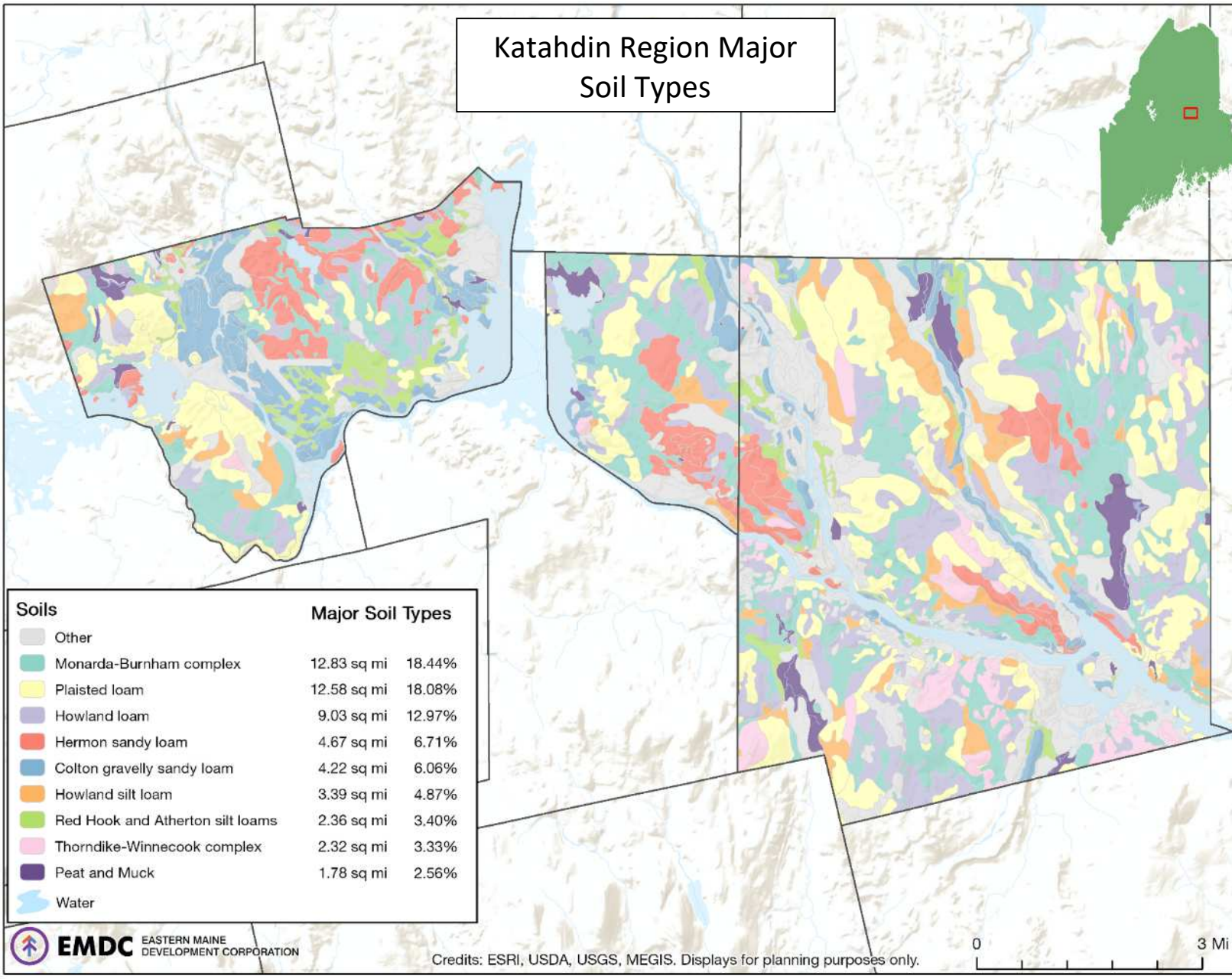
[4] https://www.maine.gov/dacf/parksearch/PropertyGuides/PDF_GUIDE/KatahdinIronWorks.pdf Accessed December 20, 2019.

to root restrictive layers between 22 and 34 inches. This soil is well drained and water movement is moderately low. As such, this soil does not meet hydric criteria.

- Howland Loam Soil (13%): slopes between 0% and 8%, very stony, and found on ground moraines and till plains. The primary parent material is coarse-loamy lodgment till with a depth to root restrictive layer of 21 to 33 inches. This soil is moderately well drained with moderate water mobility. This soil does not meet hydric criteria.

These three soil types constitute nearly 50% of the three towns' subsurface soils. It should be noted that much of the soil survey data available is intended for planning and research purposes rather than for use in construction or engineering.


Katahdin Region Bedrock & Bedrock Age
Millinocket
East Millinocket
Medway
Bedrock Type
Chert Sedimentary
Granite Igneous
Granodiorite Igneous
Mudstone Sedimentary
Quartzite Metamorphic
Sandstone Sedimentary
Schist Metamorphic
Shale Sedimentary
Slate Metamorphic
Bedrock Age
Ordovician 485 - 444 Mya
Silurian 444 - 420 Mya
Devonian 419 - 360 Mya
0
5 Mi
EMDC EASTERN MAINE DEVELOPMENT CORPORATION
Credits: ESRI, USGS, MEGIS. Displays for planning purposes only.


Katahdin Region Major Soil Types
Soils
Major Soil Types
Other
Monarda-Burnham complex 12.83 sq mi 18.44%
Plaisted loam 12.58 sq mi 18.08%
Howland loam 9.03 sq mi 12.97%
Hermon sandy loam 4.67 sq mi 6.71%
Colton gravelly sandy loam 4.22 sq mi 6.06%
Howland silt loam 3.39 sq mi 4.87%
Red Hook and Atherton silt loams 2.36 sq mi 3.40%
Thorndike-Winnecook complex 2.32 sq mi 3.33%
Peat and Muck 1.78 sq mi 2.56%
Water
EMDC EASTERN MAINE DEVELOPMENT CORPORATION
Credits: ESRI, USDA, USGS, MEGIS. Displays for planning purposes only.
0
3 Mi

Climate

The climate in the Katahdin region is *humid continental* – Dfb in the Köppen classification system – which is typified by dramatic seasonal temperature fluctuations and year-round precipitation.[1] Climate has had an indelible impact on Maine's culture and economy, especially its long winters. However, the historic trends we have adapted to may be changing. For example, historic ice out dates – the date where winter ice cover leaves a lake – for large lakes in the region have become earlier by an average of nine days since 1850.[2] Temperatures in the state have risen an average of 3˚F since the beginning of the 20th century along with measured increases in precipitation.[3] Experts agree that these trends will bring further shifts in weather, leading to an increase in extreme weather events as well as disruptive changes to our ecoregion.[4] These trends are collectively known as climate change.

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Yearly
Record high	56°F	62°F	80°F	87°F	96°F	101°F	100°F	100°F	96°F	87°F	72°F	62°F	**101°F**
	13°C	17°C	27°C	31°C	36°C	38°C	38°C	38°C	36°C	31°C	22°C	17°C	**38°C**
Average high	23.7°F	28.4°F	37.9°F	51°F	64.6°F	73.4°F	78.3°F	76.7°F	67.7°F	54.8°F	41.9°F	30.3°F	**52.4°F**
	−4.6°C	−2.0°C	3.3°C	10.6°C	18.1°C	23°C	25.7°C	24.8°C	19.8°C	12.7°C	5.5°C	−0.9°C	**-11.3°C**
Average low	4.3°F	8.3°F	18.1°F	30.9°F	42°F	52.1°F	57.7°F	54.9°F	46.8°F	36.1°F	27.5°F	14.4°F	**32.8°F**
	−15.4°C	−13.2°C	−7.7°C	−0.6°C	5.6°C	11.2°C	14.3°C	12.7°C	8.2°C	2.3°C	−2.5°C	−9.8°C	**0.4°C**
Record low	−41°F	−40°F	−32°F	−5°F	19°F	26°F	37°F	32°F	22°F	11°F	−10°F	−35°F	**−41°F**
	−41°C	−40°C	−36°C	−21°C	−7°C	−3°C	3°C	0°C	−6°C	−12°C	−23°C	−37°C	**−41°C**
Precipitation	2.93 in	2.18 in	3.06 in	3.56 in	3.34 in	4.07 in	3.85 in	3.94 in	3.72 in	4.07 in	4.43 in	3.53 in	**42.68 in**
	74 mm	55 mm	78 mm	90 mm	85 mm	103 mm	98 mm	100 mm	94 mm	103 mm	113 mm	90 mm	**1083 mm**
Rainy days	3	3.7	5.4	8.4	11.6	11.3	11.4	10.6	10	10.3	8	4.8	**98.5**
Snowy days	13.6	12	9.4	3.9	0.4	0	0	0	0	1.7	6.2	12.5	**59.7**

Forest Species

Ecoregions are where ecosystem resources are similar in type, quality, and quantity. The EPA designates different ecoregions, grouping similar characteristics together. The State is located in the Mixed Wood Plains and Atlantic Highlands ecoregions, typical of much of the Great Lakes, southern Ontario and Quebec, and New York and New England. The Katahdin Region is situated in the *Eastern Maine – Southern New Brunswick Plains* and the *Central Foothills* sub-ecoregions (82c and 82d).[5] Much of Maine is covered by New England-Acadian type forests, where temperate, broadleaf forests readily intermingle with coniferous forest species more typical of the boreal regions of Canada.[6] Common forest species in the Katahdin region include:[7]

- Hardwood Forests: these forests are responsible for our seasonal foliage displays, with dominant canopy trees including sugar maple, red maple, white ash, beech, red oak, and less commonly white oak; pioneer species include quaking aspen, yellow birch, and paper birch.

[1] https://www.nationalgeographic.org/encyclopedia/koppen-climate-classification-system/ Accessed December 17, 2019.

[2] http://www.uvm.edu/~pbierman/classes/gradsem/2005fall/hodgkins_et_al_2002.pdf Accessed December 17, 2019.

[3] https://statesummaries.ncics.org/chapter/me/ Accessed December 17, 2019.

[4] NOAA Data Station Inventory: Millinocket Municipal Airport; data averages 1981-2010.

[5] https://www.epa.gov/eco-research/ecoregions-north-america Accessed December 19, 2019.

[6] https://www.worldwildlife.org/ecoregions/na0410 Accessed December 17, 2019.

[7] https://www.wikiwand.com/en/New_England/Acadian_forests Accessed December 17, 2019.

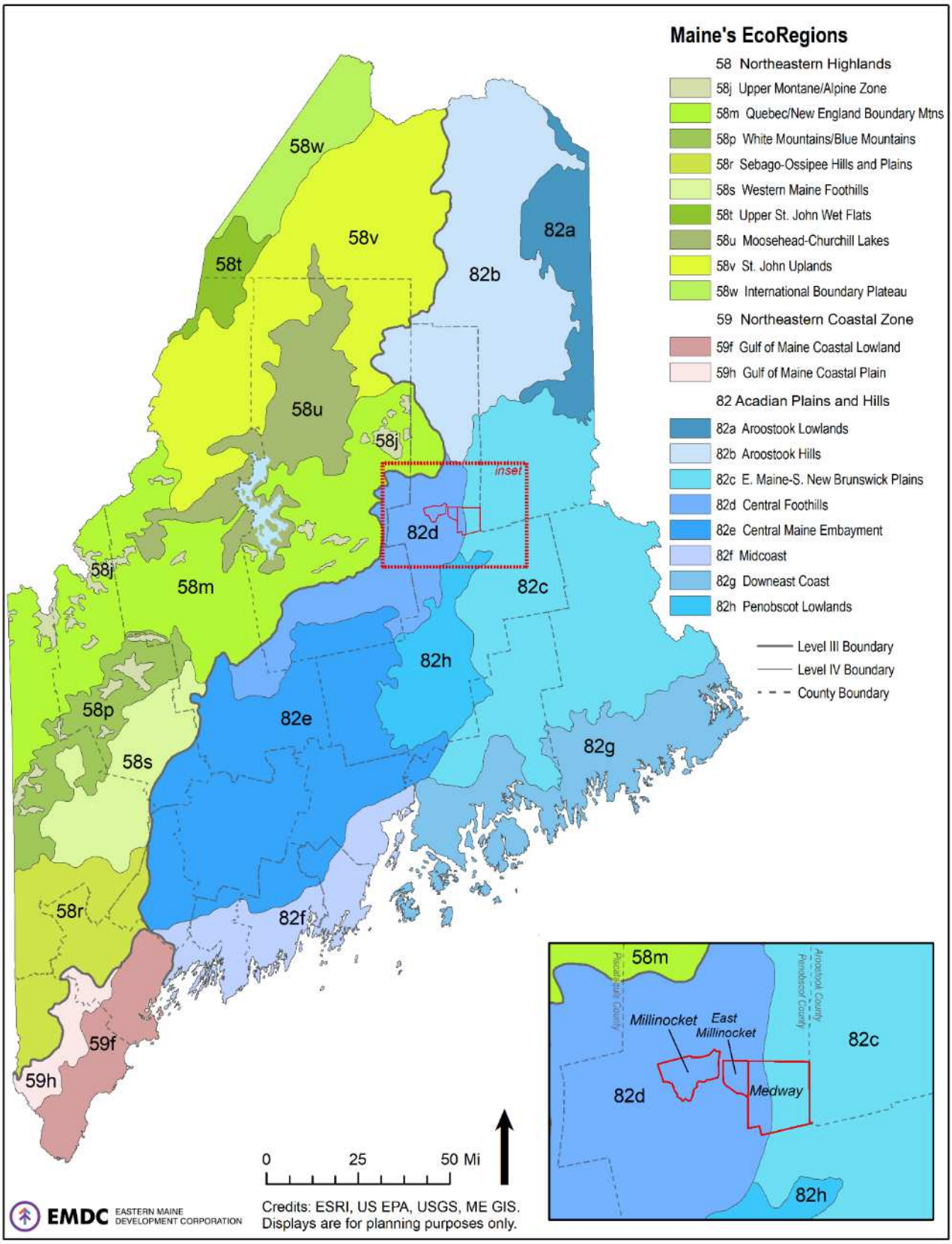
Shrubs and undergrowth include wintergreen, wild sarsaparilla, flowering dogwood, mountain laurel, and wood sorrel.

- Coniferous Forests: common in regions with harsh weather and gravely, acidic soils, these forests are dominated by white pine, red pine, jack pine, red spruce, hemlock, and balsam fir. Shrubs include moosewood, low-bush blueberry, wintergreen, and partridge berry.
- Alpine Forests: more typical of highlands around Mount Katahdin and the White Mountains, these forests commonly include white spruce, alpine bilberry, mountain cranberry, and other heath grasses and sedges.

Wetlands, bogs, and swamps in this region are typified by acidic, saturated soils which push out more typical forest species and create unique habitats. Common tree and shrub species include leather leaf, bog rosemary, Labrador tea, bog laurel, and American cranberry bushes; common in dryer soils are hemlock, northern white cedar, tamarack, balsam poplar, red maple, Atlantic white cedar, tupelo, and black ash. Wetlands are also unique that are home to carnivorous plants such as round-leaved sundews, and pitcher plants.

Common birds and mammals in this region include:

- Birds: wild turkey, mallard duck, wood duck, great horned owl, black-capped chickadee, white-throated sparrow, cedar waxwing, loon, great blue heron, red tailed hawk, raven, and pileated woodpecker.
- Mammals: black bear, moose, white-tailed deer, coyote, red fox, snowshoe hare, bobcat, porcupine, river otter, fisher, marten, muskrat, raccoon, and red squirrel.

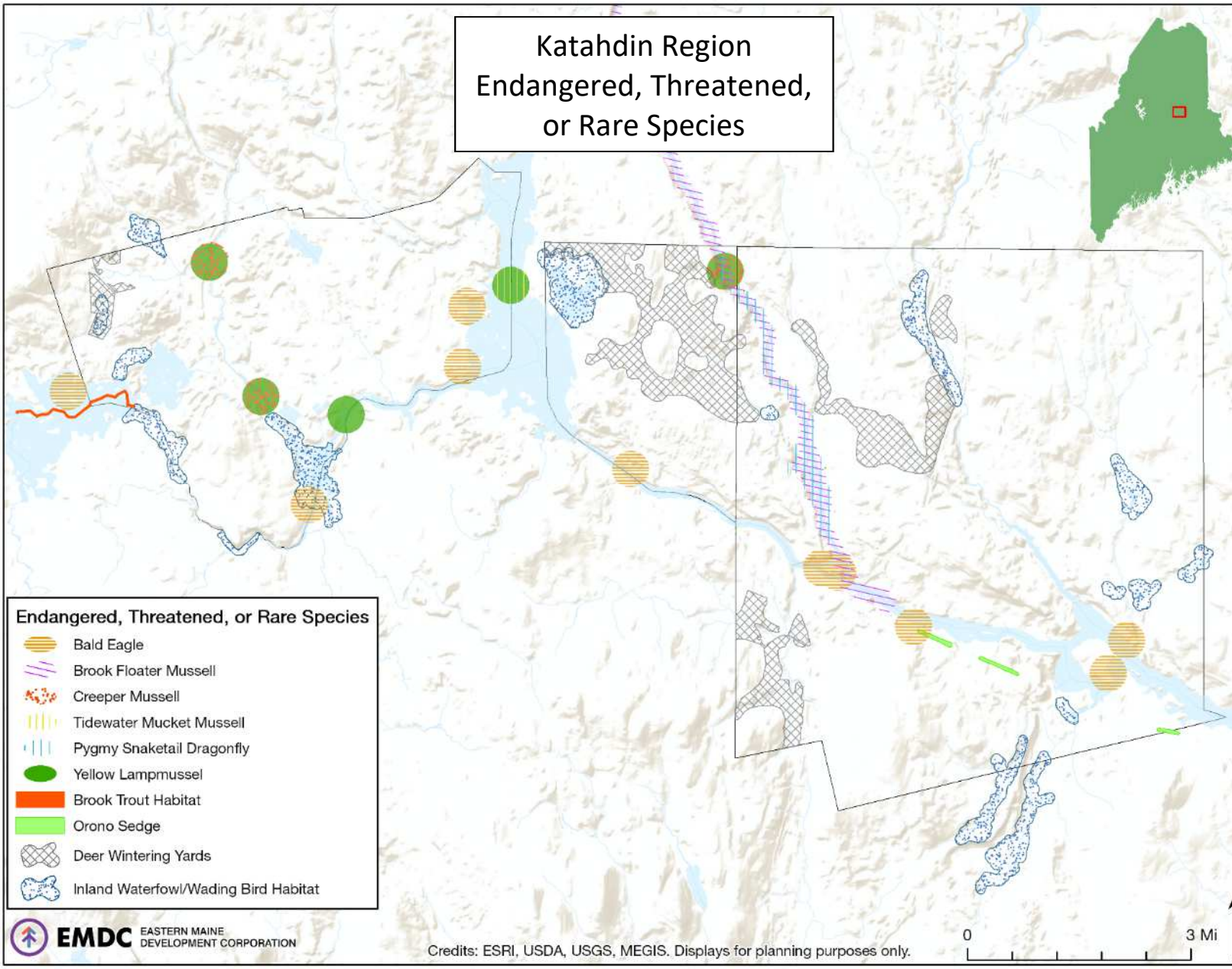

Maine's EcoRegions
58 Northeastern Highlands
58j Upper Montane/Alpine Zone
58m Quebec/New England Boundary Mtns
58p White Mountains/Blue Mountains
58r Sebago-Ossipee Hills and Plains
58s Western Maine Foothills
58t Upper St. John Wet Flats
58u Moosehead-Churchill Lakes
58v St. John Uplands
58w International Boundary Plateau
59 Northeastern Coastal Zone
59f Gulf of Maine Coastal Lowland
59h Gulf of Maine Coastal Plain
82 Acadian Plains and Hills
82a Aroostook Lowlands
82b Aroostook Hills
82c E. Maine-S. New Brunswick Plains
82d Central Foothills
82e Central Maine Embayment
82f Midcoast
82g Downeast Coast
82h Penobscot Lowlands
Level III Boundary
Level IV Boundary
County Boundary
58w
58v
58t
82a
82b
58u
58j
inset
82d
58j
58m
82c
82h
58p
82e
58s
82g
58r
82f
59f
59h
0
25
50 Mi
EMDC EASTERN MAINE DEVELOPMENT CORPORATION
Credits: ESRI, US EPA, USGS, ME GIS.
Displays are for planning purposes only.
58m
Piscataquis County
Aroostook County
Penobscot County
Millinocket
East Millinocket
82c
82d
Medway
82h

Rare, Threatened, and Endangered Species

The Katahdin region is home to many important and locally rare species. Identified habitats for bird species such as the American Pipit are found in Baxter State Park. Important Brook Trout habitat stretches along the West Branch Penobscot River in Quakish Lake, west of the Quakish Lake dam. The region is home to several rare mussel species which are vulnerable to pollution and to habitat loss from dams and levees. State Threatened species include Roaring Brook Mayfly, Pygmy Snaketail, Northern Bog Lemming, Yellow Lampmussel, Tidewater Mucket, and Brook Floater. Endangered species in the state consist of Sedge Wren, American Pipit, Peregrine Falcon, Redfin Pickerel, Cobblestone Tiger Beetle, and Katahdin Arctic Butterfly. Maine's only endemic plant, Orono Sedge, grows in the region covered by the Plan. Orono Sedge is ranked as rare in Maine by the Maine Natural Areas Program and ranked as globally rare by NatureServe.[1]

Common Name	Latin Name	Threat Level	Type	Location
Sedge Wren	*Cistothorus platensis*	Endangered	Bird	South of Aroostook County
American Pipit	*Anthus rubescens*	Endangered	Bird	Baxter State Park
Peregrine Falcon	*Falco peregrinus*	Endangered	Bird	Central Maine
Redfin Pickerel	*Esox americanus*	Endangered	Fish	Penobscot River Watershed
Cobblestone Tiger Beetle	*Cicindela marginipennis*	Endangered	Insect	Central and Southern Maine
Katahdin Arctic Butterfly	*Oeneis polixenes katahdin*	Endangered	Insect	Baxter State Park
Roaring Brook Mayfly	*Epeorus frisoni*	Threatened	Insect	Baxter State Park
Pygmy Snaketail	*Ophiogomphus howei*	Threatened	Insect	East Branch Penobscot River
Northern Bog Lemming	*Synaptomys borealis*	Threatened	Mammal	Baxter State Park
Yellow Lampmussel	*Lampsilis cariosa*	Threatened	Mollusk	Penobscot River Watershed
Tidewater Mucket	*Leptodea ochracea*	Threatened	Mollusk	Penobscot River Watershed
Brook Floater	*Alsmidonta varicose*	Threatened	Mollusk	Penobscot River Watershed
Orono Sedge	*Carex oronensis*	Vulnerable	Plant	Penobscot River Watershed

[1] https://www.maine.gov/dacf/mnap/features/rank.htm Accessed December 1, 2020.


Katahdin Region
Endangered, Threatened, or Rare Species
Endangered, Threatened, or Rare Species
Bald Eagle
Brook Floater Mussell
Creeper Mussell
Tidewater Mucket Mussell
Pygmy Snaketail Dragonfly
Yellow Lampmussel
Brook Trout Habitat
Orono Sedge
Deer Wintering Yards
Inland Waterfowl/Wading Bird Habitat
EMDC
EASTERN MAINE DEVELOPMENT CORPORATION
Credits: ESRI, USDA, USGS, MEGIS. Displays for planning purposes only.
0
3 Mi

Significant Wildlife Habitats

The Katahdin Region is home to various animal species whose habitats ensure their ecological health and well-being. The Maine Department of Environmental Protection (MDEP) regulates Significant Wildlife Habitats under the Natural Resources Protection Act (NRPA). There are six Significant Wildlife Habitats, which include Deer Wintering Areas (DWA), Inland Waterfowl/Wading bird Habitat (IWWH), Seabird Nesting Islands (SNI), Shorebird areas, Significant Vernal Pools (SVP), and Tidal Waterfowl/Wading bird Habitat (TWWH), three of which are notably present in the Katahdin Region and northern Maine.[1] These important habitats offer protection and support to the species that reside within them.

Notable locations of Significant Wildlife Habitats in the Katahdin Region are in Baxter State Park in Millinocket. The park provides over 7,000 acres of Inland Waterfowl/Wading Bird Habitat and 95 acres of Deer Wintering Area. While Inland Waterfowl/Wading Bird Habitat offers safe nesting habitat and feeding areas, Deer Wintering Areas provide forested spaces in which deer can be sheltered from winter winds and deep snow.[2] The preservation of the land area at Baxter State Park ensures the long-term presence of these vital habitats and the species they support.

The greater region of northern Maine contains Significant Vernal Pool Habitat in which amphibian populations are abundant. Common amphibian species in northern Maine are Wood Frogs and Spotted & Blue Spotted Salamanders. In 2007, the Maine Department of Environmental Protection designated Significant Vernal Pool Habitat to be protected by law under the Natural Resources Protection Act.[3]

To ensure the protection and conservation of Significant Wildlife Habitats in the Katahdin Region, Millinocket, East Millinocket and Medway will consult with state agencies for technical assistance, guidance, and to form proposed measures to employ.

[1] https://www.maine.gov/ifw/fish-wildlife/wildlife/environmental-review/significant.html Accessed October 30, 2020.

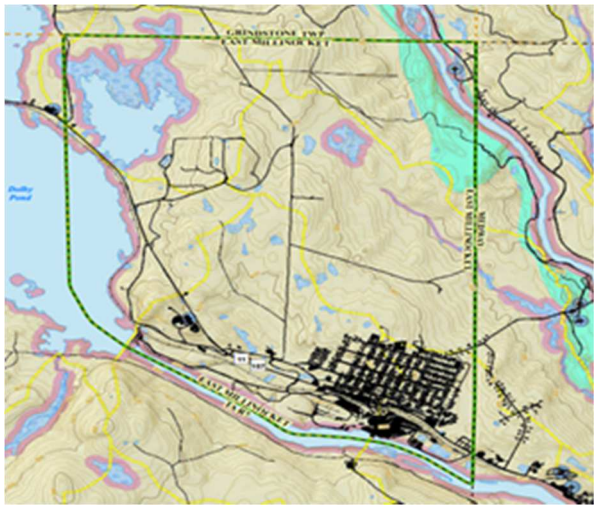
[2] https://www1.maine.gov/dacf/mnap/focusarea/baxter_region_focus_area.pdf Accessed October 30, 2020.

[3] https://www.maine.gov/dep/land/nrpa/vernalpools/index.html Accessed October 30, 2020.

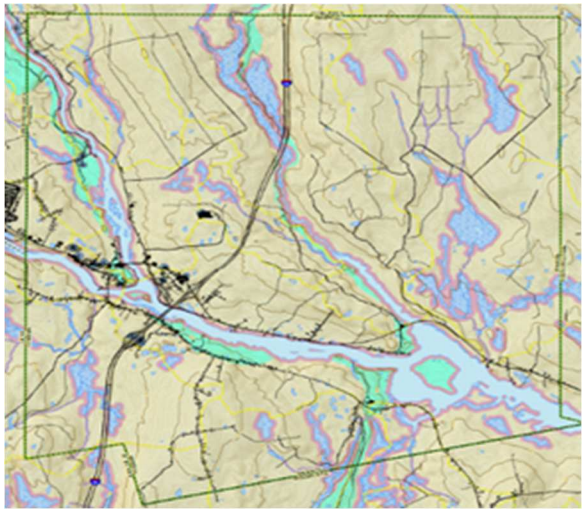
Millinocket



East Millinocket



Medway



Water Resources & Riparian Habitats

LEGEND

This map depicts riparian areas associated with major surface water features and important public water resources. This map does not depict all streams or wetlands known to occur on the landscape and should not be used as a substitute for on the ground surveys. This map should be used as a planning reference only and is intended to illustrate the natural hydrologic connections between surface water features. Protecting riparian habitats protects water quality, maintains habitat connections, and safegards important economic resources including recreational and commercial fisheries.

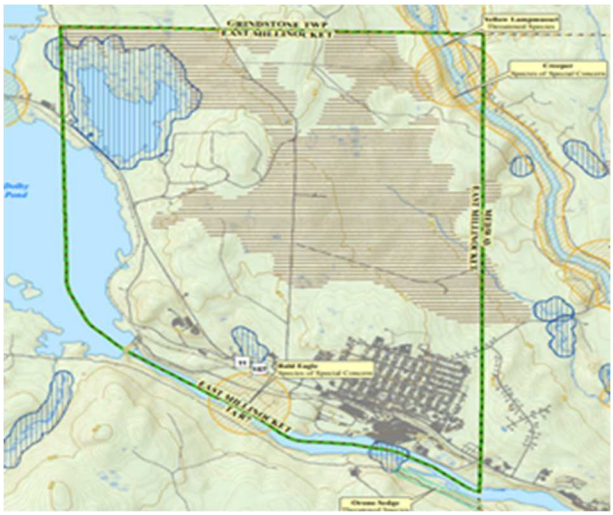
- **Selected Town or Area**
- **Organized Township Boundary**
- **Unorganized Township**
- **Developed**- Impervious surfaces including buildings and roads
- **Drainage divides** - These are the smallest hydrologic units mapped in Maine. They contain watershed boundaries for most ponds and rivers in Maine.
- **NWI Wetlands** - National Wetlands Inventory (NWI) uses aerial photographs to approximate wetland locations. NWI data is not a comprehensive mapping of wetland resources and typically under represents the presence of wetlands on the landscape. The presence of wetlands needs to be determined in the field prior to conducting activities that could result in wetland disturbance.
- **Riparian Habitat** - depicted using common regulatory zones including a 250-foot-wide strip around Great Ponds (ponds ≥10 acres), rivers, coastline, and wetlands ≥10 acres and a 75-foot-wide strip around streams. Riparian areas depicted on this map may already be affected by existing land uses.
- **Shellfish Growing Areas** - The Maine Department of Marine Resources maps growing areas for economically important shellfish resources. This map depicts softshell and hard clam resources in order to illustrate the relation of these resources to streams and shoreline areas vital to their conservation.
- **Brook Trout Habitat** - Streams and ponds, buffered to 100 feet, where wild Brook Trout populations have been documented, or managed to enhance local fisheries.
- **Public Water Supply Wells**
- **Source protection area** - Buffers that represent source water protection areas for wells and surface water intakes that serve the public water supply. Their size is proportional to population served and/or by the type of water supply system. These buffers range from 300 to 2,500 feet in radius.
- **Aquifers** - flow of at least 10 gallons per minute

Credits: MEGIS, ME DOT, MDIFW, MDACF, USGS, MEDEP.

Millinocket



East Millinocket



Medway



Credits: MEGIS, ME DOT, MDIFW, MDACF, USGS, MEDEP.

High Value Plant & Animal Habitats

Organized Township Boundary

Unorganized Township

Selected Town or Area of Interest

Developed: Impervious surfaces such as buildings and roads

Rare, Threatened, or Endangered Wildlife

Known rare, threatened, or endangered species occurrence and/or the associated habitats based on species sightings.

Consult with an MDIFW regional biologist to determine the relative importance and conservation needs of the specific location and supporting habitat. For more information regarding individual species visit our website, http://www.maine.gov/ifw/wildlife/species/endangered_species/state_list.htm, for species specific fact sheets.

The Federal Endangered Species Act requires actions authorized, funded, or carried out by federal agencies be reviewed by the U. S. Fish and Wildlife Service. If your project occurs near an occurrence of the Atlantic Salmon, Roseate Tern, Piping Plover, Canada Lynx, New England Cottontail, Fubish's Lousewort, or Small-whorled Pagonia contact the Maine Field Office, USFWS, 1168 Main St., Old Town, ME 04468.

Rare or Exemplary Plants and Natural Communities

Rare Plant Locations

Known rare, threatened, or endangered plant occurrences are based on field observations. Consult with a Maine Natural Areas Program (MNAP) Ecologist to determine conservation needs of particular species. For more information regarding rare plants, the complete list of tracked species and fact sheets for those species can be found at: http://www.maine.gov/doc/nrimc/mnap/features/plantlist.htm

Rare or Exemplary Natural Community Locations

The MNAP has classified and distinguished 98 different natural community types that collectively cover the state's landscape. These include such habitats as floodplain forests, coastal bogs, alpine summits, and many others. Each type is assigned a rarity rank of 1 (rare) through 5 (common). Mapped rare natural communities or ecosystems, or exemplary examples of common natural communities or ecosystems, are based on field surveys and aerial photo interpretation. Consult with an MNAP Ecologist to determine conservation needs of particular communities or ecosystems.

Essential Wildlife Habitats

Roseate Tern Nesting Area *or*
Piping Plover-Least Tern Nesting, Feeding, & Brood-Rearing Area

Maine's Department of Inland Fisheries & Wildlife (MDIFW, www.state.me.us/ifw) maps areas currently or historically providing habitat essential to the conservation of endangered or threatened species as directed by the Maine Endangered Species Act (12 MRSA, Chapter 925, Subchapter 3, Sections 12804 and 12806) and regulations (MDIFW Rules, Chapter 8.05). Identification of Essential Habitat areas is based on species observations and confirmed habitat use. If a project occurs partly or wholly within an Essential Habitat, it must be evaluated by MDIFW before state and/or municipal permits can be approved or project activities can take place.

Significant Wildlife Habitats

Candidate Deer Wintering Area

Forested area possibly used by deer for shelter during periods of deep snow and cold temperatures. Assessing the current value of a deer wintering area requires on-site investigation and verification by IF&W staff. Locations depicted should be considered as approximate only.

Inland Waterfowl / Wading Bird

Freshwater breeding, migration/staging, and wintering habitats for inland waterfowl or breeding, feeding, loafing, migration, or roosting habitats for inland wading birds.

Seabird Nesting Island

An island, ledge, or portion thereof in tidal waters with documented, nesting seabirds or suitable nesting habitat for endangered seabirds.

Shorebird Areas

Coastal staging areas that provide feeding habitat like tidal mud flats or roosting habitat like gravel bars or sand spits for migrating shorebirds

Tidal Waterfowl / Wading Bird

Breeding, migrating/staging, or wintering areas for coastal waterfowl or breeding, feeding, loafing, migrating, or roosting areas for coastal wading birds. Tidal Waterfowl/Wading Bird habitats include aquatic beds, eelgrass, emergent wetlands, mudflats, seaweed communities, and reefs.

Significant Vernal Pools

A pool depression used for breeding by amphibians and other indicator species and that portion of the critical terrestrial habitat within 250 ft of the spring or fall high water mark. A vernal pool must have the following characteristics: natural origin, nonpermanent hydroperiod, lack permanently flowing inlet or outlet, and lack predatory fish.

Maine's Natural Resources Protection Act

Maine's Natural Resources Protection Act (NRPA, 1988) is administered by the Maine Department of Environmental Protection (MDEP; http://www.maine.gov/dep/blwq/docstand/nrpapage.htm) and is intended to prevent further degradation and loss of natural resources in the state, including the above Significant Wildlife Habitats that have been mapped by MDIFW. MDEP has regulatory authority over most Significant Wildlife Habitat types. The regional MDEP office should be consulted when considering a project in these areas.

Atlantic Salmon Spawning/Rearing Habitat

Atlantic Salmon Rearing Habitat

Atlantic Salmon Spawning Habitat

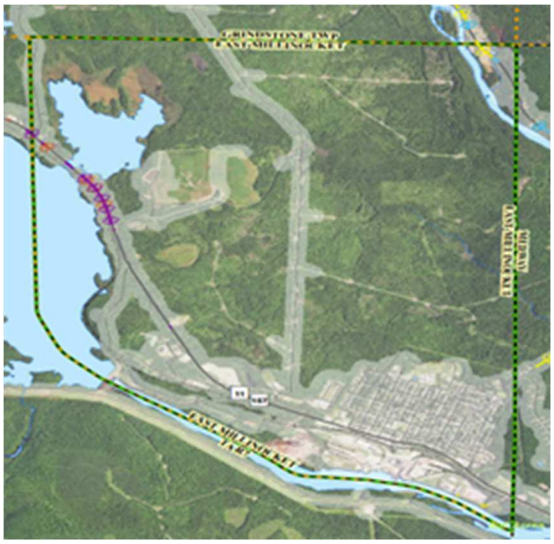
Atlantic Salmon Limited Spawning Habitat

Mapped by Atlantic Salmon Commission (ASC) and US Fish & Wildlife Service (USFWS) from field surveys on selected Penobscot and Kennebec River tributaries and the Dennys, Ducktrap, East Machias, Machias, Pleasant, Narraguagus, and Sheepscot Rivers.

Millinocket



East Millinocket



Medway



Undeveloped Habitat Blocks & Connectors and Conserved Lands

Organized Township Boundary

Unorganized Township

Selected Town or Area of Interest

Habitat Blocks

Development Buffer (*pale transparency*)
250-500 foot buffer around improved roads and developed areas based on development intensity.

Undeveloped Habitat Block
Remaining land outside of Development Buffers. Blocks greater than 100 acres are labeled with their estimated acreage.

Approximate Road Crossing Habitat Connections

Represented habitat connections identified through computer modeling highlight locations where quality habitat is likely to occur on both sides of a given road between undeveloped habitat blocks greater than 100 acres and between higher value wetlands.These representations are approximate and have not been field verified.

Undeveloped Block Connectors
Likely road crossing areas linking undeveloped habitat blocks greater than 100 acres. The threat of habitat fragmentation and animal mortality corresponds to traffic volume.

Yellow lines represent habitat road crossings with daily traffic volumes less than 2000 vehicles per day.

Red lines represent habitat road crossings with daily traffic volumes greater than 2000 vehicles per day.

Riparian Connectors
Likely crossing locations for wetland dependent species moving between waterways and wetlands divided by roads

Blue lines represent riparian road crossings with daily traffic volumes less than 2000 vehicles per day.

Purple lines represent riparian road crossings with daily traffic volumes greater than 2000 vehicles per day.

Highway Bridge Connectors
Highway bridges along I-95 and I-295 that span riparian habitat connecting adjacent but separated habitat blocks.These are locations where species are likely to take advantage of infrastructure to move between habitat blocks.

Conserved Lands

The State of Maine's conserved lands database includes lands in federal, state, and non-profit ownership. It does not include many privately owned conservation lands, especially those protected by local land trusts, or town owned conservation lands. For the most accurate and current information about land ownership, consult with the local assessor and/or other local land management agencies. If public access potential to any of the properties displayed here is uncertain, landowners should be contacted to determine if permission is necessary.

Ownership Type (*transparent layers*)

Federal
National parks, forests, and wildlife refuges. (Includes Canadian conserved lands.)

State
Wildlife Management Areas and other properties managed by the Department of Inland Fisheries and Wildlife, state parks, and parcels managed by the Bureau of Parks & Lands.

Municipal
Town parks, athletic fields, community forests, etc.

Private Conservation
Properties owned and managed by private (usually non-profit) organizations such as The Nature Conservancy, Maine Coast Heritage Trust; Trust for Public Land, and local land trusts.

Easement
Voluntary legal agreements that allow landowners to realize economic benefit by permanently restricting the amount and type of future development and other uses on all or part of their property as they continue to own and use it.

Credits: MEGIS, ME DOT, MDIFW, MDACF, USGS, MEDEP.

Threats & Protective Measures

Threats

An extremely important keystone species in the New England landscape is the beaver (*Castor Canadensis*). These large rodents build dams to create reservoirs where they access food and expand their territory. The resulting wetlands modify forested landscapes extensively, creating diverse and dynamic habitats seemingly overnight. Nearly hunted to extinction during the 18th and 19th centuries, modern populations are estimated at 10 to 15 million. They are reintroduced across much of New England and are common in the Katahdin region. However, the story of the beaver is not typical of other charismatic New England wildlife.

Since European settlement, many species native to Maine are known to have been declared extinct including the sea mink (1894), the Labrador duck (1878), the great auk (1852), the passenger pigeon (1914), the eastern cougar (2011), and the eastern elk (1877). Other species have been extirpated from Maine's woods, including timber rattlesnakes, woodland caribou, and gray wolves.[1] There are currently 45 species listed as endangered or threatened, while concerns are being voiced about the futures of other important species such as lynx, marten, loon, black-capped chickadee, halibut, and moose.[2]

The State of Maine Department of Inland Fisheries & Wildlife (MDIFW) identifies and delineates fragile and unique habitats and those species that utilize them. Conserving an array of habitats helps maintain biological diversity and ensures that wildlife and human populations remain healthy. The Maine Endangered Species Act (Title 12, §7751-7760) and the Natural Resources Protection Act (Title 38, §480-B) describe the essential and significant habitats protected under the Growth Management Act. A notable habitat conservation initiative is Beginning with Habitat (BwH), a program that has focused on gathering and distributing habitat data to Maine communities since 2000. The Beginning with Habitat program uses a landscape approach to prioritize the conservation of a variety of native plant and animal habitats, including riparian habitat, high value plant and animal habitats, and undeveloped habitat blocks and habitat connections.[3] Despite these efforts, habitat fragmentation and loss of open space represents a pervasive threat to the preservation of contiguous, uninterrupted blocks of habitat. As such, the Growth Management Act recommends preservation of parcels 50 acres or larger which are 1) not divided by a roadway; 2) not separated into parcels for development; 3) not punctuated by more than one dwelling per 25 acres; and 4) buffered by 200-500 feet from roads and development.[4]

A unique endemic species – the Katahdin Arctic Butterfly (*Oeneis polixenes katahdin*) – is known only in the boulder fields and heaths of Mount Katahdin. Recreation and tourism represent a booming part of the State and the Katahdin region's economic vitality. However, those visitors can damage fragile ecosystems such as high-altitude alpine zones, riverine systems, and wetland areas. Baxter State Park limits the number of hikers on the slopes of Mount Katahdin in order to protect these habitats. Visitors to the area are barred from bringing out-of-state firewood, lest they introduce one of a number of tree pests; boats are required to be cleaned to avoid introducing non-native plants; and outdoor enthusiasts are reminded to pack out their wastes and to leave only footprints.

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[1] https://www.maineaudubon.org/news/5-creatures-you-may-not-know-used-to-live-in-maine/ Accessed December 17, 2019.

[2] http://thinkmaine.bangordailynews.com/2015/06/04/home/6-species-that-could-disappear-from-maine-within-the-next-generation/ Accessed December 19, 2019.

[3] https://www.beginningwithhabitat.org/about_bwh/index.html Accessed October 29, 2020.

[4] https://www.maine.gov/dacf/municipalplanning/docs/2005manual_lowres.pdf Accessed December 19, 2019.

Several endangered or threatened species inhabit the Penobscot River watershed, such as River Herring, Atlantic salmon, American shad, Atlantic sturgeon, and shortnose sturgeon. However, dams and culverts hinder fish and invertebrate species from passing up and down waterways. Removing dams, installing fish passages and fishways, and replacing culverts all increases the quantity of viable habitat for these species.[1] Pollution also represents a threat to aquatic species, as the concentrations of some pollutants aggregate as streams coalesce. Seven segments of the Penobscot River are listed as impaired, and the Maine DEP recommends consuming no more than one or two fish per month from the Penobscot River south of Mattawamkeag.[2]

Pathogens, invasive plant and animal species, and other pests have the potential to impact habitat stability in Maine and the Katahdin region. Diseases include chestnut blight, Dutch elm disease, and white pine blister rust. Numerous insect pests include spruce budworm, hemlock wooly adelgid, Asian longhorned beetle, winter moth, browntail moth, and Emerald Ash Borer. Invasive plants compete with native species and inadequately nourish native animals. These include autumn olive, Japanese knotweed, multiflora rose, Norway maple, purple loosestrife, Eurasian milfoil, curly-leaf pondweed, and European frogbit. Many of these pests' diseases are the result of human introduction – quite often deliberate – and threaten our economy as well as our ecosystem. To address these issues, towns and cities need to encourage the use of native plants in gardens and landscaping; encourage locally sourced lumber and firewood; maintain street trees and bushes; and raise awareness of the ongoing necessity for these efforts.

Disease and climate change have also emerged as threats to wildlife in Maine. Warmer winters and increased rainfall has led to a spread of tick- and mosquito-borne diseases. Winter ticks have become a menace to moose populations, as they are unable to remove them effectively. Estimates are that this pest has led to a 70% death rate of moose calves over a three-year period.[3] Reducing this mortality rate and ensuring stable populations of moose will be an ongoing challenge.

Finally, one important but often overlooked element to the beauty of rural and scenic places is the darkness of the night sky. *Dark skies* describes places with relatively little ambient light pollution, a common issue in developed areas. This problem represents wasted energy, a nuisance for adjacent properties, as well as disruptions in normal plant and animal behaviors.[4] As of 2019, there are no officially recognized dark sky sites in New England. Nonetheless, adopting ordinances that minimize light pollution are essential to ensuring that dark skies remain a feature of our untamed spaces.

Protective Measures

Compliance with the Growth Management Act requires that municipalities understand and plan for the constraints imposed by natural features. Regulation and oversight of growth occurs at different levels of government, however municipalities are responsible for adopting and enforcing these practices at the local level. These goals are achieved through **voluntary programs**, through **municipal expenditure**, through **financial incentives**, and by passing **regulation**.

The Mandatory Shoreland Zoning Act (MSZA) requires municipalities to regulate land use activities in all areas within 250 feet of 1) the high-water line of any great pond or river; 2) the upland edge of

[1] https://www.habitatblueprint.noaa.gov/habitat-focus-areas/penobscot-river-maine/ Accessed December 19, 2019.

[2] https://www.maine.gov/dep/water/monitoring/305b/2016/28-Feb-2018_2016-ME-IntegratedREPORT.pdf Accessed December 19, 2019.

[3] https://www.sciencedaily.com/releases/2018/10/181017080814.htm Accessed December 19, 2019.

[4] https://www.maine.gov/dacf/municipalplanning/docs/lightingmanual.pdf Accessed December 19, 2019.

defined wetlands; and 3) all areas within 75 feet of certain stream banks.[1] Municipalities may adopt more stringent ordinances than State guidelines. Millinocket and East Millinocket have designated shoreland and resource protection zones, including habitat protection zoning in Millinocket and an aquifer protection zone in East Millinocket. Medway does not have a local shoreland-zoning ordinance. Much of the territory surrounding these Katahdin region communities is managed by the Land Use and Planning Commission and are subject to LUPC Chapter 10.3 land use standards which include elements of shoreland protection. The organized town of Woodville – to the region's southeast – has not adopted a local shoreland zoning ordinance.

Preserving open spaces and contiguous blocks of habitat is vital for the protection of habitats and other natural resources. Land trusts operating in the area include: the Forest Society of Maine, Maine Audubon, Maine Farmland Trust, Maine Woodland Owners, New England Forestry Foundation, Northeast Wilderness Trust, The Conservation Fund, and the Trust for Public Land. One of the largest unfragmented blocks of forest is located in the Baxter Region Focus Area, adjacent to the Katahdin Region. If an area has a rare natural community or a globally rare plant or animal, various agencies such as the Maine Department of Inland Fisheries & Wildlife (MDIFW) and U.S. Fish and Wildlife Service (USFWS) may designate the location as a focus area due to its statewide ecological significance.[2] The Baxter Region Focus Area encompasses 358 square miles of land that is home to Maine's highest peak, Mount Katahdin, and a variety of rare animal and plant species, including Rock Vole and Alaska Clubmoss, as well as rare natural communities such as Black Spruce Bog.[3] Due to the Baxter Region Focus Area's close proximity to the Katahdin Region and its ecological significance with regard to the species and natural communities that operate within its boundaries, the acknowledgment of its presence is important.

[1] https://www.maine.gov/dep/land/slz/ Accessed December 20, 2019.

[2] https://beginningwithhabitat.org/about_bwh/focusareas.html Accessed October 29, 2020.

[3] https://www.maine.gov/dacf/mnap/focusarea/baxter_region_focus_area.pdf Accessed October 29, 2020.

Notable Parties

Natural Resources Conservation Service

The Natural Resources Conservation Service (NRCS) is an agency of the U.S. Department of Agriculture, and provides leadership and administer programs to help people conserve, improve, and sustain our resources and environment.

Soil and Water Conservation District Program

Maine's sixteen Soil and Water Conservation Districts (SWCDs) are subdivisions of the State government. Generally, their jurisdiction follows county boundaries. The SWCD's purpose is to solve local natural resource conservation problems (both urban and agricultural) as determined by local stakeholders. Not only do districts work with their partners to identify natural resource problems and develop solutions at the local level, they also assist in implementing those measures. This is accomplished by a unique partnership with the US Department of Agriculture Natural Resources Conservation Service (NRCS) and the Maine Department of Agriculture, Conservation, and Forestry (DACF). The Penobscot County SWCD office is located in Bangor.

The Nature Conservancy

Maine Land Trust Network

Maine Association of Conservation Commissions

See Water Resources for description.

Department of Maine Inland Fisheries & Wildlife

See Water Resources for description.

Maine Department of Environmental Protection

See Water Resources for description.

Beginning with Habitat

Maine Natural Areas Program

Strategies & Policies

In order to protect, promote, and preserve the quality of the State of Maine's natural resources, including but not limited to the wildlife and habitat, local policies and implementation strategies have been developed in addition to the following state policies and strategies.

State of Maine

Policies:

Minimum policies required to address state goals:

1. To conserve critical natural resources in the community
2. To coordinate with neighboring communities and regional and state resource agencies to protect shared critical natural resources.

Strategies:

Minimum strategies to meet state goals:

1. Ensure that land use ordinances are consistent with applicable state law regarding critical natural resources.
2. Designate critical natural resources as Critical Resource Areas in the Future Land Use Plan.
3. Through local land use ordinances, require subdivision or non-residential property developers to look for and identify critical natural resources that may be on site by contacting the Maine Natural Areas Program and the Maine Department of Inland Fisheries and Wildlife. Property developers should also act appropriately to protect those resources, including but not limited to, modification of the proposed site design, construction timing, and/or extent of excavation.
4. Through local land use ordinances, require the planning board (or other designated review authority) to include as part of the review process, consultation with the Maine Department of Inland Fisheries and Wildlife and with the Maine Natural Areas Program regarding critical natural resources such as rare animals, significant animal habitats, rare plants, and rare and exemplary natural communities.
5. Initiate and/ or participate in interlocal and/or regional planning, management, and/or regulatory efforts around shared critical and important natural resources.
6. Pursue public/private partnerships to protect critical and important natural resources such as through purchase of land or easements from willing sellers.
7. Distribute or make available information to those living in or near critical or important natural resources about current use tax programs and applicable local, state, or federal regulations.

Time Frame: Ongoing

Responsible Agent(s): Maine Department of Inland Fisheries and Wildlife, Maine DEP, Maine Natural Areas Program, East Millinocket, Millinocket.

Local

Millinocket

1. **Policy:** To encourage sustainably-managed forests for the benefit of future generations and the health and resilience of the natural environment.
   Strategies: Advocate for statewide policy and any associated company's policies to reflect these goals.
   Time Frame: Ongoing
   Responsible Agent(s): Town of Millinocket, Maine DEP.

2. **Policy:** To reduce the community's impact on the environment while we redevelop the economic base.
   Strategies: Assess current environmental impact on the community and create strategies as needed during redevelopment.
   Time Frame: Ongoing
   Responsible Agent(s): Town of Millinocket, Millinocket School Department, Maine Forest Service, Maine Department of Agriculture, Conservation and Forestry, Maine Recreation and Parks Association.

3. **Policy:** To limit the production and disposal of municipal solid waste (MSW) and sewage waste through seeking and adopting any appropriate, innovative and environmentally-friendly approaches.
   Strategies: Increase recycling and composting efforts, identify alternative approaches to wastewater treatment, and repurpose waste items.
   Time Frame: Ongoing
   Responsible Agent(s): Town of Millinocket, Millinocket School Department.

East Millinocket

1. **Policy:** To protect and preserve the quality of drinking water supply for East Millinocket. This supply is drawn from wells located at Hathaway Farm area in Medway, along the East Branch of the Penobscot River. The water source is an underground, gravel packed aquifer.
   Strategies: See J.W. Sewall hydrology study.
   Time Frame: Ongoing
   Responsible Agent(s): East Millinocket Waterworks, East Branch Sno-Rovers & ATV, the Towns of East Millinocket and Medway.

2. **Policy:** To remediate the land area near and around Spencer Brook. This land area is the site of the current bark mulch pile located on the former paper mill site along the West Branch of the Penobscot River.
   Strategies: Strategic plan for remediation and reuse of the former mill site.
   Time Frame: Ongoing
   Responsible Agent(s): East Millinocket Selectmen, Town of East Millinocket

3. **Policy:** To work with the State of Maine in protecting Partridge Brook Flowage (Great Pond) from adverse impacts from the adjacent State-owned landfill.
   Strategy: Plan to protect and ameliorate Great Pond from adverse impacts of State-owned landfill.
   Time Frame: Ongoing

Responsible Agent(s): State of Maine, East Millinocket Selectmen, Town of East Millinocket

Medway

1. **Policy:** *None at this time*
   Strategies:
   Time Frame:
   Responsible Agent(s):

Chapter Six:
AGRICULTURE & FORESTRY

Goals/Vision

State Goal

To safeguard the State's agricultural and forest resources from unplanned or excessive development while promoting the creation of new jobs and businesses while supporting existing land-based industries.

Local Goals

East Millinocket

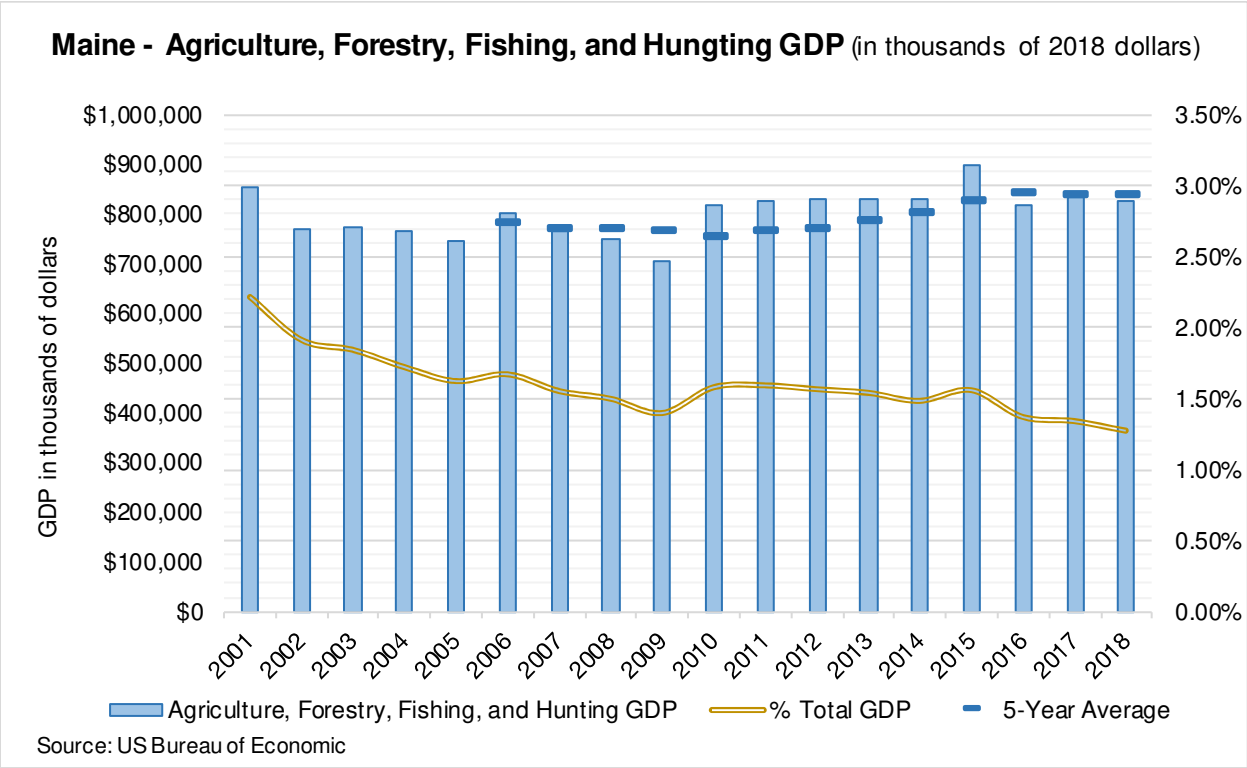
To identify areas of agriculture and forest resources that are threatened and in need of protection. To identify areas of multi-use recreational areas within the forest resource that could be developed in cooperation with landowners to benefit four-season recreational opportunities.

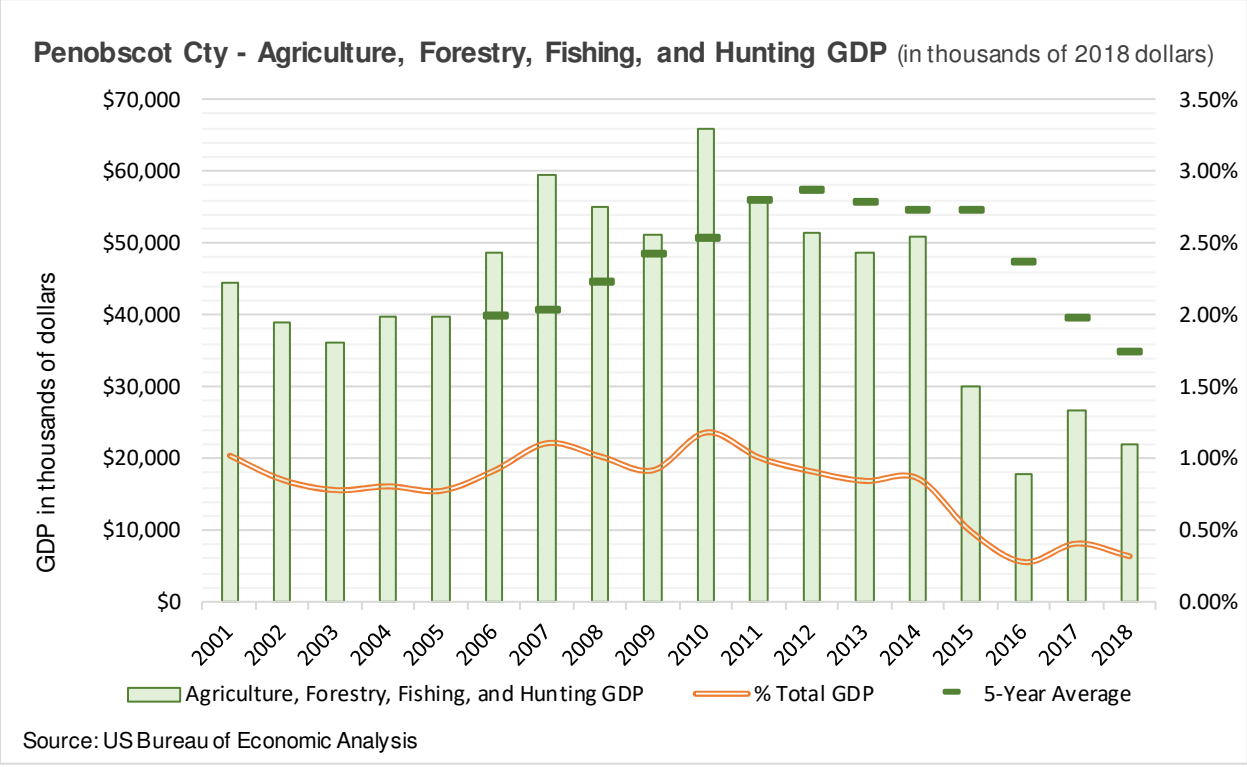
Introduction

At 33,215 square miles, Maine is as large as all other New England states combined. Roughly 29,000 square miles (90%) of that area is forested, while another 2,000 square miles (6%) are occupied by arable farm lands.[1] Agriculture, forestry, fishing, and hunting activities contributed $825 million to the State economy and $22 million to Penobscot County's 2018 GDP.[2] At the State level, this sector has remained stable. County level data reveals more variation in this sector. Following the inconsistency of several large pulp and paper mill operations, county GDP dropped for this sector in the early 00s, regaining a good deal of profitability which has since declined in both dollar value and in percent of GDP. However, agriculture and forestry remain an important part of Maine's economy and culture.

[1] https://www.maine.gov/dacf/municipalplanning/docs/2005manual_lowres.pdf Accessed December 20, 2019.

[2] https://www.maine.gov/dafs/economist/ Accessed December 20, 2019.





Working lands help to balance the municipal tax base. For every dollar in taxes collected by a municipality, forested and agricultural lands require on average $0.36 in municipal services, generating

a surplus of $0.64.[1] Residential land uses require more municipal services: for every dollar in taxes collected, a municipality must spend on average $1.15 on municipal services. In towns and cities experiencing shrinking tax bases, conversion of farmland or working forest to residential uses actually puts more fiscal pressure on those municipalities.

Farmland and forests provide essential ecosystem services such as watershed protection, flood mitigation, and reprieve from wind and heat. Farms support communities directly through food production, while forests produce locally sourced heat and energy as well as building materials. Efforts to encourage sustainable forestry have paid off. Comparing the net growth of forests to the relative harvest rates (where a value over one means that growth exceeds harvests) shows that since 2008, Maine has maintained forest growth to harvest ratios over one, meaning more forest is being grown than is being harvested.[2]

Preserving farmland and forest also helps to protect wildlife habitats and to conserve contiguous blocks of forest and open spaces. However, farmland and forests are increasingly sold, subdivided, and developed. As much as one third of Maine's farmland will be in transition between 2010 and 2020 when the owners retire, putting 400,000 acres at risk of such conversions.[3] Private land owners manage 93% of forested area in Maine.[4] Ventures from out of state Real Estate Investment Trusts (REITs) and Timber Investment Management Organizations (TIMOs) often out-compete local owners and conservators, creating a similar threat of conversion. Fragmentation of these lands harms the environment and impinges on public access for recreation and hunting. By focusing on efforts that keep these lands locally owned and sustainably profitable, we can do more to retain our State's rural character.

Inventory of Agriculture & Forestry Resources

Agricultural Resources

Fairs and Conventions

Agricultural Fairs offer tourism and recreation as well as showcases for agriculture and forest products. Fairs occur throughout late summer and fall, offering the opportunity to attend multiple events. Nearby fairs include:

- Bangor State Fair[5] – Bangor, ME – late July to early August
- Piscataquis Valley Fair[6] – Dover-Foxcroft, ME – late August
- Springfield Country Fair[7] – Springfield, ME – early September

Granges and Agricultural Societies

Granges play a unique role in Maine's rural economies. Originally founded as farmers' clubs, these organizations provided education, workshops, community programming, and other vital services. In

[1] https://landuse.uga.edu/Documents/cocsrep.pdf Accessed December 20, 2019.

[2] https://www.mdf.org/wp-content/uploads/2019/04/MOG-FullReport2019-FNL.pdf Accessed December 23, 2019.

[3] https://www.mainefarmlandtrust.org/wp-content/uploads/2012/01/The-Guide1.pdf Accessed December 20, 2019.

[4] https://www.mdf.org/wp-content/uploads/2019/04/MOG-FullReport2019-FNL.pdf Accessed December 23, 2019.

[5] https://www.bangorstatefair.com/ Accessed December 23, 2019.

[6] http://www.piscataquisvalleyfair.com/ Accessed December 23, 2019.

[7] https://www.thespringfieldfair.com/ Accessed December 23, 2019.

addition to the Maine State Grange in Augusta, the Ammadamast Grange #379 is located in Enfield, Maine, just 40 minutes from Millinocket.

Food Banks and Farmers' Markets

Food insecurity is a problem across the State. In 2016, Penobscot County experienced a rate of 15.1% of households lacking adequate healthful foods, compared to 14.4% statewide.[1] The State as a whole compares poorly to New England (11.4%) and to the US average (12.3%). One way to address this need is by funding and expanding food banks. These resources provide shelf-stable food in addition to fresh produce, meats, and dairy. Local farms can find local outlets for their goods and food banks can help to ensure that no families go hungry. I Care Ministries Food Pantry is located in Millinocket and East Millinocket and the Tri Town Baptist Church also operates a food bank. Nearby services are located in Chester, Lincoln, Sherman, and Milo.

Farmers' Markets are another way for local food growers to reach local consumers. In Maine, these markets often operate from summer through harvest season. The Maine Farmland Trust found that direct-to-consumer sales such as through farmers' markets and community supported agriculture increased by 53%, totaling $37.8 million in the State between 2012 and 2017.[2] While efforts to start a local market are underway, farmers and residents of Millinocket, East Millinocket, and Medway have access to markets located in Lincoln and in Dover-Foxcroft.

Farmlands

According to the USDA Census of Agriculture, Maine has lost approximately 10% of its farmlands – 573 farms – between 2012 and 2017.[3] While there has been an increase in younger farmers, the average age of farm owners increased from 55.1 years in 2012 to 56.5 years in 2017. However, Maine still has a robust farming culture with 7,600 farms working roughly 1.3 million acres. Penobscot County is home to 601 farms working 105,452 acres, with an average size of 175 acres.[4] Within the County, these farms sell a variety of products including dairy ($28.6 million per year); vegetables ($9.4 million); cattle and beef ($2.9 million); grains and legumes ($2.8 million); and fruits, nuts and berries ($2.2 million).[5]

Millinocket, East Millinocket, and Medway are home to relatively few farms including Kelley Farm and Glidden Farm, both in Millinocket. However, the Katahdin Region offers many opportunities for the development and growth of new farm operations. Additionally, a majority of farms in Penobscot County are family run (97%), but many sell less than $2,500 per year (39%). Programs targeting these existing operations for growth and diversification as well as succession planning may create opportunities for future expansion of small-scale operations.

Current Land Use Tax programs allow property owners to reduce their property tax burdens by committing their property to a certain use – farmlands, open spaces, forests, or working waterfronts.[6] These programs are designed to maintain traditional rural land uses to benefit those property owners, but also residents of and visitors to those areas. In 2017, Penobscot County set aside 41,052 acres of

[1] https://www.mdf.org/wp-content/uploads/2019/04/MOG-FullReport2019-FNL.pdf Accessed December 23, 2019.

[2] https://bangordailynews.com/2019/05/05/homestead/maine-is-losing-farms-and-farmland-but-hope-is-not-lost-for-agriculture/ Accessed December 23, 2019.

[3] https://www.nass.usda.gov/Quick_Stats/Ag_Overview/stateOverview.php?state=MAINE Accessed December 23, 2019.

[4] https://www.nass.usda.gov/Publications/AgCensus/2017/Online_Resources/County_Profiles/Maine/cp23019.pdf December 23, 2019.

[5] https://www.nass.usda.gov/Publications/AgCensus/2017/Online_Resources/County_Profiles/Maine/cp23019.pdf Accessed December 23, 2019.

[6] https://www.maine.gov/revenue/propertytax/propertytaxbenefits/current_use.htm Accessed December 23, 2019.

farmlands and 7,450 acres of open spaces with this program.[1] Property owners in Millinocket, East Millinocket, and Medway have not taken advantage of this program yet.

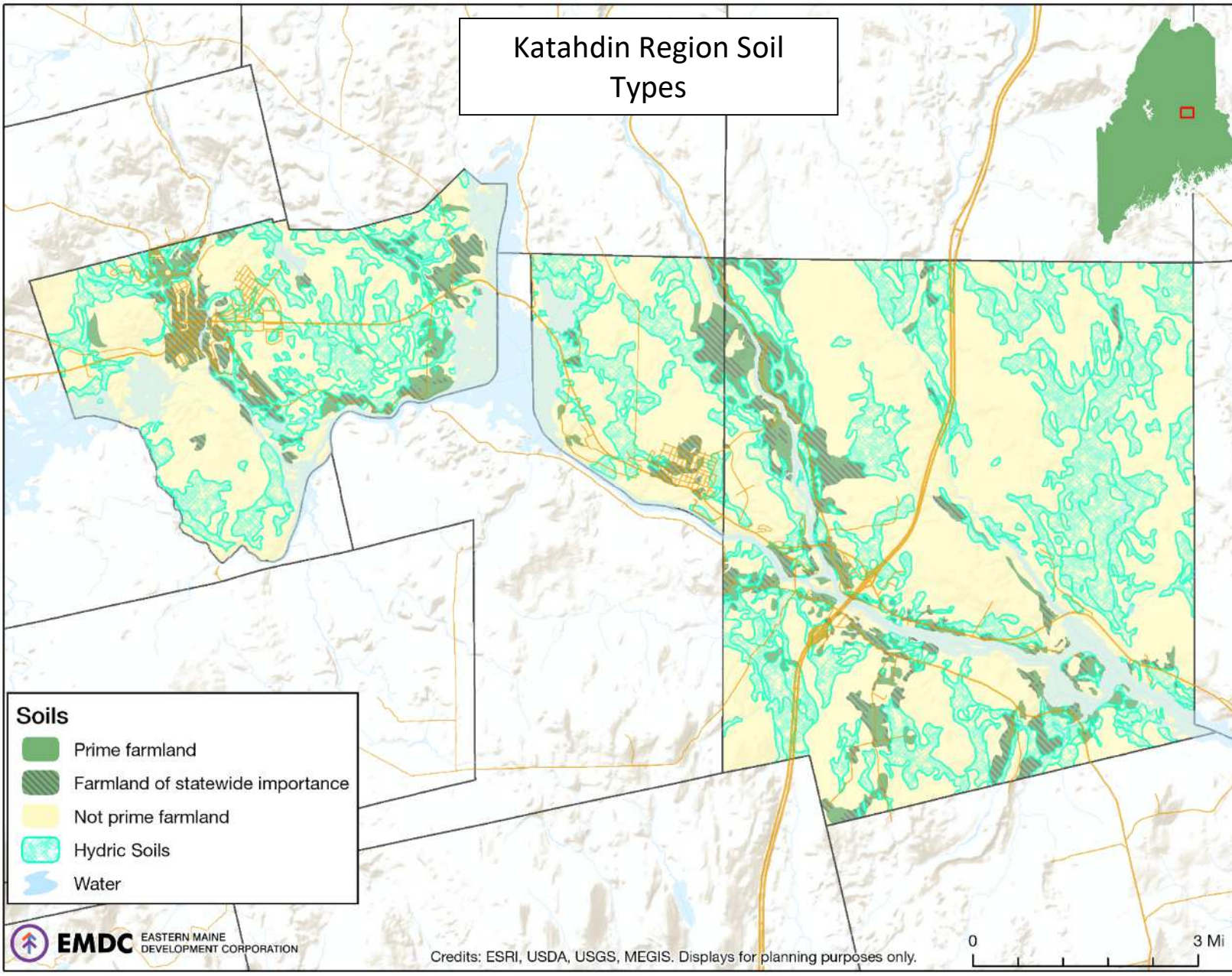
Prime Farmland is designated by the Natural Resource Conservation Service (NRCS) as having a valuable combination of soil quality, moisture supply, and growing season needed to produce economically viable crops. The three towns have several large areas meeting these criteria.[2] Additionally, Farmland of Statewide Significance designates those land important for crop production, pasture, forest, or other productive uses.[3]

Prime Farmland and Significant Farmland (in Square Miles)				
		East Millinocket	Medway	Millinocket
Prime Farmland	Total	0.828	3.933	2.206
	%	10.5%	9.1%	12.1%
Farmland of Statewide Significance	Total	0.655	1.562	1.615
	%	8.3%	3.6%	8.9%
Source: USDA Soil Survey.				

[1] https://www.maine.gov/revenue/propertytax/municipalservices/statisticalsummary.htm Accessed December 23, 2019.

[2] https://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcseprd1338623.html Accessed December 23, 2019.

[3] https://efotg.sc.egov.usda.gov/references/public/CR/NSSH_Part_622_Prime_Farmland_Definition.pdf Accessed December 23, 2019.


Katahdin Region Soil Types
Soils
Prime farmland
Farmland of statewide importance
Not prime farmland
Hydric Soils
Water
EMDC
EASTERN MAINE DEVELOPMENT CORPORATION
Credits: ESRI, USDA, USGS, MEGIS. Displays for planning purposes only.
0
3 Mi

Forestry Resources

The forest economy accounted for more than 33,000 jobs and roughly $8.5 billion in economic impact in 2016.[1] However, this figure follows a period of rapid changes in this sector: between 2010 and 2015, State exports of pulp, paper, and paperboard fell by 43%. This trend has been felt nation-wide since the early 1990s, but contributes to uncertainty in communities such as Millinocket, East Millinocket, and Medway. Efforts to assess and sustain forestry activities in the Katahdin region will likely focus on small woodlot owners, value added products, sustainable forestry practices, and co-occurring recreational access.[2]

Millinocket has designated several thousand acres of land as commercial forest (CF) to protect it from development incursion. East Millinocket – the smallest of the three Katahdin region towns – has designated a large portion of its area as rural (R) which separates it from commercial, industrial, or residential purposes. The Town of Medway has not adopted zoning or land use protections.

One innovative and previously underutilized forest product has quite literally arisen from the depths of the Penobscot River. Logging drives moved timber down the river, many sinking to the bottom and laying preserved for many years. In 2010, Maine Heritage Timber began harvesting these logs – between 700,000 and 1 million cords – and turning them into engineered flooring, furniture, and other products.[3]

Maine's current use tax laws are important tools for the preservation of woodlots and forests. This program allows owners to reduce their property tax bills by growing and harvesting lumber and other forest products. Program participants in the Katahdin Region set aside over 27,000 acres of forestland in 2017 with a valuation of $4.4 million – well above the rate of Penobscot County as a whole. Between 2013 and 2017, the assessed value of qualifying forestlands has increased by 98% in Millinocket, by 52% in East Millinocket, and by 28% in Medway. Thus, these programs represent a significant amount of property tax savings for their individual owners and a valuable tool for the preservation of working forests in the region.

2017 Municipal Valuation Return Statistical Summary – Tree Growth

	# of Parcels	Softwood	Mixed wood	Hardwood	Total Acres	Total Value	% of Total Land Area
		in terms of acreage					
Millinocket	9	366	3,794	966	5,126	$ 809,298	50.2%
East Millinocket	1	148	1,901	710	2,758	$ 514,795	60.7%
Medway	51	3,483	12,648	3,274	19,405	$ 3,033,015	74.0%
Penobscot County	3,335	148,794	280,213	110,961	539,969	$ 81,625,651	24.8%

Source: Maine Revenue Service.

Nearby forestry stewardship contractors include Towering Forest of Patten, Chad C. O'Connor of Lincoln, and London & Son of Milo.

[1] https://www.eda.gov/pdf/201701-Maine-EDAT-final-report.pdf Accessed December 27, 2019.

[2] https://maineforest.org/wp-content/uploads/2016/09/Maines-Forest-Economy-10-12-2016.pdf Accessed December 27, 2019.

[3] https://bangordailynews.com/2013/05/24/business/millinocket-company-unearths-logging-history-for-niche-market/ Accessed December 27, 2019.

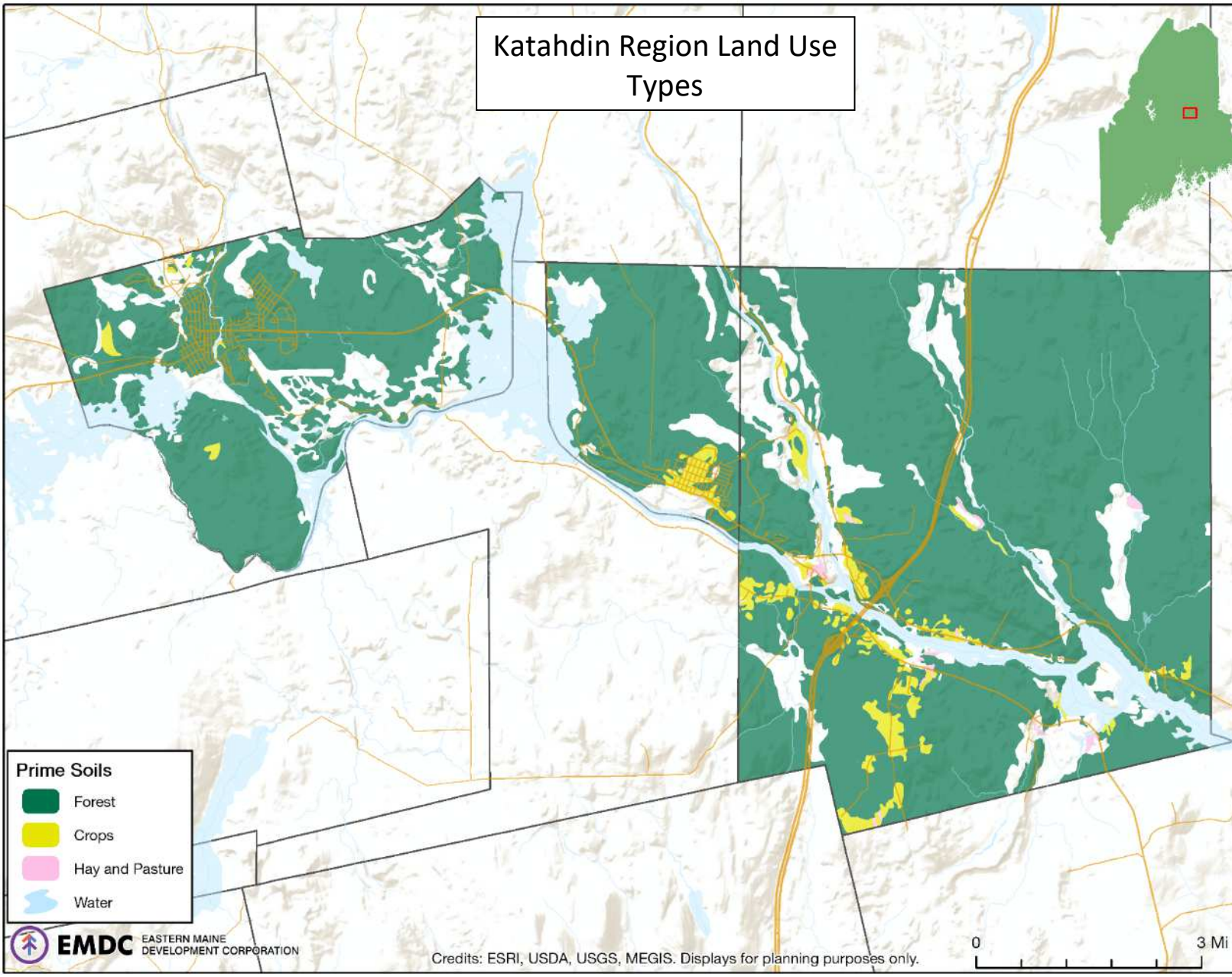
Conservation Opportunities

In addition to identifying soils ideal for farm production, the USDA also identifies soils appropriate for the commercial growth of forests and for pasture and hay production. Nearly three-quarters of all Katahdin region land area is valuable for forest growth, while a further 10.0% of total land area is valuable for croplands. Coupling these activities with conservation easements is a useful way to both preserve the rural characteristics of the region and take advantage of the current-use tax program.

Katahdin Region Timber Harvest Data 1991-2018

YEAR	Selection harvest, acres	Shelterwood harvest, acres	Clearcut harvest, acres	Total Harvest, acres	Change of land use, acres	Number of active Notifications
1991	299	187	0	486	0	3
1992-1993	968	0	1	969	1	5
1994	510	295	35	840	30	6
1995	312	50	7	369	7	7
1996	539	25	44	608	44	8
1997	125	0	35	160	35	4
1998	57	0	6	63	6	4
1999	454	374	283	1111	6	22
2000	446	747	218	1411	33	21
2001	62	360	24	446	23	14
2002	372	841	36	1176	37	11
2003	334	2017	38	2389	16	14
2004	342	2039	0	2381	15	19
2005	471	979	0	1450	7	19
2006	291	814	0	1105	31	23
2007	535	807	0	1342	0	14
2008	434	2192	0	2626	24	25
2009	118	704	0	822	101	23
2010	420	493	0	913	0	17
2011	539	1367	0	1906	0	25
2012	443	751	0	1194	2	32
2013	182	1974	0	2156	4.5	29
2014	39.5	1325	0	1364.5	0	21
2015	271.5	911	0	1182.5	0	20
2016	220	23	0	243	0	13
2017	96.9	285	0	381.9	7	14
2018	416	680	0	1096	0	13
Total	9296.9	20240	727	30190.9	429.5	426
Average	344	750	27	1118	16	16

Source: Maine Department of Agriculture, Conservation and Forestry


Katahdin Region Land Use Types
Prime Soils
Forest
Crops
Hay and Pasture
Water
EMDC
EASTERN MAINE DEVELOPMENT CORPORATION
Credits: ESRI, USDA, USGS, MEGIS. Displays for planning purposes only.
0
3 Mi

Threats & Protective Measures

The Growth Management Act requires that municipalities "ensure the protection of agricultural and forest resources. Each municipality or multi-municipal region should discourage new development that is incompatible with uses related to the agricultural and forest industries" (See MRSA Title 30-A, §4312.3.H; §4326.1.E; and §4326.3-A.F). The Millinocket, East Millinocket, and Medway region is experiencing little direct pressure on forested or agricultural lands in the form of housing and industrial development. This trend, coupled with an emphasis on the region's proximity to the Katahdin Woods and Waters National Monument and Baxter State Park, suggest that sustainable forestry practices can strengthen these towns through complimentary recreation uses. Public ownership and *access*, however, will remain an ongoing condition of sustainability and viability in these working landscapes in the 21st century.

Zoning and Land Use Ordinances

The State mandates sustainable forestry practices within shoreline areas (See the Mandatory Shoreland Zoning Act in Chapter 4). Many of these practices pertain to timber clearing limitations, harvesting practices, and erosion and sedimentation control. Some states and municipalities have adopted other zoning practices to protect agricultural and forestry activities.[1]

Millinocket has adopted the Commercial Forestland Zone (CF) [Added 4-13-1995 by Ord. No. 1-95] to safeguard the town's commercial forestland registered under the Tree Growth Tax Law. East Millinocket has a designated Rural Zone for similar purposes.

Forest Practices Act

The Maine Forest Practices Act sets standards for forest regrowth, performance standards for logging operations, establishes separation zones between clear cuts, and requires forest management plans for clear cuts over twenty acres. Additionally, the act protects forestlands land by allowing tax incentives to landowners who meet specific criteria.

Sustainable Forestry Initiatives

The Forest Practices Act (Ch. 23) aims to eliminate liquidation harvesting. This occurs where a timberland is purchased, harvested, and subsequently resold within five years of its original purchase.[2] This law requires forestry practices to adhere to long-term management principles that are ecologically and environmentally responsible, socially beneficial, and economically viable. These programs are voluntary and offer new markets and future viability for small woodlot owners as well as training and information services. In 2018, Maine certified 7,214,648 acres through the Sustainable Forestry Initiative, 4,864,869 acres through the Forest Stewardship Council, and 503,003 acres through the American Tree Farm System.[3]

Current Use Tax Laws

Maine has four current use programs which offer a property owner a reduction in assessed land value for qualifying uses: farmland, open spaces, tree growth, and working waterfronts. The program values

[1] https://www.maine.gov/dacf/mfs/publications/rules_and_regs/chap_21_rules_effective_01012016.pdf Accessed December 27, 2019.

[2] https://www.maine.gov/dacf/mfs/publications/rules_and_regs/chap_23_rules.pdf Accessed December 27, 2019.

[3] https://maineforest.org/wp-content/uploads/2019/02/Understanding-public-access-to-working-forests.pdf Accessed December 27, 2019.

property at its current use, rather than at its market value, thus reducing the pressures of conversion to housing or other development.

Agricultural Protection Act

Maine's Agricultural Protection Act (MRSA Title 7, Ch. 6), the "Right-to-Farm Law," protects farmers from complaints filed by neighbors for things like odors, noises, or other nuisances that are typically associated with legitimate farming operations. The act establishes a Farm Agriculture Resource Management and Sustainability designation process, recognizing leaders who develop and implement best management practices. Finally, the act developed a pilot program for establishing agricultural districts and enhancement groups to aid farmers and farm operations.

Farmland Registration Program

The Farmland Registration Program is designed to protect the right of farmers to farm their land. Upon registration, a farmer is guaranteed a 50-foot buffer zone between the productive fields and new incompatible land uses such as residential development. This program includes working tracts of land as small as five acres with a variety of crops or livestock, but does not include woodlots, buildings, roads, or lawns.[1] Another program – the Voluntary Municipal Farm Support Program (MRS 7 Ch. 2-C) – allows municipalities to enter into "farm support arrangements" with farm owners by granting a 20-year conservation easement in exchange for property tax abatements.

[1] https://www.maine.gov/dacf/ard/farmland_protection/farmland_registration.shtml Accessed December 27, 2019.

Notable Parties

Agricultural Commissions

Future Farmers of America and 4-H

Maine Farmland Trust

Forest Society of Maine

Maine Tree Foundation

Maine Logger Education Alliance

Maine Woodland Owners

Natural Resources Council of Maine

Woodland Steward Program

Trust to Conserve Northeast Forestlands

Maine Association of Conservation Commissions
(See Chapter Four Water Resources for description.)

Maine Inland Fisheries & Wildlife
(See Chapter Four Water Resources for description.)

Maine Department of Environmental Protection
(See Chapter Four: Water Resources for description.)

Strategies & Policies

In order to protect, promote, and preserve the quality of Maine's notable farmlands and forests, local policies and implementation strategies have been developed in addition to the following state policies and strategies.

State of Maine

Policies:

Minimum policies required to address state goals:

1. To safeguard lands identified as prime farmland or capable of supporting commercial forestry.
2. To support farming and forestry and encourage their economic viability

Strategies:

Minimum strategies to meet state goals:

1. Consult with the Maine Forestry Service district forester when developing any land use regulations pertaining to forest management practices as required by 12 M.R.S.A. §8869.
2. Consult with Soil and Water Conservation District staff when developing any land use regulations pertaining to agricultural management practices.
3. Require commercial or subdivision developments in critical rural areas. Amend land use ordinances, if necessary. Maintain areas with prime farmland soils as open space to the greatest extent practicable.
4. Limit non-residential development in critical rural areas (if the town designates critical rural areas) to natural resource-based businesses and services, nature tourism/ outdoor recreation businesses, farmers' markets, and home occupations.
5. Encourage owners of productive farm and forest land to enroll in the current use taxation programs.
6. Permit land use activities that support productive agriculture and forestry operations, such as roadside stands, greenhouses, firewood operations, sawmills, log buying yards, and pick-your-own operations.
7. Include in local or regional economic development plans any agriculture and commercial forestry operations as well as land conservation initiatives that support them.

Time Frame: Ongoing

Responsible Agent(s): Maine Department of Agriculture, Conservation and Forestry, Maine Forestry Service, East Millinocket, Millinocket, and Medway.

Local

Millinocket

1. **Policy:** To work within the Forest Opportunity Roadmap initiative to identify opportunities that fit best within Millinocket or the Region.
   Strategies: For/Maine Roadmap
   Time Frame: Ongoing
   Responsible Agent(s): Katahdin Region Development Board, Town Council, Landowners, Maine Development Foundation and For/Maine, other groups and agencies in the State of Maine.

2. **Policy:** To support the goals outlined in the Katahdin Gazetteer process that improve the entrepreneurial conditions in the area.
   Strategies: Katahdin Gazetteer
   Time Frame: Ongoing
   Responsible Agent(s): Our Katahdin, Katahdin Collaborative

3. **Policy:** To support existing forest-related business efforts in the region including advanced wood heat, wood products manufacturing, forestry, logging and trucking, outdoor recreation and other related businesses.
   Strategies: Redevelopment Plan for One Katahdin
   Time Frame: Ongoing
   Responsible Agent(s): Our Katahdin

4. **Policy:** To increase the viability of businesses catering to outdoor recreation and enhance the visitor experience in the Katahdin Region.
   Strategies: RCDI Working Group, Katahdin Region Visioning Group/Vision, State of Maine Community Destination Academy
   Time Frame: Ongoing
   Responsible Agent(s): Katahdin Area Trails, Outdoor Sport Institute, Northern Forest Center, Friends of Katahdin Woods and Waters, Katahdin Chamber of Commerce, Maine Office of Tourism.

East Millinocket

1. **Policy:** To work within the Forest Opportunity Roadmap initiative to identify opportunities that fit best within East Millinocket or the Region.
   Strategies: For/Maine Roadmap
   Time Frame: Ongoing
   Responsible Agent(s): Katahdin Region Development Board, Board of Selectmen, Landowners, Maine Development Foundation and For/Maine, other groups and agencies in the State of Maine.

2. **Policy:** To work with local groups working to collaborate with landowners to create a regional, interconnected, multi-use trail in the Katahdin region.
   Strategies: Katahdin Region Visioning Group/Vision
   Time Frame: Ongoing

Responsible Agent(s): Landowners, Northern Timber Cruisers, East Branch SnoRovers & ATV, other State agencies.

Medway

1. **Policy:** *None at this time*
   Strategies:
   Time Frame:
   Responsible Agent(s):

Chapter Seven:
POPULATION & DEMOGRAPHICS

Goals/Vision

State Goal

None required.

Local Goals

Millinocket

To maintain a healthy and vibrant town that meets the needs, as best as possible, of residents and visitors of the Town of Millinocket. To guide future development and redevelopment of the community in a manner consistent with the goals and objectives of the community. To pursue companies that will entice former area residents to return to Millinocket and prevent out-migration. By 2023, to reduce the median age of 51.3 (2016) to approach State and national averages (44.0 and 37.7, respectively).

East Millinocket

To create a steady population change rate by increasing efforts to attract younger, higher educated families, all while continuing to provide the much needed services to assist the town's older populations. To be considerate of diversification of the population base by including all ages, races, and cultural heritage. To seek new or expanded job opportunities to entice employment and people back to the town to work and live. To create a high quality of living that will attract new residents.

Medway

To provide needed infrastructure and technology that will attract and retain business and youth alike. To provide a venue for recreation and housing for all population age groups while continuing to maintain the unique characteristics of a family community.

Introduction

An important factor in the Katahdin region's future is each town's population, how those people came to live where they live, and how those populations may change in the future. The ultimate goal of this plan is to ensure a sustainable and equitable balance between the health of future populations, the vitality of local and regional economies, and the integrity of the surrounding environment. Accordingly, most phases of this plan are either dependent upon – or strongly influenced by – trends in the size and composition of the region's population.

A demographic profile is constructed from historic and current data collected by the US Census, state economic and human services programs, and local tax and survey initiatives. Projecting and predicting *future* population, however, is difficult in any community. In the Katahdin region, this process is complicated by the economic contexts of the three towns and reliance on the paper, pulp, and forest industry. Millinocket, East Millinocket, and Medway all experienced a rapid influx of French, Italian, Anglo, and other ethnic groups who moved to the area to work in the mills during the 19th and early

20th centuries. This prosperity led to generations who were born, lived, and worked in their hometowns. The national decline in the paper and pulp industry and the closure of the mills in the region – and across the state – has derailed a century of stable growth and prosperity.

Because of the loss of these economic cornerstones in Millinocket and East Millinocket, the region has experienced a period of population loss. Local opinion has long stressed – and census data substantiates – that the region has also been exporting young people. For the remaining population, decreasing birth rates mirror state trends and compound this problem further. The total effect for the Katahdin region has been a downward trend in total population with continuing anticipated declines into the future. This has broad implications on municipal services, tax revenues, and economic structures. However, there are opportunities to slow or reverse this trend. The Katahdin region is currently experiencing a swell in tourism and recreation, attracting new and returning prior residents. Attention to rural economies has led to the revival of some industries and the creation of others with knock-on effects in population stability. The effects of this shift in economic priority have yet to reverse demographic forecasts, but the communities of Millinocket, East Millinocket, and Medway remain optimistic about the depth and rapidity of this ongoing renewal.

Demographic Inventory

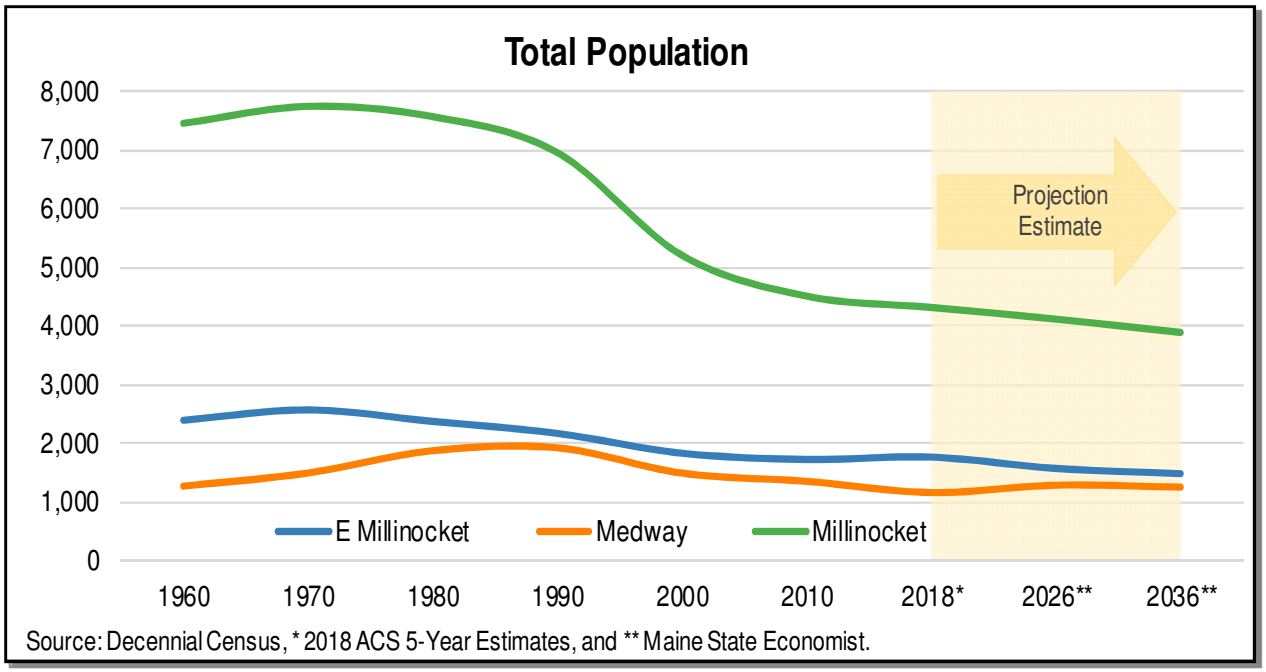
Historic and Future Trends

Between 1960 and 2018, Millinocket experienced a 42% *decrease* in population, East Millinocket a 26% decrease, and Medway a 9% decrease. This dramatic change can be associated with changes in the pulp and paper industry, described by a globalized push towards automation replacing jobs and contributing to uncertainty during these last four decades. The Maine State Economist predicts that the Katahdin region will continue to see further declines in population. From 2018 to 2036, Millinocket is expected to decrease in population by a further 9.9%. Similar changes are expected in East Millinocket – a 16% decrease – and in Medway – a 7.9% decrease. **Overall, the Katahdin region will likely experience a 44% decrease in population between 1970 and 2036 – from a regional high of 11,800 to an expected low of 6,618**. This compares to a 21% projected *increase* at the county level and a 35% projected increase at the state level over the same period.

Total Population and Projected Population: 1960 - 2036.

	Maine		Penobscot Cty		E Millinocket		Medway		Millinocket	
	Total	%	Total	%	Total	%	Total	%	Total	%
1960	969,265	x	126,346	x	2,392	x	1,266	x	7,453	x
1970	993,722	+2.5%	125,393	-0.8%	2,567	+7.3%	1,491	+17.8%	7,742	+3.9%
1980	1,125,043	+13.2%	137,015	+9.3%	2,372	-7.6%	1,871	+25.5%	7,567	-2.3%
1990	1,227,928	+9.1%	146,601	+7.0%	2,166	-8.7%	1,922	+2.7%	6,956	-8.1%
2000	1,274,923	+3.8%	144,919	-1.1%	1,828	-15.6%	1,489	-22.5%	5,203	-25.2%
2010	1,328,361	+4.2%	153,923	+6.2%	1,723	-5.7%	1,349	-9.4%	4,506	-13.4%
2018*	1,332,813	+0.3%	151,748	-1.4%	1,762	+2.3%	1,158	-14.2%	4,314	-4.3%
2021**	1,335,260	+0.2%	151,927	+0.1%	1,608	-8.7%	1,296	+11.9%	4,211	-2.4%
2026**	1,340,463	+0.4%	152,294	+0.2%	1,569	-2.4%	1,284	-0.9%	4,115	-2.3%
2031**	1,341,046	+0.0%	152,132	-0.1%	1,526	-2.7%	1,268	-1.2%	4,004	-2.7%
2036**	1,337,568	-0.3%	151,749	-0.3%	1,480	-3.0%	1,250	-1.4%	3,888	-2.9%

Source: Decennial Census, * 2018 ACS 5-Year Estimates, and ** Maine State Economist.



The effects of a dramatic population decline are numerous:

- Demand for housing will decrease, leading to building vacancy and abandonment, decreasing demand and prices, and deteriorating neighborhood contiguity;
- The decrease in housing demand will affect retirement plans and wellness among older residents;
- The property tax base will continue to shrink;
- Overbuilt infrastructure will need to be managed in order to maximize efficiency, or dismantled to reduce costs;
- Decreased school enrollment will necessitate consolidation of facilities and programming.

The implications of this regional decline have started conversations about combining municipal and educational services. This is not new: East Millinocket and Medway have combined school services and all three towns have combined recreational facilities and centers to facilitate other regional services. In December 2020, Millinocket contracted their police services to East Millinocket Police Department, who also serves East Millinocket and Medway.

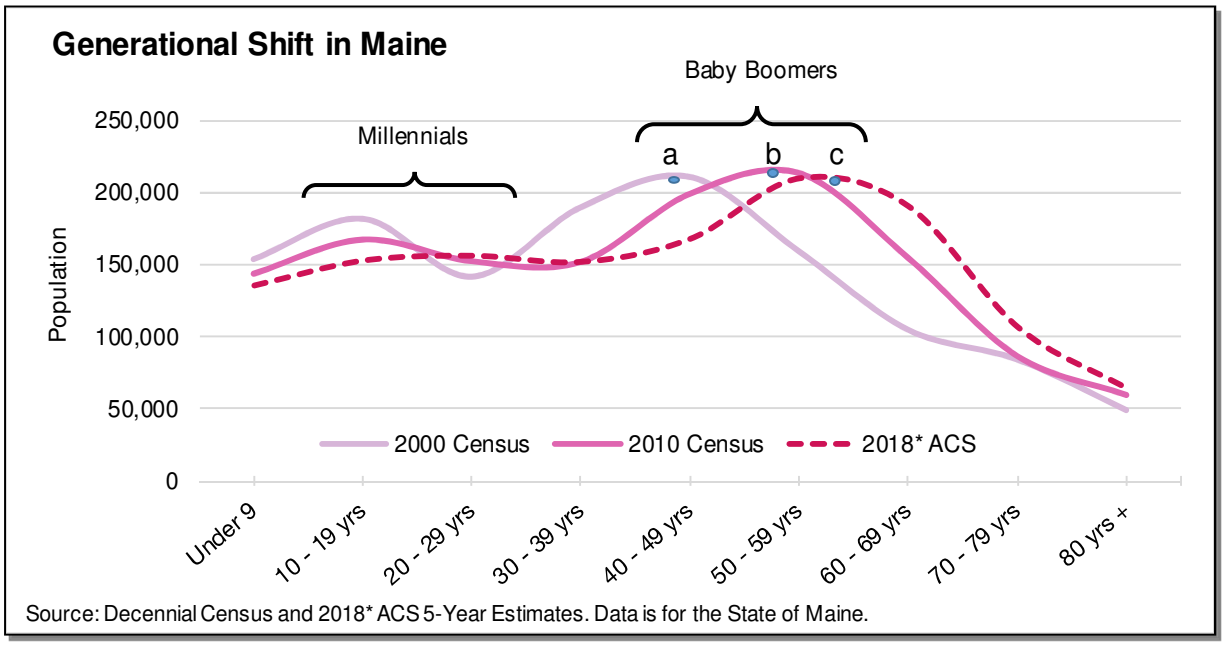
However, not all impacts from declining populations are negative. Reduced competition in job markets generally lowers unemployment levels. Fewer demands on local resources and services can reduce municipal expenditures and living costs. For example, the Cost of Living Index – an estimation of the relative prices for consumer goods and services – is 5.1 points lower in the Millinocket Economic Summary Area (ESA) than in the state overall.[1] Finally, quality of life can improve through lower traffic, reduced air and water pollution, and increased reforestation. Managing the results of a declining population will require deliberate action to lessen the negative effects and assert the positive.

[1] JobsEQ, based on 2019 third quarter data. Millinocket ESA has a COLI of 106.0, the State of Maine 111.1, and the entire country a baseline of 100.0.

Distribution by Age and Sex

Generation shifts can have lasting effects on a population's demographic makeup. Those born during the Baby Boom – between 1946 and 1964 – represent one of America's largest age cohorts, approximately 78.8 million people.[1] The number of births during this period peaked at over 4 million per year, a level not exceeded until 1989 when Baby Boomers began having children of their own. This Baby Boom "echo" – often called Millennials and numbering roughly 74.1 million – is expected to overtake Baby Boomers as the largest population cohort in 2020.[2] By comparison, Generation X, those aged between the Baby Boomer and Millennial cohorts, number 65.8 million. The generation following the Millennials – Gen Z – are generally identified as those born after the year 2000 and is still growing.

By plotting total population and age, a generational cohort like the Baby Boom can be shown quite clearly using census data, as in the chart below. If a population remains in place – balanced by in- and out-migration – that cohort peak proceeds relatively unchanged from year to year, as shown from points a, b, and c in years 2000, 2010, and 2018*, respectively. However, note that the Baby Boom Echo – the Millennial generation – shows a clear peak in the 2000 Census becoming flatter and flatter as **young people leave Maine**. This emigration of young people shows up in reduced income tax revenues, birth rates, and school enrollment.



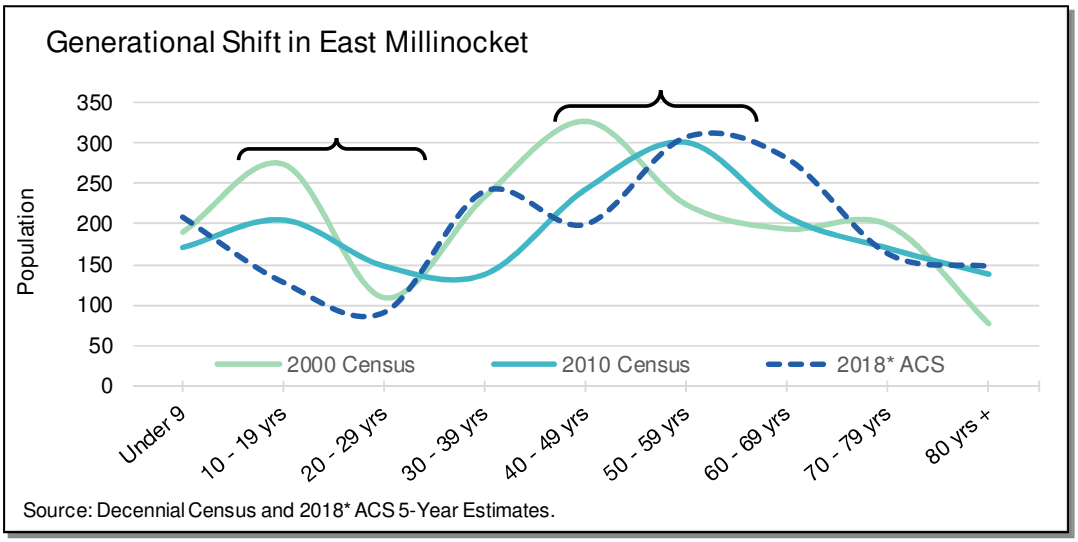
In the Katahdin region the emigration of young people is pronounced and irregular. In 2000, those between the ages of 0 to 9 years old totaled to 838 in the region. By 2018, this age bracket decreased 62.4% regionally – declining 31.2% in Millinocket, 111% in East Millinocket, and 177% in Medway. The next older age bracket in 2000, those between the ages of 10 and 19, totaled to 1,240. Still, this cohort declined a further 35.8% regionally, 33% in Millinocket, 14% in East Millinocket, and 87% in Medway. In total, the three towns have approximately 649 fewer people between the ages of 20 and 39 than the 2000 Census would have predicted given stable population growth.

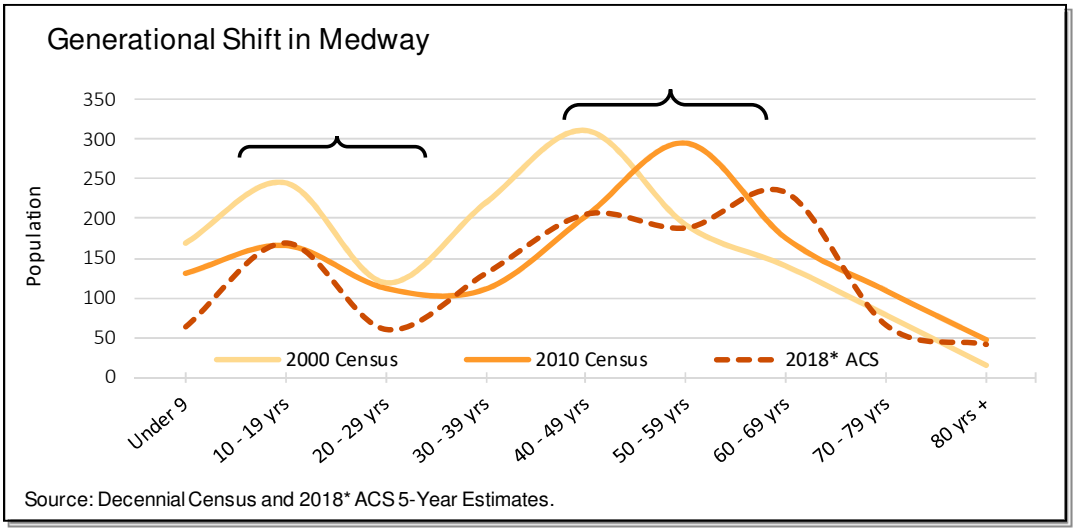
[1] https://www.census.gov/prod/2014pubs/p25-1141.pdf Accessed January 3, 2020.

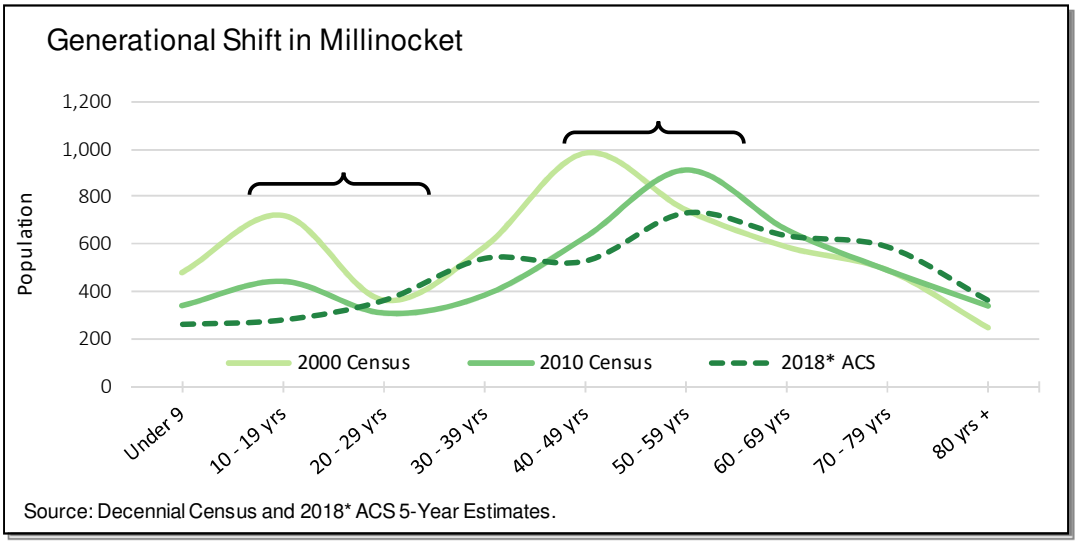
[2] https://www.pewresearch.org/fact-tank/2018/03/01/millennials-overtake-baby-boomers/ Accessed January 3, 2020.

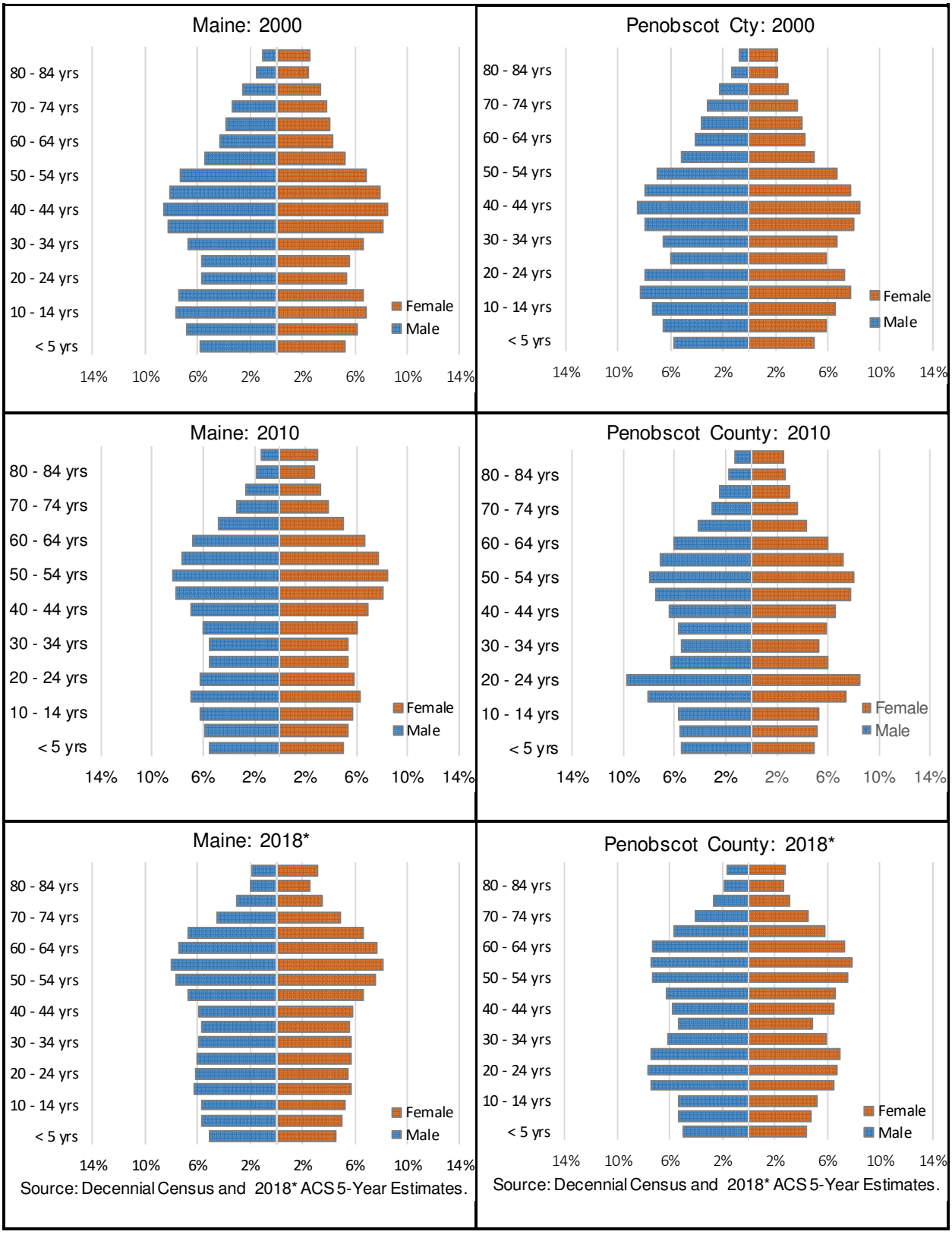
Estimated Generational Procession between 2000 and 2018*.										
	Maine		Penobscot Cty		E Millinocket		Medway		Millinocket	
	Change	% -	Change	% -	Change	% -	Change	% -	Change	% -
Under 9	x	x	x	x	x	x	x	x	x	x
10 - 19 yrs	+8,789	+5.8%	+2,292	+12.3%	-44	-34.6%	+38	+22.5%	-57	-20.1%
20 - 29 yrs	+2,222	+1.4%	+5,031	+23.0%	-100	-111.1%	-108	-177.0%	-114	-31.2%
30 - 39 yrs	-30,187	-19.9%	-4,747	-28.1%	-34	-14.2%	-114	-87.0%	-179	-33.0%
40 - 49 yrs	+26,015	+15.5%	-435	-2.3%	+90	+45.2%	+86	+42.0%	+167	+31.5%
50 - 59 yrs	+19,964	+9.5%	+1,803	+7.9%	+73	+23.8%	-32	-17.0%	+147	+20.0%
60 - 69 yrs	-20,430	-10.7%	-3,771	-19.0%	-46	-16.4%	-79	-34.1%	-345	-54.1%
70 - 79 yrs	-52,776	-49.6%	-6,304	-57.8%	-61	-37.4%	-126	-190.9%	-153	-25.9%
80 yrs +	-41,179	-64.7%	-4,785	-70.2%	-47	-32.0%	-98	-233.3%	-222	-60.7%
Source: Decennial Census and 2018* ACS 5-Year Estimates.										

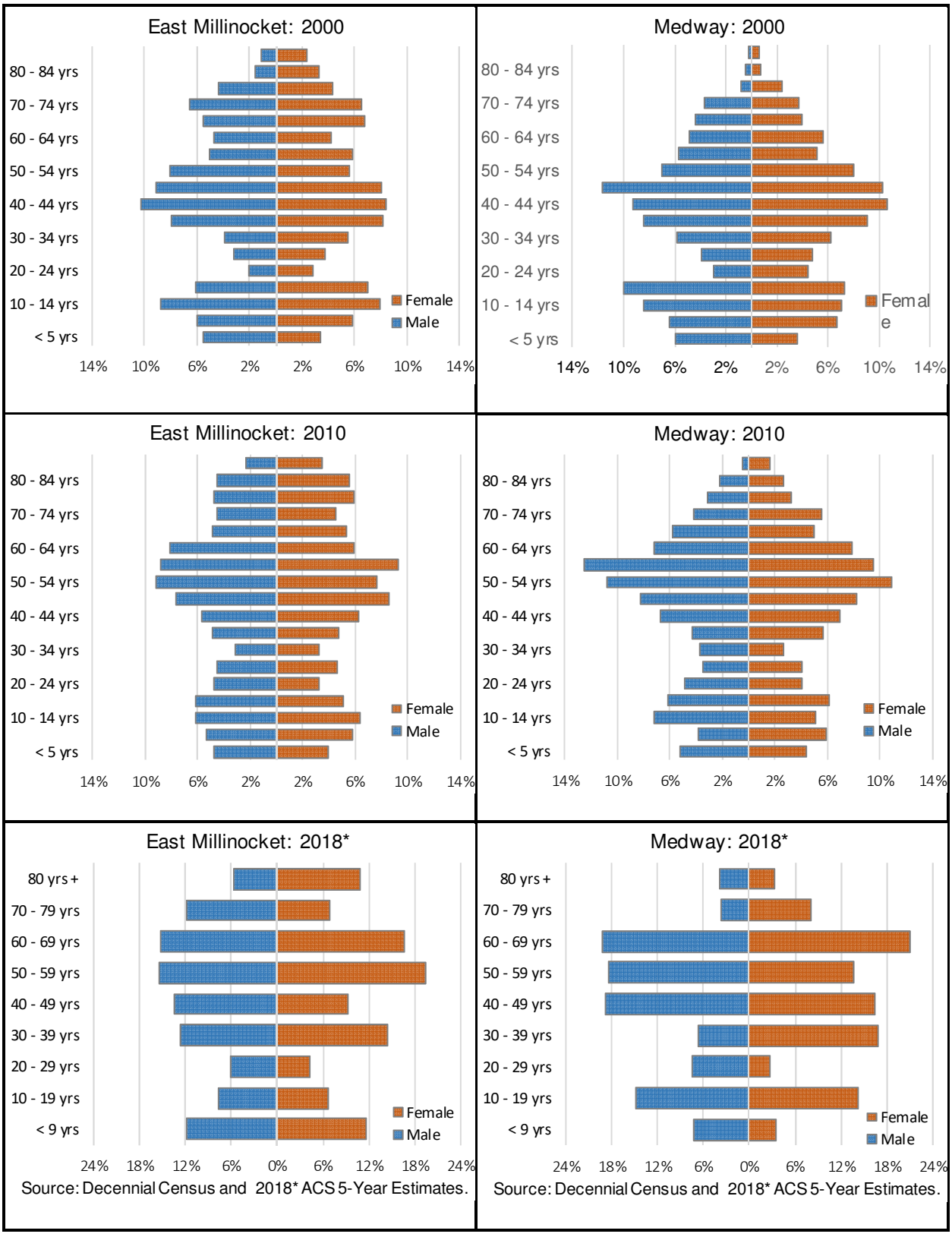
Further analyzing the population by gender shows a relative balance between males and females at the state and county level, with less consistency at the local and regional level. Note that the American Community Survey sampling technique reduces the accuracy where populations are smaller, necessitating larger bins to reduce the margin of error. Again, these population pyramids show a clear generational procession as people age in place, or as they migrate out of the area.

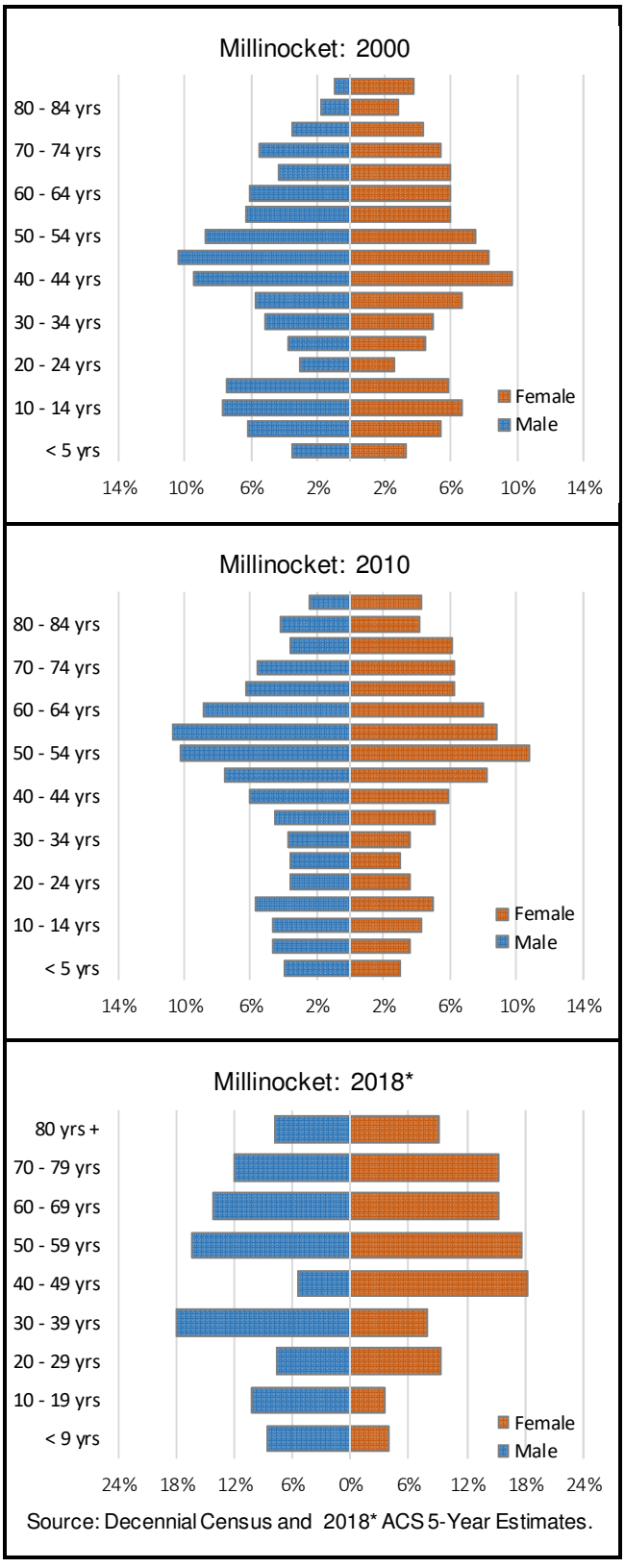

Generational Shift in East Millinocket
Population
350
300
250
200
150
100
50
0
2000 Census
2010 Census
2018* ACS
Under 9
10 - 19 yrs
20 - 29 yrs
30 - 39 yrs
40 - 49 yrs
50 - 59 yrs
60 - 69 yrs
70 - 79 yrs
80 yrs +
Source: Decennial Census and 2018* ACS 5-Year Estimates.


Generational Shift in Medway
Population
350
300
250
200
150
100
50
0
2000 Census
2010 Census
2018* ACS
Under 9
10 - 19 yrs
20 - 29 yrs
30 - 39 yrs
40 - 49 yrs
50 - 59 yrs
60 - 69 yrs
70 - 79 yrs
80 yrs +
Source: Decennial Census and 2018* ACS 5-Year Estimates.


Generational Shift in Millinocket
Population
1,200
1,000
800
600
400
200
0
2000 Census
2010 Census
2018* ACS
Under 9
10 - 19 yrs
20 - 29 yrs
30 - 39 yrs
40 - 49 yrs
50 - 59 yrs
60 - 69 yrs
70 - 79 yrs
80 yrs +
Source: Decennial Census and 2018* ACS 5-Year Estimates.


Maine: 2000
80 - 84 yrs
70 - 74 yrs
60 - 64 yrs
50 - 54 yrs
40 - 44 yrs
30 - 34 yrs
20 - 24 yrs
10 - 14 yrs
< 5 yrs
14% 10% 6% 2% 2% 6% 10% 14%
Female
Male
Penobscot Cty: 2000
80 - 84 yrs
70 - 74 yrs
60 - 64 yrs
50 - 54 yrs
40 - 44 yrs
30 - 34 yrs
20 - 24 yrs
10 - 14 yrs
< 5 yrs
14% 10% 6% 2% 2% 6% 10% 14%
Female
Male
Maine: 2010
80 - 84 yrs
70 - 74 yrs
60 - 64 yrs
50 - 54 yrs
40 - 44 yrs
30 - 34 yrs
20 - 24 yrs
10 - 14 yrs
< 5 yrs
14% 10% 6% 2% 2% 6% 10% 14%
Female
Male
Penobscot County: 2010
80 - 84 yrs
70 - 74 yrs
60 - 64 yrs
50 - 54 yrs
40 - 44 yrs
30 - 34 yrs
20 - 24 yrs
10 - 14 yrs
< 5 yrs
14% 10% 6% 2% 2% 6% 10% 14%
Female
Male
Maine: 2018*
80 - 84 yrs
70 - 74 yrs
60 - 64 yrs
50 - 54 yrs
40 - 44 yrs
30 - 34 yrs
20 - 24 yrs
10 - 14 yrs
< 5 yrs
14% 10% 6% 2% 2% 6% 10% 14%
Female
Male
Source: Decennial Census and 2018* ACS 5-Year Estimates.
Penobscot County: 2018*
80 - 84 yrs
70 - 74 yrs
60 - 64 yrs
50 - 54 yrs
40 - 44 yrs
30 - 34 yrs
20 - 24 yrs
10 - 14 yrs
< 5 yrs
14% 10% 6% 2% 2% 6% 10% 14%
Female
Male
Source: Decennial Census and 2018* ACS 5-Year Estimates.


East Millinocket: 2000
80 - 84 yrs
70 - 74 yrs
60 - 64 yrs
50 - 54 yrs
40 - 44 yrs
30 - 34 yrs
20 - 24 yrs
10 - 14 yrs
< 5 yrs
Female
Male
14% 10% 6% 2% 2% 6% 10% 14%
Medway: 2000
80 - 84 yrs
70 - 74 yrs
60 - 64 yrs
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40 - 44 yrs
30 - 34 yrs
20 - 24 yrs
10 - 14 yrs
< 5 yrs
Female
14% 10% 6% 2% 2% 6% 10% 14%
East Millinocket: 2010
80 - 84 yrs
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60 - 64 yrs
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40 - 44 yrs
30 - 34 yrs
20 - 24 yrs
10 - 14 yrs
< 5 yrs
Female
Male
14% 10% 6% 2% 2% 6% 10% 14%
Medway: 2010
80 - 84 yrs
70 - 74 yrs
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40 - 44 yrs
30 - 34 yrs
20 - 24 yrs
10 - 14 yrs
< 5 yrs
Female
Male
14% 10% 6% 2% 2% 6% 10% 14%
East Millinocket: 2018*
80 yrs +
70 - 79 yrs
60 - 69 yrs
50 - 59 yrs
40 - 49 yrs
30 - 39 yrs
20 - 29 yrs
10 - 19 yrs
< 9 yrs
Female
Male
24% 18% 12% 6% 0% 6% 12% 18% 24%
Source: Decennial Census and 2018* ACS 5-Year Estimates.
Medway: 2018*
80 yrs +
70 - 79 yrs
60 - 69 yrs
50 - 59 yrs
40 - 49 yrs
30 - 39 yrs
20 - 29 yrs
10 - 19 yrs
< 9 yrs
Female
Male
24% 18% 12% 6% 0% 6% 12% 18% 24%
Source: Decennial Census and 2018* ACS 5-Year Estimates.



Births, Deaths, and Immigration

Another element to Maine's demographic slowdown is that, in addition to being one of the "oldest" states – with proportionately more people over the age of 65, **Maine is also one of the least fertile**

states. Total Fertility Rates (TFR) measure the average number of children born to a woman in her lifetime. Nationally, the 2017 TFR was 1.766, 16% lower than what is considered to be a replacement-level rate of 2.100. While only two states have TFRs above 2.1 – Utah and South Dakota – New England and Maine are among the lowest.

Total Fertility Rates: 2017				
	All	White	Black	Hispanic
United States	1.766	1.667	1.825	2.007
Maine	**1.581**	**1.545**	**4.004**	**1.282**
New Hampshire	1.515	1.511	2.03	1.687
Vermont	1.52	1.534	2.392	1.201
Rhode Island	1.509	1.343	1.594	2.048
Massachusetts	1.506	1.363	1.891	2.021
Connecticut	1.592	1.476	1.576	1.936
Source: CDC National Vital Statistics Report, 2017 [1]				

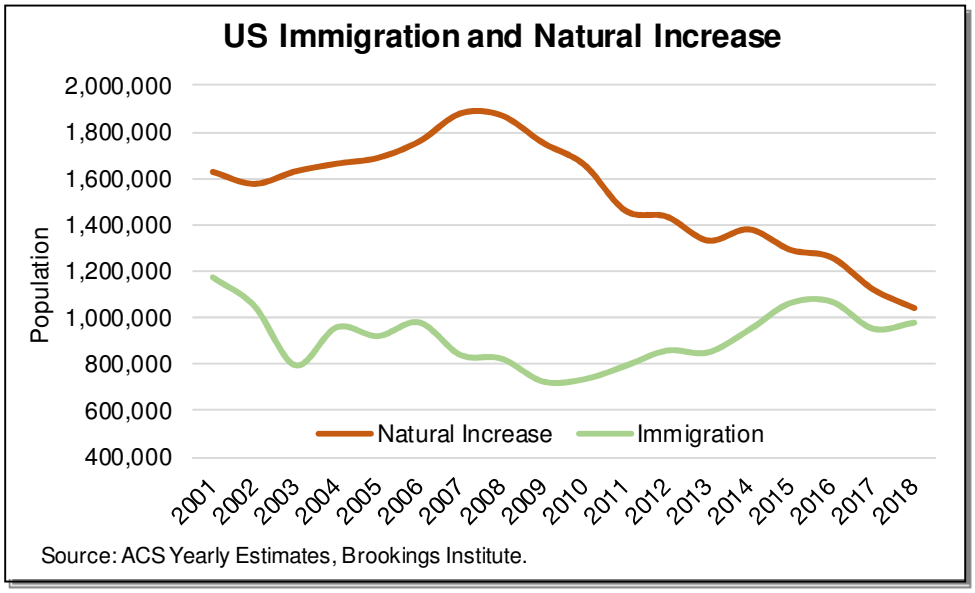
Natural increase in population is the difference between births and deaths every year. In the US, this rate has recently plummeted to the lowest rates since 1937 at the height of the Great Depression.[2] This decline in natural population growth is the result of fewer babies being born as well as more deaths as the nation's population ages. Natural growth is complemented by immigration. National immigration levels have fluctuated wildly in our history, but have remained relatively stable since the 1990s. The Katahdin region has experienced both a decrease in population growth and an increase in out-migration, though it is not unique among rural communities in this measure.

[1] https://www.cdc.gov/nchs/data/nvsr/nvsr68/nvsr68_01-508.pdf Accessed January 3, 2020.

[2] https://www.brookings.edu/blog/the-avenue/2018/12/21/us-population-growth-hits-80-year-low-capping-off-a-year-of-demographic-stagnation/ Accessed January 9, 2020.

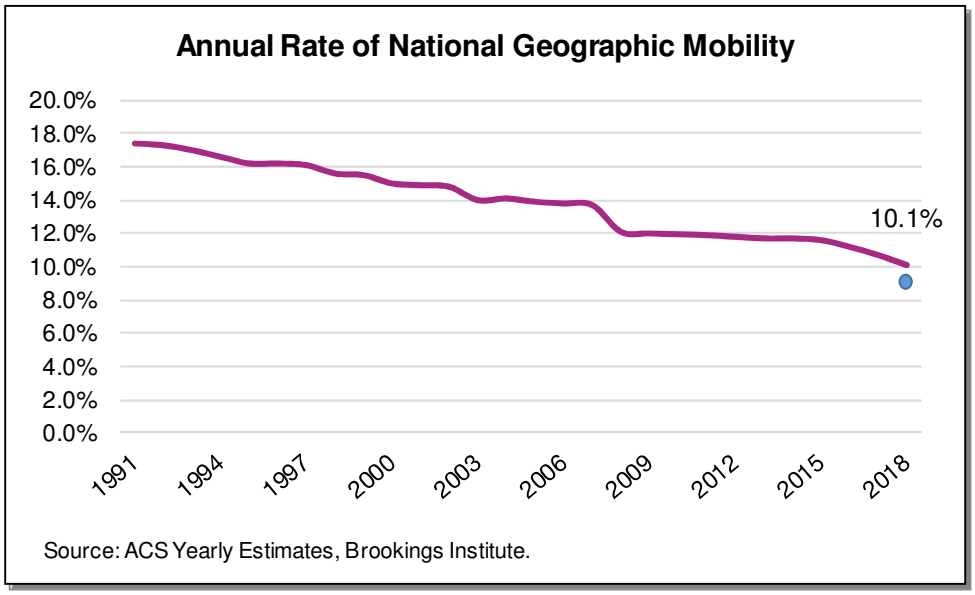
Births and Deaths per Year															
	Maine			Penobscot Cty			E Millinocket			Medway			Millinocket		
	Births	Deaths	Change	Births	Deaths	Change	Births	Deaths	Change	Births	Deaths	Change	Births	Deaths	Change
2002	13,549	12,670	**+879**	1,501	1,390	**+111**	19	20	**-1**	15	11	**+4**	28	65	**-37**
2003	13,852	12,530	**+1,322**	1,578	1,340	**+238**	14	18	**-4**	18	9	**+9**	36	88	**-52**
2004	13,932	12,441	**+1,491**	1,557	1,392	**+165**	15	33	**-18**	9	14	**-5**	36	86	**-50**
2005	14,111	12,858	**+1,253**	1,654	1,452	**+202**	14	31	**-17**	10	17	**-7**	40	78	**-38**
2006	14,152	12,282	**+1,870**	1,588	1,369	**+219**	13	21	**-8**	18	14	**+4**	37	69	**-32**
2007	14,110	12,474	**+1,636**	1,652	1,327	**+325**	17	24	**-7**	16	11	**+5**	36	67	**-31**
2008	13,593	12,503	**+1,090**	1,544	1,437	**+107**	12	21	**-9**	7	7	**+**	37	77	**-40**
2009	13,466	12,480	**+986**	1,575	1,393	**+182**	11	17	**-6**	12	16	**-4**	27	60	**-33**
2010	12,951	12,655	**+296**	1,514	1,395	**+119**	18	15	**+3**	12	16	**-4**	33	57	**-24**
2011	12,698	12,995	**-297**	1,449	1,460	**-11**	10	31	**-21**	13	19	**-6**	36	71	**-35**
2012	12,692	12,878	**-186**	1,454	1,522	**-68**	12	23	**-11**	11	12	**-1**	32	87	**-55**
2013	12,767	13,543	**-776**	1,476	1,552	**-76**	12	16	**-4**	8	20	**-12**	27	61	**-34**
2014	12,678	13,511	**-833**	1,421	1,472	**-51**	10	24	**-14**	6	15	**-9**	31	64	**-33**
2015	12,588	14,475	**-1,887**	1,424	1,649	**-225**	13	26	**-13**	7	20	**-13**	28	71	**-43**
2016	12,695	14,176	**-1,481**	1,482	1,658	**-176**	15	28	**-13**	7	17	**-10**	28	85	**-57**
2017	12,290	14,675	**-2,385**	1,430	1,640	**-210**	10	16	**-6**	11	9	**+2**	23	64	**-41**
2018	12,299	14,700	**-2,401**	1,378	1,739	**-361**	9	38	**-29**	4	18	**-14**	33	85	**-52**

Source: Maine Office of Data, Research, and Vital Statistics



Geographic mobility is a measure of how frequently people move from place to place. Research suggests that our nation has become less and less mobile since the 1990s, reaching a national rate of 10.1% of individuals having moved in the last year by 2018. In Maine, Penobscot County, and East Millinocket, the population is more mobile than the national average, while Medway and Millinocket

are both significantly lower. As a state, Maine saw an increase from immigration of 3,960 people in 2018 (0.3% of the total population), compared to the Katahdin region with approximately 10 individuals.



Moved in the last year: 2018*							
	Total	Within same county	From different county, same state	From different state	From abroad	Didn't Move	Annual Mobility
Maine	1,320,166	7.6%	3.0%	2.6%	0.3%	86.5%	13.5%
Median Age		29.40	27.70	30.30	28.20	45.00	
Penobscot Cty	150,354	9.2%	3.5%	2.7%	0.2%	84.4%	15.6%
Median Age		27.50	22.20	25.80	30.40	42.40	
East Millinocket	1,754	12.9%	0.5%	4.8%	0.6%	81.2%	18.8%
Median Age		38.10	x	36.70	32.10	50.90	
Medway	1,158	2.8%	0%	0%	0%	97.2%	2.8%
Median Age		47.80	x	x	x	49.00	
Millinocket	4,314	6.0%	0.4%	1.5%	0%	92.1%	7.9%
Median Age		27.50	x	62.10	x	54.30	
Source: 2018* ACS 5-Year Estimates.							

Race and Ethnicity

Maine is demographically the whitest state in the nation (93.4% white), with New England neighbors New Hampshire (90.3%), and Vermont (92.8%) close behind as of 2017.[1] According to CDC data, black women in Maine have more than twice as many children as white women.[2] This relationship bears out across most of New England; however, it is most striking in Maine. This is a compelling figure in light of publicity surrounding immigrants and asylum seekers and may suggest how the state demographic profile is changing. Regionally, populations are less diverse than state or county averages.

Racial and Hispanic Origins						
	Maine			Penobscot Cty		
	2000	2010	2018*	2000	2010	2018*
RACE						
Total population	1,274,923	1,328,361	1,332,813	144,919	153,923	151,748
White	96.9%	95.2%	94.5%	96.6%	95.4%	94.8%
Black or African American	0.5%	1.2%	1.3%	0.5%	0.8%	0.9%
American Indian	0.6%	0.6%	0.6%	1.0%	1.2%	1.1%
Asian	0.7%	1.0%	1.1%	0.7%	0.9%	1.0%
Native Hawaiian	<0.1%	<0.1%	<0.1%	<0.1%	<0.1%	<0.1%
Some other race	0.2%	0.3%	0.2%	0.2%	0.2%	0.2%
Two or more races	1.0%	1.6%	2.2%	1.0%	1.5%	1.9%
HISPANIC OR LATINO						
Total population	1,274,923	1,328,361	1,332,813	144,919	153,923	151,748
Hispanic or Latino (of any race)	0.7%	1.3%	1.6%	0.6%	1.1%	1.3%
Not Hispanic or Latino	99.3%	98.7%	98.4%	99.4%	98.9%	98.7%

	E Millinocket			Medway			Millinocket		
	2000	2010	2018*	2000	2010	2018*	2000	2010	2018*
RACE									
Total population	1,828	1,723	1,762	1,489	1,349	1,158	5,203	4,506	4,314
White	98.3%	97.3%	95.8%	99.1%	98.8%	98.8%	98.5%	97.7%	98.4%
Black or African American	0%	0.2%	0.1%	<0.1%	<0.1%	0.9%	<0.1%	0.2%	0%
American Indian	0.4%	0.8%	0%	0.3%	0.4%	0%	0.5%	0.7%	0.9%
Asian	0.4%	0.3%	1.0%	0.1%	0.3%	0%	0.4%	0.4%	0%
Native Hawaiian	0%	0.1%	0%	0%	0%	0%	0%	<0.1%	0%
Some other race	<0.1%	0.5%	1.2%	0%	0%	0%	<0.1%	<0.1%	0%
Two or more races	0.9%	0.8%	1.9%	0.4%	0.4%	0.3%	0.5%	0.8%	0.7%
HISPANIC OR LATINO									
Total population	1,828	1,723	1,762	1,489	1,349	1,158	5,203	4,506	4,314
Hispanic or Latino (of any race)	0.3%	0.8%	2.5%	0.3%	0.2%	2.4%	0.2%	0.5%	6.0%
Not Hispanic or Latino	99.7%	99.2%	97.5%	99.7%	99.8%	97.6%	99.8%	99.5%	94.0%

Source: Decennial Census and 2018* ACS 5-Year Estimates.

[1] https://www.governing.com/gov-data/census/state-minority-population-data-estimates.html Accessed January 3, 2020. **Using ACS 2017 5-Year Estimates.**

[2] https://www.cdc.gov/nchs/data/nvsr/nvsr68/nvsr68_01-508.pdf Accessed January 3, 2020.

Distribution by Education Attainment

Educational attainment is an important measure of both culture and economic mobility. In the US, working-age (between 25 and 64) full-time workers earned a median income of $41,000 per year. For those with less than a high school education, that figure drops to $23,000 annually, compared with those having earned an advanced degree at $73,000.[1] Approximately two-thirds of job openings between 2016 and 2026 will require a postsecondary degree.[2] While these figures vary dramatically across the country, in Maine the need for education is exceedingly relevant.

Moreover, education interventions at the earliest ages have a lasting impact over a person's lifetime and may suggest an effective avenue to increasing lifetime achievement. Research suggests that childhood development programs *save* between $2.88 and $17.07 in education spending for every dollar spent, depending on the program and organization.[3] Participants in these programs experience improved health outcomes, increased employment rates and income, and stronger social networks. Since 2011, the state has increased enrollment in pre-Kindergarten by 44%, with 46% of all 4-year-olds enrolled.[4] This enrollment rate compares to 57% across New England. Maine falls behind New England as a whole in 8th grade achievement levels in reading – 36% versus 39% - and math – 34% versus 38%. 2018 SAT scores suggest that 57% of 11 graders were proficient in reading and only 35% were proficient in math. Importantly, these figures decrease to 40% and 19%, respectively, among economically disadvantaged students. Overall, 87% of high school students go on to graduate compared to 88% across New England. Similarly, this figure drops to 78% among economically disadvantaged students, suggesting that interventions in schools are intimately linked to household economic stability.

Approximately 62% of Maine high school graduates enroll in college and 83% of those students go on to graduate. However, Maine ranks 8th nationally in terms of average college debt – $32,676. These costs are roughly 38% of per capita annual income, compared to 34% across New England. Nevertheless, 45% of Mainers possess a college degree. A focus on affordability and access as well as on complementary services can help to strengthen our economy and our communities.

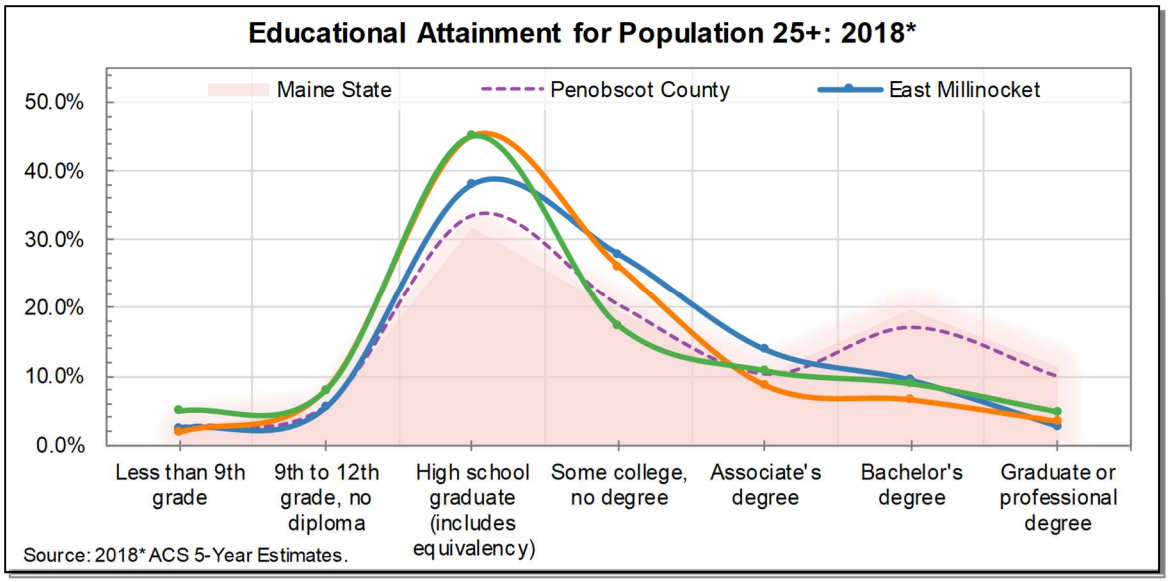
The Katahdin region trails both the state and county in the proportion of residents with Bachelor's or professional degrees. However, comparing current figures to the 2000 Census shows that **the region increased the proportion of those with some college education up through and including holders of advanced degrees by 23.4%**. The strength of the local community college and university affiliate system should be viewed as a significant asset in light of these figures.

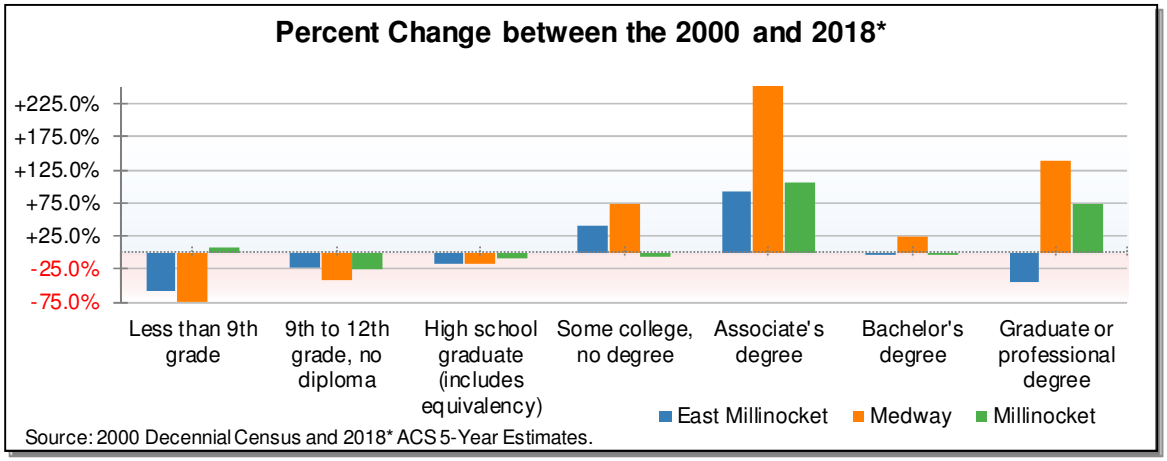
[1] https://www.brookings.edu/research/where-work-pays-how-does-where-you-live-matter-for-your-earnings/ Accessed January 9, 2020.

[2] http://www.educatemaine.org/docs/CollegeAffordBriefFINALcopyMay11_1.pdf Accessed January 9, 2020.

[3] https://www.rwjf.org/en/library/research/2016/03/can-early-childhood-interventions-improve-life-outcomes-.html Accessed January 9, 2020.

[4] http://www.educatemaine.org/docs/2019_IndicatorsReport-FNL-WEB.pdf Accessed January 9, 2020.


Educational Attainment for Population 25+: 2018*
Maine State
Penobscot County
East Millinocket
50.0%
40.0%
30.0%
20.0%
10.0%
0.0%
Less than 9th grade
9th to 12th grade, no diploma
High school graduate (includes equivalency)
Some college, no degree
Associate's degree
Bachelor's degree
Graduate or professional degree
Source: 2018* ACS 5-Year Estimates.


Percent Change between the 2000 and 2018*
+225.0%
+175.0%
+125.0%
+75.0%
+25.0%
-25.0%
-75.0%
Less than 9th grade
9th to 12th grade, no diploma
High school graduate (includes equivalency)
Some college, no degree
Associate's degree
Bachelor's degree
Graduate or professional degree
East Millinocket
Medway
Millinocket
Source: 2000 Decennial Census and 2018* ACS 5-Year Estimates.

Household Size and Seasonal Population

A report written in 2012 by the University of Maine entitled, *Changing Maine: Maine's Changing Population and Housing 1990-2010*, highlighted the evolving demographics of the state.[1] This report found that the region's household sizes were decreasing while seasonal housing growth was increasing. Penobscot County experienced significant growth in seasonal homes: in 1990 there were 4,038 seasonal homes compared to 6,199 seasonal homes in 2010 (34.9% growth in 20 years). The ubiquity of platforms like AirBnB adds additional seasonal housing capacity, but not always to everybody's benefit. The conversion of year-round homes and apartments to seasonal, short-term rentals can increase housing costs and decrease availability for permanent residents.[2] This may become an issue if demand for year-round housing in the Katahdin region increases. However, considering projected population decreases, short-term rental platforms may be a way to help stabilize and improve existing housing stock. Lessons should be drawn from places like Bar Harbor where demand for seasonal housing has pushed permanent residents out of the housing market.[3]

As Maine's population growth began to slow in the 1990s, a common expectation that housing growth would also slow was incorrect. The phenomenon of people living alone, older parents remaining independent, and of people having fewer children, has meant that **average household size has been decreasing**. This has economic and housing implications in addition to social and cultural complications. This trend is borne out in the Katahdin region, where average households shrank from 2.38 people in 2000 to 2.14 people in 2018.

Average Household Size and Occupancy

	Maine		Penobscot Cty		E Millinocket		Medway		Millinocket	
	Total	%	Total	%	Total	%	Total	%	Total	%
	Occupied housing units and Percent of Total Housing.									
2000	518,200	79.5%	58,096	86.9%	780	88.9%	587	90.2%	2,295	85.7%
2010	557,219	77.2%	62,966	85.3%	768	88.2%	576	87.5%	2,167	83.8%
2018*	556,955	75.4%	61,578	81.6%	815	91.1%	501	82.3%	2150	76.3%
	Vacant Houses for seasonal, recreational, or occasional use and Percent of Vacant Housing.									
2000	101,470	75.9%	4,962	56.7%	4	4.1%	17	26.6%	27	7.0%
2010	118,310	71.9%	6,199	56.9%	14	13.6%	30	36.6%	83	19.8%
2018*	129,227	71.0%	6,885	49.5%	28	35.0%	37	34.3%	381	57.0%
	Average household size									
2000	2.39		2.38		2.34		2.54		2.25	
2010	2.32		2.33		2.22		2.34		2.06	
2018*	2.33		2.36		2.14		2.31		1.98	

Source: Decennial Census and 2018* ACS 5-Year Estimates.

With the ubiquity of recreational activities, the Katahdin region is anticipating an increase in seasonal residents and tourist populations. During the short period it was open in 2016, the Katahdin Woods and Waters National Monument attracted 1,762 vehicles and an estimated 3,524 visitors.[4] In 2018,

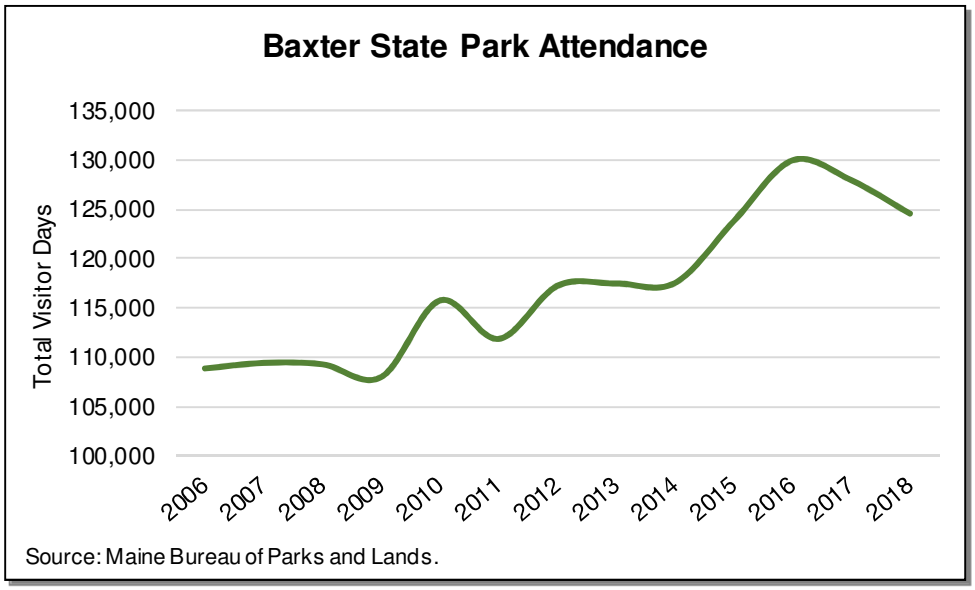
[1] https://umaine.edu/mitchellcenter/wp-content/uploads/sites/293/2013/08/Census_Report_1012121.pdf Accessed January 3, 2020.

[2] https://bangordailynews.com/2019/03/07/news/hancock/bar-harbor-wants-to-fix-its-housing-shortage-by-reining-in-vacation-rentals/ Accessed January 3, 2020.

[3] https://bangordailynews.com/2019/04/03/news/as-applications-for-vacation-rentals-surge-bar-harbor-rejects-a-moratorium/. Accessed January 3, 2020.

[4] https://www.doi.gov/sites/doi.gov/files/uploads/nps-2018-00005_combined.pdf Accessed January 3, 2020.

these numbers increased by nearly 18%, drawing an estimated 20,000 visitors to the region as a whole. It is expected that over the next decade, the National Monument will mirror other State and Federal parks. In 2018, attendance at Maine State Parks was just under 3 million across all 48 state parks and historic sites, up 11% from 2017 and generating $100 million in direct revenues.[1] Attendance at nearby Baxter State Park has increased 14.4% between 2006 and 2018. This suggests that there is a substantial opportunity to augment the regional economy and year-round population through recreation and tourism.



Geographic Distribution

Describing whether a place is urban or rural is, in some ways, quite complex and also quite simple. The US Census describes an urbanized metropolitan area as having a population of 50,000 or more, urban clusters as having between 2,500 and 50,000, and rural areas as having fewer than 2,500 people.[2] According to these definitions and the decennial census in 2010, **Maine is the *most* rural state** with 61.3% of the population living in rural areas.[3] This figure is unique, as it has *increased* since the 2000 census value of 59.8%, the only state to do so in that period. Only 1.17% of Maine's land area is considered urban and is home to 38.7% of the total population. Nationally, urban populations have grown by 12.1% from 2000 to 2010, compared to a total growth rate of 9.7%. This disparity factors into conversations about housing and transportation infrastructure as much of Maine has experienced rural and suburban sprawl over the last thirty years.

Another important metric of regional character is average commute time. In the US, the average commute was 26.6 minutes according to 2018 ACS 5-Year Estimates, compared to 24 minutes in Maine, 18.3 minutes in Millinocket, 21 minutes in East Millinocket, and 21.4 minutes in Medway. This favorable comparison is somewhat misleading, however, as the percent of people working in their place of residence across the nation was 31.5%, compared to 39% in the Katahdin region. 46.3% of

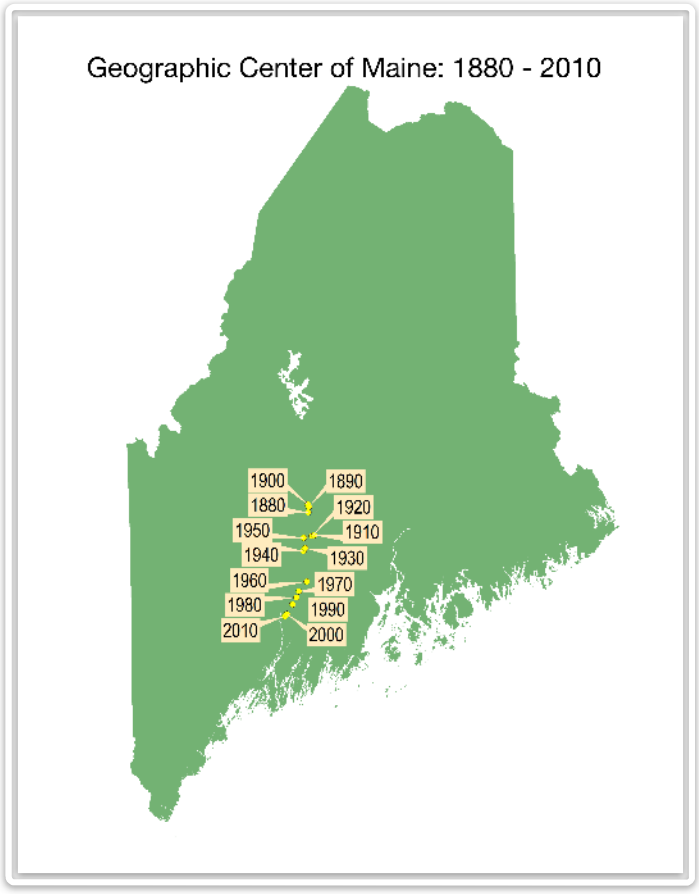
[1] https://www.mainebiz.biz/article/maine-state-parks-achieve-record-attendance-in-2018 Accessed January 3, 2020.

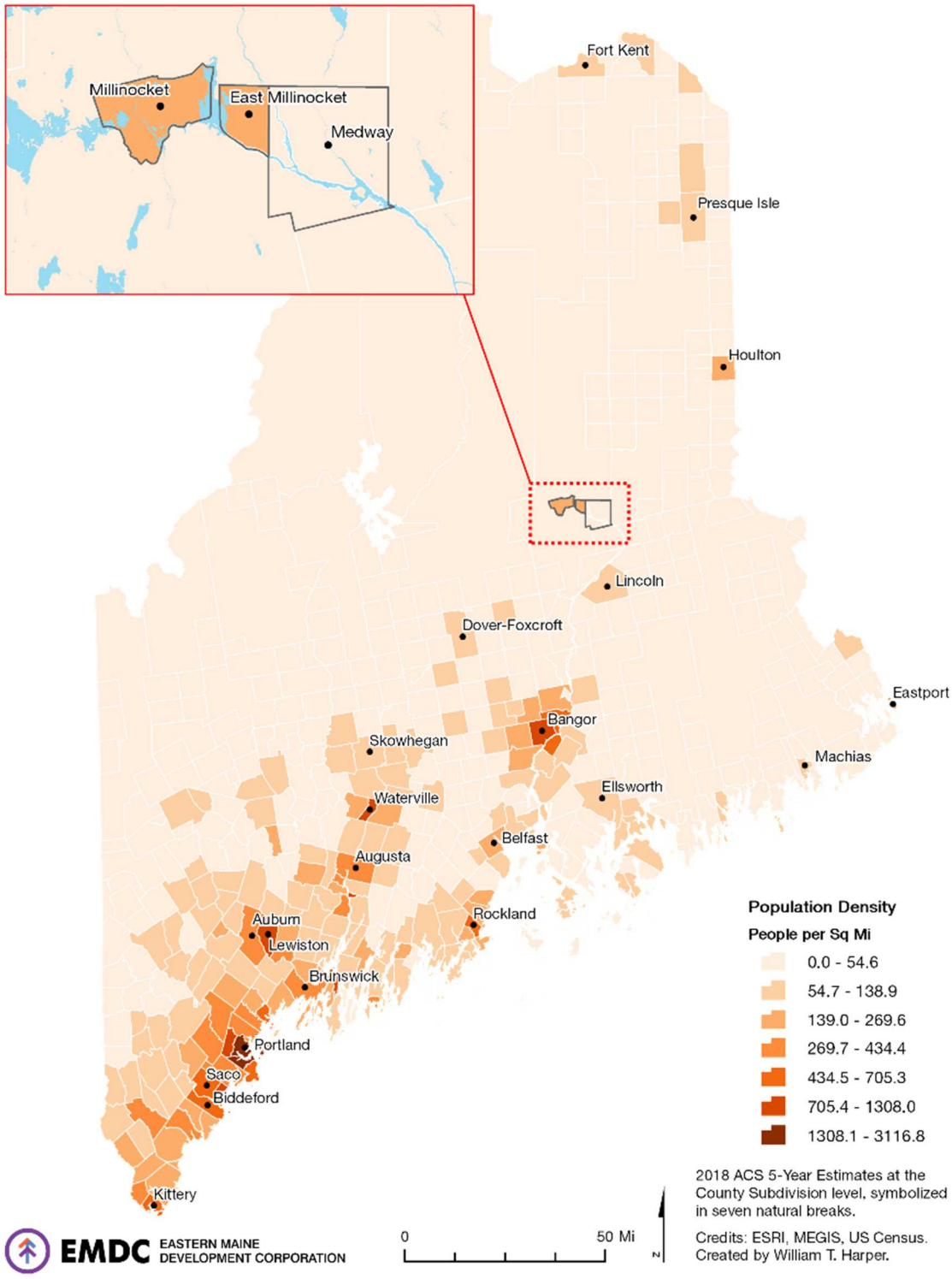
[2] https://www.census.gov/newsroom/releases/archives/2010_census/cb12-50.html Accessed January 15, 2020.

[3] https://bangordailynews.com/2012/03/26/business/census-maine-most-rural-state-in-2010-as-urban-centers-grow-nationwide/ Accessed January 15, 2020.

the population in the Katahdin region commutes 10 minutes or less, compared to 12.5% nationally and 17.4% across Maine.

Population density across the state is unevenly distributed, with the majority of the population living in the southern, coastal regions of the state. This distribution can be seen through the shift from agriculture-based economies to manufacturing in the late 19th century, and the subsequent shift away from centralized manufacturing in the latter half of the 20th century. As more distributed populations pursued work, the population "center" of the state began moving south and west. Over the last century, this center has migrated nearly 46 miles and is continuing to move. According to 2018 ACS 5-Year Estimates, approximately 237,000 people (17.8% of the population) live in an area of 26,144 square miles, averaging 9 people per square mile. Millinocket and East Millinocket have densities of 237 and 226 people per square mile, respectively, compared to Medway with 28 people per square mile.




Millinocket
East Millinocket
Medway
Fort Kent
Presque Isle
Houlton
Lincoln
Dover-Foxcroft
Eastport
Bangor
Skowhegan
Machias
Ellsworth
Waterville
Belfast
Augusta
Rockland
Auburn
Lewiston
Brunswick
Portland
Saco
Biddeford
Kittery
Population Density
People per Sq Mi
0.0 - 54.6
54.7 - 138.9
139.0 - 269.6
269.7 - 434.4
434.5 - 705.3
705.4 - 1308.0
1308.1 - 3116.8
2018 ACS 5-Year Estimates at the County Subdivision level, symbolized in seven natural breaks.
Credits: ESRI, MEGIS, US Census.
Created by William T. Harper.
EMDC EASTERN MAINE DEVELOPMENT CORPORATION
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Strategies and Policies

In order to encourage, promote, and develop stability and growth in the Katahdin region, the following policies and implementation strategies have been developed.

State of Maine

Minimum policies and strategies required to address state goals: None required.

Regional

1. **Policy:** To support and continue efforts with the Katahdin Region Public Visioning process and to establish and carry out achievable goals and objectives outlined in the report.
   Strategies: Make the Katahdin region the premier four-season outdoor destination in the Northeast; Future-proof the region by building social capital, use and reuse of the wood asset, protecting natural environment, local planning efforts, and expanding broadband activities; Be a place that supports and attracts people of all ages; Grow local jobs and a new regional economy; Grow the next wave of forest product manufacturing for a global economy; and, Grow walkable villages that serve as gateways to the wilderness.
   Time Frame: Ongoing
   Responsible Agent(s): Participants in the Katahdin Gazetteer Vision and Action Plan including Board of Selectmen, Katahdin Region Development Board, Our Katahdin, and residents of the Katahdin region.

Local

Millinocket

1. **Policy:** Continue efforts to recruit major employers such as manufacturers and large retailers, and to complement recruitment by emphasizing existing assets and distinctive resources.
   Strategies: Plan where development should or should not go, encourage growth in town where businesses can thrive on a walkable main street and where families can live close to their daily destinations. Expand affordable and energy-efficient housing, and an age-friendly community.
   Time Frame: Ongoing.
   Responsible Agent(s): Town Manager and Economic Development Director, Town Council, Planning Board, Our Katahdin, Katahdin Region Development Board.

2. **Policy:** Promote small business development, which helps rural people acquire assets and create wealth. Create space for innovation and have a regulatory environment that is designed to help small businesses open safely and quickly; do not create unnecessary hurdles for business owners.
   Strategies: Use word-of-mouth marketing strategies, sponsor local events, get local press coverage, give away freebies, and have an active on-line presence. Build the infrastructure (incubator and co-working space, expanded broadband capacity) to attract new populations to the community.
   Time Frame: Ongoing.
   Responsible Agent(s): Town Manager and Economic Development Director, Town Council, Planning Board, Our Katahdin, Katahdin Region Development Board.

East Millinocket

1. **Policy:** To work with key organizations to focus on developing a great quality of life environment in the town that will attract new residents and businesses.
   Strategies: Continue efforts to convene key organizations in promoting strategies and planning towards enhancing the quality of life that builds on the region's proximity to the wilderness, build on opportunities to promote new economic revitalization, and provide a community that attracts residents of all ages by being affordable, inclusive, and supportive.
   Time Frame: Ongoing
   Responsible Agent(s): Board of Selectmen (all communities), Katahdin Region Development Board, Our Katahdin, Broadband Utility Board, and other local and regional partners as identified.

Medway

1. **Policy:** To enhance and prepare the town for any impact from future population shifts that may have bearings on housing demands, public service, shopping and home health service to our elderly.
   Strategies: Work on marketing the area for economic development and housing needs.
   Time Frame: Ongoing
   Responsible Agent(s): Administrative Assistant, Katahdin Regional Economic Director, Board of Selectmen, Planning Board

Chapter Eight:
ECONOMY

Goals/Vision

State Goal

Promote an economic climate that increases job opportunities and overall economic well-being.

Local Goals

Millinocket

To create prosperity and wealth, generate jobs, increase income and reduce poverty, and improve the quality of life for residents, visitors, businesses, and those coming to work in town.

East Millinocket

To develop strategies and goals around diversification of the economic base that will include natural resource- and tourism-based industries and businesses, and local commercial developments. To strengthen local services designed to attract diversified economic opportunities. To continue efforts that balance a younger workforce while providing services to an aging population. To continue efforts to provide new infrastructure, such as access to broadband internet.

Medway

To provide infrastructure that will enable the future of the workforce and young to be able to be gainfully employed using the means of new technologies that enable people to work from home. To be a first-stop location for visitors of the North Woods. To provide means of opportunity for commerce, business attraction, accommodations and dining by means of removing barriers to growth and opportunity.

Introduction

Millinocket, East Millinocket, and Medway developed in response to the boom in paper and pulp manufacturing in the late 19th and early 20th centuries. All three towns recognize that the mills were the central aspect of the region's economy, and – in many ways – spurred neglect in other economic opportunities for diversification. During these periods of prosperity, the Katahdin region experienced some of the highest wages and the highest per capita income in the state, guaranteeing growth and stability.

While the mills were the driver of the region's economy, their closures have forced the region to reinvent itself. Today, the three towns identify as the "gateway" to Baxter State Park, the Northern Maine Woods and Lake Region, Katahdin Woods and Waters National Monument, Debsconeag Wilderness Lakes Area, and the Maine Waterside Trails Center. These towns pride themselves on their four-season tourist attractions, providing commercial and hotel services to snowmobilers, cyclists, hikers, hunters, anglers, and all other tourists and travelers on their way north.

To attain the stability and prosperity residents of the region once knew, residents and businesses need to pursue new economic opportunities; strengthen existing businesses; build diversity in services, products, and markets; and market the unique assets the region has to offer.

Economic Statistics

The most basic measure of a region's economic health are the rates of employment and unemployment. The US Census Bureau categorizes those with jobs as *employed*, while people who are jobless or are looking for work are considered *unemployed*. People who are either retired or not pursuing work are *not in the labor force*. The sum of those employed and unemployed constitutes the *civilian labor force*, generally counted for those above the age of 16.

This definition does not necessarily capture the lived nuances of our modern working lives and economies. Many who do not participate in the labor force are going to school or are retired. Family responsibilities – such as providing childcare and eldercare – can keep others out of the labor force, while a physical or mental disability can prevent individuals from fully participating in labor force activities. Finally, this metric does not measure *under* employment, where an individual may not earn enough through their work to support themselves.

The fallout from the 2008 recession as well as the closure of the pulp and paper mills has hit the region in terms of unemployment. Between 2000 and the 2013 ACS 5-Year Estimate measure, unemployment for all three towns rose overall from 3.0% to 10.4%, an increase of 217% overall. This figure fell subsequently in the 2018 ACS 5-Year estimates to 6.7% - much lower than the previous period, but still higher than the state measure of 4.6%. Individually, East Millinocket and Medway have retained the elevated unemployment levels from the previous period, while Millinocket has returned to rates in line with the state and county.

Another important measure of employment is the proportion of the entire population actively participating in the workforce – the *labor force participation rate*. This may indicate an older population with a large number of retirees, or a proportion of individuals receiving disability or some other form of support. As the statewide labor force participation rate has decreased slightly – from 65.3% to 63.0% – between the 2000 decennial census and the 2018 ACS 5-Year estimates, so too have local and regional rates. The rates found in Millinocket, East Millinocket, and Medway decreased from 51.5%, to 50.5%, and to 47.0% in 2000, 2013* and 2018*, respectively.[1] This represents an 11.5% change between 2000 and 2013 measures, and a further 6.8% decrease between 2013 and 2018 measures regionally.

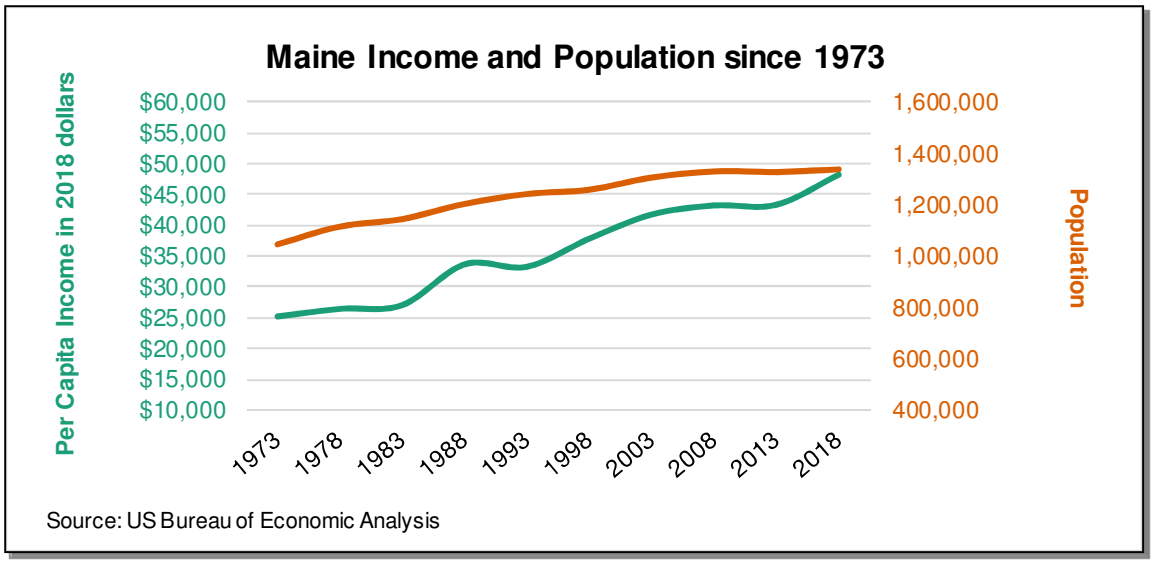
A final illustrative measure is the proportion of employed individuals to the total population, including those not in the labor force as well as those unemployed and seeking work. This again shows that fewer people in the Katahdin region are employed than is typical across the state and county. However, this may be reflective of shifting demographics, where a higher proportion of the population are older retirees.

[1] *Note that economic data were not collected in the 2010 decennial census, therefore this analysis uses the 2009-2013 and the 2014-2018 ACS 5-Year Estimates. These are not discrete measures, but rather a sampling across a 5-year period.

Overall Employment and Unemployment				
	Maine			
	Total	Labor Force Participation	Employment/ Population	Unemployment
2000	1,010,318	65.3%	61.8%	3.1%
2013*	1,092,849	64.3%	59.2%	7.7%
2018*	1,109,357	63.0%	60.0%	4.6%
	Penobscot County			
	Total	Labor Force Participation	Employment/ Population	Unemployment
2000	116,139	64.0%	60.1%	3.6%
2013*	127,626	62.6%	57.2%	8.2%
2018*	127,262	60.6%	57.1%	5.5%
	East Millinocket			
	Total	Labor Force Participation	Employment/ Population	Unemployment
2000	1,474	51.2%	48.4%	2.8%
2013*	1,409	52.1%	46.0%	11.2%
2018*	1,473	47.3%	42.8%	9.5%
	Medway			
	Total	Labor Force Participation	Employment/ Population	Unemployment
2000	1,174	54.9%	51.8%	3.1%
2013*	1,058	51.0%	41.0%	19.6%
2018*	1,015	44.1%	39.4%	10.7%
	Millinocket			
	Total	Labor Force Participation	Employment/ Population	Unemployment
2000	4,299	50.6%	47.4%	3.0%
2013*	3,805	49.7%	45.9%	7.6%
2018*	3,785	47.7%	45.5%	4.5%
Sources: Decennial Census, 2013* and 2018* ACS 5-Year Estimates for population 16 years and over.				

Income

Income patterns are relevant in evaluating a town's housing, economy, self-sourced revenues, social services, food systems, and more. The State of Maine has seen consistent increases in the relative wealth of its citizens since the middle of the 20th century.



Household Income

Median Household Income is a measurement of combined incomes and includes the salaries and wages, retirement income, food stamps, and investment gains of all people fifteen years or older and sharing a particular place of residence. The median – or midpoint – of that income distribution is a useful measure of a community's wealth. Per capita income measures the per person income, as opposed to per household. Mean household income is the *average* of all household income, rather than the median.

In the 1990s, median household income in the Katahdin region was nearly $5,000 higher than in the state. However, estimates show that the relationship has not held as regional household income is between $15,000 and $20,000 lower in the 2018 ACS.

Median Household Income

	Maine	Penobscot Cty	E Millinocket	Medway	Millinocket
1990	$27,854	$26,631	$31,008	$32,014	$32,344
2000	$37,240	$34,274	$33,542	$33,646	$29,318
2010*	$46,933	$42,658	$34,046	$42,300	$35,931
2018*	$55,425	$49,374	$39,688	$37,829	$35,697

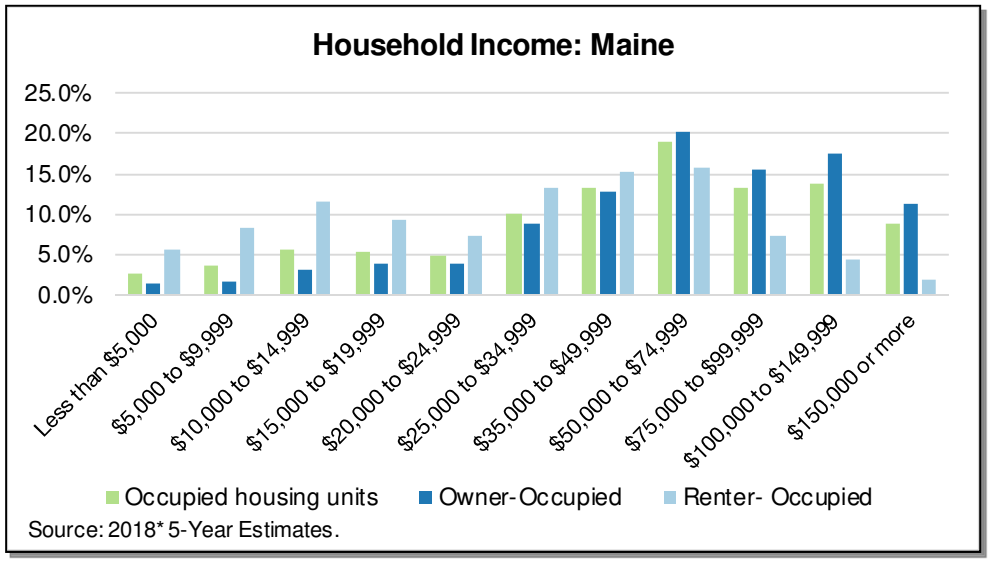
Per Capita Income

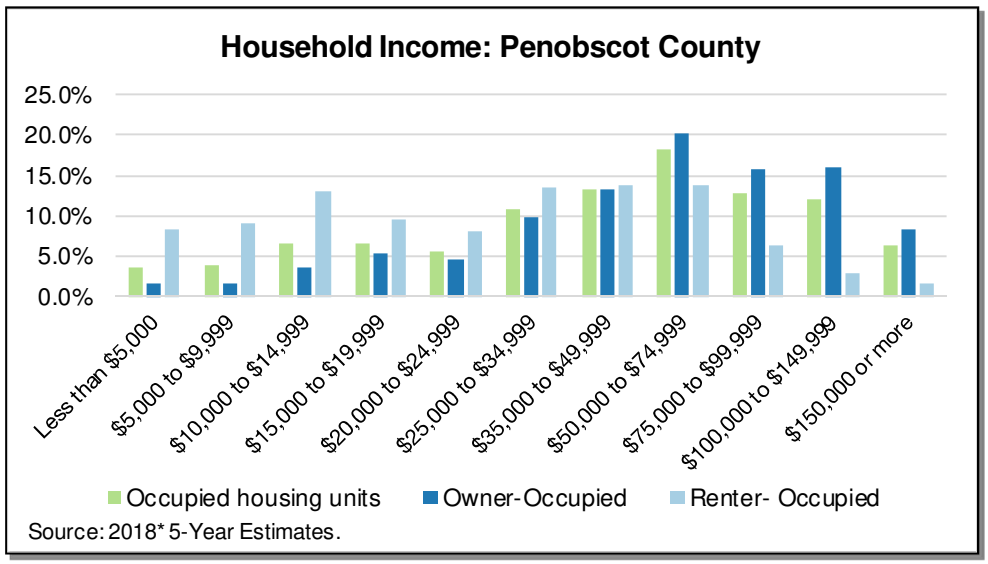
	Maine	Penobscot Cty	E Millinocket	Medway	Millinocket
2000	$19,533	$17,801	$19,343	$15,264	$17,130
2010*	$25,385	$22,977	$19,835	$21,030	$20,414
2018*	$31,253	$27,289	$23,448	$21,614	$27,753

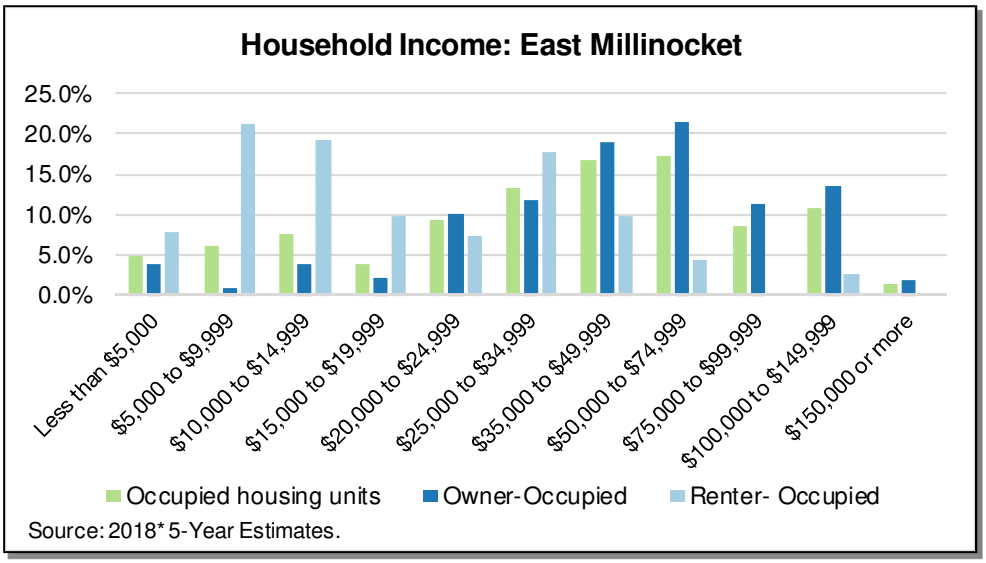
Sources: Decennial Census and 2018* ACS 5-Year Estimates.

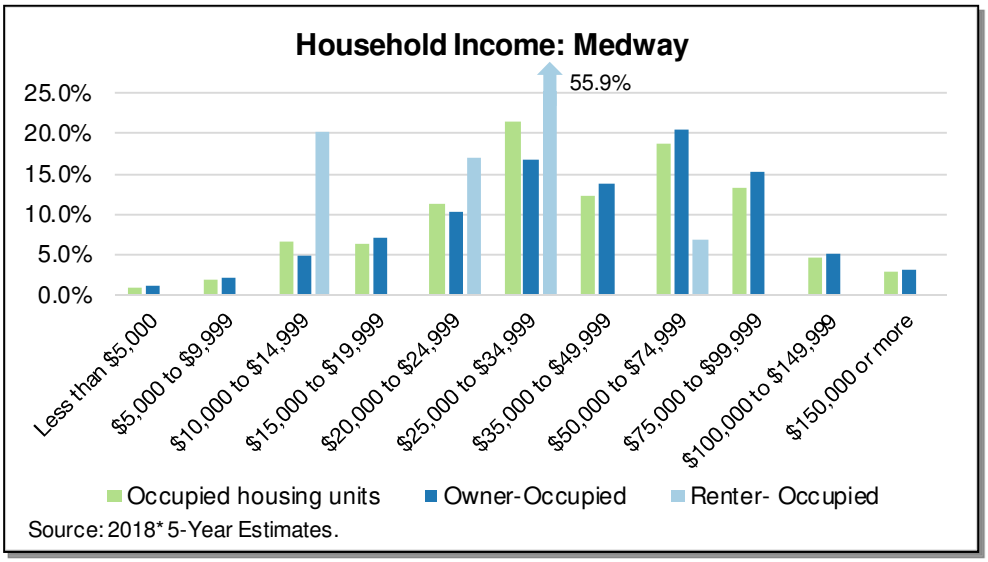
Examining the distribution of household incomes for the 2014-2018 ACS estimate period, the Katahdin region is comparable to the county and state measures for all households. When comparing the distribution of income between owner-occupied and renter-occupied households, however, there are notable differences. Median household income for owner-occupied households is $67,513 in Maine, $61,515 in Penobscot County, $48,553 in East Millinocket, $41,324 in Medway, and $39,754 in Millinocket. This compares with median household income for renter-occupied households at $30,739, $26,172, $17,574, $25,852, and $18,796 for the same respective geographies. There is to be

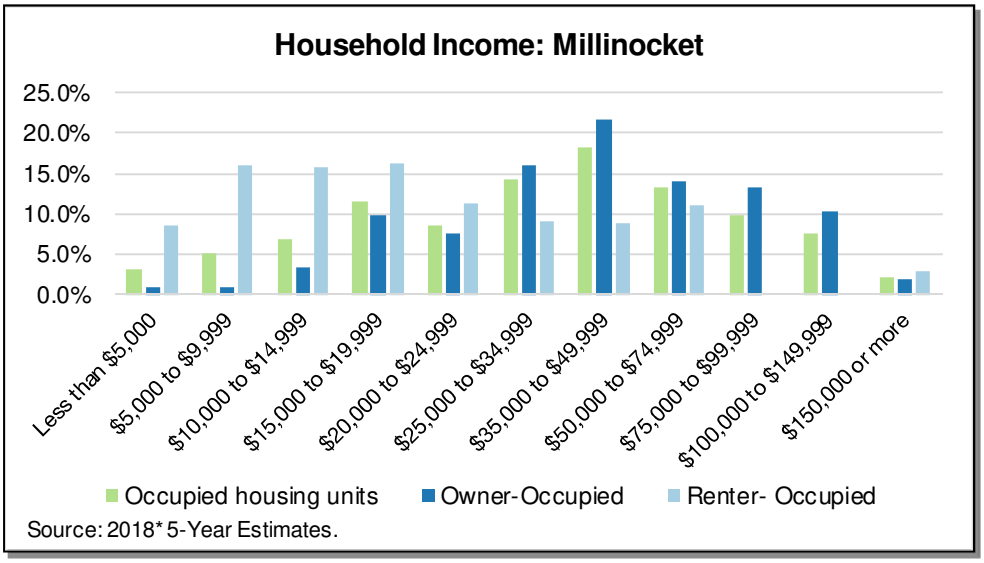
an expected difference in the incomes of owner- and renter-occupied households, and the region is in line with state and county differences.






Household Income: East Millinocket
25.0%
20.0%
15.0%
10.0%
5.0%
0.0%
Less than $5,000
$5,000 to $9,999
$10,000 to $14,999
$15,000 to $19,999
$20,000 to $24,999
$25,000 to $34,999
$35,000 to $49,999
$50,000 to $74,999
$75,000 to $99,999
$100,000 to $149,999
$150,000 or more
Occupied housing units
Owner-Occupied
Renter- Occupied
Source: 2018* 5-Year Estimates.


Household Income: Medway
55.9%
25.0%
20.0%
15.0%
10.0%
5.0%
0.0%
Less than $5,000
$5,000 to $9,999
$10,000 to $14,999
$15,000 to $19,999
$20,000 to $24,999
$25,000 to $34,999
$35,000 to $49,999
$50,000 to $74,999
$75,000 to $99,999
$100,000 to $149,999
$150,000 or more
Occupied housing units
Owner-Occupied
Renter- Occupied
Source: 2018* 5-Year Estimates.


Household Income: Millinocket
25.0%
20.0%
15.0%
10.0%
5.0%
0.0%
Less than $5,000
$5,000 to $9,999
$10,000 to $14,999
$15,000 to $19,999
$20,000 to $24,999
$25,000 to $34,999
$35,000 to $49,999
$50,000 to $74,999
$75,000 to $99,999
$100,000 to $149,999
$150,000 or more
Occupied housing units
Owner-Occupied
Renter- Occupied
Source: 2018* 5-Year Estimates.

Poverty Level

The US Department of Health and Human Services (DHHS) issues poverty guidelines each year in the *Federal Register*. These guidelines are used by the Census Bureau to determine poverty status and consist of a set of thresholds including family size and number of family members less than 18 years of age. In 2018, for a household of one the poverty threshold was $12,140; a household of two was $16,640; a household of three was $20,780; and a household of four was $25,100.[1]

Rates of poverty in the Katahdin region differ from town to town, with Millinocket remaining lower than state averages and Medway at higher than state averages. As a whole, the region exhibits an individual poverty rate of 14.6%, a family poverty rate of 7.4%, and a family with children poverty rate of 17.9% – all in line with county averages.

Family and Individual Poverty, 2018*

	Maine			Penobscot County		
	Total	Below Poverty Level	%	Total	Below Poverty Level	%
Individuals	1,296,990	161,743	12.5%	145,211	22,744	15.7%
Families	347,959	27,489	7.9%	37,841	3,708	9.8%
Families with related children of householder under 18 years	*138,891*	*19,861*	*14.3%*	*15,362*	*2,781*	*18.1%*

	East Millinocket			Medway			Millinocket		
	Total	Below Poverty Level	%	Total	Below Poverty Level	%	Total	Below Poverty Level	%
Individuals	1,754	332	18.9%	1,158	201	17.4%	4,267	512	12.0%
Families	469	58	12.4%	354	39	11.0%	1,238	56	4.5%
Families with related children of householder under 18 years	*192*	*47*	*24.5%*	*113*	*39*	*34.5%*	*343*	*30*	*8.7%*

Source: 2018* ACS 5-Year Estimates, population for whom poverty is determined.

Industry Trends

The trends of overall industry in Penobscot County follow those seen statewide, with the exception of Health Care and Social Assistance in which county activity accounts for a larger proportion of overall GDP as well as a significant source of growth. The county lags somewhat in Manufacturing and in Finance and Insurance activity. Notable increases are seen in Construction – possibly a result of the recovery following the 2008 recession. Another anomaly is in Mining activity which, in Penobscot County, increased by over 10,000%; however, Mining in total accounts for 0.015% of total county GDP – $1,214,000.

[1] https://familiesusa.org/resources/federal-poverty-guidelines/ Accessed February 5, 2020.

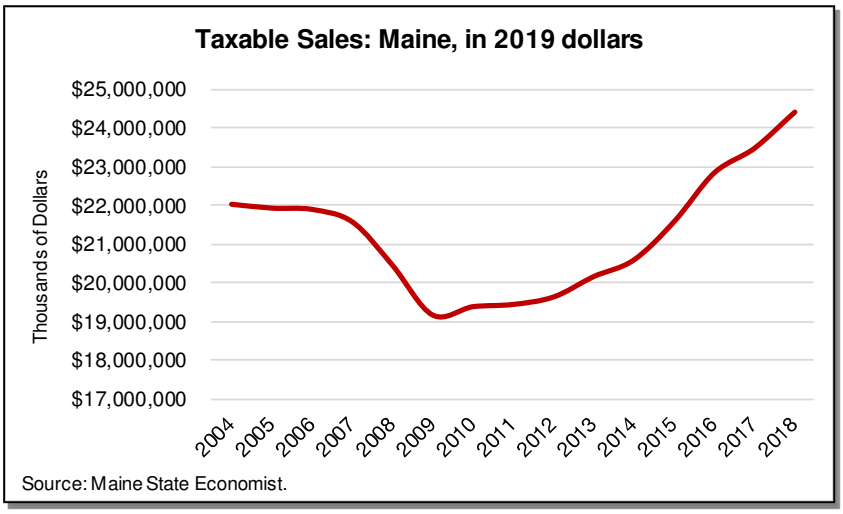
GDP by Industry in Thousands of Current 2018 Dollars: 2013 - 2018										
	Maine: 2013		Penobscot: 2013		Maine: 2018			Penobscot Cty: 2018		
	Total	%	Total	%	Total	%	Change	Total	%	Change
Agriculture, forestry, fishing, and hunting	$ 828,212	1.3%	$ 48,638	0.7%	$ 825,610	1.1%	-0.3%	$ 22,037	0.3%	-54.7%
Mining	$ 30,480	0.0%	$ 11	0.0%	$ 38,921	0.1%	+ 27.7%	$ 1,214	0.0%	+ 10936.4%
Utilities	$ 974,339	1.5%	$ 135,732	2.0%	$ 1,014,487	1.3%	+ 4.1%	$ 152,366	1.9%	+ 12.3%
Construction	$ 1,896,855	3.0%	$ 131,344	1.9%	$ 2,378,214	3.1%	+ 25.4%	$ 226,420	2.8%	+ 72.4%
Manufacturing	$ 5,388,331	8.4%	$ 306,372	4.5%	$ 6,169,507	8.0%	+ 14.5%	$ 299,737	3.7%	-2.2%
Wholesale trade	$ 3,061,218	4.8%	$ 347,325	5.1%	$ 3,543,910	4.6%	+ 15.8%	$ 411,343	5.1%	+ 18.4%
Retail trade	$ 4,413,773	6.9%	$ 628,279	9.2%	$ 5,129,096	6.6%	+ 16.2%	$ 689,076	8.5%	+ 9.7%
Transportation and warehousing	$ 1,209,079	1.9%	$ 199,823	2.9%	$ 1,474,826	1.9%	+ 22.0%	$ 235,545	2.9%	+ 17.9%
Information	$ 1,092,347	1.7%	$ 166,858	2.5%	$ 1,208,261	1.6%	+ 10.6%	$ 162,882	2.0%	-2.4%
Finance and insurance	$11,016,089	17.2%	$ 994,368	14.6%	$13,446,944	17.4%	+ 22.1%	$1,190,949	14.7%	+ 19.8%
Real estate and rental and leasing	$ 7,979,501	12.5%	$ 810,617	11.9%	$ 9,313,422	12.0%	+ 16.7%	$ 934,105	11.6%	+ 15.2%
Professional and technical services	$ 5,199,825	8.1%	$ 428,568	6.3%	$ 6,963,592	9.0%	+ 33.9%	$ 579,106	7.2%	+ 35.1%
Management of companies and enterprises	$ 801,244	1.3%	$ 72,032	1.1%	$ 1,301,278	1.7%	+ 62.4%	$ 92,623	1.1%	+ 28.6%
Administrative and waste services	$ 1,591,772	2.5%	$ 186,519	2.7%	$ 1,973,512	2.5%	+ 24.0%	$ 274,940	3.4%	+ 47.4%
Educational services	$ 891,023	1.4%	$ 65,653	1.0%	$ 1,044,176	1.3%	+ 17.2%	$ 74,364	0.9%	+ 13.3%
Health care and social assistance	$ 6,462,318	10.1%	$ 975,959	14.4%	$ 7,678,108	9.9%	+ 18.8%	$1,202,779	14.9%	+ 23.2%
Arts, entertainment, and recreation	$ 557,198	0.9%	$ 49,411	0.7%	$ 689,230	0.9%	+ 23.7%	$ 50,067	0.6%	+ 1.3%
Accommodation and food services	$ 2,020,956	3.2%	$ 188,430	2.8%	$ 2,899,897	3.7%	+ 43.5%	$ 270,788	3.3%	+ 43.7%
Other services, except government	$ 1,157,999	1.8%	$ 122,292	1.8%	$ 1,439,152	1.9%	+ 24.3%	$ 137,707	1.7%	+ 12.6%
Government	$ 7,518,973	11.7%	$ 938,475	13.8%	$ 8,912,091	11.5%	+ 18.5%	$1,079,184	13.3%	+ 15.0%
TOTAL	$64,091,532		$6,796,706		$77,444,234			$8,087,232		

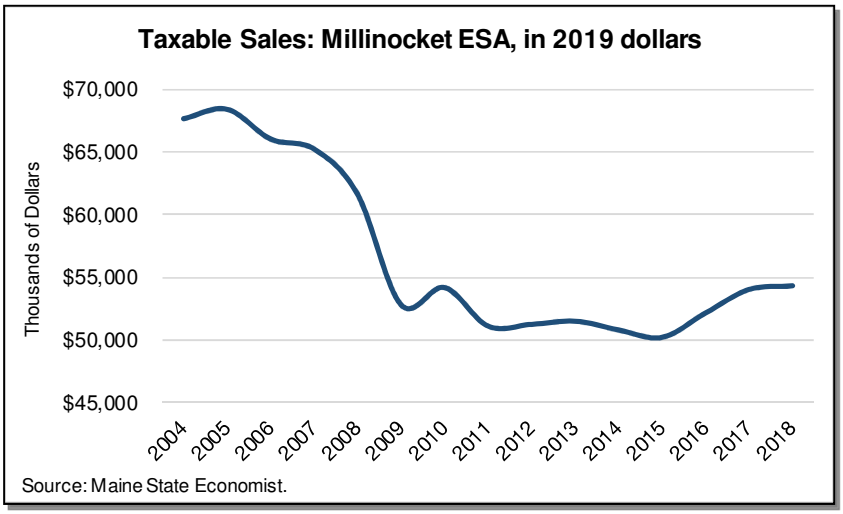
Source: US Bureau of Economic Analysis.

Taxable Sales

Fluctuations in economic activity can be seen in the increases and decreases of sales tax revenues. In 2007, the State of Maine saw sales tax revenues of approximately $21.6 billion. During the most recent recession, that figure dropped to just over 19 billion – a decrease of roughly 11%. By 2015, however, sales tax revenues for the state recovered and eclipsed pre-recession levels. The Millinocket Economic Summary Area (ESA)[1] experienced a similar downturn, reducing revenues from $65.5 million in 2007 to $52.8 million in 2009 – a decrease of 19%. The recovery from this downturn, however, was complicated by the closure of mills in Millinocket and East Millinocket. When adjusted for inflation, the Katahdin region has seen flat sales tax revenues. It is worth noting that during this same period, the region also saw a decrease in population. When adjusted for relative population levels, this relative lack of growth is less pronounced. Using ACS 5-Year estimates for the population of the Millinocket ESA, the total *per person* taxable sales for the years 2009 through 2018 evidences a recovery while still lagging the state significantly.

[1] Sales tax revenues are aggregated to the ESA to increase sampling accuracy. The Millinocket ESA includes Millinocket, East Millinocket, Medway, Grindstone, West Seboeis, and Woodville.





Population-Adjusted Annual Sales Tax Revenues

		2009	2010	2011	2012	2013
Total Sales Tax	Maine	$ 19,182,019	$ 19,394,749	$ 19,456,520	$ 19,643,469	$ 20,168,385
	Mill. ESA	$ 52,813	$ 54,196	$ 51,117	$ 51,258	$ 51,509
Population Est	Maine	1,316,380	1,327,665	1,328,543	1,329,084	1,328,320
	Mill. ESA	8,787	8,553	8,538	8,331	8,078
Per Person Tax Revenue	Maine	$ 14.57	$ 14.61	$ 14.65	$ 14.78	$ 15.18
	Mill. ESA	$ 6.01	$ 6.34	$ 5.99	$ 6.15	$ 6.38

		2014	2015	2016	2017	2018
Total Sales Tax	Maine	$ 20,598,829	$ 21,584,863	$ 22,840,814	$ 23,477,342	$ 24,405,608
	Mill. ESA	$ 50,814	$ 50,217	$ 52,158	$ 54,038	$ 54,329
Population Est	Maine	1,328,535	1,329,100	1,329,923	1,330,158	1,332,813
	Mill. ESA	8,053	8,082	7,926	7,955	7,887
Per Person Tax Revenue	Maine	$ 15.50	$ 16.24	$ 17.17	$ 17.65	$ 18.31
	Mill. ESA	$ 6.31	$ 6.21	$ 6.58	$ 6.79	$ 6.89

Source: Maine State Economist, ACS 5-Year Estimates. Values in 1,000's of 2019 dollars.

Seasonal fluctuations in sales tax revenues are also an important feature of the economy. Average quarterly figures show a very strong July-August-September, coinciding with summer and early-autumn tourism, as well as a weak January-February-March, coinciding with winter.

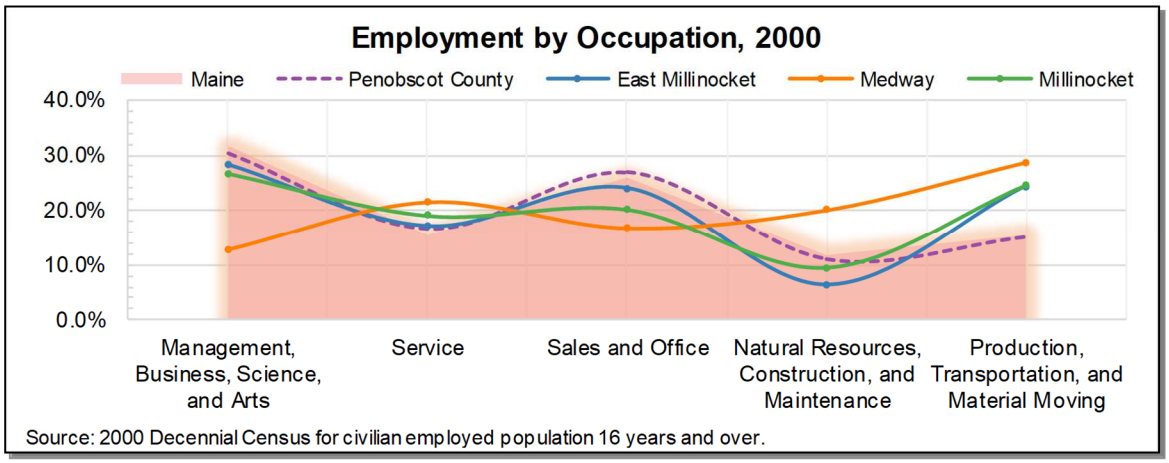
Average Quarterly Taxable Sales: Millinocket ESA, in 2019 dollars.								
	Q1		Q2		Q3		Q4	
	Total	%	Total	%	Total	%	Total	%
Total	$ 10,612,205		$ 12,601,465		$ 16,304,694		$ 12,612,132	
Personal	$ 9,188,882	86.6%	$ 11,398,632	90.5%	$ 15,404,818	94.5%	$ 11,242,406	89.1%
Business Op	$ 1,338,733	12.6%	$ 1,203,299	9.5%	$ 1,128,395	6.9%	$ 1,447,884	11.5%
Building	$ 962,730	9.1%	$ 1,584,106	12.6%	$ 1,841,475	11.3%	$ 1,992,870	15.8%
Food Store	$ 3,104,662	29.3%	$ 3,704,841	29.4%	$ 4,293,947	26.3%	$ 3,509,938	27.8%
General	$ 483,273	4.6%	$ 652,026	5.2%	$ 902,173	5.5%	$ 656,446	5.2%
Other	$ 594,706	5.6%	$ 787,580	6.2%	$ 784,645	4.8%	$ 905,824	7.2%
Auto Trans	$ 1,760,634	16.6%	$ 2,432,762	19.3%	$ 2,236,962	13.7%	$ 2,115,007	16.8%
Restaurant	$ 1,717,804	16.2%	$ 1,888,555	15.0%	$ 2,967,814	18.2%	$ 1,784,912	14.2%
Lodging	$ 584,410	5.5%	$ 653,558	5.2%	$ 2,104,647	12.9%	$ 580,873	4.6%
Rest and Lodg	$ 2,302,214	21.7%	$ 2,542,114	20.2%	$ 5,072,460	31.1%	$ 2,365,785	18.8%

Source: Maine State Economist. Averages for Q1-2013 through Q3-2019.

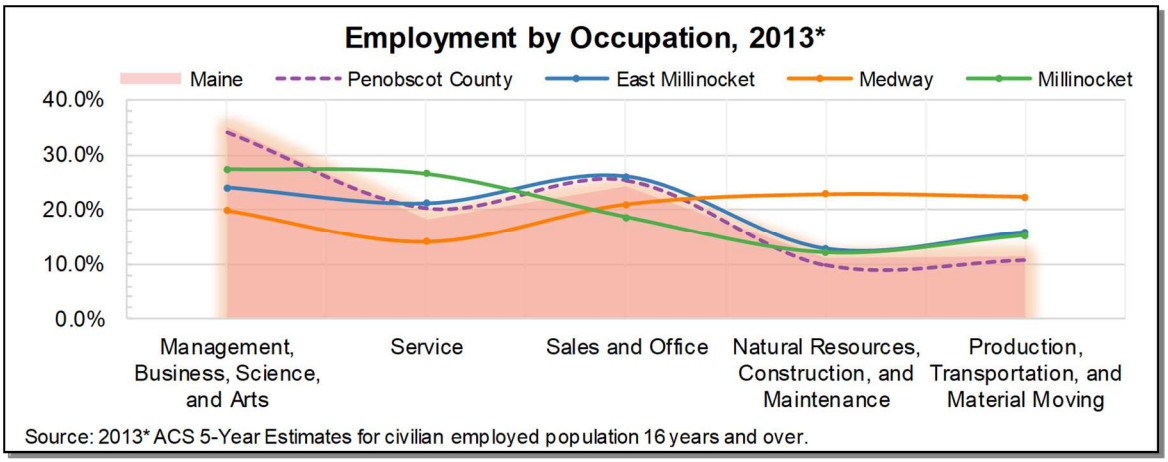
Employment by Occupation

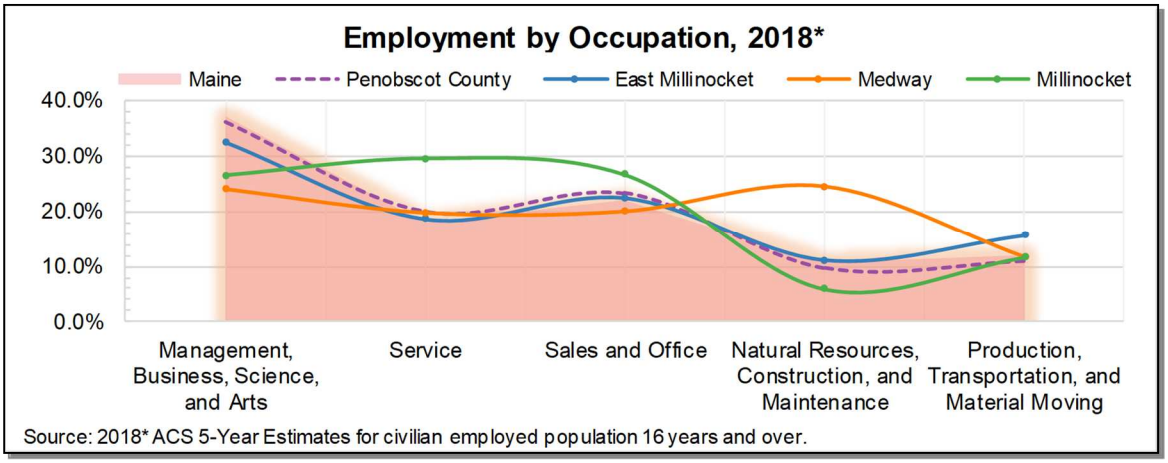
Along with the closure of the mills, there has been a noted decrease in the proportion of production, transportation, and materials-related employment. Since the 2000 census, the region as a whole went from 25.3% of employment based in the Production, Transportation, and Material Moving sector, down to just 12.5% in the 2018 ACS estimates – a decrease of nearly 60%. The enormity of this transition cannot be emphasized enough as it has sparked shifts not only in the economic stability of the region, but also marks a cultural shift away from a long history of manufacturing.

Interestingly, the towns of Medway and Millinocket have diverged from East Millinocket, emphasizing Natural Resources, Construction, and Maintenance as well as Service and Sales, respectively.



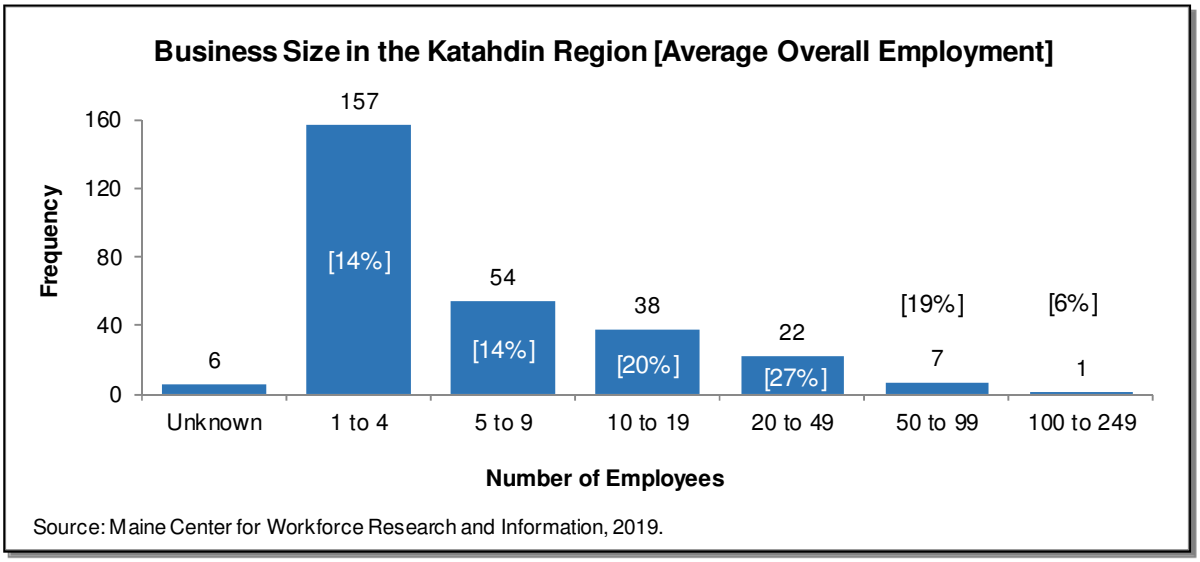
Source: 2000 Decennial Census for civilian employed population 16 years and over.





Major Employers – Katahdin Region

In line with trends in the State of Maine, the Katahdin region has an abundance of small businesses – 55% of businesses in Millinocket, East Millinocket, and Medway employ between one and four people. However, these very small businesses account for an average of 14% of total employment.



Top 30 Employers in the Katahdin Region			
Employer Name	**City**	**# Employees**	**Description**
Community Pool	East Millinocket	20 to 49	Fitness and recreational sports center
East Branch Snow Rovers	Medway	20 to 49	Civic and social organization
Eastmill Federal Credit Union	East Millinocket	20 to 49	Credit union
Ellis Family Shop & Save	East Millinocket	20 to 49	Supermarket and grocery store
Schenck High School	East Millinocket	20 to 49	Secondary school
Medway Middle School	Medway	20 to 49	Middle school
Scotts Co	Medway	20 to 49	Farm supply and merchant wholesale
Timberland Trucking	Medway	20 to 49	Specialized trucking
Wings For Children & Families	Medway	20 to 49	Psychiatric and substance abuse hospital
New England Outdoor Ctr	Millinocket	20 to 49	Boat dealer
River Driver's Rstrnt & Pub	Millinocket	20 to 49	Full-service restaurant
Stearns High School	Millinocket	20 to 49	Secondary school
Three Rivers White Water	Millinocket	20 to 49	Sports and recreation instruction
Katahdin Federal Credit Union	Millinocket	20 to 49	Credit union
Loose Moose Bar & Grille	Millinocket	20 to 49	Full-service restaurant
Mc Donald's	Millinocket	20 to 49	Limited-service restaurant
Millinocket Fabrication & Mach	Millinocket	20 to 49	Machine shop
Millinocket Irving Mainway	Millinocket	20 to 49	Convenience store
Millinocket Middle School	Millinocket	20 to 49	Middle school
Big Moose Inn	Millinocket	20 to 49	Bed-and-breakfast inn
Fredericka's Restaurant	Millinocket	20 to 49	Full-service restaurant
Jump & Raft	Millinocket	50 to 99	Sports and recreation instruction
KFI	Millinocket	50 to 99	Vocational and rehabilitation services
Katahdin Health Care	Millinocket	50 to 99	Nursin care facility
Baxter State Park	Millinocket	50 to 99	Nature park
Gerald Pelletier Inc	Millinocket	50 to 99	Logging
Granite St School	Millinocket	50 to 99	Elementary school
Hannaford Supermarket	Millinocket	50 to 99	Supermarket and grocery store
Recreation Department	East Millinocket	100 to 249	Recreation and administration
Millinocket Regional Hospital	Millinocket	100 to 249	General medical and surgical hospital

Source: Maine Center for Workforce Research and Information, 2019.

Economic Development

Current and Developing Projects

Millinocket

Wastewater System

In 2016, the town replaced the 40-year-old Caterpillar generator set at the Pines Lift Station with a new Onan Cummins generator. The town is in the process of replacing the main generator at their Wastewater Treatment plant. The State Streets Upgrade Project is a two-phase project to replace 2,000 feet of sewer pipe on Minuteman Drive. Phase one was completed by T. Buck Construction Co. in 2018. In the summer of 2019, phase two of the project was started by Northeast Paving Co. Construction and began at the intersection of Cottage Road and New York St. The rest of the project is projected to be finished in the summer of 2021, which is the remainder of New York St., the length of New Jersey St., and a section of Massachusetts Ave between New York St. and New Jersey St. The Elm and Bates Streets Sewer Upgrade Project will go out to bid in January of 2021. This is a grant-funded project from the Community Development Block Grant Program. Olver Associates Engineering Co. is in the survey and design phase of upgrading the Maine Pump Station on York St. extension. The last time the pump station was upgraded was in 1993. This upgrade will be completed when funding is available in the near future.

Snow Removal Equipment (SRE) Building

Working with Maine Department of Transportation, Millinocket has made safety and infrastructure improvements to the Millinocket Municipal Airport. In 2019, construction of a snow removal equipment building was completed. In 2020, the town purchased a new carrier vehicle snow blower unit to add to its list of existing snow removal equipment. A wildlife hazard visit was part of the same grant as the new carrier vehicle. The town's other current snow removal equipment consists of a 1994 International Wheeler plow truck, a 1994 Dresser front end loader with a bucket and snow blower attachment, a 2002 GMC 2500 ¾ ton pickup truck with v-plow, a 2020 John Deere rider mower, and a 2021 Larue T80 carrier vehicle snow blower.

Tourism and Recreation

Millinocket has an expanding economic base in tourism and recreation. The annual Millinocket Marathon and Half (December) and the Century Bike Event (June) continue to have increased participation, with 1,155 runners in the 2017 marathon and 83 riders in the bike event.

East Millinocket

Ellis Family Market

In 2014, the Ellis Brothers – Jon and Peter Ellis, sons of founders Lou and Al Ellis – purchased the former Loundsbury's Shop 'n' Save in East Millinocket. This store is the second Ellis Family Market, which has operated a grocery store in Patten, Maine, since 1983. The Ellis Brothers expanded the former store, almost doubling it in the fall of 2015 to accommodate increased residential and tourist demand.

Town Swimming Pool Renovations

In January of 2018, the Gloria C. MacKenzie Foundation, Inc. announced that it would award a total of $922,562 dollars in a series of 28 grants towards projects from across the State. The MacKenzie Foundation is a private foundation established in 2013 to help fund efforts in education and economic opportunities for public development in the State of Maine.

ATV Rescue Services

The Town of East Millinocket received a grant worth $122,000 for the purchase of an ATV Rescue vehicle for the Fire Department and funding to assist ongoing efforts to renovate the local pool.

Wastewater System

In May of 2018, the United States Department of Agriculture (USDA) Rural Development announced a $2.27 million dollar investment in the Town of East Millinocket through Rural Development Water and Wastewater Loan and Grant funds. The project was previously awarded a $3.5 million dollar grant and a $3.65 million dollar loan towards the project. The federal funding is set to complete upgrades to the Town's Waste Water Treatment Facility, which serves roughly 737 residents, 28 commercial and 7 government customers.

Millinocket Regional Hospital Walk-In Care

In 2017, the Millinocket Regional Hospital completed renovations on their Walk-in Care located at 87 Main Street, formerly Bangor Savings Bank. A vacant commercial space at the corner of Main and Birch Streets near the Walk-in Care building was demolished to enhance the area. The Walk-In Care Center in East Millinocket continues to serve patients with non-emergent out-patient healthcare needs (typically referred to as "episodic care"). The facility also has been designated as the location for the vast majority of out-patient COVID-19 testing services. In 2020, a special isolated room with its own entrance and exit, and negative air pressure was built to ensure the safety of patients and staff while conducting COVID-19 specimen collection (nasal swabbing). The new room inhibits viral spread between patients as air is continually exhausted during testing. Regular Walk-In Care patients are served in a separate part of the facility apart from the COVID testing area.

Other

The East Millinocket Federal Credit Union recently completed their renovations in 2015 to add drive-through services to motorists. The Family Dollar store was constructed in 2016. This new retail store brought some much needed retail opportunities to the area. NAPA Auto Parts expanded their commercial space at their current location on Main Street in 2017. In addition, Crandall's Hardware completed renovations to their building and business in 2010 with back storage added in 2018.

Medway

Scott's Company

Scotts Miracle-Gro Company, a wholesale farming supply company, recently replaced their dye system and added two new lines to their inventory. In addition, they have expanded their buildings to increase storage capacity.

Medway Playground Renovations

Starting in 2017, Medway began renovations to the town's playground. The renovations were funded by a $200,000 grant with a contribution of $20,000 from the Town of Medway, as well as an $80,000 grant from The McKenzie Foundation. The renovations included all new grade, fill, and replacement of the playground base and equipment. Crews removed the tennis courts and created a paved parking lot. The funds also allowed for the replacement of the ballfield shed and fence. The project was completed in 2019.

Future Opportunity

The Katahdin region communities intend to utilize all state, regional, and local programs that provide resources and benefits to economic development. Tax incentives, payment in lieu of taxes (PILT), and our designation as a Pine Tree Development Zone (PTZ) will also enhance the new designation as opportunity zones, bringing economic revitalization and opportunity to the region.

Opportunity Zones

Under the Tax Cuts and Jobs Act of 2017, Maine Governor Paul LePage designated East Millinocket and Millinocket as *Opportunity Zones*. These zones are part of a federal economic development program that encourages investments in low-income areas by offering tax deferral for capital gains reinvested in Opportunity Zone businesses and a permanent exclusion for gains from the investment.

Industrial Parks

The region has numerous industrial parks, a capable workforce, and a career center located in East Millinocket that can help train employees for high tech jobs of the future. The region also features high quality of life, a fantastic school system, and low crime rates making the Katahdin region an ideal area to locate or relocate new or existing business.

Millinocket

Great Northern Paper Mill Site

This Millinocket mill completely stopped operations in 2011, leading to a decline in high wage jobs, hundreds of unemployed residents, an increase in the town's mill rate, and an outmigration of population. The site is situated on 1,400 acres of land with 400 acres classified as contaminated brownfields and 1,000 acres of undeveloped green space. Assets remaining at the former mill site include:

- A major thoroughfare into and out of the mill – Golden Road – a 96-mile private road built by Great Northern Paper that stretches from the St. Zacharie border crossing to the terminus at the mill site;
- Roads and wood yard infrastructure designed for traffic flow and wood yard management;
- A 32-megawatt hydropower-generating facility that dramatically reduces the cost of power.
- Buildings remaining on the site are the Administration Building, Engineer and Research Building, Number 11, Plant Engineering, Store Room, and Warehouse Seven.

The mill site was purchased in 2017 by Our Katahdin who intended to develop the site into a multi-tenant industrial park, hosting both traditional and innovative forest products businesses such as cross-laminated timber (CLT) manufacturing, bio-refining, and nano-cellulose production. The site is also of interest to potential tenants in the aquaculture, food production, and data center industries. A recent Economic Development Administration (EDA) investment of $5.3 million will help facilitate

infrastructure improvements to roads, water and wastewater systems, power, rail, and the installation of truck scales. This funding is supplemented by additional funds for EPA brownfields rehabilitation, expansion of broadband capacity, and construction investments to house new business tenants.

Huber Forest Products and Technology Park

The Huber Forest Products and Industrial Park is a property located on the east end of Millinocket on 308 acres across eight lots, with individual parcels ranging in size from 12.1 acres to 63.2 acres. Huber Resources Corp and the currently inactive Gardner Chip mill share one lot. The Town's goal is to attract new tenants to fill these sites.

East Millinocket

Great Northern Paper Mill Site

The Town of East Millinocket was the home of a second facility operated by Great Northern paper. This 214-acre former paper mill is located on Route 157/ Main Street along the West Branch of the Penobscot River. This property is undergoing demolition of older buildings with hopes to retain several other buildings that will be converted to other industrial uses. The Town of East Millinocket purchased this site in July of 2020 and is working with others to seek out alternative industrial developers to use these buildings. In addition, the town formed East Millinocket Industrials, LLC, and a new entity that is performing work related to the purchase of the mill. The newly formed Katahdin Region Development Board and its Executive Director will work to enhance opportunities for this former mill site.

Katahdin Regional Industrial Park

The Katahdin Regional Industrial Park, constructed in 1990, is located in East Millinocket along Route 157, three miles from I-95 Medway interchange and 6 miles from Millinocket Regional Airport. This 68-acre park has 22 lots ranging in size from one acre to over 6 acres. Each site is serviced by town water, sewer, three-phase power, telephone, and has access to the Three Ring Binder Broadband fiber optic network. Several sites have access to Canadian Pacific lines. In addition, the park has a facility built specifically to provide workforce training and entrepreneurial services.

Coworking Spaces

230 Penobscot Avenue, Millinocket

Our Katahdin purchased the Miller's building, a former department store which closed in 2008. Our Katahdin has been awarded an EPA cleanup grant to begin renovations to reuse it as a co-working space, supporting new entrepreneurs, innovation, and small business growth. With funds from Eastern Maine Development Corporation and additional EDA investment, a consultant will be engaged to help with space design, development of a business plan, best practices research, and creation of a strategic plan for build out and operations. This space is being connected with high-speed broadband technology to support enhanced communications and tech-based businesses. Launching of the co-working space is scheduled for 2020.

Other

Millinocket

In addition to the projects named, Millinocket will continue to pursue other economic development projects that can spur economic growth and vitality. The Solar Farm located near the Town's wastewater treatment plant has the potential to provide energy- and cost-efficient power for the plant and the Town's Transfer Site.

East Millinocket

The Town has a growing animal day-care facility, Katahdin Kritters, located at the Katahdin Regional Industrial Park. This facility serves residential pet care needs and provides day care for pets of travelers who intend to visit Baxter State Park. The park has pet restrictions and this day care facility offers a solution to those who wish to bring their pets along on vacation.

Medway

Medway has secured a contract with Katahdin Communications for the installation and operation of a communications tower in anticipation of future broadband communications opportunities.

Region

The region is also looking to expand broadband capacity to support increased business activity including home-based businesses. Currently, there is consideration of a broadband utility between the towns of Millinocket, East Millinocket, and Medway with grant support from the Northern Border Regional Commission and USDA Rural Developments Community Connector program. The addition of broadband would create the opportunity for remote workers to reside within a small, hometown community and still provide a secure income and future for growing families. This is made possible by the creation of the Three Ring Binder network of high-speed fiber optic cable, interconnecting Maine communities to the US and Canada. The Katahdin Regional Broadband Board leads this effort with representatives from the tri-towns.

Strategies and Policies

In order to promote an economic climate that increases job opportunities and overall economic well-being, the Katahdin region has developed policies and implementation strategies for their respective towns in addition to the following state policies and strategies.

State of Maine

Policies:

Minimum policies required to address state goals:

1. To support the type of economic development activity the communities desire, reflecting their role in the region.
2. To make a financial commitment, if necessary, to support desired economic development, including needed public improvements.
3. To coordinate with regional development corporations and surrounding towns as necessary to support desired economic development.

Strategies:

Minimum strategies to meet state goals:

1. If appropriate, assign responsibility and provide financial support for economic development activities to the proper entity (e.g., a local economic development committee, a local representative to a regional economic development organization, the community's economic development director, a regional economic development initiative, or other).
2. Enact or amend local ordinances to reflect the desired scale, design, intensity, and location of future economic development.
3. If public investments are foreseen to support economic development, identify the mechanisms to be considered to finance them (local tax dollars, creating a tax increment financing district, a Community Development Block Grant or other grants, bonding, impact fees, etc.)
4. Participate in any regional economic development planning efforts.

Time Frame: Ongoing

Responsible Agent(s): State of Maine, East Millinocket, Millinocket, Medway

Local

Millinocket

1. **Policy:** The town will further refine the already established areas best suited for development.
   Strategies: The town will update their land use ordinance to be consistent with the updated comprehensive plan. This action will continue to reduce the likelihood of incompatible uses, will channel growth into appropriate locations within the town, and will retain the quality of life to which Millinocket residents have become accustomed. Furthermore, the town will consider adding language to their land use ordinance that incorporates voluntary design criteria compliance in an effort to make the town more aesthetically pleasing.
   Time Frame: Ongoing
   Responsible Agent(s): Town Manager, Planning Board, and Town Council

2. **Policy:** The town will encourage labor force training.
   Strategies: The town recognizes the importance of adequate training for the creation and maintenance of a healthy and competitive workforce. The town also recognizes regional education assets such as adult education, vocational schools, community colleges, graduate and undergraduate programs, the Katahdin Regional Higher Education Center (KRHEC), Literacy Volunteers, SCORE, job-training programs, and federal training programs. Program information will be made available at the town hall in the form of brochures and catalogues.
   Time Frame: Ongoing
   Responsible Agent(s): Town Manager, Town Council, and KRHEC

3. **Policy:** The town will pursue grants and investments to fund the needs of the town as well as our partners in business or non-profit sectors.
   Strategies: The towns will continue to contact the applicable state and federal agencies to solicit information regarding block grants and other revenue sources. A review of the needs of existing and potential uses will be conducted to match those needs with potential funding sources. The town will evaluate the potential for the establishment of a Katahdin Investment Fund. This investment fund would be used as a potential resource for access to capital for town and business development projects.
   Time Frame: Ongoing
   Responsible Agent(s): Town Manager and Town Council

4. **Policy:** The town will seek ways to diversify the local economy.
   Strategies: Options for diversifying the local economy range from annexing new lands adjacent to Millinocket, to encouraging individuals to undertake new business ventures or to expand home occupations. Home occupation performance standards will continue to be included in the land use ordinance to ensure compatibility with residential neighborhoods and adjacent properties. Home occupations will continue to be allowed in various locations throughout the community.
   Time Frame: Ongoing
   Responsible Agent(s): Code Enforcement Officer, Planning Board, Town Manager, and Town Council

5. **Policy:** The town will promote community awareness and community pride.

Strategies: The town will continue to promote community and Katahdin pride by working with the school system to develop programming to educate students about the town's history and by continuing to participate with the regional efforts of Our Katahdin and the Katahdin Chamber of Commerce.
Time Frame: Ongoing
Responsible Agent(s): Town Manager, Town Council, School Department, Our Katahdin, and Katahdin Chamber of Commerce

6. **Policy:** The town will promote regional cooperation.
   Strategies: On a regional level, the town will continue to work with nearby towns on economic development to promote regional marketing. A plan to combine all economic development efforts in the region will be considered, including the sharing of tax revenues. The host community would receive the largest percentage of the revenue with the remainder being split between the other participating communities. This initiative will help to instill Katahdin Pride as outlined in Policy #5 and will foster cooperation across the region by removing the economic development competition between communities while encouraging optimism and open-mindedness. Representatives from the town will continue to work with adjacent communities for a joint approach to policing, transportation, recreational bike paths, solid waste, land use planning and other pertinent issues as they may rise.
   Time Frame: Ongoing
   Responsible Agent(s): Town Manager, Planning Board, Town Council, and Recreation Advisory Committee

7. **Policy:** The town will encourage a diversified economic base.
   Strategies: Interested parties will be sought to invest in the region to expand recreational opportunities. The town will implement the recommendations contained in the airport master plan, which will strengthen the airport's opportunities for future growth and expanded services. The town will continue to secure a Pine Tree Development Zone, which will further diversify the community's economic base. The Planning Board will work with potential developers to ensure that the process is conducted in a timely manner and that town regulation and ordinances are followed. Natural resources based tenants will be welcomed within the community and encouraged to locate to the Huber Industrial Park.
   Time Frame: Ongoing
   Responsible Agent(s): Town Manager, Town Council, and Planning Board.

East Millinocket

1. **Policy:** To diversify manufacturing and technology based industry.
   Strategies: To increase broadband accessibility and to secure and improve industrial properties for manufacturing or industrial reuse.
   Time Frame: Within 2 years
   Responsible Agent(s): Administrative Assistant, Board of Selectmen, Broadband Utility, and East Millinocket Industrials, LLC, Katahdin Region Development Board

2. **Policy:** The town will continue to keep current ordinances and policies.
   Strategies: The town will update their land use ordinance to be consistent with the updated comprehensive plan. This action will continue to reduce the likelihood of incompatible uses, will channel growth into the appropriate locations within the town, will bring clarity to developers as they work to comply with local ordinances, and will improve the aesthetics of the community. **Time Frame:** Ongoing

Responsible Agent(s): Administrative Assistant, Planning Board, Board of Selectmen

3. **Policy:** The town will encourage labor force training (attraction and retention).
Strategies: The town recognizes the importance of adequate training for creation and maintenance of a healthy and competitive workforce. The town also recognizes that adult education, vocational schools, community colleges' graduate and undergraduate programs, Katahdin Higher Education Center (KHEC), Literacy Volunteers, SCORE, job training programs, and other federal programs in the area are an asset to the entire region. Program information will be made available at the town hall in the form of brochures and catalogues.
Time Frame: Ongoing
Responsible Agent(s): Administrative Assistant, Board of Selectmen, School Board and other Boards

4. **Policy:** The town will pursue grants to fund the needs of the town.
Strategies: The towns will continue to contact the applicable state and federal agencies to solicit information regarding block grants and other revenue sources for improvements to the town. A review of the needs of existing and potential uses will be conducted to match the needs with potential funding sources. Once the information has been gathered, procurement of the funds will be pursued.
Time Frame: Ongoing
Responsible Agent(s): Administrative Assistant and Board of Selectmen

5. **Policy:** The town will seek ways to diversify the local economy.
Strategies: Options for diversifying the local economy will be a focus for development at the former mill site and the industrial park. The Town will work with local and new businesses to assist them in expansion or new entrepreneurial developments. The Town will provide outreach to organize discussions with existing business owners to develop a plan for success.
Time Frame: Ongoing
Responsible Agent(s): Administrative Assistant and Board of Selectmen

6. **Policy:** The town will promote regional cooperation.
Strategies: On a regional level, the town will continue to work with near-by-towns on economic development to promote regional marketing. A plan to combine all economic development efforts in the region will be considered. Representatives from the town will continue to work with adjacent communities for joint solutions to issues and opportunities as they arise.
Time Frame: Ongoing
Responsible Agent(s): Administrative Assistant and Board of Selectmen

7. **Policy:** The town will encourage a diversified economic base.
Strategies: The town will continue to work to bolster the industrial and retail community and to promote the community as a four-season community. Interested parties will be sought to invest in the region to expand industrial, business, tourist and service related opportunities. The Planning Board will work with potential developers to ensure that the process is conducted in a timely manner and that town regulation and ordinances are followed.
Time Frame: Ongoing
Responsible Agent(s): Administrative Assistant and Board of Selectmen and Planning Board

1. **Policy:** To establish areas best suited for economic, housing and recreational development.
   Strategies: To define and zone future identified prime industrial, commercial, housing and recreational properties.
   Time Frame: Ongoing
   Responsible Agent(s): Administrative Assistant, Board of Selectmen, Medway Planning Board and Code Enforcement

2. **Policy:** The town will encourage a diversified economic base.
   Strategies: The town will continue to work with local large landowners to bolster the industrial and retail community and to promote the community as a four-season recreational community. Interested parties will be sought to invest in the region to expand industrial, business, tourist and service related opportunities, taking full advantage of future broadband, and establishing Pine Tree Development Zone. The Planning Board will work with potential developers to ensure that the process is conducted in a timely manner and that town regulation and ordinances are followed.
   Time Frame: Ongoing
   Responsible Agent(s): Administrative Assistant and Board of Selectmen and Planning Board and Code Enforcement

3. **Policy:** The town will continue to keep current ordinances and policies; to update outdated and create new as needed.
   Strategies: The town will update their land use ordinance to be consistent with the updated comprehensive plan and to continue to create ordinances as necessary for future development and expansion. This action will continue to reduce the likelihood of incompatible uses, will channel growth into the appropriate locations for future zones within the town and to bring clarity to developers as they work to comply with local ordinances and to improve the aesthetics of the community.
   Time Frame: Ongoing
   Responsible Agent(s): Administrative Assistant, Planning Board, Board of Selectmen and Code Enforcement

4. **Policy:** The town will work towards promoting regional cooperation.
   Strategies: On a regional level, the town will continue to work with near-by-towns on economic development to promote regional marketing in collaboration with the Katahdin Regional Economic Development Director. A plan to combine all economic development efforts in the region will be considered. Representatives from the town will continue to work with adjacent communities for joint solutions to issues and opportunities as they arise.
   Time Frame: Ongoing
   Responsible Agent(s): Administrative Assistant, Planning Board, Board of Selectmen and Code Enforcement

5. **Policy:** The town will seek ways to diversify the local economy.
   Strategies: Options for diversifying the local economy will be a focus for development that promote urban development through the opportunity to work from home remotely through broadband access and affording the opportunity to play in your own backyard through park and river access and potential future bike and ATV access. The Town will work with local and new businesses to assist them in expansion or new entrepreneurial developments. The Town

will provide outreach to organize discussions with existing business owners to develop a plan for success.
Time Frame: Ongoing
Responsible Agent(s): Administrative Assistant and Board of Selectmen, Board of Selectmen and Code Enforcement

CHAPTER NINE:
HOUSING

Goals/Vision

State Goal

To encourage and promote affordable, decent housing opportunities for all Maine citizens.

Local Goals

Millinocket

To identify strategies to increase reuse of current properties as housing. To demolish deficient housing so that remaining homes will rise in value and housing will be proportional to population. To evaluate opportunities for new housing – single tenant, multi-tenant, and mixed-use housing – as well as promoting owned and rental units.

East Millinocket

To encourage and promote high quality, affordably owned or rented housing through home improvement programs, façade programs, etcetera. To continue efforts to demolish dilapidated homes, offering land to adjoining homes to increase lot sizes making the properties and the community more aesthetically attractive and thereby increasing overall values. To work towards a cohesive plan of action that will systematically increase the values of homes to meet or exceed state median house values, thereby reducing the overall tax rates for taxpayers in the community.

Medway

To encourage and promote development of opportunities for affordable housing to be owned and rented through available home improvements grants, development programs, etc.

Introduction

Housing is a central aspect to a community's physical, economic, and cultural health and well-being. The age and condition of housing stock has knock-on effects in terms of energy consumption, maintenance costs, and exposure to lead and asbestos. The affordability of housing – in terms of both ownership and rental markets – impacts social services dedicated to preventing homelessness. Seasonal housing can boost a region's economy through tourism and is a cultural mainstay of many Maine communities.

Millinocket and East Millinocket are unusual in that they are considered two examples of "planned" communities. To serve the employees and families of local pulp and paper mills, the Great Northern Paper Company organized the construction of workforce housing. Because Great Northern owned virtually all of the land adjoining their mills, the company was able to control housing growth and land subdivision from the very start. Great Northern restricted the usage of land to residential purposes through deeds and provided minimum house valuation standards. Such conditions helped to assure the adequacy, sturdiness, and harmony of what would become relatively dense, walkable

neighborhood housing. These historic patterns are felt in the grid patterns of these neighborhood areas.

Early settlement in Medway followed the East and West banks of the Penobscot River, the first major thoroughfare for transportation in the region. Today that area is still the most densely developed part of town as both arteries of vehicle transportation run parallel to the river. Medway is considered by many to be a bedroom community to its neighbors, which was especially true when the mills were at their zenith.

The years following World War II saw the Katahdin region's sharpest growth in housing, resulting in over 900 new dwellings in Millinocket, East Millinocket, and Medway. Predictably, Great Northern Paper was expanding its operations and anticipating increased demand.

The geographic size of the towns has also played a role in housing development. Townships in Maine cover an average of 35 square miles, while Millinocket covers 16.0 square miles and East Millinocket covers 7.1 square miles. The limited physical area of these two towns combined with Great Northern Paper Company's planning led to a densely populated urban area in the middle of vast forestlands. However, Medway's ample 41.0 square miles has allowed the local housing market to develop more spread out and sprawling housing and commercial spaces.

Following the retreat of the pulp and paper industry and the subsequent closure of the mills in Millinocket and East Millinocket, the region has seen a slowdown in housing growth commensurate with a decline in population. The future of the region's housing is likely to follow the needs of its aging and declining population as well as a shift to service, tourism, and recreation industries.

Housing Inventory

Historic

The following table shows total housing units for the Katahdin region, Penobscot County, and the State of Maine. According to the U.S. Census and ACS estimates for 2018, the Katahdin region had an estimated 4,323 housing units, a growth rate of 2.8% from 2000. During this same period, the population in the region decreased from 8,520 to 7,234, a decrease of 15.1%.

Total Housing Units: 1960 to 2018*

	Maine		Penobscot Cty		E Millinocket		Medway		Millinocket	
	Total	Change	Total	Change	Total	Change	Total	Change	Total	Change
1960	364,617		39,675		611				2,021	
1970	397,169	+8.9%	42,791	+7.9%	692	+13.3%	391		2,301	+13.9%
1980	501,093	+26.2%	49,416	+15.5%	830	+19.9%	590	+50.9%	2,725	+18.4%
1990	587,045	+17.2%	61,359	+24.2%	881	+6.1%	676	+14.6%	2,874	+5.5%
2000	651,901	+11.0%	66,847	+8.9%	877	-0.5%	651	-3.7%	2,679	-6.8%
2010	721,830	+10.7%	73,860	+10.5%	871	-0.7%	658	+1.1%	2,586	-3.5%
2018*	739,077	+2.4%	75,490	+2.2%	895	+2.8%	609	-7.4%	2,819	+9.0%

Source: Decennial Census and 2018* ACS 5-Year Estimates, Maine State Economist.

Current

According to the 2018 ACS 5-Year Estimate, the Katahdin region had 4,323 total housing units, including houses and apartments. Of these, 3,466 – or 80.2% – were occupied. Generally, as the occupancy rate increases, pressures to find available housing also increase. This pressure is often more acute for the rental market where lower income individuals and families often acquire housing. Ideal vacancy rates for rental property range from 7 to 8%, with 12% considered high and 20% or more considered *hyper*-vacancy.[1] Homeowner vacancy rates are considered healthy at much lower levels – 2 to 4%. The Katahdin region is experiencing low rental vacancy rates and an abundance of for-sale housing. The result is a lack of affordable rental housing but an abundance of affordable houses for purchase.

Housing Characteristics, 2018*

	Maine		Penobscot Cty		E Millinocket		Medway		Millinocket	
	Total	%	Total	%	Total	%	Total	%	Total	%
Total Housing Units	**739,077**		**75,490**		**895**		**609**		**2,819**	
Occupied	**556,955**	**75.4%**	**61,578**	**81.6%**	**815**	**91.1%**	**501**	**82.3%**	**2,150**	**76.3%**
Vacant	**182,122**	**24.6%**	**13,912**	**18.4%**	**80**	**8.9%**	**108**	**17.7%**	**669**	**23.7%**
For rent	10,857	6.0%	1,406	10.1%	0	0.0%	4	3.7%	0	0.0%
Rented, not occupied	2,466	1.4%	497	3.6%	0	0.0%	0	0.0%	42	6.3%
For sale only	7,448	4.1%	733	5.3%	16	20.0%	7	6.5%	56	8.4%
Sold, not occupied	2,528	1.4%	232	1.7%	10	12.5%	4	3.7%	0	0.0%
For seasonal, recreational, or occasional use	129,227	71.0%	6,885	49.5%	28	35.0%	37	34.3%	381	57.0%
For migrant workers	237	0.1%	24	0.2%	0	0.0%	0	0.0%	0	0.0%
Other vacant	29,359	16.1%	4,135	29.7%	26	32.5%	56	51.9%	190	28.4%

Source: 2018* ACS 5-Year Estimates.

[1] https://www.citylab.com/equity/2018/07/vacancy-americas-other-housing-crisis/565901/ Accessed January 7, 2020.

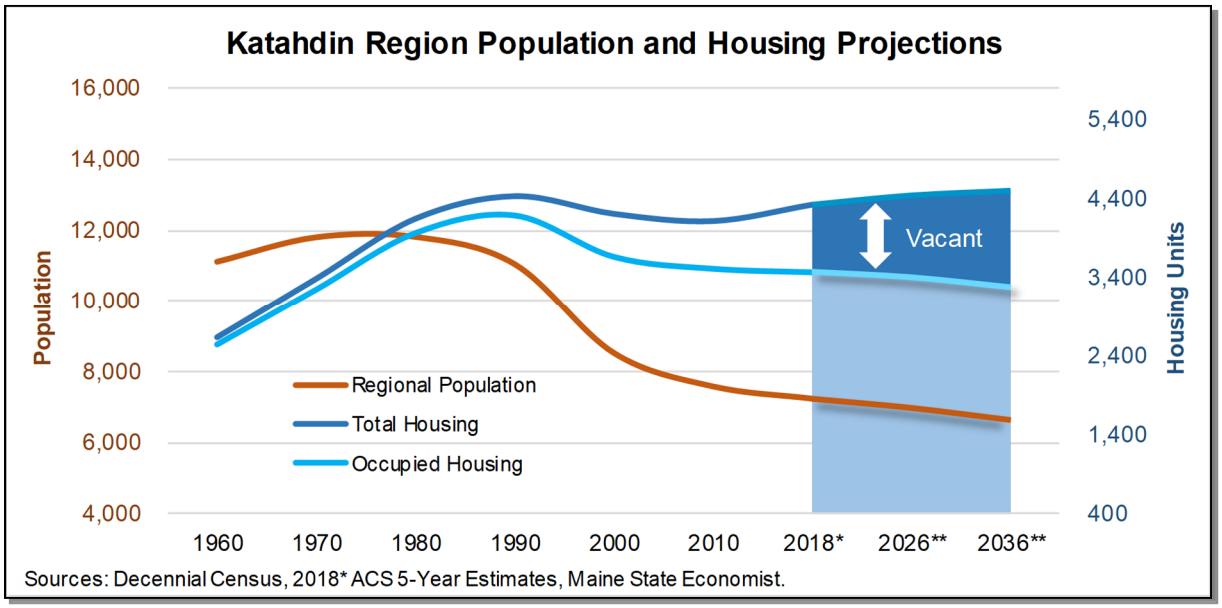
Projected Housing Need

As the demographics of the Katahdin region shift, so too will the overall demand for housing. Embedded in this is the imminent retiring age of the Baby Boomer generation. As individuals leave the job market, income and payroll taxes will decrease. Consequently, as many have invested a significant amount of equity in their homes specifically for retirement, many of these houses will become available with fewer individuals ready to purchase them. The result will be – in most communities in Maine – an overall decrease in the value of homes and an increase in their supply. Conversely, as older individuals leave their single family homes and seek more convenient rental properties, this will increase the price and decrease the availability of rentals.

Estimates for overall housing demand are also complicated by decreasing household sizes, as discussed in Chapter 7: Household Size and Seasonal Population. As fewer individuals occupy more houses, the overall demand for housing increases, but individual expenses for housing also increase. In smaller households, individuals must pay *more* for their own housing than if they commingle their expenses with a family, a partner, or a roommate. Thus, the recent trend of decreasing household size more broadly translates to increasing per capita housing costs.

Finally, as energy prices are expected to increase in the future, so too will home heating costs. According to the Maine Housing Authority, Maine has the 8th oldest housing stock in the nation.[1] Nearly 70% of homeowners and 62% of renters heat their homes using heating oil which fluctuates wildly in cost.[2] As the condition of this already marginal housing stock continues to deteriorate, demand will increase for both high quality replacement housing and affordable rehabilitation services.

Following recent trends in population and housing, the Katahdin region will likely see an increase in overall housing to accommodate seasonal needs, while the number of occupied housing units will decrease following population trends.



[1] https://www.mainehousing.org/docs/default-source/policy-research/Federal-Funds/analysis-of-impediments-to-fair-housing.pdf?sfvrsn=34e4a715_9 Accessed January 7, 2020.

[2] As of Fall 2019, the cost per million BTU of home heating oil is $19.04, compared to cord wood at $12.50, wood pellets at $16.24, natural gas at $12.01, kerosene at $23.78, and electricity at $46.31, according to the Maine Office of Energy.

Housing Affordability

Housing affordability depends on a number of variables including market price, cost of living, and income levels. Generally, housing is considered affordable at 30% of household income.[1] According to the Maine Housing Authority, in 2017, over 50% of houses sold in Maine were considered unaffordable, while the Millinocket Labor Market Area (LMA)[2] boasts a rate of only 20%. Similarly, rental costs in Maine mean that 59.6% of 2-bedroom apartments are unaffordable, while in the Millinocket LMA over 77% are considered unaffordable. This is reflected in the rates of rental vacancies for the region. Millinocket and East Millinocket have some of the most expensive rental housing in Penobscot County with the average 2-bedroom apartment costs $912 and $1,212 per month, respectively.[3] In these communities, 72.0% of Millinocket residents and 84.5% of East Millinocket residents cannot afford average rental prices.

These trends are reflective of national trends over the last 30 years. National median rent costs rose 20% faster than inflation and median home prices increased 40% faster than inflation over the last 25 years.[4] Among the potential causes for this trend are speculative property investments, restrictive development policies, municipal and state property tax structures, and structural inequality in incentive and reimbursement programs.[5] It is likely that a combination of these phenomena as well as patterns in mobility and preference are the roots for our current housing affordability crisis.

Housing Affordability: 2017

	Median Home Price	Median Income	Income Needed to Afford Median Home Price	Households unable to afford Median Home %	Households unable to afford Median Home Total	Total Households	Hourly Wage to Afford Median Home
Millinocket LMA	$ 55,000	$ 34,976	$ 17,161	20.0%	856	4,286	$ 8.25
Penobscot Cty	$ 139,000	$ 44,806	$ 41,550	47.5%	29,776	62,739	$ 19.98
Maine	$ 197,000	$ 53,190	$ 57,089	54.1%	305,672	565,295	$ 27.45
	Average 2BR Rent incl Utilities	**Renter Household Median Income**	**Income Needed to Afford Average 2BR Rent**	**Households Unable to Afford Avg 2BR Rent %**	**Households Unable to Afford Avg 2BR Rent Total**	**Total Renter Households**	**Hourly Wage to Afford Average 2BR Rent**
Millinocket LMA	$ 1,113	$ 22,859	$ 44,513	77.1%	693	899	$21.40
Penobscot Cty	$ 926	$ 25,849	$ 37,046	64.3%	12,785	19,869	$17.81
Maine	$ 977	$ 30,804	$ 39,093	59.6%	96,448	161,746	$18.79

Source: Maine State Housing Authority.

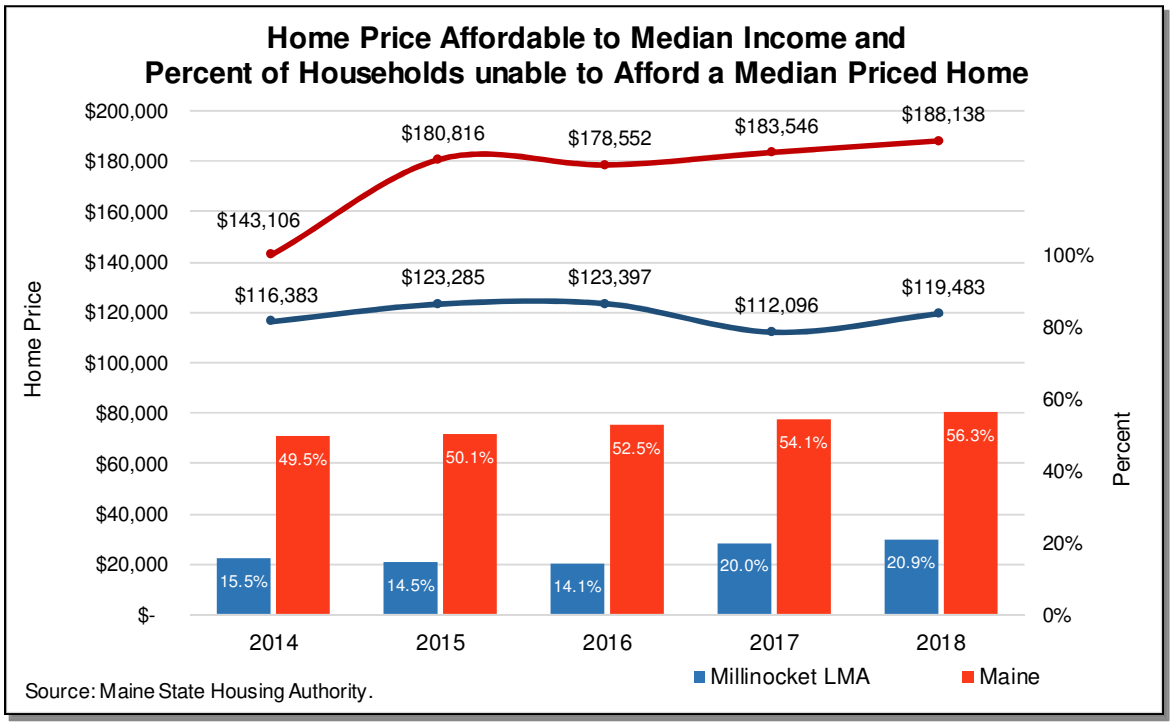
[1] https://www.hud.gov/program_offices/comm_planning/affordablehousing/ Accessed January 7, 2020.

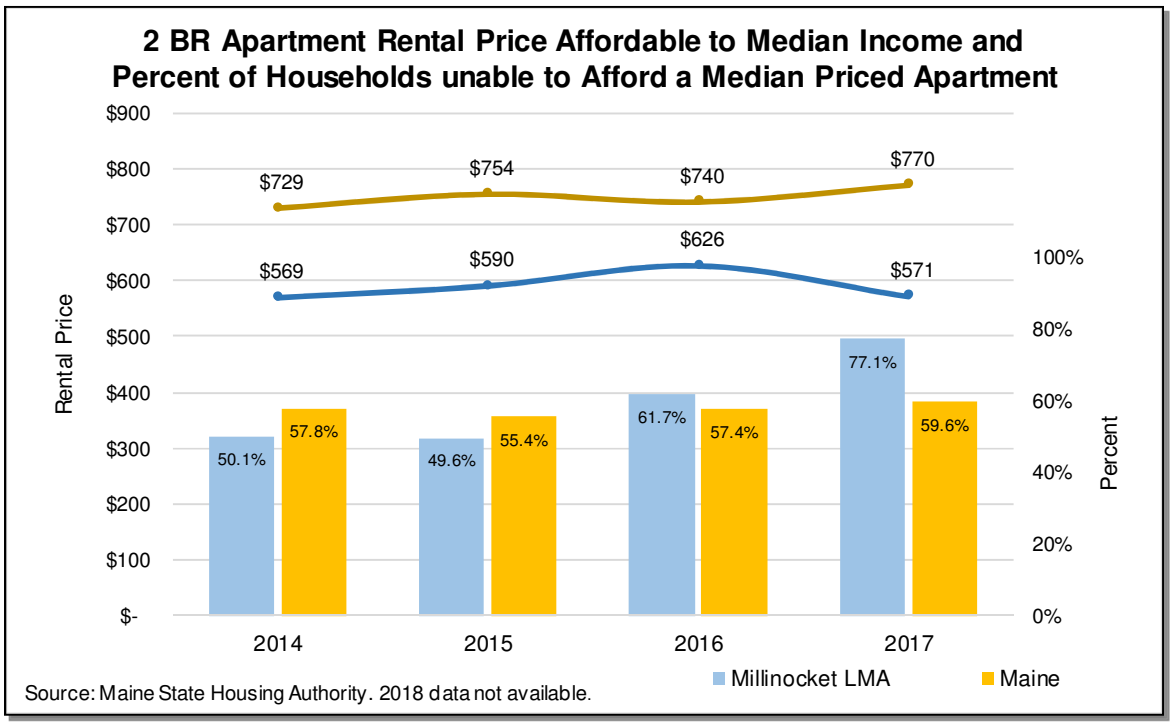
[2] The Millinocket Labor Market Area includes East Millinocket, Glenwood Plantation, Mattawamkeag, Maxfield, Medway, Millinocket, Northeast Piscataquis UT, North Penobscot UT, Seboeis Plantation, South Aroostook UT, and Woodville.

[3] https://www.mainehousing.org/docs/default-source/policy-research/housing-facts/2017/penobscotcounty2017.pdf?sfvrsn=ebf9a015_4 Accessed January 7, 2020.

[4] https://www.jchs.harvard.edu/state-nations-housing-2018. Accessed January 7, 2020.

[5] https://www.brookings.edu/research/whos-to-blame-for-high-housing-costs-its-more-complicated-than-you-think/. Accessed January 21, 2020.

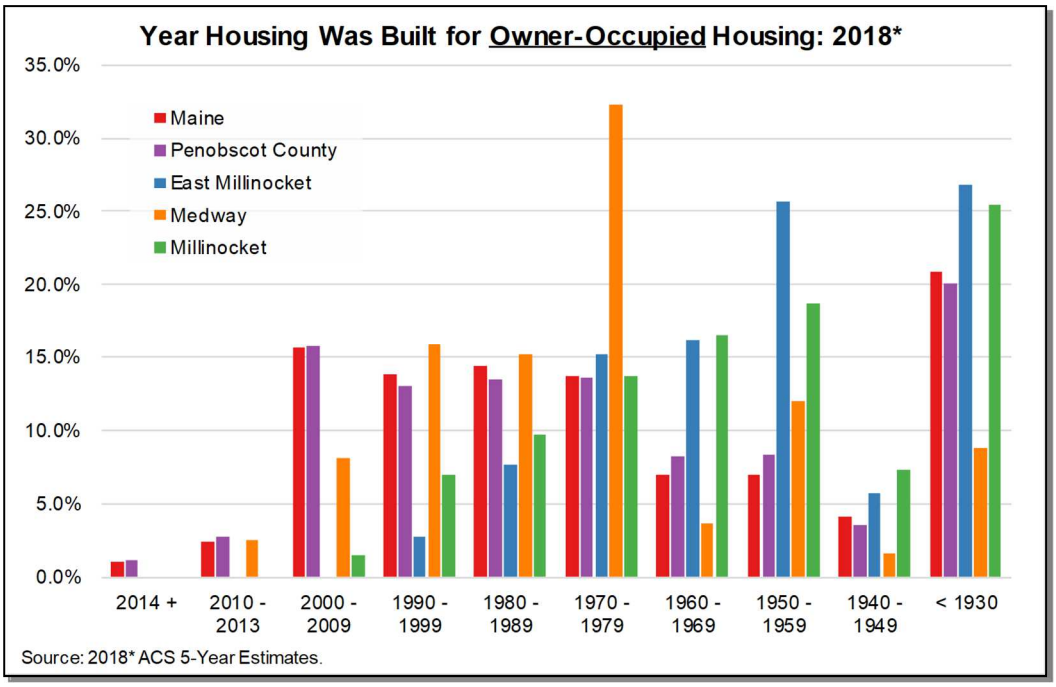

Home Price Affordable to Median Income and
Percent of Households unable to Afford a Median Priced Home
$200,000
$180,000
$160,000
$140,000
$120,000
$100,000
$80,000
$60,000
$40,000
$20,000
$-
Home Price
100%
80%
60%
40%
20%
0%
Percent
$143,106
$180,816
$178,552
$183,546
$188,138
$116,383
$123,285
$123,397
$112,096
$119,483
49.5%
50.1%
52.5%
54.1%
56.3%
15.5%
14.5%
14.1%
20.0%
20.9%
2014
2015
2016
2017
2018
Millinocket LMA
Maine
Source: Maine State Housing Authority.

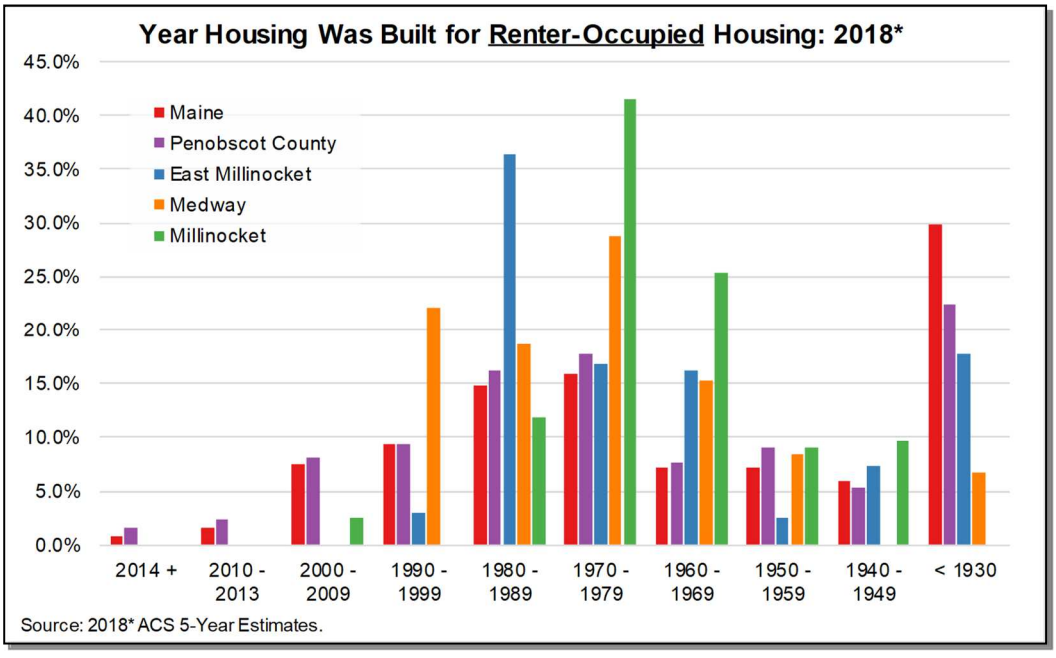

2 BR Apartment Rental Price Affordable to Median Income and
Percent of Households unable to Afford a Median Priced Apartment
$900
$800
$700
$600
$500
$400
$300
$200
$100
$-
Rental Price
100%
80%
60%
40%
20%
0%
Percent
$729
$754
$740
$770
$569
$590
$626
$571
50.1%
57.8%
49.6%
55.4%
61.7%
57.4%
77.1%
59.6%
2014
2015
2016
2017
Millinocket LMA
Maine
Source: Maine State Housing Authority. 2018 data not available.

Occupancy Demographics

Age of Home by Tenure

Maine's housing stock is the eighth oldest in the nation. 20.9% of owner-occupied and 29.8% of renter-occupied housing units were constructed prior to 1939. Millinocket and East Millinocket differ from the state and county in that very few housing units – 5.8% – have been built since 1989, a time when housing starts were booming. Medway, however, has seen the overwhelming majority of owner- and renter-occupied housing built in the 1970s – 31.9%. In fact, more than 73% of housing built in Medway was constructed after 1970.





Homeownership: Families, Non-Families, and Individuals

Home ownership is generally used as an estimate for the overall standard of living in an area. A high rate of owner-occupied housing is typical for Maine. In the 2018 ACS 5-Year Estimate, Maine households were 72.2% owner-occupied and 27.8% renter-occupied. This proportion is roughly similar across all geographies.

2018* Household Type, Average Household Size, and Change from 2000						
	Maine			Penobscot Cty		
	Total	%	Change	Total	%	Change
2018 Population	**1,332,813**		+4.5%	**151,748**		+4.7%
Total Housing Units:	**556,955**		+7.5%	**61,578**		+6.0%
Owner occupied:	**402,119**	**72.2%**	+8.4%	**42,921**	**69.7%**	+5.8%
Family households:	284,686	70.8%	+2.8%	30,502	71.1%	-0.7%
Married-couple family:	239,753	84.2%	+1.2%	25,056	82.1%	-4.3%
Other family:	44,933	15.8%	+12.0%	5,446	17.9%	+20.5%
Nonfamily households:	117,433	29.2%	+25.1%	12,419	28.9%	+26.2%
Renter occupied:	**154,836**	**27.8%**	+5.1%	**18,657**	**30.3%**	+6.4%
Family households:	63,273	40.9%	-0.6%	7,339	39.3%	+3.3%
Married-couple family:	32,650	51.6%	-7.4%	3,464	47.2%	-7.0%
Other family:	30,623	48.4%	+7.8%	3,875	52.8%	+14.6%
Nonfamily households:	91,563	59.1%	+9.5%	11,318	60.7%	+8.4%
Avg Household Size	**2.33**		-2.5%	**2.36**		-0.8%
Owner occupied	**2.44**		-3.9%	**2.49**		-2.7%
Renter occupied	**2.03**		+0.0%	**2.04**		+3.0%

	E Millinocket			Medway			Millinocket		
	Total	%	Change	Total	%	Change	Total	%	Change
2018 Population	**1,762**		-3.6%	**1,158**		-22.2%	**4,314**		-17.1%
Total Housing Units:	**815**		+4.5%	**501**		-14.7%	**2,150**		-6.3%
Owner occupied:	**612**	**75.1%**	+2.9%	**442**	**88.2%**	-11.6%	**1,567**	**72.9%**	-8.5%
Family households:	389	63.6%	-15.8%	326	73.8%	-16.6%	1,039	66.3%	-20.0%
Married-couple family:	319	82.0%	-22.4%	287	88.0%	-17.8%	929	89.4%	-18.2%
Other family:	70	18.0%	+37.3%	39	12.0%	-7.1%	110	10.6%	-32.1%
Nonfamily households:	223	36.4%	+67.7%	116	26.2%	+6.4%	528	33.7%	+27.2%
Renter occupied:	**203**	**24.9%**	+9.7%	**59**	**11.8%**	-32.2%	**583**	**27.1%**	+0.2%
Family households:	80	39.4%	-14.0%	28	47.5%	-40.4%	199	34.1%	-22.9%
Married-couple family:	32	40.0%	-30.4%	15	53.6%	-44.4%	50	25.1%	-65.0%
Other family:	48	60.0%	+2.1%	13	46.4%	-35.0%	149	74.9%	+29.6%
Nonfamily households:	123	60.6%	+33.7%	31	52.5%	-22.5%	384	65.9%	+18.5%
Avg Household Size	**2.14**		-8.5%	**2.31**		-9.1%	**1.98**		-12.0%
Owner occupied	**2.22**		-9.8%	**2.39**		-7.0%	**2.15**		-8.5%
Renter occupied	**1.9**		-4.0%	**1.73**		-26.7%	**1.53**		-21.5%

Source: Decennial Census and 2018* ACS 5-Year Estimates.

Code Enforcement

Building codes are essential for public health and safety, the preservation of our surrounding habitats, and the efficiency and durability of our built environment. These regulations guide the design, construction, repair, alteration, and maintenance of all types of structures. Generally, codes are based on international, federal, and state guidelines, such as the International Building Code (IBC).[1] Maine has adapted these into the Maine Uniform Building and Energy Code (MUBEC), which applies to communities of 4,000 persons or more. The state also mandates code requirements for plumbing, electrical, fuel storage, fire prevention, septic systems (discussed in Chapter 5), shoreland zoning (discussed in Chapter 4), and floodplain management (also discussed in Chapter 4).

Each town has a code enforcement officer that issues and administers the building permit process in conjunction with a local planning board. The code enforcement officer enforces state and local regulations and acts as a consultant to the board and town officials, investigates code violation complaints, and assists in building and subdivision site evaluations.

Subsidized Housing

Millinocket

Located in the town of Millinocket are the following local affordable housing establishments:

- Maine Avenue Manor – Located at 110 Maine Ave, Maine Avenue Manor is a twenty-two apartment complex with 20 one-bedroom and two two-bedroom apartments. Apartments are specifically available to heads or co-heads of households 62 years or older, or who are struggling with a disability or handicap. Penobscot County income limits apply.
- Mountain View Apartments – Located at 16 Walnut St., Mountain View Apartments is a 17-unit complex. The property is part of the Project-Based Rental Assistance through the Project-Based Section 8 contract with HUD.
- Stearns Assisted Living – Located at 80 Maine Ave, Stearns Assisted Living is a twenty-bedroom apartment complex with all units being single bedroom. The apartments are specifically available for those age 62 years or older. On-site services are provided by Penquis and include numerous programs ensuring supportive care. The complex accepts Section 8 Housing Choice Vouchers (HCV) and is part of the Low Income Housing Tax Credit (LIHTC) program.
- Terre Haute Apartments – Located at 2 Fern St., Terre Haute Apartments is specifically available for those 62 years or older or are disabled. There are 40 units and a tenant pays 30% of their adjusted income.
- Crestview Apartments – Located at 1 Crestview Circle. Similar to Terre Haute: 40 units, 62 years of age or older, any age if you are disabled, and tenant pays 30% of their adjusted income.

East Millinocket

Located in the town of East Millinocket are the following local affordable housing establishments:

- Oak Park Manor – Located at 2 Oak St., Oak Park Manor is a forty- four unit apartment complex with 32 one-bedroom and 12 two-bedroom apartments. Apartments are specifically available for those 62 years or older, or those struggling with a disability or handicap regardless

[1] https://www.bangormaine.gov/filestorage/1538/1540/1542/1560/11361/precouncil_code_2.pdf Accessed January 12, 2020.

of their age. Subsidies are available for a designated 40 apartments. Penobscot County income limits apply.

- Silverwood Court – Located at 1 Oak St., this is a privately owned, low-income subsidized, multi-family apartment housing for families to rent.
- Sweet Seniors Home – Located at 30 Pine St., Sweet Senior's Guest House is an assisted living facility. Assisted living facilities provide care for people who require assistance with the activities of daily living. This care setting provides an intermediate level of care for residents who cannot live independently, but who do not yet need around-the-clock skilled nursing services.

Medway

Located in the town of Medway are the following local affordable housing establishments:

- Hafford's Apartments – This is a privately owned single to three bedroom apartment complex for families to rent
- Old Farm Trailer Park – Located on Route 116, this is a privately owned trailer park with Trailers to rent and or lots to allow renters to park their privately owned trailers
- Lennie's Superette Apartments –Privately owned apartments for families to rent
- Stanley's Apartments – Privately owned apartments for families to rent
- Hale's Apartments – Privately owned apartments for families to rent

Income-eligible residents in the Katahdin region are encouraged to work with the Maine State Housing Authority (MSHA) and town staff to provide technical assistance as needed.

Strategies and Policies

In order to meet the future needs of those living in the Katahdin region, local policies and implementation strategies have been developed in addition to the following state policies and implementation strategies.

State of Maine

Policies:

Minimum policies required to address state goals:

1. To encourage and promote adequate workforce housing to support the community's and region's economic development.
2. To ensure that land use controls encourage the development of quality affordable housing, including rental housing.
3. To encourage and support the efforts of the regional housing coalitions in addressing affordable and workforce housing needs.

Strategies:

Minimum strategies to meet state goals:

1. Maintain, enact or amend growth area land use regulations to increase density, decrease lot size, setbacks and road widths, or provide incentives such as density bonuses, to encourage the development of affordable and workforce housing.
2. Maintain, enact or amend ordinances to allow the addition of at least one accessory apartment per dwelling unit in growth areas, subject to site suitability.
3. Create or continue to support a community affordable and workforce housing committee and/or regional affordable housing coalition.
4. Designate a location(s) in growth areas where mobile home parks are allowed pursuant to 30-A M.R.S.A §4358(3) (M) and where manufactured housing is allowed pursuant to 30-A M.R.S.A. §4358(2).
5. Support the efforts of local and regional housing coalitions in addressing affordable and workforce housing needs.
6. Seek to achieve a level of at least 20% of new residential development built or placed during the next decade be affordable.

Time Frame: Ongoing

Responsible Agent(s): Maine Housing Authority, East Millinocket, Millinocket, Medway.

Local

Millinocket

1. **Policy:** The town continues to recognize the importance of developing strategies to increase the availability of safe, decent, and affordable housing for residents.
   Strategies: The town will appoint a Housing Committee whose mission will be to evaluate housing alternatives and create a housing urbanization plan. In addition, the town will continue working with Northern Forest Center who is investing $1 million to purchase and renovate existing houses and apartment buildings with the intent to create high-level rental units. These structures will be in close proximity to the downtown area, the re-commercialized mill site, and hospital.
   Time Frame: Immediate.
   Responsible Agent(s): Housing Committee, Planning Board, Town Manager, and Town Council

2. **Policy:** The town will continue to enforce and implement applicable laws, codes, guidelines, and ordinances.
   Strategies: The Code Enforcement Officer and the Plumbing Inspector will enforce and implement the Maine State Subdivision Law, the Maine State Plumbing Code, the National Electrical Code, Shoreland Zoning Ordinance, and duly approved municipal ordinances.
   Time Frame: Immediate
   Responsible Agent(s): Town Manager, Code Enforcement Officer, Plumbing Inspector, and Planning Board

3. **Policy:** The town will develop strategies to address waiting lists for safe and affordable residences.
   Strategies: Charge the newly created Housing Committee with the task of identifying solutions to reduce current waiting lists for residences for ownership or rental.
   Time Frame: Immediate
   Responsible Agents(s): The Housing Committee, Planning Board, local housing agencies such as Penquis, Town Manager, and Town Council

East Millinocket

1. **Policy:** The Town will work towards development of a process to focus on housing needs and improvements to assist in achieving the goal of increased values.
   Strategies: To evaluate the housing and develop a plan of renovation, demolition, and redevelopment for housing that will serve the needs of the citizens.
   Time Frame: 2019 and ongoing
   Responsible Agent(s): Administrative Assistant, Board of Selectmen, Code Enforcement, Planning Board and Potential Housing Committee

Medway

1. **Policy:** The Town will work towards the development of a process to focus on housing needs and to assist in achieving the goal of increased values.
   Strategies: To evaluate housing and develop a plan of renovation, demolition, and redevelopment for housing that will serve the needs of the citizens.
   Time Frame: Ongoing

Responsible Agent(s): Administrative Assistant, Board of Selectmen, Code Enforcement and Planning Board

CHAPTER TEN:
RECREATION & TOURISM

Goals/Vision

State Goal

To promote and protect the availability of outdoor recreation opportunities for all Maine citizens, including access to surface waters.

Local Goals

Millinocket

To promote and increase four season recreational opportunities available in Millinocket through planning and execution with local stakeholders.

East Millinocket

To maintain/ upgrade existing recreational facilities as necessary to meet current and future needs. To preserve open space for recreational use as appropriate. To seek to achieve or continue to maintain at least one major point of public access to major water bodies for boating, fishing, and swimming, and work with nearby property owners to address concerns.

Introduction

The towns of Millinocket, East Millinocket, and Medway recognize that recreation opportunities contribute to overall well-being and want to ensure that all citizens regardless of age, income, and motivation continue to enjoy recreation in their hometowns. However, these opportunities also represent a path towards a more diverse and resilient economy. Statewide, tourism sustains over 110,000 jobs – roughly 1 in 6 jobs in the state – and attracts more than 37 million visitors yearly, generating $6.2 billion in sales and $464 million in tax revenue to Maine's economy in 2018.[1] This translates to $1.6 billion in retail spending, $3.4 billion in restaurant and lodging, $572 million in transportation, and $632 million in direct recreation spending.[2] However, Maine ranks 21st nationally with respect to per-capita tourism spending.[3] Even within New England, Maine ranks below Vermont, Massachusetts, Connecticut, and New Hampshire, suggesting that there are opportunities to improve this figure.

The geographic location of these three communities allows citizens and visitors access to vast natural resources. During the Katahdin Gazetteer visioning process, recreation was identified as one of six *Big Ideas* for new economic opportunity. The goal: *to make the Katahdin region the premier four-season outdoor destination in New England*. With the creation of the Katahdin Woods and Waters National Monument in 2016, the region has seen increased attention from the state and the nation. To achieve the Katahdin Gazetteer's goal, however, there needs to be further investment into existing assets such as Baxter

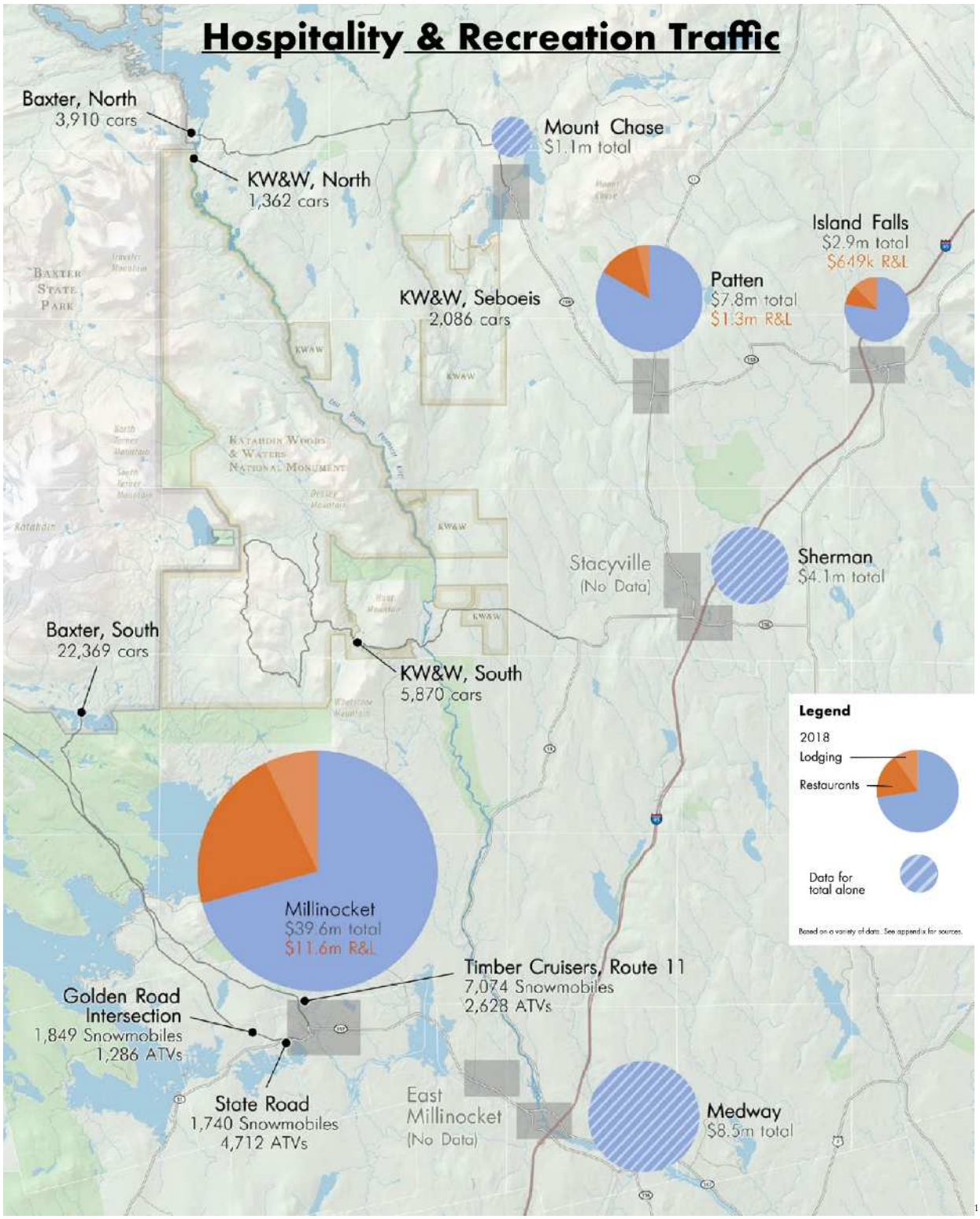
[1] https://www.boothbayregister.com/article/maine-office-tourism-releases-economic-impact-figures-2018/116526 Accessed February 19, 2020.

[2] https://motpartners.com/wp-content/uploads/2019/04/2018_MAINE_GovConf_HighlightSheet.pdf Accessed February 19, 2020.

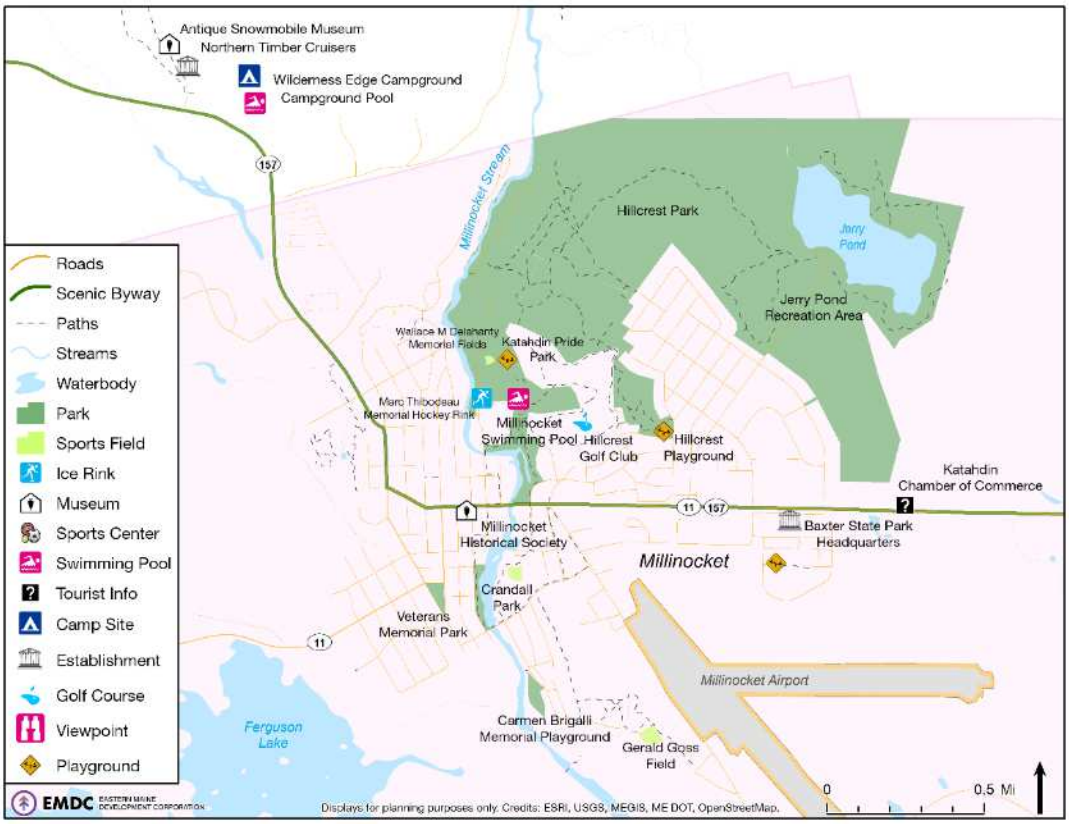
[3] https://www.pressherald.com/interactive/compare-maines-tourism-spending/ Accessed February 19, 2020.

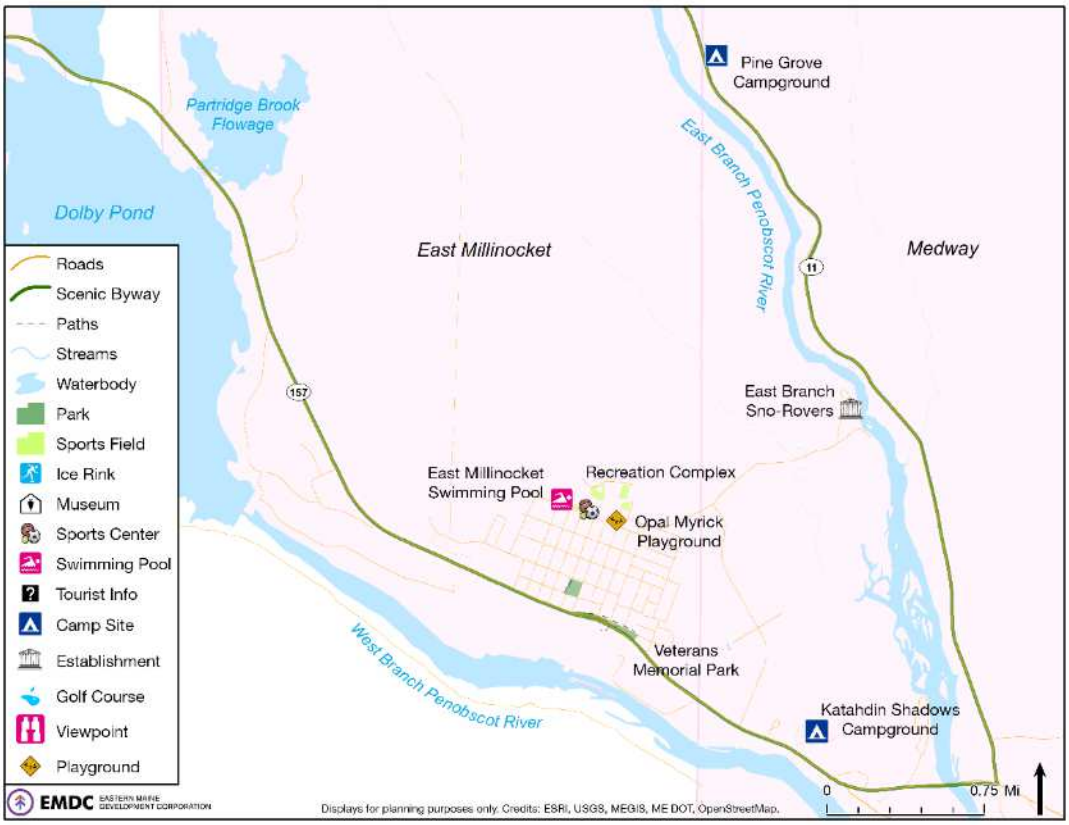
State Park, Katahdin Area and Penobscot River Trails, Debsconeag Lakes Wilderness Area, state conservation lands, privately owned timberlands, and snowmobile and ATV trails. Identifying opportunities to both strengthen existing resources and identify new opportunities will define the next decade in the Katahdin region.

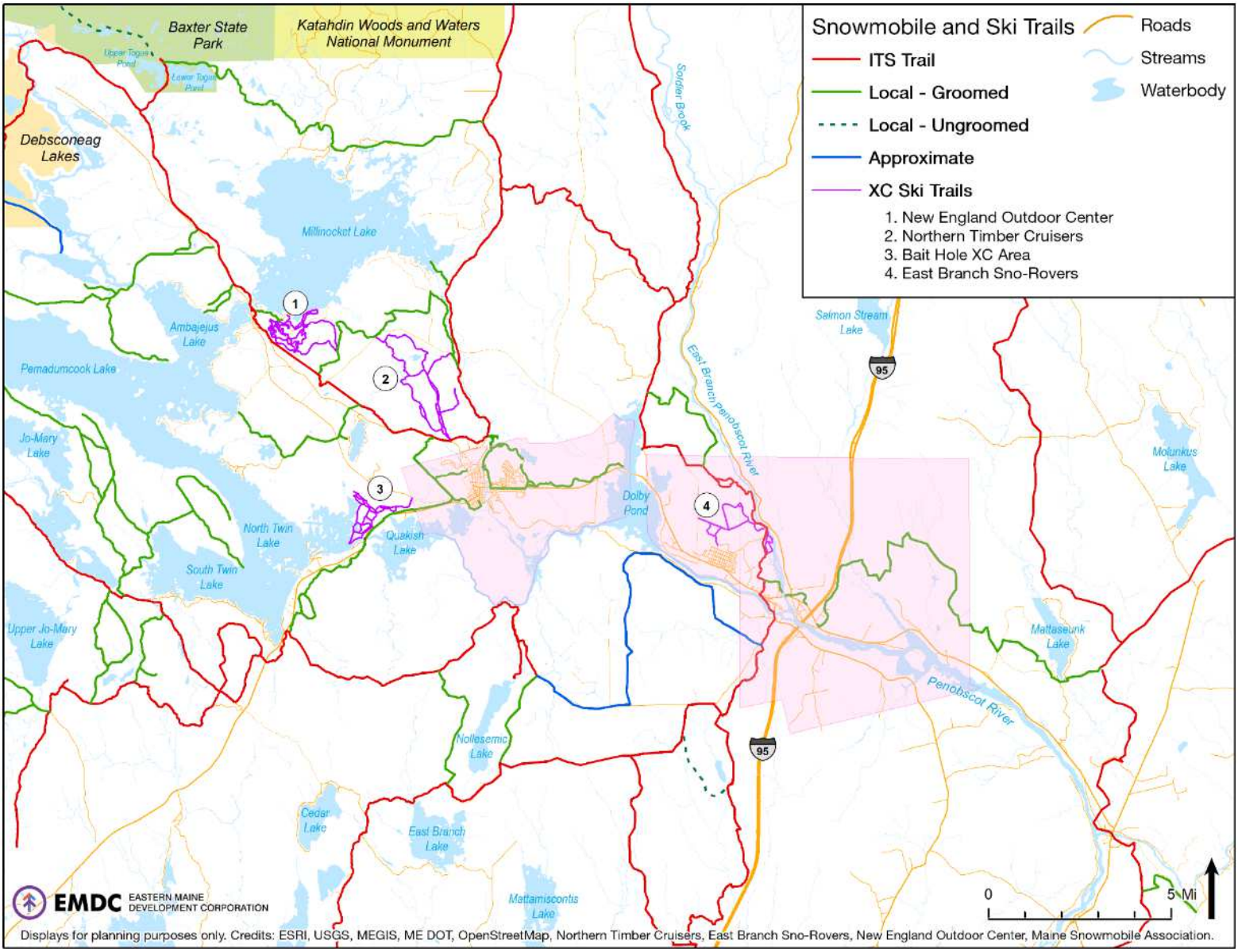
The following map – created for the Katahdin Gazetteer – identifies hospitality and recreation spending in the region for 2018. The map also notes car and other vehicle traffic, underscoring the importance of Millinocket, East Millinocket, and Medway to broader recreation opportunities region-wide.



[1] Katahdin Gazetteer: A Roadmap to the Future, 2019. Page 36.


Antique Snowmobile Museum
Northern Timber Cruisers
Wilderness Edge Campground
Campground Pool
Millinocket Stream
Hillcrest Park
Jerry Pond
Jerry Pond Recreation Area
Wallace M Delahanty Memorial Fields
Katahdin Pride Park
Marc Thibodeau Memorial Hockey Rink
Millinocket Swimming Pool
Hillcrest Golf Club
Hillcrest Playground
Katahdin Chamber of Commerce
Millinocket Historical Society
Baxter State Park Headquarters
Millinocket
Crandall Park
Veterans Memorial Park
Millinocket Airport
Ferguson Lake
Carmen Brigalli Memorial Playground
Gerald Goss Field
Roads
Scenic Byway
Paths
Streams
Waterbody
Park
Sports Field
Ice Rink
Museum
Sports Center
Swimming Pool
Tourist Info
Camp Site
Establishment
Golf Course
Viewpoint
Playground
EMDC
Displays for planning purposes only. Credits: ESRI, USGS, MEGIS, ME DOT, OpenStreetMap.
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Pine Grove Campground
Partridge Brook Flowage
East Branch Penobscot River
Dolby Pond
East Millinocket
Medway
East Branch Sno-Rovers
East Millinocket Swimming Pool
Recreation Complex
Opal Myrick Playground
West Branch Penobscot River
Veterans Memorial Park
Katahdin Shadows Campground
Roads
Scenic Byway
Paths
Streams
Waterbody
Park
Sports Field
Ice Rink
Museum
Sports Center
Swimming Pool
Tourist Info
Camp Site
Establishment
Golf Course
Viewpoint
Playground
EMDC
Displays for planning purposes only. Credits: ESRI, USGS, MEGIS, ME DOT, OpenStreetMap.
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Snowmobile and Ski Trails
ITS Trail
Local - Groomed
Local - Ungroomed
Approximate
XC Ski Trails
1. New England Outdoor Center
2. Northern Timber Cruisers
3. Bait Hole XC Area
4. East Branch Sno-Rovers
Roads
Streams
Waterbody
Baxter State Park
Katahdin Woods and Waters National Monument
Debsconeag Lakes
Millinocket Lake
Ambajejus Lake
Pemadumcook Lake
Jo-Mary Lake
North Twin Lake
South Twin Lake
Upper Jo-Mary Lake
Quakish Lake
Dolby Pond
Soldier Brook
East Branch Penobscot River
Salmon Stream Lake
Molunkus Lake
Mattaseunk Lake
Penobscot River
Nollesemic Lake
Cedar Lake
East Branch Lake
Mattamiscontis Lake
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EMDC EASTERN MAINE DEVELOPMENT CORPORATION
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Displays for planning purposes only. Credits: ESRI, USGS, MEGIS, ME DOT, OpenStreetMap, Northern Timber Cruisers, East Branch Sno-Rovers, New England Outdoor Center, Maine Snowmobile Association.

Inventory of Recreation Resources

Hiking and Biking Trails

There are many local and nearby opportunities for walking, hiking, and biking. An extensive network of maintained trails in Millinocket's Hillcrest Park and the Jerry Pond Recreation area connect to downtown. The Michael Michaud Walking and Biking Trail follows Millinocket Stream through the center of town. Nearby, trails at Bait Hole and Hammond Ridge offer year-round activities. As the northern terminus of the Appalachian Trail and a node in the International Appalachian Trail, Baxter State Park and Mount Katahdin connect trail networks as far south as Key West and as far north as Newfoundland. These trails pass through Katahdin Woods and Waters National Monument, Debsconeag Lakes Wilderness Area, Gulf Hagas, and Katahdin Iron Works. Traditional access to private lands in Millinocket, East Millinocket and Medway does not appear to be restricted.

Millinocket is working with Katahdin Area Trails (KAT) to expand multi-use trails both within and just outside the town. KAT has, with the assistance of grants and private funding, invested over $400,000 to start the construction of a comprehensive trails system on Hammond Ridge, located just eight miles out of the town. KAT expects that this work will result in 16 miles of purpose built single-track mountain bike trails, in addition to 16 miles of existing ski trails and six miles of single-track trails. The Northern Border Regional Commission and Penobscot County also support these projects.

Snowmobiling

The Katahdin region has access to a network of 350 miles of groomed trails during the winter. These trails connect with the Interstate Trail System (ITS) and the Northeast Snowmobile Trail (NEST), extending as far as Pennsylvania and through to Canada. Several local snowmobiling organizations offer trail services, education, and community gatherings. These include the Northern Timber Cruisers, the East Branch Sno-Rovers, the Jo Mary Riders, and the Ebeemee Club.

The Towns of Millinocket, East Millinocket, and Medway are in the process of developing an east-west connector trail across Salmon Stream and on to the Mattawamkeag Trail network. This trail will connect to existing trails in Down East Washington County as well as onto the North-South corridor to Aroostook County. The Katahdin region is an important hub for fuel, food, and lodging for much of the region.

Snowshoeing and Cross Country Skiing

The Katahdin region boasts 45 miles of cross-country ski trails winding through the peaceful woods. Stunning views of Katahdin can be found around any corner while skiing these trails. Some trails are wooded and protected on windy days while others are open and scenic. There are groomed tracks for traditional style skiing as well as back country trails where you may be the first to make tracks through fresh snow.

The East Branch Sno-Rovers snowmobile club maintains several miles of trails in East Millinocket and Medway, while the Northern Timber Cruisers maintain trails just north of Millinocket. Katahdin Area Trails maintains several miles of groomed trails south of Millinocket in Bait Hole as well as a large complex of trails at the New England Outdoor Center on Hammond Ridge.

Camping

Several campgrounds are located within or near the Katahdin region, including: Katahdin Shadows Campground and Pine Grove Campground in Medway; Big Moose Inn, Cabins and Campground, North Country Rivers, and Wilderness Edge Campground in Millinocket; the New England Outdoor Center just north of Millinocket; and several camping areas at Baxter State Park, Katahdin Woods and Waters, Jo Mary Lake, and Debsconeag Lake Wilderness Area.

Boating

Millinocket sees approximately eight miles of the West Branch of the Penobscot River between Dolby Pond and Quakish Lake. The Dolby Pond boat ramp, located on Rice Farm Road northeast of Shad Pond, provides access to Dolby Pond and sections of the Penobscot River.

In East Millinocket, the former mill property and the Brookfield Dams impede access to the Penobscot River. However, there is a boat launch accessible through the paper mill property near the outfall of Spencer Brook Stream. This area between the Dolby Dam and the East Millinocket Dam provides excellent kayaking and canoeing opportunities. Public access should be addressed as the mill site is redeveloped.

Medway has approximately 12.5 miles of the Penobscot River running through its boundaries, of which 9.4 miles of the Penobscot River are directly accessible by boat from the towns' public boat landing located on Recreation Area Road. The remaining 3.1 miles, although not accessible by the public boat landing, but still accessible by other forms of recreational watercrafts such as canoes, kayaks, and white water rafts from various locations including along U.S. Route 11 and The Katahdin Woods and Water Scenic Byway. In order to ensure the long-term usage of boat launches and riverbank access points in the Katahdin Region, the maintenance and protection of these resources must be prioritized.

Fishing and Angling

Various bodies of water in the Katahdin Region offer fishing and angling opportunities to residents and visitors. In Millinocket, are Dolby Pond, Millinocket Stream, and Jerry Pond, which is stocked with Brook Trout annually by the Maine Department of Inland Fisheries and Wildlife.[1] Landlocked Salmon can be fished at Millinocket Lake, located in close proximity to Baxter State Park.

In Medway, Wassataquoik Stream, Telos Lake, and Chamberlain Lake provide fishing opportunities for Landlocked Salmon.[2] The Penobscot River, which connects Millinocket, East Millinocket and Medway, is home to a wide variety of fish species, including Smallmouth Bass, Brook Trout, and Wild Landlocked Salmon. Proper management of these water bodies will ensure their health and sustainability so that fishers and anglers can continue their sport in the region for years to come.

Public Parks

The Towns of Millinocket, East Millinocket and Medway combine resources and recreation departments to help develop, promote, and preserve public parks, open spaces, and recreation amenities. By ensuring access to these spaces, the public has somewhere to go when they want to enjoy the outdoors, hold special events, or mingle with their neighbors. Parks give children safe areas

[1] https://millinocket.org/community/town-parks-and-trails/ Accessed October 30, 2020.

[2] https://stepoutside.org/medway-me/fishing/ Accessed October 30, 2020.

to play, provide venues for social functions, and provide an aesthetically pleasing atmosphere. Additionally, proximity to park spaces generally increases nearby property values.[1] Currently, the towns' subdivision ordinances require open space for recreation and common use, equal to 10% of the land area in a 20-acre or 10-lot subdivision. Various local land trusts provide partnership opportunities for the acquisition of open spaces, including the Forest Society of Maine, Maine Audubon, Maine Farmland Trust, Maine Woodland Owners, New England Forestry Foundation, Northeast Wilderness Trust, The Conservation Fund, and the Trust for Public Land.

Golfing

The Katahdin Region has one golf course – Hillcrest Golf Club – located in the center of Millinocket. The course is a 9-hole course with sloping greens and hilly fairways. The course has exceptional views of Mt. Katahdin and hosts numerous tournaments throughout the season.

Four-Wheeling/ATV

The Katahdin Region Multi-Use Trail (KRMUT) has 16 miles of manicured trails linked to a statewide network of ATV trails. These trails offer scenic views of Jo-Mary Mountain and Mt. Katahdin, a suspension bridge spanning the West Branch of the Penobscot River, and access to the State of Maine Seboeis Unit-Public Reserve Lands. In addition to ATVs, the Multi-Use Trail is designed for mountain bikers, hikers, bird watchers, and cross-country skiers. A spur trail extends into downtown Millinocket offering riders access to restaurants, lodging, gas, groceries, and banks.

Other Events

The Millinocket Marathon and Half Marathon was started in 2015 and requires no entry fee. Attendees are encouraged to "generously support local businesses and contribute to the Katahdin Region in some way."[2] In 2019, more than 2,300 runners registered and 1,459 runners completed one of the races, ending on Penobscot Avenue in Millinocket's downtown.[3] Additionally, the event can qualify a runner for the US Olympic Trials and the Boston, New York City, and Chicago marathons.

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[1] https://www.nrpa.org/parks-recreation-magazine/2020/april/how-much-impact-do-parks-have-on-property-values/ Accessed March 29, 2020.

[2] https://millinocketmarathon.com/ Accessed February 19, 2020.

[3] https://bangordailynews.com/2019/12/09/sports/running-sports/runners-amazed-how-millinocket-marathon-continues-to-draw-visitors-to-former-milltown/ Accessed February 19, 2020.

Notable Parties

Katahdin Chamber of Commerce

The Katahdin Chamber of Commerce helps promote the economic producing activities of the Towns of Millinocket, East Millinocket, and Medway. They offer services for residents, visitors, and business interests and serve to coordinate economic development efforts across the area.

Katahdin Regional Parks and Recreation

Katahdin Regional Parks and Recreation offers numerous programs and camps for youth during all four seasons. The Towns of Millinocket, East Millinocket and Medway collaborate to offer recreation additional programming for residents of all three towns.

Future Strategic Planning

Through the Gazetteer effort, the Katahdin region developed a practice for identifying and pursuing recreation and tourism opportunities:

1. Form a Katahdin Collaborative recreation workgroup focused on outdoor accessibility
2. Inventory recreation options in the region including professionally guided and self-guided opportunities
3. Integrate existing regional guides and materials to make it easier for visitors to know how to recreate respectfully
4. Continue and expand youth stewardship opportunities
5. Identify missing trail linkages in the region and develop plans to meet those needs
6. Create regional trail standards for motorized activities
7. Expand the trails in the region to connect with historic points of interest, scenic vistas, and village centers
8. Fortify stewardship and maintenance programs
9. Promote in town water recreation along Millinocket Stream
10. Conduct a wayfinding study with Northern Forest Center for motorized, non-motorized, and pedestrian signage
11. Improve and expand hiking and biking trails

Since the Katahdin Gazetteer was published in early 2019, many of these goals are met or well underway. The Katahdin Collaborative Recreation Workgroup has been established, and work on the trails has been bolstered with recent grant funding from the Northern Border Regional Commission.

Strategies & Policies

In order to promote, protect, and increase recreational opportunities as well as maintain and upgrade recreational facilities in the Katahdin Region, local policies and implementation strategies have been developed in addition to the following state implementation strategies and policies:

State of Maine

Policies:

Minimum policies required to address state goals:

1. To maintain/ upgrade existing recreational facilities as necessary to meet current and future needs.
2. To preserve open space for recreational use as appropriate.
3. To seek to achieve or continue to maintain at least one major point of public access to major water bodies for boating, fishing, and swimming, and work with nearby property owners to address concerns.

Strategies:

Minimum strategies to meet state goals:

1. Create a list of recreation needs or develop a recreation plan to meet current and future needs Assign a committee or community official to explore ways of addressing the identified needs and/or implementing the policies and strategies outlined in the plan.
2. Work with public and private partners to extend and maintain a network of trails for motorized and non-motorized uses. Connect with regional trail systems where possible.
3. Work with an existing local land trust or other conservation organizations to pursue opportunities to protect important open spaces or recreational land.
4. Provide educational materials regarding the benefits and protections for landowners allowing public recreational access on their property. At a minimum this will include information on Maine's landowner liability law regarding recreational or harvesting use, Title 14, M.R.S.A. §159-A.

Time Frame: Ongoing

Responsible Agent(s): State of Maine, East Millinocket, Millinocket, Katahdin Region Chamber of Commerce.

Local

Millinocket

Policies:
Minimum policies required to address state goals:

1. To maintain/ upgrade existing recreational facilities as necessary to meet current and future needs.
2. To preserve open space for recreational use as appropriate.
3. To seek to achieve or continue to maintain at least one major point of public access to major water bodies for boating, fishing, and swimming, and work with nearby property owners to address concerns.

Strategies:
Minimum strategies to meet state goals:

1. Create a list of recreation needs or develop a recreation plan to meet current and future needs Assign a committee or community official to explore ways of addressing the identified needs and/or implementing the policies and strategies outlined in the plan.
2. Work with public and private partners to extend and maintain a network of trails for motorized and non-motorized uses. Connect with regional trail systems where possible.
3. Work with an existing local land trust or other conservation organizations to pursue opportunities to protect important open spaces or recreational land.
4. Provide educational materials regarding the benefits and protections for landowners allowing public recreational access on their property. At a minimum this will include information on Maine's landowner liability law regarding recreational or harvesting use, Title 14, M.R.S.A. §159-A.

Time Frame: Ongoing

Responsible Agent(s): State of Maine, East Millinocket, Millinocket, Katahdin Region Chamber of Commerce

East Millinocket

1. **Policy:** To maintain, improve, expand and create existing and new recreational facilities to serve the public into the future.
   Strategies: To build upon the Katahdin Gazetteer to ensure improvements are made in keeping with the overall regional goals and strategies.
   Time Frame: Continuous
   Responsible Agent(s): Town of East Millinocket and appropriate local, regional and state organizations.

2. **Policy:** To maintain, improve, expand and create existing and new multi-use recreational trails connecting to other regional trails to promote economic growth in the recreational industries and outdoor opportunities.

Strategies: To work collaboratively with landowners and various groups involved in recreation trails.
Time Frame: Continuous
Responsible Agent(s): Town of East Millinocket, East Branch Sno-Rovers and ATV club, other similar regional and state groups.

Medway

1. **Policy:** Maintain and upgrade existing recreational facilities and parks as necessary to meet present and future needs.
   Strategies: Medway Town Authorities and Recreation Department continue to budget for repairs & maintenance and transfer recreational budget surplus to reserve for recreational capital improvements.
   Time Frame: Ongoing
   Responsible Agent(s): Town Officials and Recreation Department

2. **Policy:** Maintain and upgrade existing trails, while continuing to expand the network for present and future needs.
   Strategies: To go along with the maintenance of existing infrastructure, create a system of cross country trails, as well as new ATV trails and open access to all Medway streets for ATV usage.
   Time Frame: Ongoing
   Responsible Agent(s): East Branch Snow Rovers & Medway Town Officials

3. **Policy:** Create new entertainment opportunities for the Katahdin Region.
   Strategies: Develop an outdoor venue for the multi-purpose of concerts, festivals, and performing art events.
   Time Frame: Ongoing
   Responsible Agent(s): Recreational Department

CHAPTER ELEVEN: TRANSPORTATION

Goals/Vision

State Goal

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

Local Goals

Millinocket

To provide transportation infrastructure and services in a cost-effective and efficient manner, making the best use of available resources. To assure that improvements to existing infrastructure support economic development strategies, business retention, and growth. To support planning for maximum use of recreational trails and paths.

East Millinocket

To focus on state efforts for road improvement and to be an active participant in pre-planning stages ensuring that local input is considered. To assist in the needs of the owners of Canadian Pacific Railways as they plan their future needs. To evaluate local roads and to develop a 10-year plan of action for continued improvement to road surfaces and to consider infrastructure beneath the roadways. To support multi-use trails alongside road redevelopments and reconstructions that will encourage full 4-season tourist opportunities. To work with state, county, and federal departments to design additional allowances for ATV and snowmobile use.

Medway

To provide and support multi-use trails alongside Medway Streets and roads to allow access points for snowmobiles, ATVs, bicycles, etc. To work with Maine DOT to promote and design additional paths and trails for ATV, bicycle, and snowmobile access along Routes 157 and 11.

Introduction

Transportation infrastructure includes highways and roads as well as aviation, mass transit, passenger and freight rail, ferries and marine terminals, and active transportation such as bike paths and sidewalks. Towns depend on well-maintained transportation resources that affect property values, the productivity of downtown and village areas, tourist activity, and the overall safety and convenience of a community.

Transportation is also closely linked to land use and housing. Historic transportation patterns can be divined from the built environment, often visible for centuries. Prior to the spread of the railroad, much traffic into and out of the Katahdin region utilized the Penobscot River, thus development was clustered around the river and auxiliary canals. Local roads provided access to many inland areas, but transportation over land was slow and expensive. The construction of the Bangor and Aroostook Railroad in 1894 allowed for large-scale industrial activity in the Great Northern Paper Company and

consequent manufacture of local housing near the mill.[1] These railroad-era communities tend to have dense neighborhoods and narrow, interconnected streets.

With the invention and popularity of the automobile and of highway transit, dramatic changes arrived in the communities of Millinocket, East Millinocket, and Medway. The predominance of the automobile eclipsed rail transit, opening many highway-adjacent communities to suburban development dependent on car ownership. This new pattern of highway-centric development was enabled, in part, by the passage of the Federal Highway Act (FHA) in 1956. The first section of the Maine Turnpike opened in 1947 and it was completed in 1981.[2] Extensions in the 1970s and 1980s prompted housing starts in Medway and nearby.

Many communities, however, lamented the negative consequences of this new development pattern. Sprawl began consuming rural landscapes, traffic and exhaust fumes marred quiet neighborhoods, automobile-related fatalities skyrocketed, and downtowns began to crumble. Funding structures within the FHA prevented investment in transit services, exacerbating urban blight. The Federal government passed the Intermodal Surface Transportation Efficiency Act (ISTEA) in 1991 steering transportation planning towards community-based solutions for all modes of transportation.[3] Also in 1991, Maine passed the Sensible Transportation Policy Act (Title 23 §73), providing an avenue for community input in transportation improvements and repairs.[4]

Many now recognize the importance of comprehensive transportation planning and the interconnections between housing, economy, land use, and transportation. Despite the differing settlement patterns in Millinocket, East Millinocket, and Medway, local road design standards reflect the region's shared desire to meet the needs of its residents.

Regional Transportation Concerns

Between April-July 2019, Thrive Penobscot[5], an initiative based out of Millinocket Regional Hospital, administered the Katahdin Region Transportation Survey. In the report that followed, various transportation system concerns emerged. Regional transportation system concerns include the affordability of personal vehicles and taxis and the limited availability of public transportation. These survey results indicate areas of improvement and transportation needs for the region to address. In March 2020, a new group called Mobilize Katahdin[6] was formed to build a local volunteer transportation program for the Katahdin region. Continued efforts from groups like Thrive Penobscot and Mobilize Katahdin will contribute to the region's future transportation solutions.

Commuting Characteristics

In many rural states, typical transportation options are limited to cars, trucks, and vans. Compared to the state, the Katahdin region has higher rates of individuals walking to work – 5.3% compared to 3.9% – and of working at home – 7.0% compared to 5.8%. As would be expected due to its size and

[1] https://millinocket.org/visitors/history/ Accessed January 8, 2020.

[2] https://www.maineturnpike.com/About-MTA/History.aspx Accessed January 8, 2020.

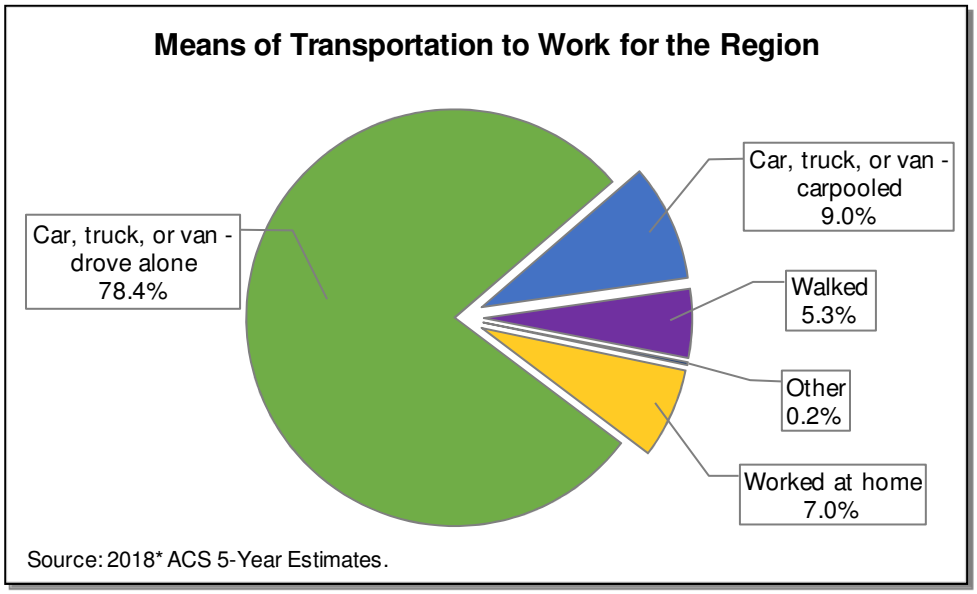
[3] https://www.fhwa.dot.gov/planning/public_involvement/archive/legislation/istea.cfm Accessed January 8, 2020.

[4] https://www.maine.gov/mdot/about/history/ Accessed January 8, 2020.

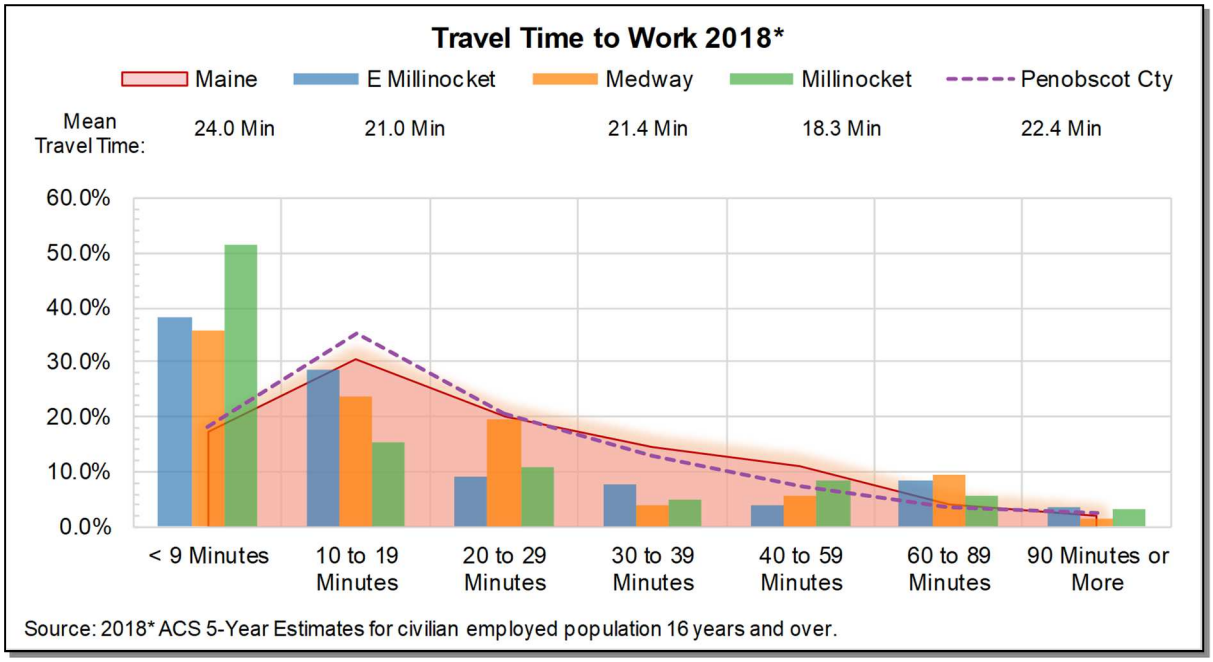
[5] https://thrivepenobscot.org/

[6] http://mobilizekatahdin.org/

population distribution, only 4.5% of Medway residents walked to work. In the sample period, 87.1% of individuals commuted to work by passenger vehicle.



The majority of Katahdin region residents enjoy shorter one-way commutes. Compared to a statewide commute of 24.0 minutes, the region saves approximately 3.8 minutes on average. 46.1% of residents commuted for less than twenty minutes each day, compared to 17.4% across the state and 18.0% across the county.

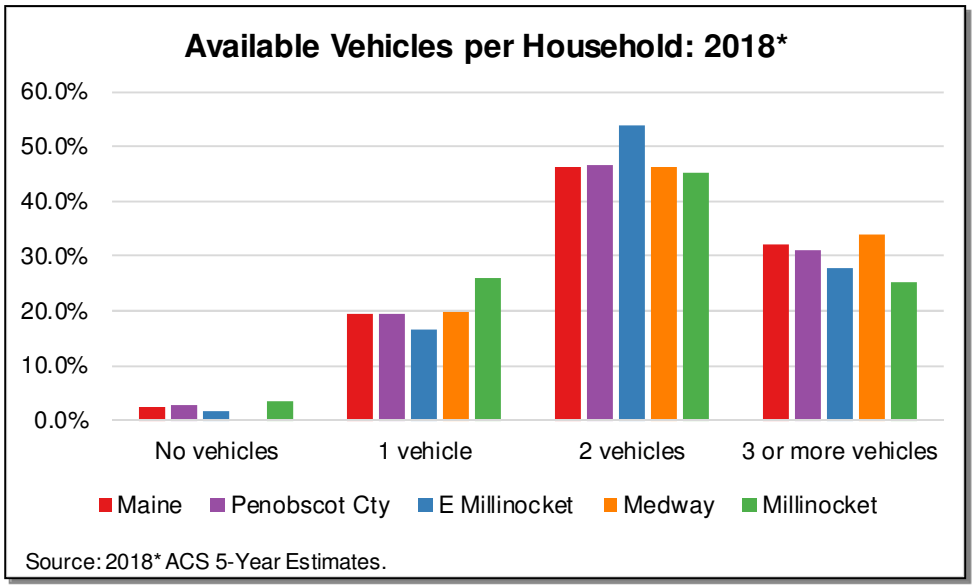


The short commutes of Katahdin region residents is likely due to the clustering of services and work in the towns of Millinocket, East Millinocket, and Medway. Census data suggests that a higher rate of individuals across Penobscot County work within their county of residence – 90.5% compared to 76.9% statewide. It is important to note that the below table includes counts of those residing in Census-designated places (CDP), which are smaller areas within town boundaries. As such, 0% of Medway residents live in a CDP because there is no designated CDP within Medway's boundaries.

For the towns of Millinocket and East Millinocket, the rates for individuals working in their place of residence are higher than state and county averages.

Place of Work: 2018*					
	Maine	Penobscot Cty	E Millinocket	Medway	Millinocket
Worked in state of residence	95.7%	99.0%	98.9%	91.3%	97.0%
Worked in county of residence	76.9%	90.5%	93.3%	90.3%	96.2%
Worked outside county of residence	18.8%	8.5%	5.6%	1.0%	0.8%
Worked outside state of residence	4.3%	1.0%	1.1%	8.7%	3.0%
Living in a Census-designated place	46.6%	51.4%	98.5%	0.0%	100.0%
Worked in place of residence	19.0%	23.7%	30.6%	0.0%	62.6%
Worked outside place of residence	27.5%	27.7%	67.9%	0.0%	37.4%
Not living in a Census-designated place	53.4%	48.6%	1.5%	100.0%	0.0%
Workers 16 years and over	651,799	71,260	611	381	1,705
Did not work at home	614,274	68,289	574	377	1,558
Worked at home	37,525	2,971	37	4	147
Source: 2018* ACS 5-Year Estimates.					

As many rural transportation systems rely on passenger vehicles, availability and access are important measures of mobility. This is especially true where two-earner households must commute individually to work. A lack of vehicle availability may affect economic, education, and social outcomes.



Classification of Infrastructure

The Katahdin region is home to over 110 miles of road all with Maine DOT Region 5. This infrastructure is generally described by function – the service it provides – and by jurisdiction – who pays for the roads. Federal function classifications group roads into one of three broad categories:

- Arterials and Interstates serve to move traffic across counties, the state, and between states. These roads typically have high speeds and high traffic volumes;

- Collectors link smaller networks to the arterial system. These are distinguished between urban and rural collectors, and rural roads are distinguished further as either major or minor collectors;
- Local roads provide access to residential areas, commercial areas, agricultural and natural service areas.

The Katahdin region has 61.3 miles of local roads (56%), 21.25 miles of collector roads (19.4%), and 10.9 miles of arterial roads (10.0%). A useful measure of a road's overall volume takes advantage of the Average Annual Daily Traffic (AADT). This is calculated by estimating the total yearly traffic a section of road experiences and dividing it by 365 to obtain a daily volume total. Multiplying this value by the road's length generates the Vehicle Miles of Travel (VMT), useful in calculating the overall use of a road segment. In the region, 10.2% of VMT is on local roads, 15.9% is on collector roads, and 73.9% is on arterial roads.

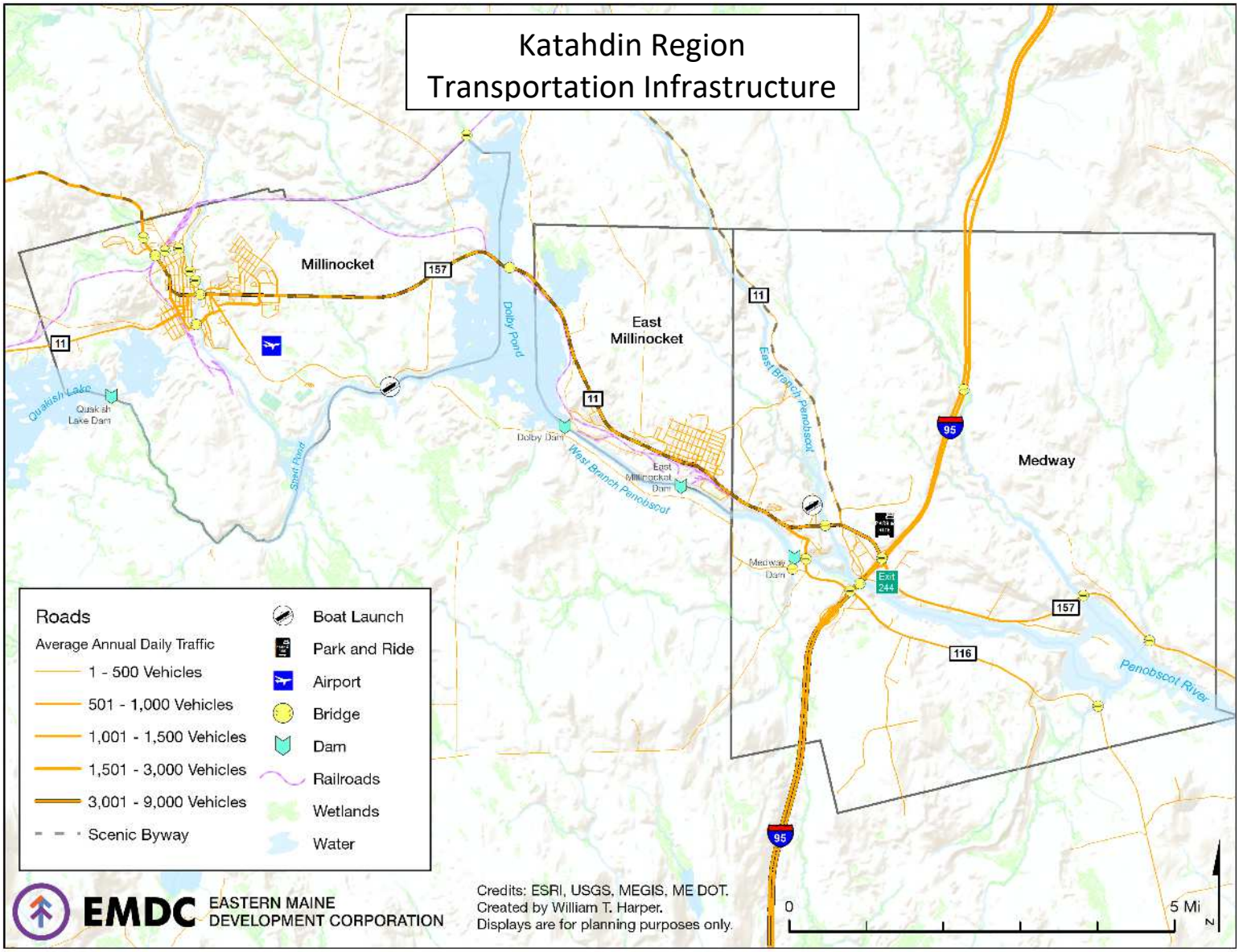
The state distinguishes between local and state jurisdiction:

- A state highway connects routes throughout the state, serving both intra- and inter-state traffic. The Maine DOT generally maintains these roads;[1]
- State aid highways connect local roads to the state highway system, serving intra-county, rather than intra-state traffic. These roads are maintained by the Maine DOT in the summer and by local municipalities in the winter;
- Town ways are all other routes not designated as state highways or state aid highways.

The Katahdin region has 60.2 miles of town ways (54.9%), 33.3 miles of state highway (30.4%), and 15.0 miles of state aid highway (13.7%). Of these roads, 9.7% of VMT is on town ways and summer town ways, 78.6% of VMT is on state highways, and 11.3% of VMT is on state aid highways.

[1] https://www1.maine.gov/mdot/csd/docs/roadwayinfo/RoadClassification.pdf Accessed January 12, 2020.

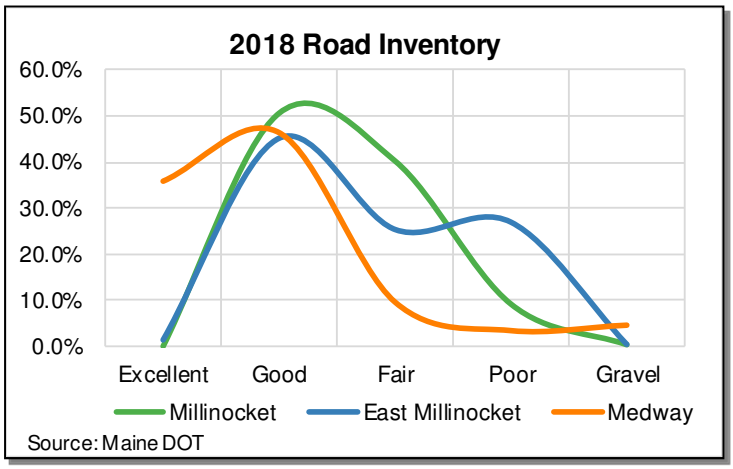
Average Annual Daily Traffic and Vehicle Miles Traveled						
East Millinocket	**Count**	**Miles**	**% Miles**	**AADT**	**VMT**	**% VMT**
Function						
Local	161	13.50	74.5%	41,881	2,810.1	11.7%
Major Collector	0	0.00	0.0%	-	-	0.0%
Minor Collector	1	0.43	2.4%	360	154.3	0.6%
Minor Arterial	35	4.19	23.1%	171,935	21,082.2	87.7%
Interstate	0	0.00	0.0%	-	-	0.0%
Jurisdiction						
Townway	160	13.50	74.5%	40,395	2,800.5	11.6%
Summer Townway	0	0.00	0.0%	-	-	0.0%
State Highway	35	4.19	23.1%	171,935	21,082.2	87.7%
State Aid Highway	1	0.43	2.4%	360	154.3	0.6%
Other	1	0.01	0.0%	1,486	9.6	0.0%
TOTAL	**197**	**18.13**		**214,176**	**24,046.6**	
Medway	**Count**	**Miles**	**% Miles**	**AADT**	**VMT**	**% VMT**
Function						
Local	75	18.09	35.4%	10,390	3,067.9	4.4%
Major Collector	44	10.73	21.0%	53,374	10,443.3	14.8%
Minor Collector	6	3.95	7.7%	3,130	1,589.4	2.3%
Minor Arterial	23	2.25	4.4%	129,239	13,181.5	18.7%
Interstate	69	16.06	31.4%	165,396	42,208.1	59.9%
Jurisdiction						
Townway	66	16.70	32.7%	7,988	2,489.7	3.5%
Summer Townway	1	0.20	0.4%	88	17.4	0.0%
State Highway	112	23.36	45.7%	322,813	60,646.9	86.0%
State Aid Highway	30	9.63	18.9%	28,326	6,775.5	9.6%
Other	8	1.19	2.3%	2,314	560.8	0.8%
TOTAL	**217**	**51.08**		**361,529**	**70,490.3**	
Millinocket	**Count**	**Miles**	**% Miles**	**AADT**	**VMT**	**% VMT**
Function						
Local	299	29.75	73.7%	77,795	7,813.4	19.5%
Major Collector	75	6.13	15.2%	131,542	9,281.2	23.1%
Minor Collector	0	0.00	0.0%	-	-	0.0%
Minor Arterial	39	4.49	11.1%	235,339	23,045.0	57.4%
Interstate	0	0.00	0.0%	-	-	0.0%
Jurisdiction						
Townway	299	29.75	73.7%	77,795	7,813.4	19.5%
Summer Townway	0	0.00	0.0%	-	-	0.0%
State Highway	43	5.72	14.2%	238,659	24,067.9	60.0%
State Aid Highway	71	4.90	12.1%	128,222	8,258.3	20.6%
Other	0	0.00	0.0%	-	-	0.0%
TOTAL	**413**	**40.37**		**444,676**	**40,139.6**	
Source: Maine DOT 2019 Public Roads Data						


Katahdin Region
Transportation Infrastructure
Millinocket
East
Millinocket
Medway
157
11
95
116
Dolby Pond
East Branch Penobscot
West Branch Penobscot
Penobscot River
Quakish Lake
Quakish
Lake Dam
Dolby Dam
East
Millinocket
Dam
Medway
Dam
Exit
244
Roads
Average Annual Daily Traffic
1 - 500 Vehicles
501 - 1,000 Vehicles
1,001 - 1,500 Vehicles
1,501 - 3,000 Vehicles
3,001 - 9,000 Vehicles
Scenic Byway
Boat Launch
Park and Ride
Airport
Bridge
Dam
Railroads
Wetlands
Water
EMDC
EASTERN MAINE
DEVELOPMENT CORPORATION
Credits: ESRI, USGS, MEGIS, ME DOT.
Created by William T. Harper.
Displays are for planning purposes only.
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Inventory of Roads

Road conditions are relevant to the quality of the ride experience, the safety of passengers as well as pedestrians and cyclists, the reliability of bridges and culverts, and commute times and congestion. The Maine DOT provides three indexed ratings for critical roads measuring service, safety, and condition.[1] Some items are letter grades, while others – such as road width – are pass or fail. Of the roads evaluated by the Maine DOT Customer Service Level (CSL) assessment, 43% received an A, 17% received a B, 12% a C, 6% a D, and 9% an F. An addition 10% received a Pass and 4% received a Fail. Overall, these metrics are useful in targeting deficiencies and addressing complaints.

2018 Road Inventory			
Millinocket			
	Count	**Miles**	**%**
Excellent	0	0.0	0.0%
Good	52	20.1	50.4%
Fair	51	16.0	40.1%
Poor	14	3.7	9.1%
Gravel	2	0.2	0.4%
East Millinocket			
	Count	**Miles**	**%**
Excellent	1	0.3	1.7%
Good	9	7.6	45.2%
Fair	16	4.3	25.5%
Poor	9	4.6	27.1%
Gravel	1	0.1	0.7%
Medway			
	Count	**Miles**	**%**
Excellent	3	14.6	35.9%
Good	23	18.9	46.6%
Fair	7	3.9	9.6%
Poor	1	1.4	3.4%
Gravel	7	1.9	4.6%
Source: Maine DOT.			



[1] https://www.maine.gov/mdot/docs/2016/roadsreport2016.pdf Accessed January 12, 2020.

Customer Service Level Road Conditions: 2018														
Street Name	**Town**	**Length (Miles)**	**Service Score**	**Congestion**	**Safety Score**	**Crash History**	**Rutting**	**Width**	**Bridge Reliability**	**Condition Score**	**Pavement Cond**	**Ride Quality**	**Roadway Strength**	**Bridge Condition**
MAIN ST	East Millinocket	3.99	**A**	A	**B**	A	A	FAIL		**B**	B	B	A	
OLD MAIN ST	East Millinocket	0.19	**A**	A	**B**	A		FAIL						
RD INV 3209528	East Millinocket	0.01	**A**	A				PASS						
GRINDSTONE RD	Medway	4.38	**C**	A	**F**	F	A	FAIL		**B**		B		
I 95 NB	Medway	12.27	**A**	A	**D**	D	B	PASS		**C**	C	C		C
I 95 SB	Medway	12.38	**A**	A	**D**	D	B	PASS		**C**	C	C		C
MEDWAY RD (East)	Medway	4.97	**A**	A	**B**	A	A	FAIL		**C**	B	B	B	C
MEDWAY RD (West)	Medway	2.33	**A**	A	**B**	B	B	PASS		**B**	B	B	B	B
MEDWAY REST AREA RAMP	Medway	0.29	**A**	A				PASS						
PATTAGUMPUS RD	Medway	5.68	**C**	A	**C**	B	A	FAIL		**B**		B		A
RAMP A ON FROM ROUTE 157	Medway	0.28	**A**	A				PASS						
RAMP B OFF TO ROUTE 157	Medway	0.26	**A**	A				PASS						
RAMP C ON FROM ROUTE 157	Medway	0.30	**A**	A				PASS						
RAMP D OFF TO ROUTE 157	Medway	0.26	**A**	A				PASS						
RD INV 3201747	Medway	0.02	**A**	A				PASS						
RD INV 3201915	Medway	0.02	**A**	A				PASS						
RD INV 3201916	Medway	0.02	**A**	A				PASS						
AROOSTOOK AV	Millinocket	0.28	**A**	A	**A**	A	A	PASS		**D**		D		
BATES ST	Millinocket	0.83	**A**	A	**F**	A	A	PASS	F	**F**		F		F
BIRCH ST	Millinocket	0.05	**A**	A	**A**	A	A	PASS		**F**		F		
CENTRAL ST	Millinocket	4.49	**B**	B	**D**	C	B	FAIL		**D**	D	C	B	A
CHERRY ST	Millinocket	0.09	**A**	A	**A**	A	A	PASS		**F**		F		
GRANITE ST	Millinocket	0.40	**A**	A	**F**	A	A	FAIL	F	**F**		F		A
KATAHDIN AV	Millinocket	0.77	**A**	A	**B**	B	A	PASS		**F**	F	C	B	
MEDWAY RD	Millinocket	0.85	**A**	A	**A**	A	A	PASS		**B**		B		
PENOBSCOT AV	Millinocket	0.35	**A**	A	**B**	B	A	PASS		**C**		C		
POPLAR ST	Millinocket	1.84	**A**	A	**D**	C	B	FAIL		**F**	F	C	A	
SECOND ST	Millinocket	0.08	**A**							**A**				A
STATE ST	Millinocket	0.19	**A**							**C**				C
SYCAMORE ST	Millinocket	0.12	**A**	A	**A**	A	A	PASS		**C**		C		
WASSAU ST	Millinocket	0.54	**A**	A	**C**	C	A	PASS		**D**		D		
Totals and Averages		58.54	**A**	A	**C**	B	A			**C**	C	C	B	B

Source: Maine DOT Customer Service Level Data. Road segments have been aggregated and retain lowest category rating.

A further assessment of the region's roads found that, overall, quality was generally *good* – 47.9% of roads – to *fair* – 24.8% of roads. It is important to note that the CSL and Inventory condition assessments are not comprehensive and do not cover all segments of roads.

Bridge Structures

Inventory of Bridges

Provided below is a summary of Katahdin area bridges and an assessment of their current condition. Conditions are measured as 9 being the best and 3 being the worst, while still passable.

Bridge Name	Bridge No.	Owner	Year Built	Condition			Inspection
				Deck	Super-structure	Sub-structure	
Smith Brook	5827	MDOT	1936	4	4	3	4/26/2017
Station Rd Culvert	5684	Millinocket	1936	4	4	5	2/1/2017
B&ARR/ BATES ST RR#104.64	3277	Railroad	1936	n/a	n/a	5	7/14/2016
Schoodic	2747	MDOT	2017	9	9	9	1/11/2018
Millinocket	2570	MDOT	1991	7	8	7	7/14/2016
Second Street	914	MDOT	1964	7	7	7	7/14/2016
State Street	909	MDOT	1950	7	4	5	7/14/2016
Granite Street	902	MDOT	1937	6	6	6	7/14/2016
Nicatou Bridge	818	MDOT	1997	7	8	7	9/5/2017
Rockabema Stream	880	Medway	1965	6	6	6	2/10/2017
I95 SB / Salmon Stream	1409	MDOT	1976	6	6	7	11/28/2016
Vaughn Daggett Mem SB	1410	MDOT	1966	6	6	6	10/26/2016
I95 SB / Route 116	1411	MDOT	1966	6	6	6	11/28/2016
East Branch Penobscot RV	2256	MDOT	1999	7	8	6	11/27/2017
Salmon Stream	2738	MDOT	1939	6	6	5	9/6/2016
Penobscot	3009	MDOT	2008	8	8	8	11/27/2017
I95 NB / Route 116	6007	MDOT	1966	5	6	6	11/28/2016
Vaughn Daggett Mem NB	6078	MDOT	1966	6	7	6	10/26/2016
RTE 157 / I95 Interchange	6141	MDOT	1966	5	7	7	11/27/2017
I95 NB over Salmon Stream	6164	MDOT	1966	7	6	6	11/28/2016

To ensure the sufficient replacement and improvement of aquatic organism passage during road construction and maintenance, municipalities in the Katahdin region will consult with State agencies (i.e. U.S. Forest Service, Maine Department of Inland Fisheries and Wildlife, etc.) for recommendations.

Inventory of Culverts maintained by MEDOT

Culvert Name	Culvert No.	Owner	Year Built	Condition			Inspection
				Culvert	Channel	Approach	
Penobscot Ave (Culvert)	906	Millinocket	1970	3	6	4	4/26/2017
Little Smith Brook	905	Millinocket	1919	5	6	4	2/10/2017
Granite Street	902	MDOT	1937	7	7	4	7/14/2016
Little Salmon Stream	2471	MDOT	1940	6	8	8	10/24/2017

Public Transportation

Bus and Shuttle Services

Cyr Bus Line[1]

The Cyr Bus Line's daily service from Bangor and points north helps connect the communities of East Millinocket, Millinocket, and Medway to the metropolitan area of Bangor, Maine. Once in Bangor, residents can connect to the Greyhound or Concord Bus Services (southbound), the Bangor International Airport, and the metropolitan public bus services Community Connector.

Penquis Transportation Services[2]

Penquis is a nonprofit organization that provides transportation services to every town in Penobscot County at least one day per week. Transportation services are available for the general public as well as veterans, seniors, low-income individuals, people with disabilities or mental health diagnoses, those needing cancer or dialysis treatments, and individuals with low-income. For qualifying individuals, trips are a small cost or free. Through Lynx Mobility Services, volunteer drivers and regional bus services provide rides to MaineCare appointments for eligible individuals. General public transportation for shopping, medical appointments, work and volunteering, recreation and entertainment, and visits to family and friends is available at least one day per week. Reservations are required for these services and must be made two full business days in advance.

Pamola Shuttle[3]

Pamola Shuttle provides taxi and shuttle services for the Katahdin region. The shuttle is available daily from 7:30am-2:00am and before 7:30am by appointment only.

Mobilize Katahdin - Volunteer Driver Program[4]

Mobilize Katahdin, a coalition of individuals and partner organizations led by the Millinocket Memorial Library, is currently working on establishing a volunteer driver program in collaboration with Age-Friendly Millinocket. Volunteer drivers will be recruited, trained, and dispatched throughout the Katahdin region. Additionally, Mobilize Katahdin helps coordinate and advocate on behalf of transportation dependent individuals for accessible transportation options in cooperation with regional providers.

Bicycle and Sidewalk Infrastructure

Michael Michaud Walking and Biking Trail[5]

Neither community has designated bicycle lanes, but the town of Millinocket has the Michael Michaud Walking and Biking Trail. The trail is an easy 1.6-mile paved loop starting at Crandall Park and following along the Millinocket Stream into residential neighborhoods throughout downtown Millinocket.

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[1] https://johntcyrandsons.com/ Accessed January 7, 2021.

[2] https://www.penquis.org/services/transportation/ Accessed January 7, 2021.

[3] https://thrivepenobscot.org/services/transportation/ Accessed January 7, 2021.

[4] http://mobilizekatahdin.org/ Accessed January 7, 2021.

[5] https://millinocket.org/government/recreation-department/ Accessed January 7, 2021.

Sidewalks

Sidewalks and pedestrian crossings in residential areas and the downtown commercial area are maintained annually by the Department of Public Works. A completed Community Development Block Grant (CDBG) program from the early 1990s restored many sidewalks in each community's downtown, with maintenance provided by those communities. All of these sidewalks are in good condition.

Sidewalks are important to maintain the quality of life and to support walkable community designations. They provide access to commercial and residential areas, recreational opportunities, and are an important safety feature of any heavily used roadway.

Waterways

Millinocket sees approximately eight miles of the West Branch of the Penobscot River between Dolby Pond and Quakish Lake. The Dolby Pond boat ramp, located on Rice Farm Road northeast of Shad Pond, provides access to Dolby Pond and sections of the Penobscot River. In East Millinocket, the former mill property and the Brookfield Dams impede access to the Penobscot River. However, there is a boat launch accessible through the paper mill property near the outfall of Spencer Brook Stream. This area between the Dolby Dam and the East Millinocket Dam provides excellent kayaking and canoeing opportunities. Public access should be addressed as the mill site is redeveloped. Medway has approximately 12.5 miles of the Penobscot River running through its boundaries, of which 9.4 miles of the Penobscot River are directly accessible by boat from the town's public boat landing located on Recreation Area Road. The remaining 3.1 miles, although not accessible by the public boat landing, are still accessible by other forms of recreational watercrafts such as canoes, kayaks, and white water rafts from various locations including along U.S. Route 11 and The Katahdin Woods and Water Scenic Byway.

Railways

East Millinocket, Millinocket, and Medway's access to railway service is vital to growing the region's economic health. The railway's presence will be a key selling point for industries and businesses considering locating to the region. Demand for freight rail is expected to increase as pressures on transportation labor availability, trucking regulations and pricing, and increasingly standardized rail infrastructure increases its competitiveness in North America.[1]

Canadian Pacific Railway maintains a station, yard, and extensive lines to both former paper mills in Millinocket and East Millinocket. Freight services are provided via 492 track miles stretching across Maine, Vermont, and Quebec. Interchanges with other rail carriers allow CP Railway to move goods to and from New England, New Brunswick and Quebec. Central Maine and Quebec Railway was launched in 2014 and invested more than $50 million in both direct capital and grant funds, leading to 64 miles of new rail installation and the acquisition of modern, high-horsepower, AC-traction locomotives for increased power and reliability. CMQ was purchased in 2019 by Canadian Pacific in an effort to consolidate Canadian rail connections across North America.[2]

[1] https://www.mckinsey.com/industries/travel-transport-and-logistics/our-insights/getting-freight-back-on-track# Accessed January 12, 2020.

[2] https://bangordailynews.com/2019/11/25/news/bangor/what-the-sale-of-almost-400-miles-of-train-track-will-mean-for-maine/ Accessed January 12, 2020.

Airways

The Millinocket Municipal Airport – built in 1938 and located at16 Medway Road – serves the towns of East Millinocket, Millinocket, and Medway. The current configuration includes two runways with a main terminal, three municipally owned hangers and three privately owned hangers, and thirteen tie-downs. Runway 11-29 is 4,713 feet long and has pilot controlled lighting; runway 16-34 is 4,007 feet long and, while unplowed in the winter, remains accessible to aircraft using skis.

The airport's operational hours are from 8 am to 5 pm or later, 7 days a week throughout the summer. During the winter months, the airport operates 8am to 5 pm only Monday through Friday. The airport has one to two attendants at any given time and offers aviation fuels, oils, filters, and pilot supplies including maps and charts. The airport also offers a car rental service.

In 2018, a new snow removal equipment (SRE) building was erected and taxies were repaired. The town is currently seeking grant opportunities to refurbish the runways.

Pipelines

Currently, there are no fuel pipelines in the three towns. However, each municipality has adequate water, sewer, and stormwater lines within their respective boundaries. East Millinocket has a leachate pipeline from the State owned landfill extending from Route 157 to the East Millinocket site.

Planned Capital and Maintenance Work

Much of Maine's transportation infrastructure is aging and in poor repair. A 2018 CNBC study of the nation's infrastructure as it pertains to commerce and business found that Maine ranked third worst, finding that 13.3% of bridges were deficient and 53% of roads are in poor or mediocre condition.[1] 73% of commercial goods in Maine are shipped by trucks on the state's highways, and a further 17% are delivered by parcel services.[2] Vehicle travel in Maine increased by 4% between 2000 and 2017 – slower than the national average, but still straining our existing roadways.[3] All of these deficiencies cost Maine motorists approximately $541 million every year in extra vehicle operating costs, such as added repairs and wasted gasoline.

The Brookings Institute found that between 2007 and 2017, national spending on transportation infrastructure fell by $4.2 billion.[4] State expenditure, however, accounts for 77.7% of all public infrastructure spending.[5] The Maine Department of Transportation has outlined $2.59 billion in spending for 2,051 individual projects for the years 2018, 2019, and 2020.[6] This budget is composed of federal and state sources, supplemented by $109 million in matching municipal funds. Nevertheless, the DOT estimates a shortfall of $232 million. Because transportation is such a crucial part of local and regional function, towns and municipalities are accountable for the many infrastructure needs unmet by state DOTs. Local governments spend approximately 4% of their annual budgets on highways and roads.[7]

Provided by the Maine DOT are the listed capital improvement projects and upgrades that have been included within the Work Plan for calendar years 2019-2020-2021 and 2020-2021-2022. The cost of each project along with scope of work and description are provided below. Note that work may extend into neighboring towns.

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[1] https://www.cnbc.com/2018/06/28/the-10-states-most-in-need-of-an-infrastructure-overhaul.html Accessed January 8, 2020.

[2] https://tripnet.org/wp-content/uploads/2019/07/Fact_Sheet_ME.pdf Accessed January 8, 2020.

[3] Ibid.

[4] https://www.brookings.edu/research/shifting-into-an-era-of-repair-us-infrastructure-spending-trends/ Accessed January 8, 2020.

[5] Ibid.

[6] https://www.maine.gov/mdot/projects/workplan/docs/2020/Work%20Plan_2020_2021_2022%20Jan_14_2020.pdf Accessed January 8, 2020.

[7] https://www.urban.org/policy-centers/cross-center-initiatives/state-and-local-finance-initiative/state-and-local-backgrounders/state-and-local-expenditures Accessed January 8, 2020. Local expenditure on other items includes: Elementary and Secondary Education – 40%; Health and Hospitals – 10%; Police and Corrections – 8%; Public Welfare – 4%; and Higher Education – 3%.

Maine DOT Work Plan Capital Projects, Programs, Maintenance, and Operations					
Year	**Town(s)**	**Asset(s)**	**Description**	**WIN/ID**	**Funding**
2019	Medway	Interstate 95	Clearing right of way on Interstate 95 between mile markers 243 and 244 on both the northbound and southbound lanes in Medway	WR 36903	$ 33,000
2019	Medway	Interstate 95 SB	Repairing rail, curb, fascia, post, drains, and curb cover on Vaughan Daggett Memorial SB Bridge (#1410) over the Penobscot River. Located 0.43 of a mile south of the Route 157 overpass.	WR 37334	$ 25,000
2019	Medway	Route 11	Repairs to maintenance building (#B35938) located on Route 11 in Medway 0.92 of a mile north of Route157	WR 35037	$ 120,000
2019	Millinocket	Granite Street	Repairing southern approach and wearing surface onGranite Street Bridge (#0902) over Millinocket Stream. Located 0.02 of a mile northeast of Congress Street.	WR 34562	$ 100,000
2019	Millinocket	Millinocket Municipal Airport	Safety and infrastructure improvements that may include the acquisition of snow removal equipment with a wildlife hazard site visit.	18699.01	$ 376,980
2019	Millinocket	Route 11	Ditching 10,560 LF and changing 4 cross culverts 1004008, 912718, 912722, 912844 on US route 11 in Millinoket. Starting just after the entrance of the Millinoket water company heading South for 2.02 miles on US route 11.	WR 36669	$ 201,000
2020	Benedicta Twp, Herseytown Twp,Medway, Sherman, T1 R6WELS	Interstate 95	Large Animal/Vehicle crash mitigation measures. Beginning at the T2 R9 NWP town line and extendingnorth 28.59 miles to the Crystal town line.	24221	$ 132,000
2020	Herseytown Twp,Medway, T1 R6 WELS	Interstate 95 NB	Beginning 1.31 miles north of the T2 R9 NWP town line and extending north 12.93 miles to the Hersheytown TWP town line.	23679	$ 6,630,000
2020	Long A Twp, Medway	Route 11	Replacing culverts (#890727, #102457) on Route 11.Located 3.40 miles north of the intersection of Route 157, and 3.00 miles north of Long A Twp.-T4 R9 NWP town line	WR 38612	$ 130,000
2020	Medway	Interstate 95	Removing delaminated concrete from underneath multiple Interstate 95 bridges (#1410, #6078, #3141, #6077, #6141) in Medway.	WR 40179	$ 33,000

2020	Millinocket	Millinocket Municipal Airport	Safety and infrastructure improvements that may include an Airport Master Plan Update to include a Wildlife Hazard Site Visit.	018699.02	$ 155,000
2020	Old Town - Medway	Interstate 95	Interstate signing Old Town- Medway	22942	$ 100,000
2021	East Millinocket, Grindstone Twp, Medway	Route 11	Beginning at Route 157 and extending north 4.38 miles to the Grindstone Twp line.	024489.00	$ 145,000
2021/22	Medway, T2 R8 NWP, T2 R9 NWP	Interstate 95 NB	Beginning 0.43 of a mile north of the Interstate 95 Exit 227 northbound on-ramp and extending north 14.85 miles.	023597.00	$ 3,690,000
2021/22	Millinocket	Millinocket Municipal Airport	Safety and infrastructure improvements that may include design and permitting for the reconstruction of Runway 11-29 and partial parallel Taxiway "D".	018699.03	$ 618,000
2021/22	Millinocket	Millinocket Municipal Airport	Safety and infrastructure improvements that may include an FAA reimbursable agreement for the design work associated with the reconstruction of Runway 11-29.	018699.04	$ 155,000
2021/22	Millinocket	Millinocket Municipal Airport	Safety and infrastructure improvements that may include an FAA reimbursable agreement for the construction work associated with the reconstruction of Runway 11-29.	018699.05	$ 309,000
2021/22	Millinocket	Millinocket Municipal Airport	Safety and infrastructure improvements that may include the reconstruction of Runway 11-29 and partial parallel Taxiway "D".	018699.06	$ 5,150,000
Source: Maine DOT Work Plans for 2019-2020-2021 and 2020-2021-2022.					

Safety Assessment

Notable High Collision Areas

The MDOT rates accidents according to a Critical Rate Factor (CRF), which corresponds to the number of times the actual accident rate exceeds the expected accident rate. Generally, a CRF of 1.0 or more indicates a higher than usual number of accidents at that specific intersection or stretch of road. A High Crash Location (HCL) is a location that exhibits a CRF equal to or greater than 1.0 and that has experienced at least eight crashes in the most recent 3-year period. According to 2017 data, neither East Millinocket nor Millinocket, have any high crash locations where traffic conflicts occur. Medway has several road segments with CRF ratings above 1.0, notably Grindstone Road / Route 11 (CRF 1.95), Pattagumpus Road / Route 116 (CRF 1.03), and Interstate 95 Northbound (CRF 1.79) and Southbound (CRF 1.08).[1]

During the five-year period between 2014 and 2019, the region experienced 670 vehicle crashes – an average of 134 per year. Of those crashes, only 7 – 1.0% – were fatal, compared to 0.4% statewide. 37.8% of crashes occurred during the winter, 23.6% during the spring, 21.0% during the summer, and 17.6% during the fall. The majority occur during the week and during the day when most people are commuting to and from work. Finally, 29.1% of regional accidents involved deer, 25.1% involved the driver leaving the road, 19.1% were rear-end collisions, and 15.5% occurred at an intersection.

[1] http://www.itemaine.org/trafficdata/highcrashlocations/ Accessed February 7, 2020.

All Vehicle Crashes: 2014-2019.												
	Penobscot Cty			E Millinocket			Medway			Millinocket		
	Total	%	Avg	Total	%	Avg	Total	%	Avg	Total	%	Avg
Total Crashes	**25,332**		5,066.4	**97**		19.4	**355**		71.0	**218**		43.6
Fatal	**104**	0.4%	20.8	**-**	0.0%	-	**4**	1.1%	0.8	**3**	1.4%	0.6
OUI	**734**	2.9%	146.8	**4**	4.1%	0.8	**8**	2.3%	1.6	**8**	3.7%	1.6
Distracted	**2,636**	10.4%	527.2	**7**	7.2%	1.4	**18**	5.1%	3.6	**26**	11.9%	5.2
Speeding	**3,940**	15.6%	788.0	**8**	8.2%	1.6	**66**	18.6%	13.2	**29**	13.3%	5.8
Month of Year												
Jan	**2,912**	11.5%	582.4	**11**	11.3%	2.2	**47**	13.2%	9.4	**26**	11.9%	5.2
Feb	**2,483**	9.8%	496.6	**14**	14.4%	2.8	**31**	8.7%	6.2	**23**	10.6%	4.6
Mar	**1,967**	7.8%	393.4	**6**	6.2%	1.2	**46**	13.0%	9.2	**20**	9.2%	4.0
Apr	**1,611**	6.4%	322.2	**6**	6.2%	1.2	**32**	9.0%	6.4	**12**	5.5%	2.4
May	**1,533**	6.1%	306.6	**5**	5.2%	1.0	**21**	5.9%	4.2	**10**	4.6%	2.0
Jun	**1,820**	7.2%	364.0	**6**	6.2%	1.2	**34**	9.6%	6.8	**21**	9.6%	4.2
Jul	**1,684**	6.6%	336.8	**9**	9.3%	1.8	**16**	4.5%	3.2	**22**	10.1%	4.4
Aug	**1,596**	6.3%	319.2	**7**	7.2%	1.4	**11**	3.1%	2.2	**15**	6.9%	3.0
Sep	**1,751**	6.9%	350.2	**5**	5.2%	1.0	**11**	3.1%	2.2	**17**	7.8%	3.4
Oct	**2,159**	8.5%	431.8	**5**	5.2%	1.0	**15**	4.2%	3.0	**21**	9.6%	4.2
Nov	**2,727**	10.8%	545.4	**6**	6.2%	1.2	**30**	8.5%	6.0	**8**	3.7%	1.6
Dec	**3,089**	12.2%	617.8	**17**	17.5%	3.4	**61**	17.2%	12.2	**23**	10.6%	4.6
Day of Week												
Sun	**2,705**	10.7%	541.0	**12**	12.4%	2.4	**34**	9.6%	6.8	**17**	7.8%	3.4
Mon	**3,655**	14.4%	731.0	**15**	15.5%	3.0	**62**	17.5%	12.4	**35**	16.1%	7.0
Tue	**3,856**	15.2%	771.2	**20**	20.6%	4.0	**50**	14.1%	10.0	**33**	15.1%	6.6
Wed	**3,844**	15.2%	768.8	**12**	12.4%	2.4	**44**	12.4%	8.8	**40**	18.3%	8.0
Thu	**3,755**	14.8%	751.0	**16**	16.5%	3.2	**57**	16.1%	11.4	**35**	16.1%	7.0
Fri	**4,310**	17.0%	862.0	**12**	12.4%	2.4	**64**	18.0%	12.8	**31**	14.2%	6.2
Sat	**3,207**	12.7%	641.4	**10**	10.3%	2.0	**44**	12.4%	8.8	**27**	12.4%	5.4

Time of Day												
12:00 AM	**388**	1.5%	77.6	**2**	2.1%	0.4	**5**	1.4%	1.0	**5**	2.3%	1.0
1:00 AM	**283**	1.1%	56.6	**2**	2.1%	0.4	**7**	2.0%	1.4	**1**	0.5%	0.2
2:00 AM	**275**	1.1%	55.0	**-**	0.0%	-	**6**	1.7%	1.2	**4**	1.8%	0.8
3:00 AM	**246**	1.0%	49.2	**1**	1.0%	0.2	**3**	0.8%	0.6	**-**	0.0%	-
4:00 AM	**351**	1.4%	70.2	**-**	0.0%	-	**10**	2.8%	2.0	**1**	0.5%	0.2
5:00 AM	**561**	2.2%	112.2	**3**	3.1%	0.6	**15**	4.2%	3.0	**3**	1.4%	0.6
6:00 AM	**850**	3.4%	170.0	**4**	4.1%	0.8	**15**	4.2%	3.0	**2**	0.9%	0.4
7:00 AM	**1,519**	6.0%	303.8	**6**	6.2%	1.2	**30**	8.5%	6.0	**11**	5.0%	2.2
8:00 AM	**1,198**	4.7%	239.6	**4**	4.1%	0.8	**16**	4.5%	3.2	**10**	4.6%	2.0
9:00 AM	**1,119**	4.4%	223.8	**8**	8.2%	1.6	**17**	4.8%	3.4	**9**	4.1%	1.8
10:00 AM	**1,247**	4.9%	249.4	**6**	6.2%	1.2	**14**	3.9%	2.8	**8**	3.7%	1.6
11:00 AM	**1,449**	5.7%	289.8	**8**	8.2%	1.6	**14**	3.9%	2.8	**25**	11.5%	5.0
12:00 PM	**1,517**	6.0%	303.4	**2**	2.1%	0.4	**12**	3.4%	2.4	**21**	9.6%	4.2
1:00 PM	**1,446**	5.7%	289.2	**3**	3.1%	0.6	**11**	3.1%	2.2	**18**	8.3%	3.6
2:00 PM	**1,681**	6.6%	336.2	**8**	8.2%	1.6	**21**	5.9%	4.2	**25**	11.5%	5.0
3:00 PM	**1,741**	6.9%	348.2	**4**	4.1%	0.8	**16**	4.5%	3.2	**12**	5.5%	2.4
4:00 PM	**1,955**	7.7%	391.0	**7**	7.2%	1.4	**20**	5.6%	4.0	**9**	4.1%	1.8
5:00 PM	**2,087**	8.2%	417.4	**8**	8.2%	1.6	**30**	8.5%	6.0	**13**	6.0%	2.6
6:00 PM	**1,338**	5.3%	267.6	**6**	6.2%	1.2	**13**	3.7%	2.6	**11**	5.0%	2.2
7:00 PM	**1,040**	4.1%	208.0	**3**	3.1%	0.6	**20**	5.6%	4.0	**10**	4.6%	2.0
8:00 PM	**985**	3.9%	197.0	**4**	4.1%	0.8	**17**	4.8%	3.4	**6**	2.8%	1.2
9:00 PM	**873**	3.4%	174.6	**5**	5.2%	1.0	**20**	5.6%	4.0	**5**	2.3%	1.0
10:00 PM	**650**	2.6%	130.0	**2**	2.1%	0.4	**14**	3.9%	2.8	**4**	1.8%	0.8
11:00 PM	**533**	2.1%	106.6	**1**	1.0%	0.2	**9**	2.5%	1.8	**5**	2.3%	1.0
Type of Crash												
Object in Road	**185**	0.7%	37.0	**1**	1.0%	0.2	**4**	1.1%	0.8	**-**	0.0%	-
Rear End	**8,295**	32.7%	1,659.0	**24**	24.7%	4.8	**29**	8.2%	5.8	**75**	34.4%	15.0
Head-on	**509**	2.0%	101.8	**4**	4.1%	0.8	**1**	0.3%	0.2	**11**	5.0%	2.2
Intersection	**4,251**	16.8%	850.2	**22**	22.7%	4.4	**15**	4.2%	3.0	**67**	30.7%	13.4
Pedestrian	**198**	0.8%	39.6	**1**	1.0%	0.2	**2**	0.6%	0.4	**3**	1.4%	0.6
Went Off Road	**6,185**	24.4%	1,237.0	**20**	20.6%	4.0	**106**	29.9%	21.2	**42**	19.3%	8.4
Other Animal	**159**	0.6%	31.8	**-**	0.0%	-	**4**	1.1%	0.8	**-**	0.0%	-
Bicycle	**115**	0.5%	23.0	**-**	0.0%	-	**-**	0.0%	-	**2**	0.9%	0.4
Other	**424**	1.7%	84.8	**-**	0.0%	-	**3**	0.8%	0.6	**4**	1.8%	0.8
Jackknife	**18**	0.1%	3.6	**-**	0.0%	-	**1**	0.3%	0.2	**-**	0.0%	-
Rollover	**187**	0.7%	37.4	**1**	1.0%	0.2	**6**	1.7%	1.2	**2**	0.9%	0.4
Fire	**137**	0.5%	27.4	**-**	0.0%	-	**1**	0.3%	0.2	**-**	0.0%	-
Moving Object	**80**	0.3%	16.0	**-**	0.0%	-	**1**	0.3%	0.2	**2**	0.9%	0.4
Bear	**60**	0.2%	12.0	**-**	0.0%	-	**2**	0.6%	0.4	**-**	0.0%	-
Deer	**4,201**	16.6%	840.2	**24**	24.7%	4.8	**167**	47.0%	33.4	**4**	1.8%	0.8
Moose	**292**	1.2%	58.4	**-**	0.0%	-	**12**	3.4%	2.4	**6**	2.8%	1.2
Turkey	**36**	0.1%	7.2	**-**	0.0%	-	**1**	0.3%	0.2	**-**	0.0%	-

Source: Maine DOT Public Crash Statistics

Notable Parties

The three Katahdin communities work collaboratively with Maine DOT and the U.S. Department of Transportation whenever possible to affect road and transportation maintenance and traffic permitting and improvement measures.

Millinocket Public Works

The Millinocket Public Works Department is responsible for maintaining the public roads and public infrastructure within Millinocket. As such, they oversee the maintenance of the cemetery, airport, and transfer station. The town is also responsible for the winter maintenance including 40 plus miles of public roadways, two schools, airport, public parkways, transfer station, and snow removal downtown.

East Millinocket Public Works

The East Millinocket Public Works Department is responsible for approximately 25 miles of public roadways. They are responsible for the summer and winter maintenance duties, including snow and ice removal and control. The Department also monitors and maintains the public's sewage, storm water, and water lines within the right of way.

Medway Public Works

The Medway Public Works Department is responsible for the winter maintenance of two State Aid roads totaling 9.64 miles, the winter and summer maintenance of 16.33 miles of its own roadways, and 15.26 miles of road contracted through Penobscot County and the County Commissioners office for winter maintenance operations. This contract includes Grindstone Township, Hersey Township and Soldier Township, all of which are on ME/U.S. Route 11 as well as on the Maine Scenic Byway, running parallel with the East Branch of the Penobscot River and leading to the entrance of the Katahdin Woods and Waters National Monument.

The Medway Public Works Department is also responsible for the summer and winter maintenance of the Medway Middle School, the operations of its Transfer Station, the maintenance of its four cemeteries, and the maintenance of its beach area, recreation facilities, and public boat landing on the East Branch of the Penobscot River.

Strategies and Policies

In order to encourage, promote, and develop efficient transportation services and facilities that will accommodate Medway, Millinocket and East Millinocket's future needs, local policies and implementation strategies have been developed in addition to the following state policies and implementation strategies:

State of Maine

Policies:

Minimum policies required to address state goals:

1. To prioritize community and regional needs associated with safe, efficient, and optimal use of transportation systems.
2. To safely and efficiently preserve or improve the transportation system.
3. To promote public health, protect natural and cultural resources, and enhance livability by managing land use in ways that maximize the efficiency of the transportation system and minimize increases in vehicle miles traveled.
4. To meet the diverse transportation needs of residents (including children, the elderly and disabled) and through travelers by providing a safe, efficient, and adequate transportation network for all types of users (motor vehicles, pedestrians, bicyclists).
5. To promote fiscal prudence by maximizing the efficiency of the state or state-aid highway network.

Strategies:

Minimum strategies to meet state goals:

1. Develop or continue to update a prioritized improvement, maintenance, and repair plan for the community's transportation network.
2. Initiate or actively participate in regional and state transportation efforts.
3. Maintain, enact or amend local ordinances as appropriate to address or avoid conflicts with:
    a. Policy objectives of the Sensible Transportation Policy Act (23 M.R.S.A. §73);
    b. State access management regulations pursuant to 23 M.R.S.A. §704; and
    c. State traffic permitting regulations for large developments pursuant to 23 M.R.S.A. 704-A.
4. Maintain, enact or amend ordinance standards for subdivisions and for public and private roads as appropriate to foster transportation- efficient growth patterns and provide for future street and transit connections.

Time Frame: Ongoing

Responsible Agent(s): Maine DOT, East Millinocket, Millinocket, Medway

Local

Millinocket

1. **Policy:** The town will maintain an appropriate system that will support the economy and social activities, and provide access to jobs, schools, and critical services that are vital to residents living in rural areas.
   Strategies: Maintain capital budgets that aggressively and responsibly provide roadway improvements. The town should make good faith efforts to address existing deficiencies and future needs, and ensure that private developments address transportation impacts.
   Time Frame: Ongoing
   Responsible Agent(s): Town Manager, Public Works Department, Wastewater Treatment, Planning Board, and the Town Council

2. **Policy:** Develop and update a long-range transportation plan for the town and involve the public and all of the other affected constituencies in all essential functions.
   Strategies: The town will support a transportation plan that will play a fundamental role in the community's vision. It will include comprehensive consideration of possible strategies; an evaluation process that encompasses diverse viewpoints; the collaborative participation of relevant transportation-related agencies and organizations; and open, timely, and meaningful public involvement. Included in the planning will be strategies to promote the region through signage (directional and interpretive) and kiosks particularly focusing on the scenic byway route of the Grindstone Road and the Katahdin Woods and Water Scenic byway. Planning will also address the various recreational pathways for ATV, snowshoe and skiing, snowmobiling, biking, and hiking.
   Time Frame: Ongoing
   Responsible Agent(s): Town Manager, Public Works, Town Council, and the public

East Millinocket

1. **Policy:** The town will maintain an appropriate system that will support the economy and social activities, and provide access to jobs, schools, and critical services that are vital to residents living in rural areas.
   Strategies: Maintain capital budgets that responsibly provide roadway improvements. The town should make good faith efforts to address existing deficiencies and future needs and ensure that private developments address transportation impacts. Develop and update a long-range transportation plan for the town and involve the general public and other affected constituencies.
   Time Frame: Ongoing
   Responsible Agent(s): Administrative Assistant, Public Works Department, Water and Wastewater Treatment and Board of Selectmen

2. **Policy:** The Town will work with other groups to assist in development of multi-use trails for recreational use and economic development.
   Strategies: To work with local clubs and organizations to develop a plan of action that supports through grants and other foundations, developments that will achieve the multi-use trail goal.
   Time Frame: Ongoing

Responsible Agent(s): Administrative Assistant, Recreation Director, Board of Selectmen and appropriate recreation and sports clubs in the region.

Medway

1. **Policy:** The Town will maintain and improve an appropriate road system that will give citizens the means to jobs, schools, social activities and critical services that are vital to residents living in rural areas.
   Strategies: Keep up-to-date on the town's ten-year road improvement plan and address any deficiencies; identify and future needs and ensure private development addresses any transportation needs and/or impacts.
   Time Frame: Ongoing.
   Responsible Agent(s): Administrative Assistant, Public Works Department and Board of Selectmen

2. **Policy:** The Town will work with other agencies and groups such as but not limited to East Branch Sno-Rovers and Maine Dept. of Transportation to create and expand on the multi-use trails and to promote our access to the Katahdin Woods and Waters Scenic By-Way.
   Strategies: Develop and update a long-range plan to address signage and transportation issues, and to involve local businesses, citizens and private groups to identify inconsistencies and problem areas.
   Time Frame: Ongoing
   Responsible Agent(s): Administrative Assistant, Public Works Director and Board of Selectmen

Chapter Twelve:

PUBLIC FACILITIES & SERVICES

Goals/Vision

State Goal

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

Local Goals

Millinocket

To maintain and upgrade current infrastructure while planning for future anticipated growth and economic development.

East Millinocket

To efficiently meet identified public facility and service needs. To provide public facilities and services in a manner that promotes and supports growth and development in identified growth areas.

Introduction

This section reviews existing public facilities and services and estimates future needs based on anticipated growth and economic development over the next decade. Each town has a different system of government and differing administration, but share common needs and geographic proximity. As such, efforts to consolidate services, when possible, are viable considerations to increase capacity while sharing and reducing costs.

Between 2018-2036, the Katahdin region's population is projected to decrease, with Millinocket losing nearly 10% of its population, East Millinocket experiencing a 16% decrease and an 8% decrease in Medway. The region's current municipal services are adequate to support future population and demographic changes. Currently, the region is working to manage overhead costs of overbuilt facilities that were originally intended to support a larger population.

General Municipal Administration

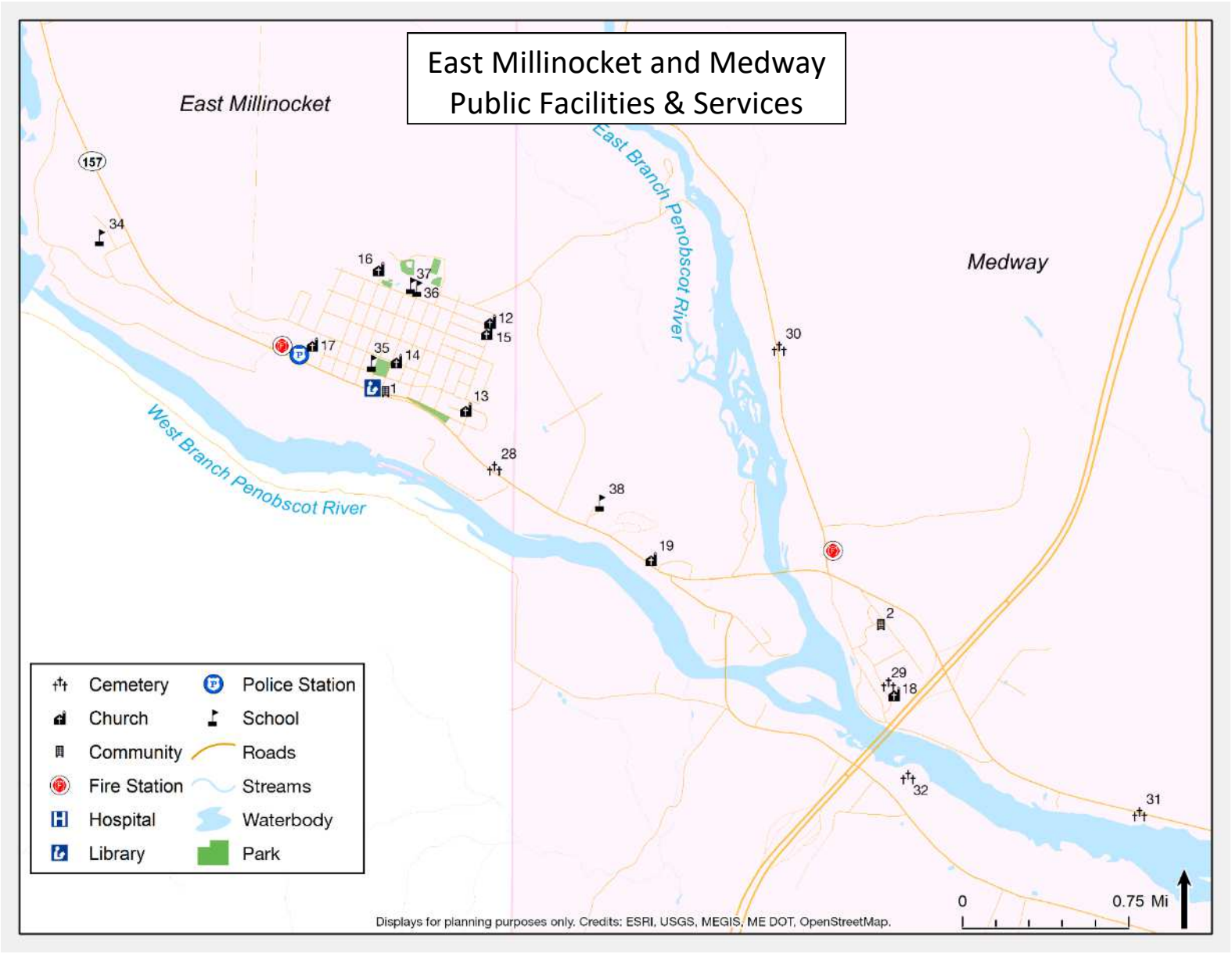
The municipalities of Millinocket, East Millinocket, and Medway are part of State Senate District #5, State House District #143, and U.S. Congressional District #2.

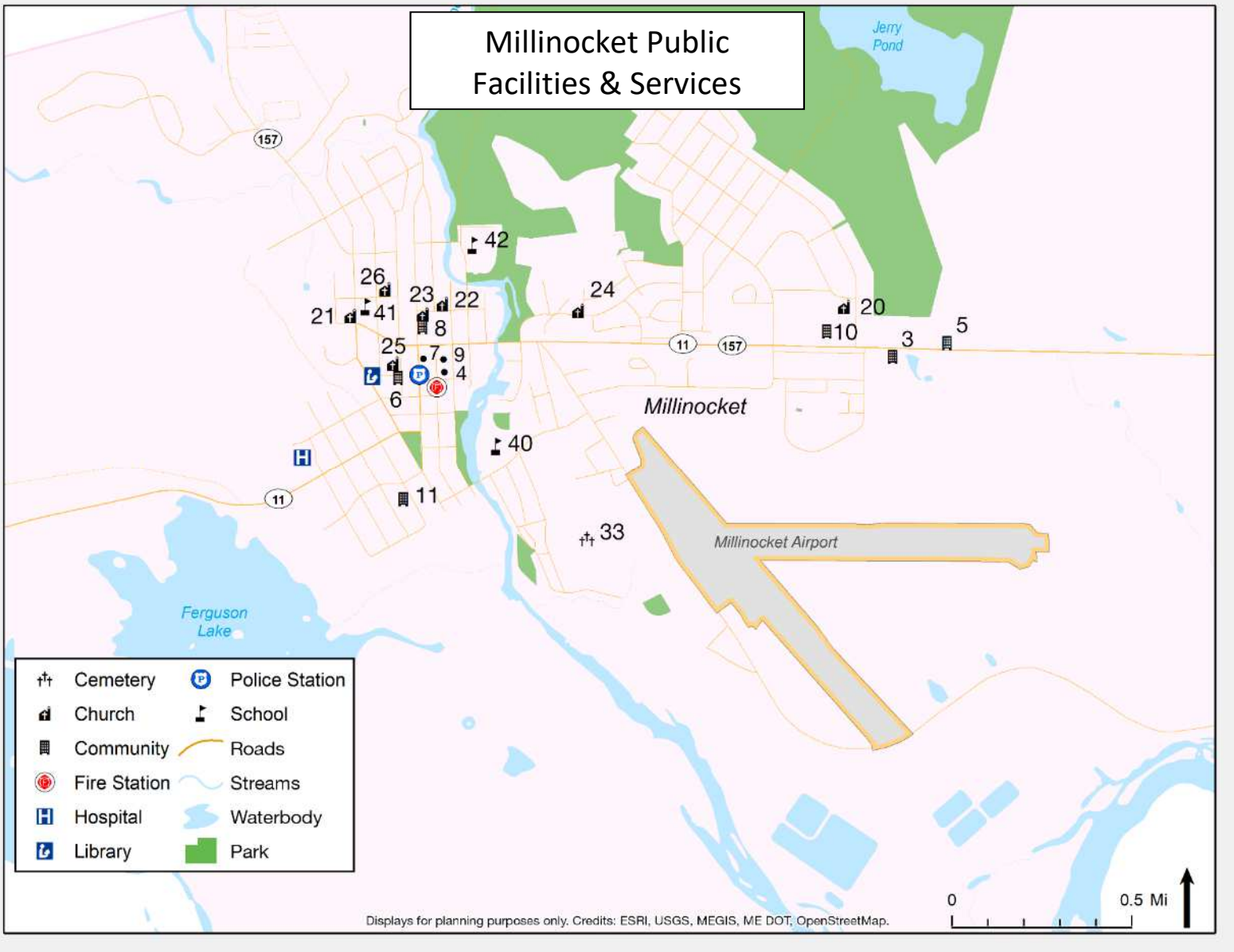
The Town of Millinocket has a Town Council / Town Manager form of government, where the manager is responsible for day-to-day operations. All municipal departments have capital reserve accounts for equipment and facilities costs, where applicable. The municipality also hosts a variety of services including: a licensing and clerk office; tax collections; planning board; board of assessment; board of appeals; code enforcement; licensed health inspection; electrical and plumbing inspection; human resources; and general assistance. The seven-member Council – including the Town Council

Chair –serves staggered three-year terms with elections held in November. The town's fiscal year runs from July 1st through June 30th with budget workshops held in May and/or June.

The Town of East Millinocket has a Board of Selectmen/Administrative Assistant form of government. The Board is currently comprised of four Selectmen and a Selectman Chair. Terms are staggered and elections are held in November. The administrative assistant is responsible for most of the day-to-day operations, with the Board retaining control over fiscal and personnel matters. The Selectmen's office processes water and sewer payments, building permits, electrical and plumbing permits, occupancy permits, code enforcement issues, and other general town business. The Selectmen meet on a bi-weekly basis. The town has a fiscal budget that runs from July 1st through June 30th, with the budget process starting in February or March.

The Town of Medway has a five-member board of Selectmen. They meet every other Monday, and the Board of Selectmen is considered the Assessor's for the town. The annual budget year runs from July 1st to June 30th.


East Millinocket and Medway
Public Facilities & Services
East Millinocket
Medway
East Branch Penobscot River
West Branch Penobscot River
157
34
16
37
36
12
15
17
35
14
1
13
28
38
19
30
2
29
18
32
31
Cemetery
Church
Community
Fire Station
Hospital
Library
Police Station
School
Roads
Streams
Waterbody
Park
0
0.75 Mi
Displays for planning purposes only. Credits: ESRI, USGS, MEGIS, ME DOT, OpenStreetMap.


Millinocket Public Facilities & Services
Jerry Pond
Millinocket
Millinocket Airport
Ferguson Lake
157
11
42
26
23
22
24
21
41
8
20
10
3
5
25
7
9
4
6
40
11
33
Cemetery
Church
Community
Fire Station
Hospital
Library
Police Station
School
Roads
Streams
Waterbody
Park
0
0.5 Mi
Displays for planning purposes only. Credits: ESRI, USGS, MEGIS, ME DOT, OpenStreetMap.

Education Facilities

Schools and Libraries			
Name	**Address**	**City**	**Map No**
East Millinocket Public Library	53 Main Street	East Millinocket	
Katahdin Area Higher Education Center	1 Dirigo Drive	East Millinocket	34
Katahdin Christian Academy	6 Beech Street	East Millinocket	35
Opal Myrick Elementary School	45 North Street	East Millinocket	36
Schenck High School	45 North Street	East Millinocket	37
Medway Middle School	25 School Street	Medway	38
Aroostook Ave School (closed)	70 Spring Street	Millinocket	
Granite Street School	191 Granite Street	Millinocket	40
Millinocket Memorial Library	57 Penobscot Avenue	Millinocket	
Millinocket Middle School (closed)	80 Maine Avenue	Millinocket	41
Stearns High School / Millinocket Middle School	199 State Street	Millinocket	42

Millinocket

- **Granite Street Elementary School:** Built in 1953 (expanded in 1963 and in 1998) the Granite Street School has a playground and 32,204 square feet of indoor space including a gymnasium and kitchen. There are 28 rooms used for offices, a library, and classrooms. The purpose of the 1998 addition was to consolidate all elementary students within one facility. Annual student registration (2018-2019) was 216.
- **Stearns High School:** Built in 1963, with renovations and additions in 1974 and 1998, Stearns High School is located beside the town recreation complex and fields. It has 124,000 square feet of indoor space on two floors, including a cafeteria, gymnasium, library, auditorium, locker rooms, three vocational shops, and 35 classrooms. The 1998 addition created two separate areas for the middle school and the high school students. Annual student registration (2018-2019) was 267.
- **Millinocket Middle School (closed):** Built in 1922 and renovated in 1941, the old Middle School building had 63,648 square feet of indoor space on three floors, including a gymnasium, auditorium, library, and nearly 40 other offices and classrooms. An addition to the new Stearns Junior/Senior High School facility allowed this school to be closed and students relocated in 1998. This facility has since been sold and developed as an assisted living facility.
- **Aroostook Avenue School (closed):** Built in 1915, the Aroostook Avenue School has a playground and 17,580 square feet of indoor space on two floors. There are nine rooms used for offices, a library, and classrooms. This school was closed in 1998 and the students were moved to the Granite Street School. The town sold the building to private owners who rent office spaces within the building to day care providers and other entities.

East Millinocket

East Millinocket is part of School Union 113, which includes the towns of East Millinocket, Medway and Woodville.

- **Opal Myrick Elementary School:** Opened in 1957, this public school serves approximately 148 students from pre-Kindergarten to 4th grade living in East Millinocket, Medway, and nearby unorganized territories. Located in the heart of East Millinocket, Opal Myrick serves students from East Millinocket and Medway. The school was relocated in 2011, now sharing a 62,000 square foot facility with Schenck High School including a gymnasium, cafeteria, auditorium, library, and traditional offices and classrooms. The building has been recently renovated including $2.4 million was spent in 2014-2015 on a new roof and entrance, made possible by a generous local benefactor as well as State funding. Grant funding was responsible in 2017 for an overhaul of the heating system, as well as improvements to the library, gym, and security systems. The school was awarded $450,000 through grants to renovate the school's performing arts center. That project is ongoing as of 2019-2020 school year.
- **Schenck High School:** Housed in the same building as Opal Myrick, Schenck High School consists of grades 9-12 and offers a rigorous curriculum including college enrollment courses via Eastern Maine Community College and several honors classes. A very popular Outdoor Education program offers students an opportunity to earn college credit and to take the Maine Guide exam. This program, offered in conjunction with EMCC, trains students using adventure-based experiential learning. Schenck High School also offers a variety of diverse extra- and co-curricular activities including opportunities to receive credit through work-study, community service, and independent study. Currently Schenck has an enrollment of 114 students (2019-2020).
- **Katahdin Christian Academy:** Opened in 2013, this private religious school is housed in the original Opal Myrick School built in 1926.

Katahdin Region Higher Education Center (KRHEC): Established in 1987, the Katahdin Region Higher Education Center is located in the Katahdin Regional Industrial Park off Route 157 in East Millinocket. The center offers both credit and non-credit courses as well as degree programs through a partnership with the Eastern Maine Community College and the University of Maine Augusta System. KRHEC also assists business and industry by providing customized apprenticeship training.

Medway

- **Medway Middle School:** The middle school opened in 1977 and supports a population of 113 students. The school houses 30 offices and classrooms, a library, a gymnasium, and portable cafeteria and lunchrooms. Additionally, the school can serve as a free space for functions such as receptions, family reunions, and benefit suppers. The school serves grades 5 through 8 for the communities of Medway, East Millinocket, and Woodville.

In 2014, a feasibility study was conducted to determine if Stearns High School in Millinocket could accommodate grades K through 12, and to identify constraints, code issues, and costs related to implementing such a plan. The study concluded two findings: First, that student capacity of these schools was considerably larger than required by the current school populations. Second, the plans created to integrate all grades in one facility were feasible. Review of code requirements showed that building modifications would be required, but were not significant. Thus, this school consolidation can serve as a model for areas where school infrastructure overserves a reduced student population.

It is important that enrollment and population statistics are analyzed in similar jurisdictions to reduce costs, but also that valuable municipal-owned property is used to its fullest potential.

Community Facilities

Faith-Based Services

Below is a list of faith-based services within the area:

Churches			
Name	**Address**	**Town**	**Map No**
Calvary Temple Assembly of God	2 Orchard Street	East Millinocket	12
First Baptist Church of East Millinocket	2 Oak Street	East Millinocket	13
First Congregational Church	11 Maple Street	East Millinocket	14
Living Hope Church of the Nazarene	1 Palm Street	East Millinocket	15
Saint Peter's Catholic Church	58 Cedar Street	East Millinocket	16
Tri Town Baptist Church	8 Cone Street	East Millinocket	17
Congregational Church of Medway (historic)	Church Street	Medway	18
Glad Tidings Church of God	2181 Medway Road	Medway	19
Faith Baptist Church	244 Massachusetts Avenue	Millinocket	20
First Congregational Church of Millinocket	274 Katahdin Avenue	Millinocket	21
I Care Ministries	45 Spring Street	Millinocket	22
Millinocket Baptist Church	297 Penobscot Avenue	Millinocket	23
Millinocket Church of the Nazarene	134 Forest Avenue	Millinocket	24
Saint Andrew's Episcopal Church	40 Highland Avenue	Millinocket	25
Saint Martin of Tours Catholic Church	18 Colby Street	Millinocket	26

Cemeteries

Millinocket owns and maintains one cemetery, which contains tombstones dating back to the early 1900s. Although it is anticipated that enough land remains to meet local needs for the next ten years, especially with an expansion in 2004, the problem of "overlap" still exists. A recent study has identified plots to meet clerical needs, however, due to documentation errors some lots were sold twice. The community is addressing the issue and has taken steps to ensure that this does not occur again.

East Millinocket owns and maintains one cemetery as well, with tombstones dated prior to 1900. Current residents and individuals who establish residency of no less than 15 years in a lifetime and who no longer reside in East Millinocket can purchase cemetery lots. Due to space constraints, the Town is looking at incorporating a mausoleum in the near future.

Medway has several cemeteries dating back to the mid 1800's. Fiske Cemetery is located on Church Street and adjacent to the Old Medway Church. The town also is home to Pattagumpus Cemetery (historic), Lynch Cemetery, Pine Tree Cemetery (historic), Grindstone Cemetery, and Stanley Cemetery (private). The Grindstone Cemetery is open for lot purchases and expects that it will sustain the town over the next twenty years.

Cemeteries			
Name	**Address**	**Town**	**Map No**
East Millinocket Cemetery	Medway Road/ Rte 157	East Millinocket	28
Fiske Cemetery	Church Street	Medway	29
Grindstone Road Cemetery	Grindstone Road/ Rte 11	Medway	30
Lynch Cemetery	Medway Road/ Rte 157	Medway	31
Pine Tree Cemetery	Pine Tree Cemetery Road	Medway	32
Saint Martin of Tours Cemetery	East Avenue	Millinocket	33

Libraries

The Millinocket Memorial Library is located on the corner of Hill Street and Maine Avenue. It was built in 1963 and is in excellent condition. With split-level construction and an area of 9,000 square feet, the library provides a number of services including a book collection with approximately 40,000 volumes and an annual circulation fluctuating between 47,000 and 51,000. There are three full-time staff and five part-time staff members. The library also hosts the Katahdin Gear Library – a lending library, outdoor adventure club, and public space for people of all ages to access equipment and tools, information, and leadership. Ultimately, the goal is to connect people around a common interest in outdoor adventure and recreation. KGL currently checks out bikes, backpacks, kayaks, paddleboards, canoes, skis, and snowshoes. In 2017, the library launched the Centennial Renovation project, which will house the facility in a new building. The Next Generation Foundation provided a major grant to begin the $1.25 million capital campaign, with further investments by foundations, businesses and individuals. Construction began in the spring of 2019 with anticipated completion in the spring of 2020.

The East Millinocket Public Library is located at 53 Main Street. It was built in 1938 and is in fair condition. This public library is funded by grants and donations, and contains 25,000 volumes in its collections. The library staff consists of an administrative assistant acting as director in addition to a staff of volunteers. The library received over 1,100 visitors during the 2018-2019 year.

The Town of Medway does not have a public library.

Neither of the library's collections resides solely within the building. The increase in technology, the internet, and the acceptance of electronic interlibrary loans has enabled library patrons to access materials statewide, nationwide, and even internationally. Electronic databases that cost millions of dollars have been leased at a fraction of the cost through funding from the Maine State Library and the University of Maine. These databases are available to every citizen and may be accessed at any library in the state at no cost.

Community Organizations/Groups

Below is a list of Community Organizations and Groups located in the region:

Community Organizations			
Name	**Address**	**Town**	**Map No**
East Millinocket Municipal Building	53 Main Street	East Millinocket	1
Daughters of Isabella, #545	58 Cedar Street	East Millinocket	
Medway Town Office	4 School Street	Medway	2
American Legion	970 Central Street/ Rte 157	Millinocket	3
Elks Lodge	213 Aroostook Avenue	Millinocket	4
Katahdin Chamber of Commerce	1029 Central Street/ Rte 157	Millinocket	5
Knights of Columbus, #680	27 Highland Avenue	Millinocket	6
Millinocket Municipal Building	197 Penobscot Avenue	Millinocket	7
Nollesemic Masonic Lodge	27 Spruce Street	Millinocket	8
Our Katahdin	245 Aroostook Avenue	Millinocket	9
Thrive Penobscot	899 Central Street/ Rte 157	Millinocket	10
Veterans of Foreign Wars (closed)	40 Oxford Street	Millinocket	11

Public Safety

Fire & EMT

The Millinocket Fire Department currently consists of a fire chief supported by an assistant chief and four professional full-time firefighters/EMTs and 15 on-call firefighters. Many of these personnel hold EMT or paramedic licensure. Training for fire and ambulance personnel is ongoing to comply with new safety laws, which are regularly updated. All ambulance personnel are licensed. All major fire department equipment is reported to be in good condition. The major equipment of the Millinocket Fire Department consists of the following:

- Pumper trucks (2)
- Chief's vehicle (1)
- Emergency power plant (2 – 10,000 watts)
- Ambulances (3)
- Rescue snowmobile and trailer (1)
- Rescue-Boggan's (2)
- Rescue boat (1)

The Millinocket Fire Department's main facility is located on Aroostook Avenue and was built in 1939. The fire department also supplies services – by written agreement with Penobscot and Piscataquis County governments – to the unorganized areas surrounding Millinocket and has a written mutual-aid agreement with the Town of East Millinocket.

The East Millinocket Fire Department is led by the Fire Chief who also serves as the Ambulance Director for the community. The Chief is supported by a staff of 12 on-call volunteer firefighters, two captains and two lieutenants, six full-time paramedics, five per diem paramedics, six per diem Advanced EMTs, six EMTs, and 12 per diem drivers. East Millinocket also offers 24-hour EMS service for the town of Lincoln and covers a service area as far east as Kossuth, south to Enfield, to Chester, and North to Reed Plantation. The East Millinocket station is staffed with 24-hour coverage consisting of a firefighter and one paramedic/EMT. Training for fire and ambulance personnel is

ongoing in compliance with safety laws. All ambulance personnel are licensed. All major fire department equipment is reported to be in good condition. The major equipment of the East Millinocket Fire Department consists of the following:

- Pumper trucks (2)
- Emergency Response Vehicle (1)
- Ambulances (7)
- Light/Power Plant (1-shared)
- Snowmobile/rescue sled (1)
- UTV with Tracks and Rescue Bed (1)

The East Millinocket Fire Department was founded in 1907 with the help of the Great Northern Paper Company. It has been housed in its current facility, located at 125 Main Street, since 1976. In 2013, EMFD formed the East Millinocket/Lincoln Ambulance Service, which covers approximately 1,100 square miles and provides coverage to 14 communities and over 30 miles of Interstate 95. The ambulance service provides hospital and Veteran's Administration transfers from Maine to New Hampshire, Massachusetts, Connecticut, and Vermont.

The Town of Medway operates their own fire department, which is located at 23 Grindstone Road. The Medway Fire Department, founded in 1973, has one full-time chief and 13 paid, on-call firefighters who respond to an average of 90 calls per year. The fire department employs a deputy chief, a captain, a lieutenant, junior and senior firefighters, and traffic control personnel. Medway Fire Department operates the following heavy equipment:

- Engine tanker 881 and Engine tanker 882
- Tanker/Brush 884
- Utility Vehicle 887

The Medway Fire Department covers all of Medway, including Interstate 95 (Mile 242 to Mile 249). They are also responsible for responding to emergencies in Molunkus Township, and provide mutual aid to the Towns of East Millinocket, Mattawamkeag, Millinocket, and Sherman.

Police

In Millinocket, the police services are provided via contract by East Millinocket Police Department (EMPD). The chief is supported by detective-sergeant, three police officers hired in December of 2020 and ten reserve officers from EMPD. One animal control officer exists to provide support to both police and fire departments. Dispatch is handled through Penobscot County Regional Dispatch. The Police Department is located in the lower levels of the Municipal Building. Incarceration facilities in the Millinocket Police Department allow for a maximum of a four-hour detention period. In cases where a longer detention is necessary, local police utilize the Penobscot County Jail in Bangor.

East Millinocket employs a full-time police chief whose office is based at 125 Main Street. The Police Department provides 24-hour law enforcement coverage for the communities of East Millinocket and Medway. Staffing consists of two full-time sergeants, the police chief, and a number of reserve officers. The police also act as the Town's animal control officers. East Millinocket does not allow for periods of incarceration and utilizes the Penobscot County Jail in Bangor.

The Millinocket and East Millinocket Police Departments work with State and regional investigators. The County Sheriff and State Police maintain certain jurisdictions over the town. In the event of an

emergency in the unorganized areas surrounding the communities, other law enforcement agencies may request response assistance from the Millinocket and East Millinocket Police Departments.

Public Works

Road Surface Management System

A Road Surface Management System (RSMS) is a software tool to help town officials take care of their roads more efficiently by managing both time and money. Road funds are managed by finding cost-effective ways to distribute finite dollars among the many roads that need attention. Time is managed by taking into account the life expectancy of different types of road repairs to establish when and how often the work should be performed.

Currently the towns monitor road conditions and have a schedule for road maintenance.

Road Maintenance

In Millinocket, Public Works is responsible for 41 miles of road, which consists of snow plowing. They also clear snow at two schools, one airport, parking areas, transfer station, and downtown. They are responsible for all snow removal operations during the daytime and nighttime. The town has been broken up into four sections with four plow trucks dedicated to each. A wheeler and a grader clear main routes during larger storms, when necessary. The town owns a trackless sidewalk plow to assist in the removal of snow on sidewalks at the schools and in the downtown area. A newly built building at the airport will be useful in storing winter maintenance equipment, extending the life of that equipment.

The Public Works Department of East Millinocket is in charge of approximately 25 miles of urban streets and rural roads, including 282 storm drains. Maintenance includes both summer duties and winter snow and ice control. The department also assists in maintaining the Town's sewer lines. A staff of one lead-man, a mechanic, and two other employees perform public works for the community.

In Medway, a staff of three perform public works for the community. This includes road maintenance during both summer and winter months, assuring that roads and adjacent walkways are clear of snow, ice, and debris.

Emergency Shelters

For each community, the Fire Chief functions as the Emergency Preparedness Director. Emergency shelter locations include:

<u>Millinocket</u>

- St. Martin of Tours Roman Catholic Church
- Stearns Junior/Senior High School
- Public Works Garage

<u>East Millinocket</u>

- Schenck High School

<u>Medway</u>

- Medway Middle School
- Medway Fire Station (including backup power supply)

Public Utilities

The following utilities, media, and infrastructure services cover Millinocket, East Millinocket, and Medway. No needed improvements to telecommunications have been identified.

Electric Company(s)

- Versant Power - Bangor Hydro Electric Corporation

Telephone/ Broadband Provider(s)

- Consolidated Communications
- Bee Line
- GWI
- DirectTV
- Dish Network (?)

Television, Cable, and Radio

- WLBZ – Channel 2 (NBC affiliate)
- WABI – Channel 5 (CBS affiliate)
- WVII – Channel 7 (ABC affiliate)
- Maine Public Broadcasting System (PBS) – Channel 12
- WSYY 94.9 Radio Station
- WMEM 106.1 Radio Station (Maine Public)

Newspaper Provider(s)

1. The Lincoln News (weekly)
2. Bangor Daily News (daily)
3. Portland Press Herald (daily)

Postal Service

Millinocket's Post Office – 04462 – is located at 113 Penobscot Avenue near the municipal building. Although many residents have a post office box, most mail is delivered through a carrier. East Millinocket's Post Office – 04430 – is located at 95 Main Street in close proximity to the Town Office. Medway hosts its Post Office – 04460 – is located at 2070 Medway Road. Direct carrier service is provided for home delivery.

Solid Waste Management

Millinocket operates a Transfer Site and Recycling Facility – opened in 1977 – for residents and small commercial businesses. Currently there are two full-time employees and two part-time employees responsible for the facility. The building has two hoppers for depositing trash and two compactor units to move the trash into transport trailers. Prior to environmental law changes in 1991,

Millinocket's trash went to the Great Northern - Katahdin Paper Company's landfill at Dolby about 5 miles away. Since October of 1991, trash has been hauled to Penobscot Energy Recovery Company (PERC) in Orrington, Maine, approximately 90 miles away. The town recently switched to Fiberight, LLC, for its waste disposal and recycling needs. The current Millinocket facility has a fee-for-collection area for scrap metal, tires, and some demolition debris materials. The town has a mandatory recycling program in place for cardboard, plastic jugs, newsprint, magazines, paperboard containers and glass jars; however, enforcement of this mandatory program continues to be difficult.

East Millinocket maintains a Transfer and Recycling Facility, staffed by a Transfer Station Attendant. Located on Main Street, the site accepts municipal solid waste and waste oil. The current facility has a collection area for scrap metal, tires, and some demolition debris. There is a disposal fee charged to residents for the deposit of these materials. The town has a mandatory recycling program in place for cardboard, plastic, paper and paperboard, and glass.

Medway's Transfer Site employs two employees and one "fill-in" employee to process municipal solid waste, white goods and bulky wastes, tires, and roofing materials. It is located on Grindstone Road adjacent to the East Branch Penobscot River.

Currently, the solid waste management systems are meeting the needs of the three municipalities.

Public Water

Maine Water Company, formerly Aqua Maine, supplies nearly all water used in Millinocket. A major exception is One Katahdin, formerly Great Northern Paper Company, which operates a private water system. Only a few buildings in outlying areas have private wells, including the outer limits of Morgan Lane, Rice Farm, Godding Cement, and other structures located in the annexed portion of town. The water is drawn from Ferguson Pond, treated in the filtration plant, and distributed through a system of water mains. There are two steel standpipes in town: one on the Golden Road (500,000 gallons) and one in the New Development (244,000 gallons). Service connections to the existing system are estimated at five to ten per year over the next ten years. Development outside of the existing service area will need to be regulated to reduce duplicative or overbuilt water infrastructure.

East Millinocket Water Works – established in 1979 – was purchased from General Waterworks Corporation who operated the water system starting in 1907 since the Town's incorporation. The majority of the Town's underground water distribution system was designed and installed by the Great Northern Paper Company roughly 50 years ago. The well system pumps an average of 600,000 gallons per day to 861 service connections.

Currently the Town's water sources are three gravel packed wells located on Hathaway Road. Water Works personnel, led by the Utility Superintendent, are responsible for routinely monitoring and treating the water supply according to Federal and State laws; however, they also work to maintain approximately 28 miles of water lines and 110 fire hydrants and other related maintenance. Since the town has taken over the waterworks, they have replaced and/or upgraded 55 of 110 hydrants in the system. Ongoing work to replace 1,200 feet of supply pipe, installation of two fire hydrants, and upgrades to storage and pump systems is expected for 2019 and 2020.

Medway is supplied by mostly private water wells with the exception of Wilderness Drive, which receives municipal water from the town of East Millinocket.

Wastewater Treatment Plant

The Millinocket Sewer System consists of approximately twenty-seven miles of line, including gravity flow lines, five forced mains, three intercepting sewers, five pumping stations, and a treatment facility. The lines range in installation date between 1900 and present. These are made of clay, cast iron, concrete, and PVC materials. The Wastewater Treatment Facility was constructed between 1977 and 1979 and employs three licensed technicians. Treatment at the facility is accomplished by biological treatment as provided by an aerated pond system. Effluent from the facility is discharged in the West Branch of the Penobscot River. The wastewater treatment facility can process only sanitary wastewater, as mandated by the waste discharge license issued by the Department of Environmental Protection.

The estimated populations used in projecting sewer demand and construction were higher than the current population levels. There are currently 2,200 private and public hook-ups, however the maximum capacity is capable of serving a population of 12,000 people. Managing the overhead for such an overbuilt facility is a priority for many municipalities experiencing population decline. The Town of Millinocket is evaluating the construction of a solar energy array on the grounds of the wastewater treatment facility as a way to defray energy costs for the town.

The East Millinocket Wastewater Treatment Facility was established in 1984 and operates approximately 24 miles of sewer lines, 124 sewer manholes, and other related maintenance. It consists of one gravity sewer and one pump station. The Town's primary wastewater treatment facility originally consisted of an exterior headworks facility, primary clarifiers, and sludge pumping and dewatering facilities. Secondary treatment was handled by the former Great Northern Paper Company's plant, which was built in 1975. In 2014, the mill declared bankruptcy and the town took ownership of that treatment facility in June of 2015. The facilities also handle run-off from the Dolby Landfill, which can double the volume of treated water in the spring season.

An engineering firm was hired to address the now oversized and aging facilities, as well as to explore the construction of a new plant as well as extensive site work such as the demolition of old town- and mill-owned facilities. The Town procured $10 million from sources such as the USDA, Community Development Block Grants, Maine State Revolving Funds, and local tax dollars. The facility became operational in August of 2019 and is overseen by a Utility Superintendent and a Wastewater Operator.

Similar to its water supply, Medway is primarily serviced by privately owned septic systems maintained by homeowners. Failing septic systems can cause groundwater contamination. Contaminated water can also seep into water bodies or into subsurface drinking water.

General Assistance

Healthcare Services

Millinocket Regional Hospital is a Critical Care Facility licensed for 25 beds and located at 200 Somerset Street. In FY 2016, MRH served over 2,100 patients, a 2.69% increase from FY 2015.[1] The hospital is a non-profit community hospital, which provides inpatient and outpatient medical, surgical, pediatric, and obstetric-gynecological services as well as walk-in services to Millinocket, East Millinocket, Medway, and other surrounding communities. The hospital is fully accredited by the Joint Commission on Accreditation of HealthCare Facilities and is licensed by the Maine Department of

[1] http://www.mrhme.org/wp-content/uploads/2014/05/MRH-periodic-eval.pdf Accessed February 21, 2020.

Human Services. It is also a member of the American Hospital Association and Maine Hospital Association.

The hospital operates several satellite facilities including a Walk-in Care clinic located at 87 Main Street in East Millinocket. This facility provides timely and cost-effective treatment for non-emergency conditions including cuts, burns, colds and flus, ear infections, and functions as an occupational health care provider. The White Birch Medical Center located at 899 Central Street in Millinocket offers rehabilitation, lifestyle, and physical therapy services.

A number of local and independent doctors operate their own offices serving the three towns. The Katahdin Nursing Home is a 36-bed elder living and rehabilitation facility located at 22 Walnut Street in Millinocket. The Ben Fiske Health Center located at 1930 Medway Road in Medway provides Medicaid and Medicare qualified primary care services. Katahdin Valley Health Care is a multi-service center providing Millinocket with primary care, behavioral health, podiatry, massage therapy, optometry, physical therapy, dental care, chiropractic care, pharmacy, acupuncture, pediatrics, and walk-in care services.

Health Access Network is a federally qualified healthcare center serving populations including low income and uninsured individuals. It is based in Lincoln, Maine, but maintains offices in Medway and Millinocket. The Medway office provides family medical care, laboratory services, behavioral health counseling, and case coordination while the Millinocket office provides behavioral healthcare counseling. Residents of all three Katahdin communities have access to the Lincoln-based center for dental care, walk-in care, podiatry and foot surgery, osteopathic manipulative treatment, occupational health, lab and x-ray services, and case coordination. Lincoln is approximately 34 miles from Millinocket.

Social Security Office(s)

The closest office for the communities is the Bangor Social Security Office located at 202 Harlow Street in Bangor, Maine.

Bureau of Motor Vehicles

The Bureau of Motor Vehicles does not host a permanent location in Medway, East Millinocket or Millinocket. However, on the Friday following the 3rd Tuesday of every month, the BMV Mobile Unit is located at 970 Outer Central Street in Millinocket.

Strategies & Policies

In order to provide public facilities that meet the current and future needs of the Katahdin Region, local policies and implementation strategies have been created in addition to the following state policies and implementation strategies.

State of Maine

Policies:

Minimum policies required to address state goals:

1. To efficiently meet identified public facility and service needs.
2. To provide public facilities and services in a manner that promotes and supports growth and development in identified growth areas.

Strategies:

Minimum strategies to meet state goals:

1. Identify any capital improvements needed to maintain or upgrade public services to accommodate the community's anticipated growth and changing demographics.
2. Locate new public facilities comprising at least 75% of new municipal growth-related capital investments in designated growth areas.
3. Encourage local sewer and water districts to coordinate planned service extensions with the Future Land Use Plan.
4. If public water supply expansion is anticipated, identify and protect suitable sources.
5. Explore options for regional delivery of local services

Time Frame: Ongoing

Responsible Agent(s): State of Maine, East Millinocket, Millinocket

Local

Millinocket

Policies:

1. To meet identified public facility and service needs efficiently.
2. To provide public facilities and services in a manner that promotes and supports growth and development in identified growth areas.

Strategies:

1. Identify any capital improvements needed to maintain or upgrade public services to accommodate the community's anticipated growth and changing demographics.
2. Locate new public facilities comprising at least 75% of new municipal growth-related capital investments in designated growth areas.
3. Encourage local sewer and water districts to coordinate planned service extensions with the Future Land Use Plan
4. If public water supply expansion is anticipated, identify and protect suitable sources.
5. Explore options for regional delivery of local services and continue to network regionally.

East Millinocket

1. **Policy:** *None at this time*
   Strategies:
   Time Frame:
   Responsible Agent:

Medway

1. **Policy:** *None at this time*
   Strategies:
   Time Frame:
   Responsible Agent(s):

Chapter Thirteen:

FISCAL CAPACITY & CAPITAL INVESTMENT

Goals/Vision

State Goal

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

Local Goals

Millinocket

To plan for, finance and develop an efficient system of public facilities and services to accommodate anticipated growth and economic development while both increasing the tax base and reducing financial stress on residential taxpayers.

East Millinocket

To strategically forecast funding needs for community public services and capital investments to support continued delivery of needed services by the citizens of the Town and to support economic growth and prosperity.

Introduction

The towns of Millinocket, East Millinocket and Medway determine the cost to provide basic services and evaluate the impact municipal spending will have on their residents. Common in Maine, municipal property tax revenues are a primary funding source. Municipal finance stability is the fundamental responsibility of each community and must be responsive to shifting priorities from year to year by appropriately managing capital reserve accounts and ongoing public service expenditures. Grant funding has assisted in reducing local costs while expanding improvements to public services and infrastructure.

Overall Assessment

Municipal finances can generally be described as governmental or business-type activities. Governmental activities are funded through taxes and intergovernmental revenues and generally include any capital assets and liabilities. These include general administration, public safety, education, social programs, and street and road maintenance. Business-type activities are generally funded by fees for services provided and are reported under enterprise funds. These include things like public utilities, sewer and water services, and landfills and trash removal. Both Millinocket and East Millinocket report separate governmental and business-type activities, while Medway only reports governmental activities.

Revenues and Expenses

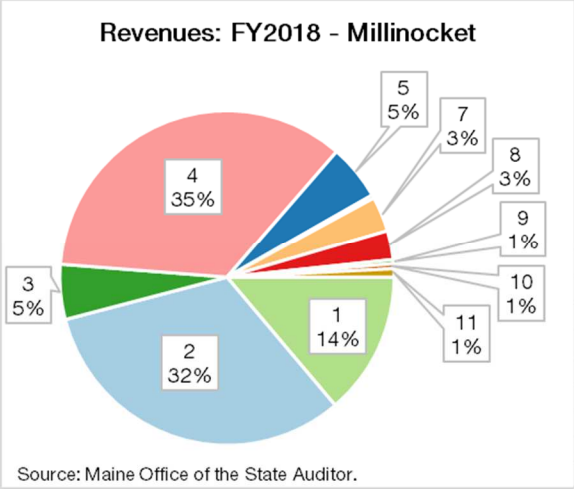
Revenue is generally divided into funds from specific programs – schools, municipal operations, utilities, and so on – and general revenues from taxes and other intergovernmental funds. Like other former mill towns, the Katahdin region relied heavily on the paper companies to pay a high proportion of local taxes, making them by far the largest taxpayer. The closure of the mills in East Millinocket and Millinocket has resulted in significant changes to tax revenue structures that financed municipal obligations.

The bulk of municipal revenues in all three towns come from charges for services, from operating grants, and from property taxes. Charges for services include protection and safety, education, public utilities such as sewer and water, and health and human services. In FY 2018, Millinocket sourced 13.8% of its revenues from these charges, East Millinocket 39.0%, and Medway 19.7%.

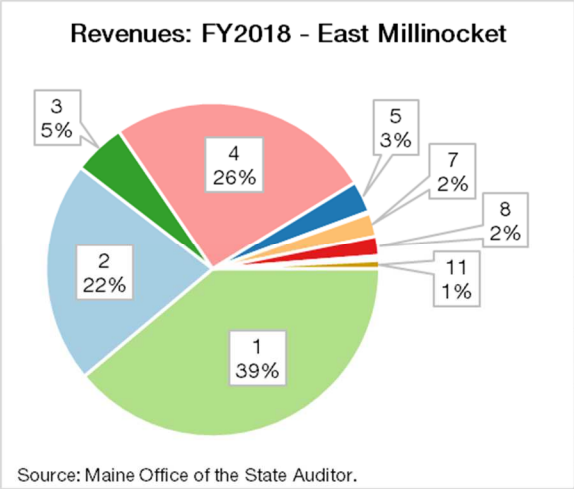
Operating grants and contributions are often sourced from county, state, or federal programs and include funds for education, school lunches, and retirement benefits. In FY 2018, Millinocket sourced 32.2% of its revenues from operating grants, East Millinocket 21.5%, and Medway 34.5%.

Property taxes are assessed against land, buildings, and other assets and are a common self-sourced form of income. As such, reductions to county, state, or federal funding for these municipal programs often compel municipalities to rely on local property tax as a stable source of revenue. In FY 2014, Millinocket sourced 40% ($6,019,897) of its revenues from property taxes, East Millinocket 23.3% ($2,275,002), and Medway 31.2% ($1,422,521). In FY 2018, those figures had changed to 35.2% ($5,218,619) in Millinocket, 25.8% ($2,364,709) in East Millinocket, and 30.3% ($1,418,388) in Medway. These figures represent a 3.8% increase in property tax revenues in East Millinocket, and a 15.4% and 0.3% reduction in Millinocket and Medway, respectively.

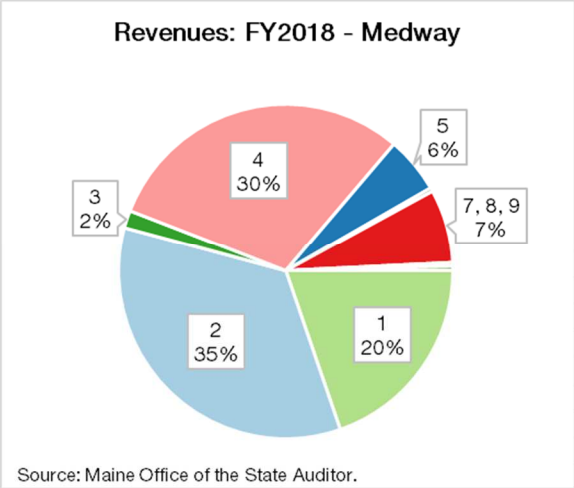
The Municipal Revenue Sharing Program (30-A MRSA §5681) allows municipalities to aggregate and redistribute revenues through a local government fund. These are sourced from income, sales, and other tax sources and are reported under general revenues. These sources contribute between 2-4% of revenues for the Katahdin region.



Charges for Services and Other	1
Operating Grants and Contributions	2
Capital Grants and Contributions	3
Property Taxes	4
Excise and Miscellaneous Taxes	5
Interest and Penalties	6
State Revenue Sharing	7
Homestead and BETE Exemptions	8
Other State Aid	9
Unrestricted Investment Income	10
Miscellaneous	11



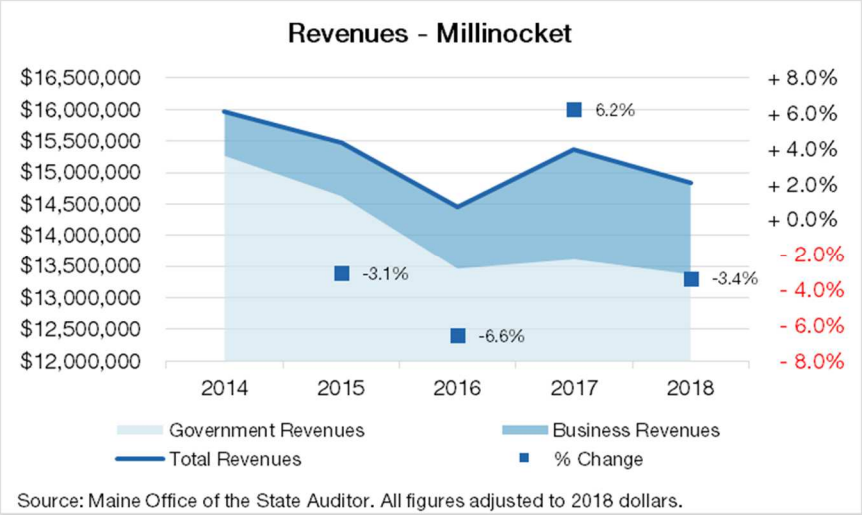
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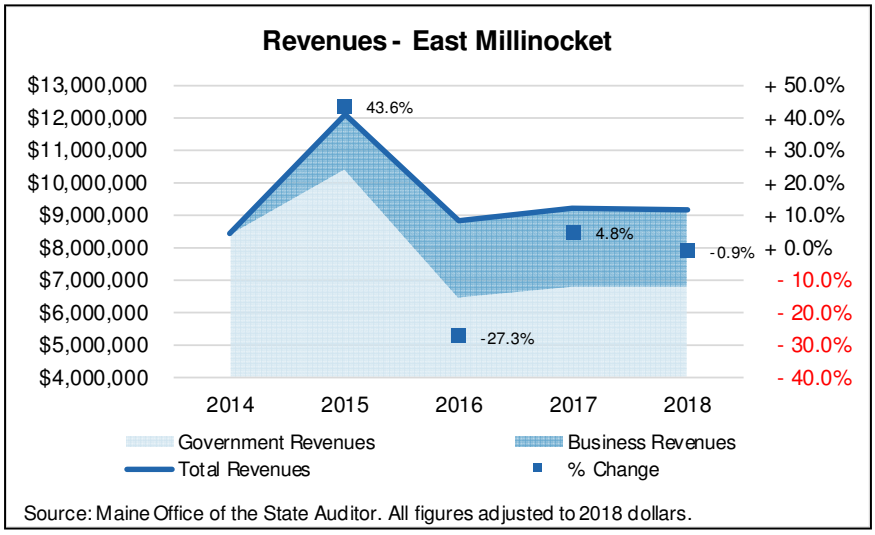
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Between FY 2014 and FY 2018, municipal revenues have been generally stable when figures are adjusted to account for inflation. One anomaly occurred in FY 2015 in East Millinocket during repairs made to the Schenck High School Roof. Governmental capital assets activities during this period increased by $2,966,322, cushioned by a $2 million operations grant from the Gloria C MacKenzie Foundation.[1] Both Millinocket and East Millinocket have seen increases in business-type activities revenues, while both Millinocket and Medway have seen total revenues decrease when adjusted for inflation. This follows a dip in revenues during FY 2016 following failure to pay property taxes by Cate Street Capital (Great Northern Paper) amounting to $1.1 million. In January of 2017, this 1,400-acre mill property was sold for $1 to Our Katahdin, a non-profit organization dedicated to revitalizing the region's economy. Finally, Medway also experienced a notable dip in revenues in FY 2016; however, this decrease only amounted to a 3.5% of FY 2015 revenues.

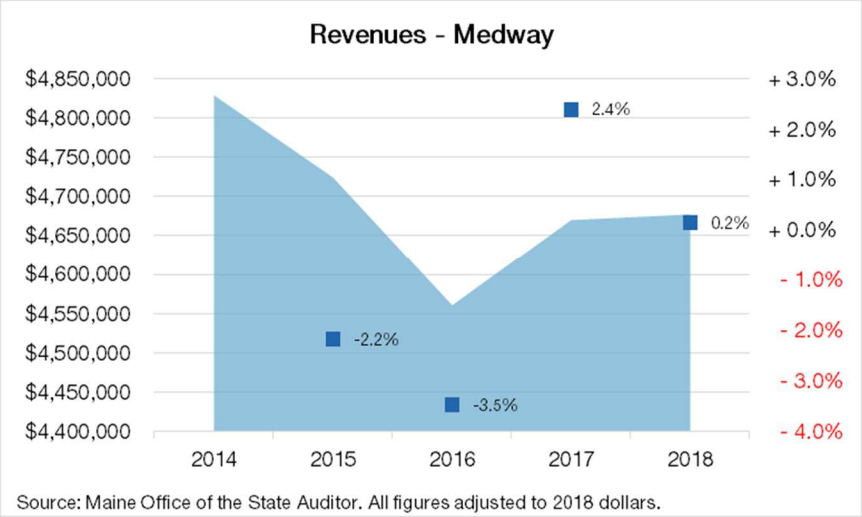
[1] https://www.huffpost.com/entry/gloria-mackenzie-school-maine_n_3646053 Accessed February 19, 2020.



Source: Maine Office of the State Auditor. All figures adjusted to 2018 dollars.



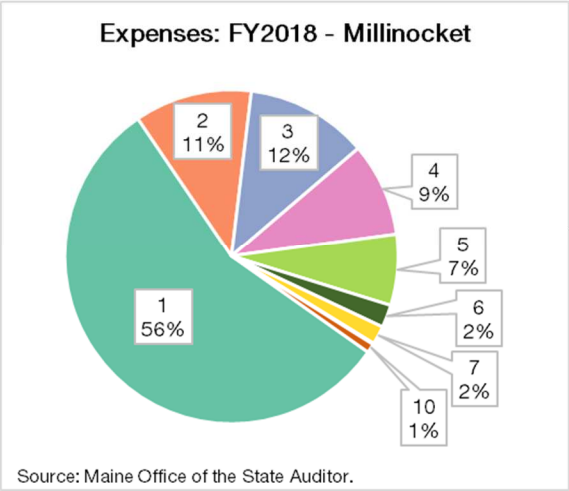
Source: Maine Office of the State Auditor. All figures adjusted to 2018 dollars.



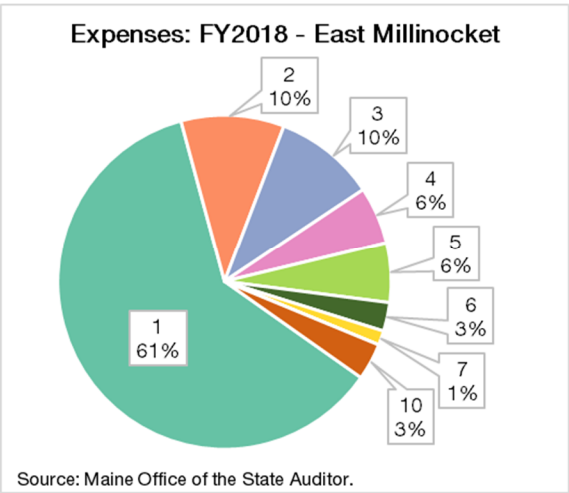
Source: Maine Office of the State Auditor. All figures adjusted to 2018 dollars.

Expenses generally drive revenues and are generally divided between services (such as police and safety, education, and intergovernmental taxes), capital outlays (money spent on maintaining, upgrading, or acquiring capital assets), and debt service. Payments on debt directly affect a town's credit rating, which can determine the availability of bonds, loans, and other lending services. Certain revenues are restricted to certain expenses, such as with education and pension funds.

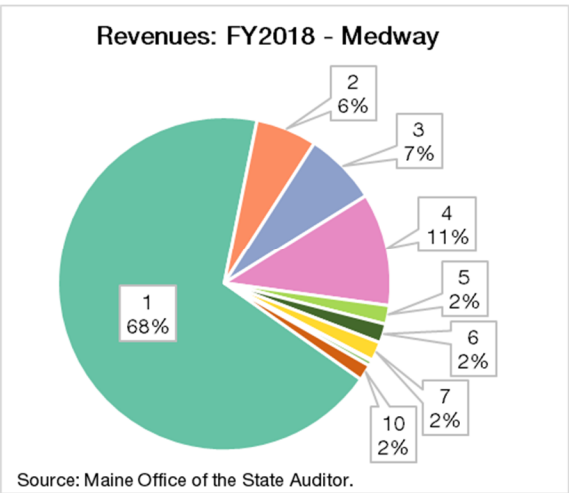
In FY 2018, the bulk of municipal expenditures for all three towns were for education: 56% in Millinocket, 61% in East Millinocket, and 68% in Medway. These expenses are discussed further under Education Spending. Other major expenditures in the region were comparable across all three towns. These charts do not include business-type activities such as municipal water and sewer, East Millinocket ambulance services, and the enterprise fund that operates Millinocket Memorial Library.



Education	1
General Government	2
Protection	3
Town Services	4
Community Services	5
Maine State Retirement (on behalf)	6
County Tax	7
Interest on Debt	8
Unclassified	9
Capital Maintenance Expenses	10

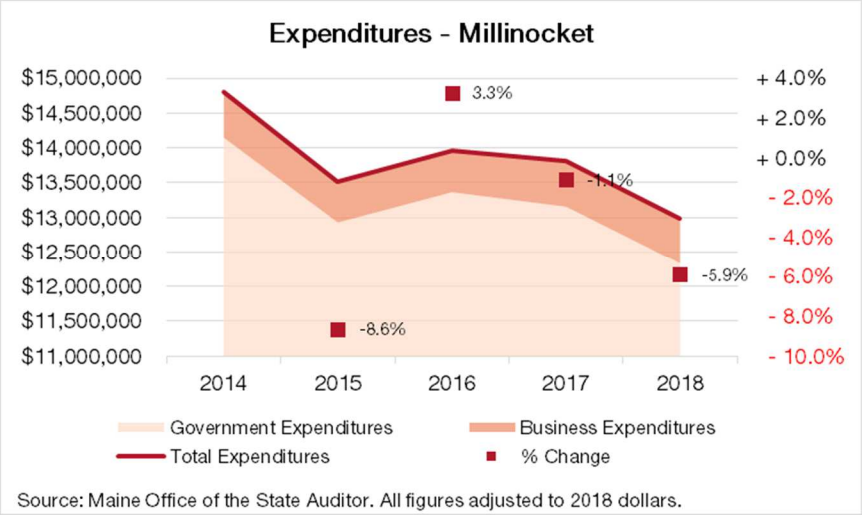


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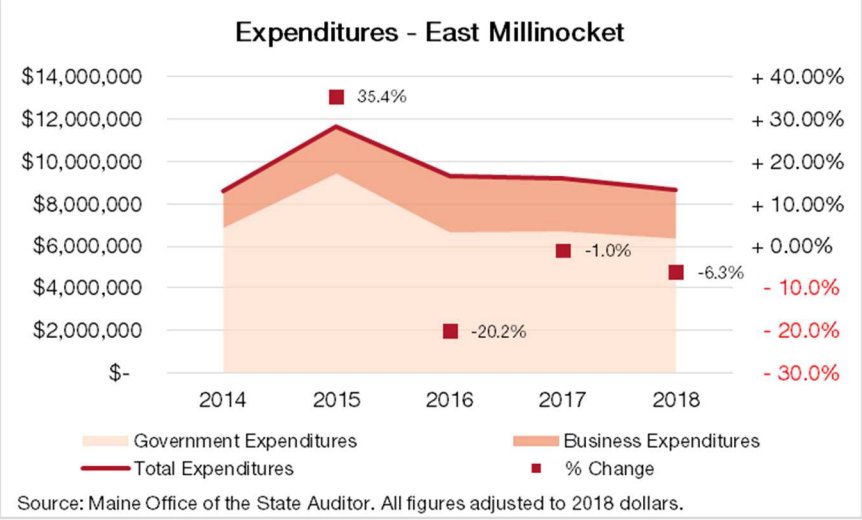


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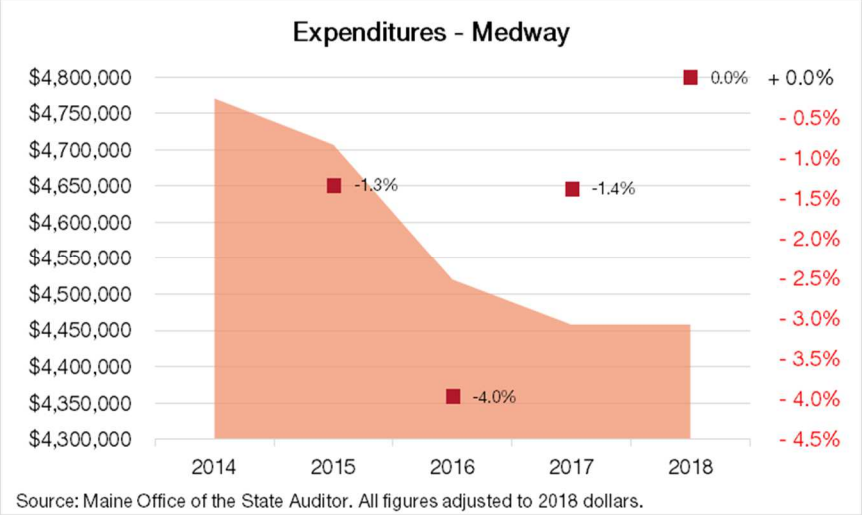
Just as revenues fluctuate somewhat from year to year, expenditures undergo similar variability. This variability, when adjusted for inflation, can provide a sense of a municipality's financial trends. Notable again is the 2016 default of Cate Street Capital in Millinocket, resulting in an increase in expenditures for the same year. Similarly, the nearly $3 million increase in expenditures during East Millinocket's school roof repairs resulted in a 35.4% increase in FY 2016 expenditures and a consequent 20.2% decrease the following year. Expenses in Medway decreased after FY 2016 following the payment of a bond and several capital leases.



Source: Maine Office of the State Auditor. All figures adjusted to 2018 dollars.



Source: Maine Office of the State Auditor. All figures adjusted to 2018 dollars.



Source: Maine Office of the State Auditor. All figures adjusted to 2018 dollars.

Net Position - Millinocket

	2018			2017		
	Government	Business	Total	Government	Business	Total
Current and other assets	$ 7,625,454	$ 2,261,738	$ 9,887,192	$ 7,528,268	$ 1,764,320	$ 9,292,58
Capital Assets	$ 9,890,874	$ 4,938,713	$ 14,829,587	$ 9,776,202	$ 4,548,550	$ 14,324,75
Land & Improvements	$ 5,700,385	$ -	$ 5,700,385	$ 5,700,385	$ -	$ 5,700,3
Construction in Progress	$ 556,833	$ 381,893	$ 938,726	$ 98,609	$ -	$ 98,6
Buildings & Improvements	$ 8,797,328	$ 4,714,643	$ 13,511,971	$ 8,786,978	$ 4,714,643	$ 13,501,6
Infrastructure	$ 3,441,980	$ 7,063,322	$ 10,505,302	$ 3,441,980	$ 6,983,942	$ 10,425,9
Equipment & Vehicles	$ 6,199,298	$ 831,966	$ 7,031,264	$ 6,942,460	$ 856,702	$ 7,799,1
Interceptors	$ -	$ 1,113,395	$ 1,113,395		$ 1,113,395	$ 1,113,3
Accumulated Depreceation	$ (14,804,950)	$ (9,199,219)	$ (24,004,169)	$ (15,194,209)	$ (9,120,132)	$ (24,314,3
Total Assets	$ 17,516,328	$ 7,200,451	$ 24,716,779	$ 17,304,470	$ 6,312,870	$ 23,617,34
Deferred Outflows of Resources	$ 385,947	$ -	$ 385,947	$ 951,855	$ -	$ 951,85
Current Liabilities	$ 839,184	$ 198,602	$ 1,037,786	$ 1,053,157	$ 62,792	$ 1,115,94
Long-term Liabilities	$ 16,401,793	$ 818,996	$ 17,220,789	$ 18,921,950	$ 832,206	$ 19,754,15
Total Liabilities	$ 17,240,977	$ 1,017,598	$ 18,258,575	$ 19,975,107	$ 894,998	$ 20,870,10
Deferred Inflows of Resources	$ 1,397,063	$ -	$ 1,397,063	$ 102,204	$ -	$ 102,20
Net Position						
Net Investment in Capital Assets	$ 8,043,157	$ 4,183,460	$ 12,226,617	$ 7,245,272	$ 3,779,876	$ 11,025,14
Restricted	$ 881,087	$ 305,750	$ 1,186,837	$ 907,025	$ -	$ 907,02
Unrestricted	$ (9,660,009)	$ 1,693,643	$ (7,966,366)	$ (9,973,283)	$ 1,637,996	$ (8,335,28
Total Net Position	$ (735,765)	$ 6,182,853	$ 5,447,088	$ (1,820,986)	$ 5,417,872	$ 3,596,88

Revenues - Millinocket						
	2018			2017		
	Government	Business	Total	Government	Business	Total
Charges for Services and Other	$ 1,036,834	$ 1,010,187	$ 2,047,021	$ 1,387,297	$ 953,046	$ 2,340,343
Operating Grants and Contributions	$ 4,684,195	$ 88,214	$ 4,772,409	$ 4,816,714	$ 101,387	$ 4,918,101
Capital Grants and Contributions	$ 462,249	$ 323,341	$ 785,590	$ 109,867	$ 626,185	$ 736,052
Property Taxes	$ 5,218,619	$ -	$ 5,218,619	$ 5,302,957	$ -	$ 5,302,957
Excise and Miscellaneous Taxes	$ 796,374	$ -	$ 796,374	$ 787,100	$ -	$ 787,100
Interest and Penalties	$ 49,418	$ -	$ 49,418	$ 55,925	$ -	$ 55,925
State Revenue Sharing	$ 503,581	$ -	$ 503,581	$ 458,150	$ -	$ 458,150
Homestead and BETE Exemptions	$ 423,497	$ -	$ 423,497	$ 321,781	$ -	$ 321,781
Other State Aid	$ 60,518	$ -	$ 60,518	$ 21,336	$ -	$ 21,336
Unrestricted Investment Income	$ 61,349	$ 8,676	$ 70,025	$ 36,110	$ 4,511	$ 40,621
Miscellaneous	$ 74,501	$ 43,376	$ 117,877	$ 46,099	$ 30,748	$ 76,847
Total	$ 13,370,135	$ 1,473,794	$ 14,843,929	$ 13,343,336	$ 1,715,877	$ 15,059,213

Expenses - Millinocket						
	2018			2017		
	Government	Business	Total	Government	Business	Total
General Government	$ 517,996	$ -	$ 517,996	$ 1,028,124	$ -	$ 1,028,124
Protection	$ 1,460,073	$ -	$ 1,460,073	$ 1,483,002	$ -	$ 1,483,002
Town Services	$ 1,122,689	$ -	$ 1,122,689	$ 1,146,211	$ -	$ 1,146,211
Community Services	$ 853,017	$ -	$ 853,017	$ 720,986	$ -	$ 720,986
Education	$ 6,569,982	$ -	$ 6,569,982	$ 6,548,467	$ -	$ 6,548,467
Maine State Retirement (on behalf)	$ 269,883	$ -	$ 269,883	$ 243,355	$ -	$ 243,355
Insurance/Fringe Benefits	$ 890,135	$ -	$ 890,135	$ 1,044,364	$ -	$ 1,044,364
County Tax	$ 219,570	$ -	$ 219,570	$ 268,251	$ -	$ 268,251
Food Service	$ 309,923	$ -	$ 309,923	$ 251,981	$ -	$ 251,981
Interest on Debt	$ 12,638	$ -	$ 12,638	$ 23,204	$ -	$ 23,204
Loss on Disposal of Assets	$ -	$ -	$ -	$ -	$ -	$ -
Unclassified	$ -	$ -	$ -	$ -	$ -	$ -
Capital Maintenance Expenses	$ 108,627	$ -	$ 108,627	$ 141,576	$ -	$ 141,576
Wastewater Treatment	$ -	$ 562,393	$ 562,393	$ -	$ 579,195	$ 579,195
Millinocket Memorial Library	$ -	$ 96,801	$ 96,801	$ -	$ 59,436	$ 59,436
Total	$ 12,334,533	$ 659,194	$ 12,993,727	$ 12,899,521	$ 638,631	$ 13,538,152

Net Position - East Millinocket						
	2018			2017		
	Government	Business	Total	Government	Business	Total
Current and other assets	$ 5,098,351	$ 797,643	$ 5,895,994	$ 4,573,272	$ 574,211	$ 5,147,483
Capital Assets	$ 4,663,581	$ 4,650,805	$ 9,314,386	$ 4,768,143	$ 4,716,571	$ 9,484,714
Land	$ 96,266	$ 1,456	$ 97,722	$ 96,266	$ 1,456	$ 97,722
Construction in Progress	$ 15,828	$ 796,352	$ 812,180	$ 52,620	$ 708,664	$ 761,284
Buildings & Improvements	$ 7,188,007	$ 112,377	$ 7,300,384	$ 7,049,725	$ 112,377	$ 7,162,102
Infrastructure	$ -	$ 6,984,377	$ 6,984,377	$ -	$ 6,984,377	$ 6,984,377
Equipment	$ 1,179,623	$ 450,804	$ 1,630,427	$ 1,170,592	$ 450,804	$ 1,621,396
Vehicles	$ 1,127,869	$ 833,838	$ 1,961,707	$ 1,127,869	$ 822,363	$ 1,950,232
Accumulated Depreceation	$ (4,944,012)	$ (4,528,399)	$ (9,472,411)	$ (4,728,929)	$ (4,363,470)	$ (9,092,399
Total Assets	$ 9,761,933	$ 5,448,448	$ 15,210,381	$ 9,341,415	$ 5,290,782	$ 14,632,197
Deferred Outflows of Resources	$ 645,594	$ -	$ 645,594	$ 554,679	$ -	$ 554,679
Current Liabilities	$ 402,242	$ 928,892	$ 1,331,134	$ 291,349	$ 733,470	$ 1,024,819
Long-term Liabilities	$ 3,540,354	$ 286,933	$ 3,827,287	$ 3,580,270	$ 383,278	$ 3,963,548
Total Liabilities	$ 3,942,596	$ 1,215,825	$ 5,158,421	$ 3,871,619	$ 1,116,748	$ 4,988,367
Deferred Inflows of Resources	$ 116,327	$ -	$ 116,327	$ 110,995	$ -	$ 110,995
Net Position						
Net Investment in Capital Assets	$ 4,456,931	$ 3,586,002	$ 8,042,933	$ 4,567,905	$ 3,712,551	$ 8,280,456
Restricted	$ 978,077	$ -	$ 978,077	$ 923,757	$ 165,982	$ 1,089,739
Unrestricted	$ 913,596	$ 646,621	$ 1,560,217	$ 421,818	$ 295,501	$ 717,319
Total Net Position	$ 6,348,604	$ 4,232,623	$ 10,581,227	$ 5,913,480	$ 4,174,034	$ 10,087,514

Revenues - East Millinocket						
	2018			2017		
	Government	Business	Total	Government	Business	Total
Charges for Services and Other	$ 1,204,219	$ 2,372,866	$ 3,577,085	$ 1,198,568	$ 2,518,954	$ 3,717,522
Operating Grants and Contributions	$ 1,927,550	$ 47,055	$ 1,974,605	$ 2,139,700	$ -	$ 2,139,700
Capital Grants and Contributions	$ 420,166	$ 43,519	$ 463,685	$ 210,956	$ -	$ 210,956
Property Taxes	$ 2,364,709	$ -	$ 2,364,709	$ 2,360,452	$ -	$ 2,360,452
Excise and Miscellaneous Taxes	$ 281,043	$ -	$ 281,043	$ 278,182	$ -	$ 278,182
Interest and Penalties	$ 17,770	$ -	$ 17,770	$ 29,945	$ -	$ 29,945
State Revenue Sharing	$ 210,628	$ -	$ 210,628	$ 172,721	$ -	$ 172,721
Homestead and BETE Exemptions	$ 177,738	$ -	$ 177,738	$ 118,210	$ -	$ 118,210
Other State Aid	$ 18,929	$ -	$ 18,929	$ 14,831	$ -	$ 14,831
Unrestricted Investment Income	$ 16,179	$ 6,313	$ 22,492	$ 10,051	$ 5,701	$ 15,752
Miscellaneous	$ 73,377	$ -	$ 73,377	$ 48,006	$ -	$ 48,006
Loss on Disposal of Capital Assets	$ -	$ (48,292)	$ (48,292)	$ (9,618)	$ (57,423)	$ (67,041)
Transfers	$ 89,618	$ (89,618)	$ -	$ 85,455	$ (85,455)	$ -
Total	$ 6,801,926	$ 2,331,843	$ 9,133,769	$ 6,657,459	$ 2,381,777	$ 9,039,236

Expenses - East Millinocket						
	2018			2017		
	Government	Business	Total	Government	Business	Total
General Government	$ 637,911	$ -	$ 637,911	$ 594,308	$ -	$ 594,308
Public Safety	$ 627,047	$ -	$ 627,047	$ 681,975	$ -	$ 681,975
Roads	$ 341,576	$ -	$ 341,576	$ 339,510	$ -	$ 339,510
Health, Social Services, and Recreation	$ 368,467	$ -	$ 368,467	$ 340,890	$ -	$ 340,890
Library	$ -	$ -	$ -	$ 1,111	$ -	$ 1,111
Education	$ 3,887,848	$ -	$ 3,887,848	$ 4,276,612	$ -	$ 4,276,612
Maine State Retirement (on behalf)	$ 175,494	$ -	$ 175,494	$ 165,112	$ -	$ 165,112
Special Projects	$ -	$ -	$ -	$ 2,457	$ -	$ 2,457
Cemetery	$ 14,763	$ -	$ 14,763	$ 14,909	$ -	$ 14,909
County Tax	$ 88,437	$ -	$ 88,437	$ 97,400	$ -	$ 97,400
Unclassified	$ -	$ -	$ -	$ -	$ -	$ -
Capital Maintenance Expenses	$ 225,259	$ -	$ 225,259	$ 53,649	$ -	$ 53,649
Interest on Debt	$ -	$ -	$ -	$ 3,389	$ -	$ 3,389
Wastewater Fund	$ -	$ 379,724	$ 379,724	$ -	$ 384,933	$ 384,933
Water Works Fund	$ -	$ 269,888	$ 269,888	$ -	$ 236,335	$ 236,335
Ambulance Fund	$ -	$ 1,623,642	$ 1,623,642	$ -	$ 1,849,230	$ 1,849,230
Total	$ 6,366,802	$ 2,273,254	$ 8,640,056	$ 6,570,322	$ 2,470,498	$ 9,040,820

Net Position - Medway		
	2018	2017
Current and other assets	$ 2,464,662	$ 2,331,689
Capital Assets	$ 3,108,531	$ 3,036,025
Land	$ 431,500	$ 431,500
Construction in Progress	$ 129,333	$ -
Buildings	$ 3,169,236	$ 3,161,736
Land Improvements	$ 477,760	$ 462,805
Infrastructure	$ 389,000	$ 389,000
Equipment	$ 512,093	$ 488,293
Vehicles	$ 1,260,012	$ 1,222,453
Accumulated Depreceation	$ (3,260,403)	$ (3,119,762)
Total Assets	$ 5,573,193	$ 5,367,714
Deferred Outflows of Resources	$ 326,828	$ 410,652
Current Liabilities	$ 121,456	$ 107,612
Long-term Liabilities	$ 1,080,236	$ 1,037,991
Capital Lease Payable	$ 90,900	$ 63,480
Bonds Payable	$ 240,000	$ 300,000
Total Liabilities	$ 1,201,692	$ 1,145,603
Deferred Inflows of Resources	$ 226,292	$ 134,943
Net Position		
Net Investment in Capital Assets	$ 2,777,631	$ 2,672,545
Restricted	$ 686,094	$ 918,832
Unrestricted	$ 1,008,312	$ 906,443
Total Net Position	$ 4,472,037	$ 4,497,820

Revenues - Medway		
	2018	2017
Charges for Services and Other	$ 921,720	$ 964,160
Operating Grants and Contributions	$ 1,612,561	$ 1,427,792
Capital Grants and Contributions	$ 80,018	$ 72,000
Property Taxes	$ 1,418,388	$ 1,404,109
Excise and Miscellaneous Taxes	$ 255,858	$ 266,590
Interest and Penalties	$ 16,650	$ 18,912
Grants and Contributions, Not Restricted	$ 335,892	$ 310,256
Unrestricted Investment Income	$ 16,248	$ 8,352
State Contribution to Pension	$ -	$ 102,526
Miscellaneous	$ 19,941	$ 3,809
Total	$ 4,677,276	$ 4,578,506

Expenses - Medway		
	2018	2017
Administration	$ 263,659	$ 272,860
Protection	$ 316,106	$ 318,653
Public Works	$ 490,063	$ 451,715
Recreation	$ 70,622	$ 63,823
Health, Welfare, and Sanitation	$ 9,660	$ 7,499
Education	$ 2,978,137	$ 2,937,818
On Behalf Payments - State of Maine	$ 81,835	$ 71,786
School Lunch Program	$ 72,874	$ 68,736
County Tax	$ 80,494	$ 78,524
Unclassified	$ 21,762	$ 24,116
Grants and Contributions	-	-
Interest on Long-Term Debt	$ 5,505	$ 47
Capital Outlay	$ 67,456	$ 75,203
Total	$ 4,458,173	$ 4,370,780

Capital Assets and Debt

Capital assets are properties, buildings, equipment, and infrastructure that a municipality owns, operates, and maintains. Government capital assets often differ from business-type capital assets in both type and in overall value. In FY 2018, Millinocket's governmental capital assets were generally divided between Land and Improvements (23.1%), Buildings and Improvements (35.6%), Infrastructure (13.9%), and Equipment and Vehicles (25.1%), while business-type capital assets were primarily in Infrastructure (58.0%) and Buildings and Improvements (33.4%). Capital assets accounted for 57% of Millinocket's total governmental assets and 69% of its business-type assets, with the remainder being cash and other current assets. The town estimated total depreciation of these assets to be over $24 million, or 61.9% of total capital asset value. Capital maintenance expenses amounted to $108,627, 23% lower than FY 2017 but up 121% from FY 2016.

East Millinocket's capital outlays were very different in FY 2018 with the bulk of government capital assets in Buildings and Improvements (74.8%) and in Equipment and Vehicles (24.0%), while Infrastructure (76.1%) was the bulk of business-type capital assets. Capital assets accounted for 48% of East Millinocket's total governmental assets and 85% of its business-type assets, again with the remainder being cash and other current assets. The town estimated total depreciation of these assets to be $9.5 million, or 50.4% of total capital asset value. Capital maintenance expenses amounted to $225,259, 320% higher than FY 2017, due to expenditures on Schenk School and on the wastewater treatment facility.

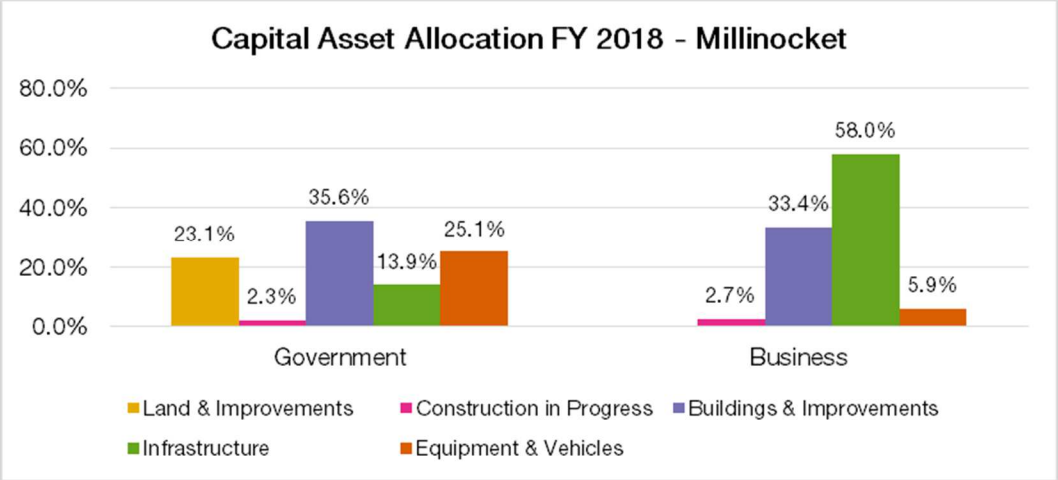
Medway's capital asset profile was similar to Millinocket's, with Building and Improvements accounting for 49.8%, Equipment and Vehicles accounting for 27.8%, and Land and Improvements accounting for 14.3% of all capital assets. Capital assets accounted for 56% of Medway's total assets. The town estimated total depreciation of these assets to be $3.3 million, or 51.2% of total capital asset value. Capital maintenance expenses amounted to $67,456, 10% lower than FY 2017 and 40% lower than FY 2016.

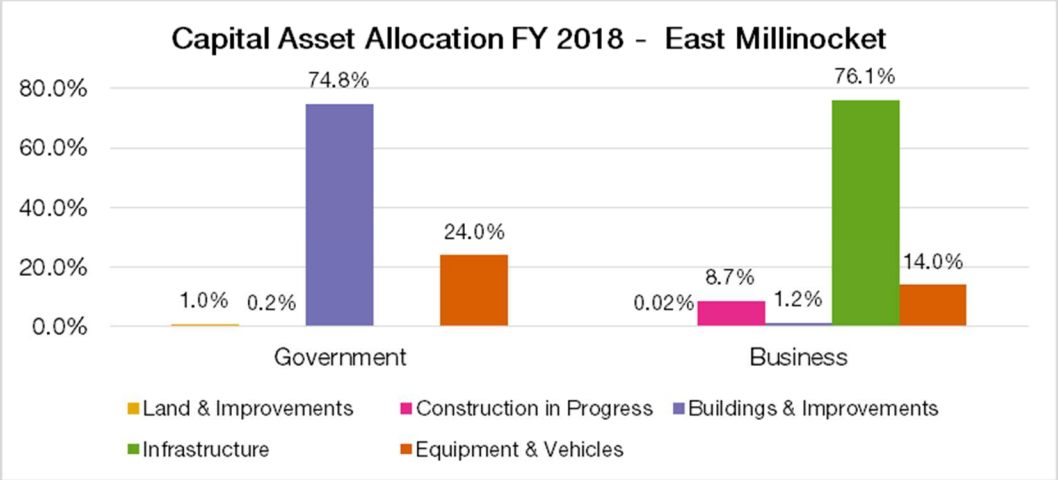
At the end of the Fiscal Year 2019, the Town of Millinocket's indebtedness was split between governmental activities and business-type activities. The ending balance for long-term liabilities within governmental activities was $13.6 million. For business-type activities, the long-term liabilities had an ending balance of $585,748. Other long-term debt was from general obligation bonds from direct borrowings which totaled $1.1 million for governmental activities and $524,879 for business-type activities. Millinocket's short-term debt had an ending balance of $846,274 from a bond anticipation note within the Wastewater Fund. In accordance with the State of Maine, the town is subject to a statutory limitation of its general long-term debt equal to 15% of the State's valuation of the town. Millinocket's outstanding long-term debt of $1,680,247 in June 2019 was within the statutory limit.

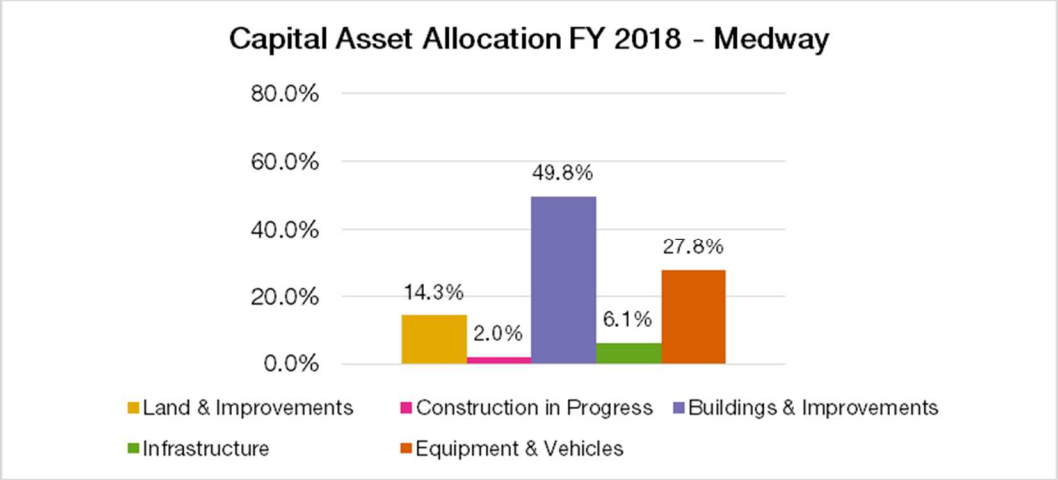
East Millinocket's long-term debt for the Fiscal Year 2019 was $92,882 for governmental activities and $507,651 for business-type activities. The town's bonded debt of $600,533 was well below its debt limit of $9,142,500, which is 15% of East Millinocket's total state valuation. Of the $925,642 in new bonds and capital leases that the town issued in 2019, $651,656 was repaid between governmental and business-type activities. The town has no outstanding long-term debt supported by property tax revenue.

East Millinocket's short-term debt, consisting of a bond anticipation note with an outstanding balance of $5,241,000 was issued in its wastewater fund to support the construction of a new wastewater treatment plant.

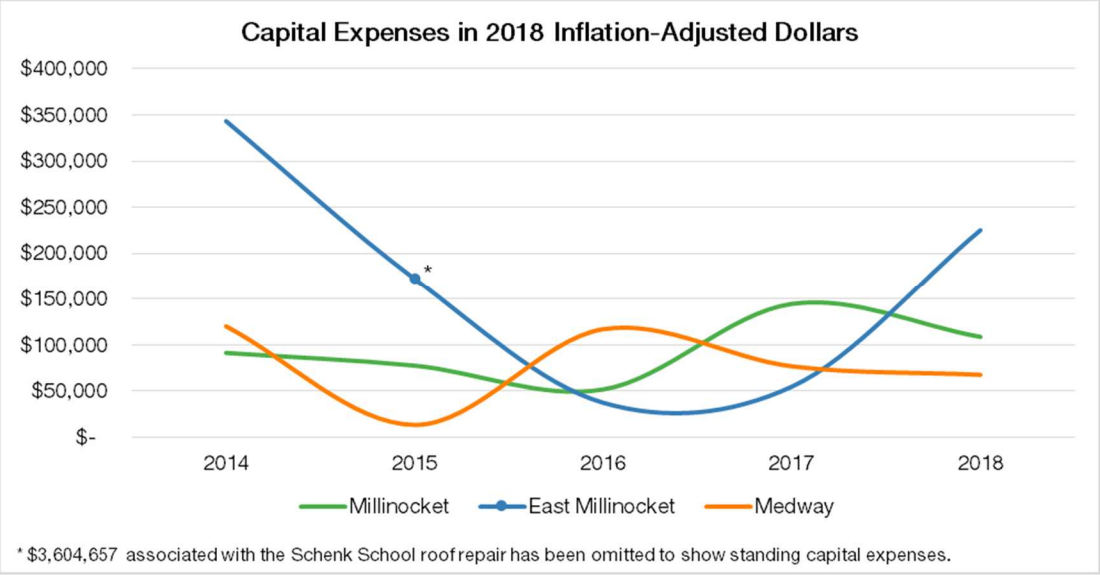
Medway's long-term debt totaled $284,910 for the Fiscal Year 2019. The town's long-term debt consists of a general obligation bond and four capital leases from various lending sources. The interest on Medway's long-term debt is $5,879. Long-term liabilities, which include a general obligation bond, capital leases payable, compensated absences liability, net pension liability, and other post-employment benefit obligations (OPEB) total $1,584,358 in 2019. Similar to Millinocket and East Millinocket, Medway was in compliance with state limitations regarding municipal debt incurrences.


Capital Asset Allocation FY 2018 - Millinocket
80.0%
60.0%
40.0%
20.0%
0.0%
23.1%
2.3%
35.6%
13.9%
25.1%
2.7%
33.4%
58.0%
5.9%
Government
Business
Land & Improvements
Construction in Progress
Buildings & Improvements
Infrastructure
Equipment & Vehicles


Capital Asset Allocation FY 2018 - East Millinocket
80.0%
60.0%
40.0%
20.0%
0.0%
1.0%
0.2%
74.8%
24.0%
0.02%
8.7%
1.2%
76.1%
14.0%
Government
Business
Land & Improvements
Construction in Progress
Buildings & Improvements
Infrastructure
Equipment & Vehicles


Capital Asset Allocation FY 2018 - Medway
80.0%
60.0%
40.0%
20.0%
0.0%
14.3%
2.0%
49.8%
6.1%
27.8%
Land & Improvements
Construction in Progress
Buildings & Improvements
Infrastructure
Equipment & Vehicles

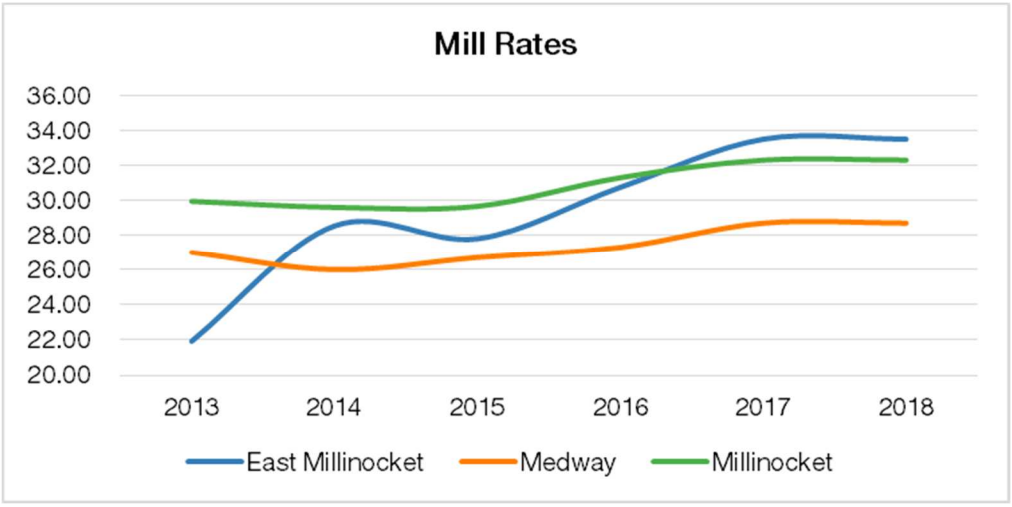
Capital expenses in the region often fluctuate depending on changing needs. When adjusted for inflation, the overall trend for each town is relatively flat, save for East Millinocket which in 2015 spent over $300,000 in capital reserve funds on school roof repairs, and in 2018 spent roughly $100,000 in general school repairs and $87,688 on the wastewater treatment facility.



Mill Rates

After the town's budget has been approved and all applicable state and local revenues are deducted from the listed expenditures, the town arrives at the dollar amount that will need to be raised through tax revenues. This amount is called the net commitment or appropriation. The local assessor arrives at a valuation for each taxable property in the town and the taxpayers are assessed their share of the tax burden through a mathematical calculation. The total appropriation is then divided by the total taxable assessed valuation of the town to arrive at the minimum tax rate. The mill rate – short for millage – is the amount of tax levied per $1,000 of assessed value. East Millinocket and Millinocket have noted significant changes to the mil rate with the closure of the major employer in their communities. Medway's limited municipal outlay has translated to increases that are more modest.

	2010	2018	% Change
East Millinocket	23.40	33.50	**+ 43.2%**
Medway	24.50	28.70	**+ 17.1%**
Millinocket	23.20	32.30	**+ 39.2%**



Valuations

The primary revenue source for any community is through the taxation of real and personal property within the jurisdiction. Taxes are assessed to property owners according to "just value" of their property – also commonly known as fair market value. The municipal tax base of Millinocket has been historically characterized by the existence of Great Northern Paper (GNP) as the town's primary taxpayer. Similarly, for East Millinocket, the mill was the largest contributor to the town's tax revenue. For Medway, the largest contributor to the town's tax revenue base has been formerly Bangor Hydro, now Emera Maine.

Municipal Valuation Summary

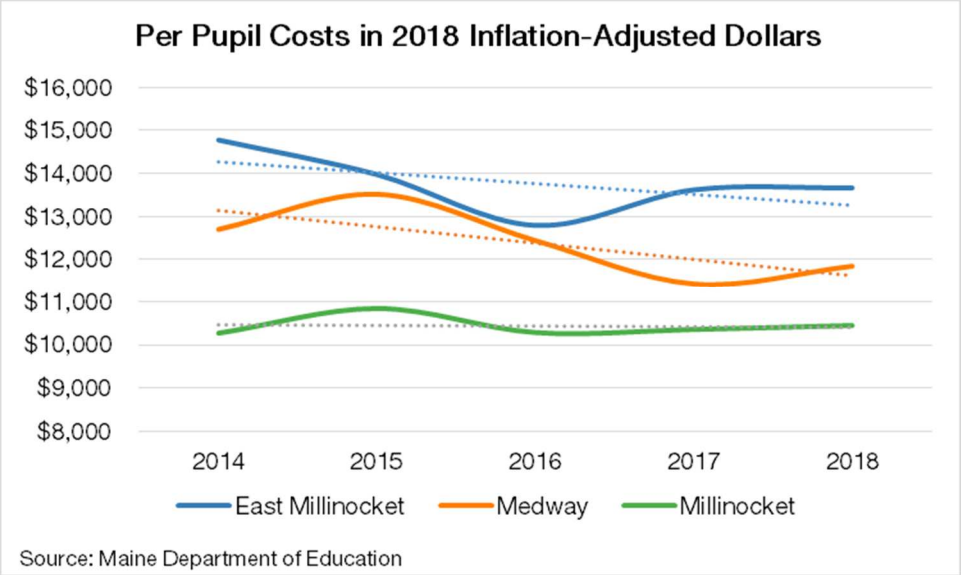
Municipality	Commitment	Mill Rate	Total Taxable Valuation	Taxable Land Valuation	Taxable Buildings Valuation	Total Taxable Personal Property
			2017			
East Millinocket	$ 2,370,790	33.50	$ 70,769,849	$ 21,443,444	$ 33,877,505	$ 15,448,900
Medway	$ 1,423,205	28.70	$ 49,589,031	$ 19,064,560	$ 26,583,071	$ 3,941,400
Millinocket	$ 5,264,151	32.30	$ 162,976,800	$ 35,097,400	$ 85,505,600	$ 42,373,800
			2016			
East Millinocket	$ 2,367,042	30.75	$ 76,976,991	$ 40,865,823	$ 35,357,146	$ 754,022
Medway	$ 1,406,567	27.30	$ 51,522,601	$ 18,854,360	$ 28,476,941	$ 4,191,300
Millinocket	$ 5,322,552	31.30	$ 170,049,600	$ 69,468,800	$ 87,893,700	$ 12,687,100
			2015			
East Millinocket	$ 2,231,541	27.80	$ 80,271,268	$ 21,764,180	$ 41,823,885	$ 16,683,203
Medway	$ 1,425,548	26.70	$ 53,391,326	$ 18,943,960	$ 29,994,966	$ 4,452,400
Millinocket	$ 5,235,773	29.66	$ 176,526,400	$ 34,725,700	$ 98,251,800	$ 43,548,900
			2014			
East Millinocket	$ 2,197,337	28.54	$ 76,991,516	$ 34,662,257	$ 35,883,119	$ 6,446,140
Medway	$ 1,436,372	26.00	$ 55,245,081	$ 18,260,585	$ 30,490,196	$ 6,494,300
Millinocket	$ 6,261,954	29.60	$ 211,552,500	$ 34,248,000	$ 101,101,500	$ 76,203,000
			2013			
East Millinocket	$ 2,285,922	21.93	$ 104,237,252	$ 20,605,317	$ 56,927,400	$ 26,704,535
Medway	$ 1,430,530	27.00	$ 52,982,593	$ 17,901,662	$ 30,290,831	$ 4,790,100
Millinocket	$ 7,213,143	29.95	$ 240,839,500	$ 34,311,700	$ 101,347,100	$ 105,180,700

Source: Maine Revenue Service

Municipal Valuation Summary, Cont'd							
Municipality	Taxable Machinery & Equipment	Taxable Business Equipment	Other Personal Property	Total # Home-stead	Total Value Home-stead	Total # BETE	Total Value BETE
2017							
East Millinocket	$ 15,392,170	$ 34,830	$ 21,900	514	$ 10,143,049	14	$ 466,500
Medway	$ 3,614,200	$ 113,000	$ 214,200	462	$ 8,849,460	19	$ 4,288,700
Millinocket	$ 35,974,200	$ 1,715,800	$ 4,683,800	1,268	$ 24,830,600	31	$ 1,097,500
2016							
East Millinocket	$ 233,541	$ 101,022	$ 419,459	512	$ 7,619,954	10	$ 67,200
Medway	$ 3,649,700	$ 112,300	$ 429,300	463	$ 6,731,020	17	$ 4,537,800
Millinocket	$ 6,159,000	$ 2,050,900	$ 4,477,200	1,302	$ 19,292,800	27	$ 1,004,800
2015							
East Millinocket	$ 16,534,364	$ 100,252	$ 48,587	526	$ 5,247,670	5	$ 60,570
Medway	$ 4,103,100	$ 102,900	$ 246,400	466	$ 4,585,010	13	$ 3,974,300
Millinocket	$ 36,564,300	$ 2,284,100	$ 4,700,500	1,322	$ 13,133,000	16	$ 1,606,000
2014							
East Millinocket	$ 6,239,953	$ 160,240	$ 45,947	528	$ 5,267,670	7	$ 2,254,317
Medway	$ 6,200,100	$ 96,700	$ 197,500	485	$ 4,777,210	17	$ 1,924,800
Millinocket	$ 68,796,800	$ 2,326,500	$ 5,079,700	1,332	$ 13,232,500	45	$ 14,346,500
2013							
East Millinocket	$ 9,952,874	$ 158,449	$ 16,593,212	546	$ 5,455,400	7	$ 4,781,037
Medway	$ -	$ -	$ 4,790,100	486	$ 4,797,810	28	$ 4,104,100
Millinocket	$ 97,574,400	$ 2,411,900	$ 5,194,400	1,366	$ 13,574,400	47	$ 15,389,400
Source: Maine Revenue Service							

Education Spending

For all three towns, education spending accounts for over half of all municipal expenditures. These funds are matched by the state to finance the region's school system in full. Demographic projections for the region show a steady decline in the population of young people that will, in the future, raise the possibility of school consolidations to reduce overall education costs. However, examining the inflation-adjusted per-pupil costs for the three towns, each is showing an overall trend of decreasing costs. While these trends are not statistically significant, it may indicate that efforts to stabilize education spending and school operations are succeeding, despite declining enrollment.



Education Subsidy					
	Town Code	SAU	Total Allocation	Local Contribution	Adjusted State Contribution
2018-2019 FY19	136	East Millinocket	$ 2,150,915.78	$ 606,975.75	$ 1,543,940.03
	271	Medway	$ 1,588,151.10	$ 518,897.25	$ 1,069,253.85
	277	Millinocket	$ 4,848,179.03	$ 1,592,008.25	$ 3,256,170.78
2017-2018 FY18	136	East Millinocket	$ 2,116,000.04	$ 731,094.00	$ 1,384,906.04
	271	Medway	$ 1,571,754.14	$ 489,352.50	$ 1,082,401.64
	277	Millinocket	$ 4,789,447.05	$ 1,585,174.50	$ 3,204,272.55
2016-2017 FY17	136	East Millinocket	$ 2,250,712.25	$ 811,878.34	$ 1,438,833.91
	271	Medway	$ 1,646,346.94	$ 493,711.66	$ 1,152,635.28
	277	Millinocket	$ 4,647,020.11	$ 1,547,811.66	$ 3,099,208.45
2015-2016 FY16	136	East Millinocket	$ 2,239,148.30	$ 830,681.33	$ 1,408,466.97
	271	Medway	$ 1,618,252.98	$ 491,468.17	$ 1,126,784.81
	277	Millinocket	$ 4,535,349.92	$ 1,614,451.67	$ 2,920,898.25
2014-2015 FY15	136	East Millinocket	$ 2,066,024.68	$ 824,782.50	$ 1,241,242.18
	271	Medway	$ 1,627,405.55	$ 487,620.00	$ 1,139,785.55
	277	Millinocket	$ 4,756,296.87	$ 1,627,087.50	$ 3,129,209.37
Source: Maine Department of Education					

School Operating Costs						
	SAU	Tuition & Assessment		Net Operating Costs		
		Elementary	Secondary	Elementary	Secondary	Total
2017-2018 FY18	East Millinocket	$ 430,095.74	$ 460,139.53	$ 1,769,682.69	$ 949,574.64	$ 2,719,257.33
	Medway	$ 602,333.35	$ -	$ 1,274,533.15	$ 596,950.05	$ 1,871,483.20
	Millinocket	$ 126,148.08	$ 43,580.49	$ 2,697,234.77	$ 2,505,004.90	$ 5,202,239.67
2016-2017 FY17	East Millinocket	$ 383,133.08	$ 476,965.31	$ 1,873,009.39	$ 957,680.70	$ 2,830,690.09
	Medway	$ 641,706.11	$ -	$ 1,090,840.49	$ 617,966.68	$ 1,708,807.17
	Millinocket	$ 206,996.48	$ 108,911.74	$ 2,632,002.38	$ 2,342,495.41	$ 4,974,497.79
2015-2016 FY16	East Millinocket	$ 463,574.13	$ 511,164.07	$ 1,630,648.95	$ 866,875.88	$ 2,497,524.83
	Medway	$ 559,866.90	$ -	$ 1,208,923.12	$ 633,415.21	$ 1,842,338.33
	Millinocket	$ 210,214.72	$ 80,591.39	$ 2,527,283.66	$ 2,321,060.94	$ 4,848,344.60
2014-2015 FY15	East Millinocket	$ 514,327.56	$ 542,261.27	$ 1,735,789.26	$ 953,857.12	$ 2,689,646.38
	Medway	$ 671,460.22	$ -	$ 1,395,434.01	$ 638,624.32	$ 2,034,058.33
	Millinocket	$ 98,210.78	$ 54,204.06	$ 2,638,528.77	$ 2,342,282.48	$ 4,980,811.25
2013-2014 FY14	East Millinocket	$ 520,028.72	$ 576,091.11	$ 1,658,378.54	$ 1,046,294.25	$ 2,704,672.79
	Medway	$ 644,088.72	$ -	$ 1,336,932.03	$ 657,766.29	$ 1,994,698.32
	Millinocket	$ 223,635.00	$ 129,528.64	$ 2,475,193.97	$ 2,470,797.46	$ 4,945,991.43
Source: Maine Department of Education						

School Operating Costs, Cont'd							
	SAU	Student Count			Per Pupil Operating Costs		
		Elementary	Secondary	Total	Elementary	Secondary	Total
2017-2018 FY18	East Millinocket	134.0	65.0	199.0	$ 13,206.59	$ 14,608.84	$ 13,664.61
	Medway	107.0	51.0	158.0	$ 11,911.52	$ 11,704.90	$ 11,844.83
	Millinocket	340.0	158.0	498.0	$ 7,933.04	$ 15,854.46	$ 10,446.26
2016-2017 FY17	East Millinocket	150.0	62.0	212.0	$ 12,486.73	$ 15,446.46	$ 13,352.31
	Medway	98.5	54.0	152.5	$ 11,074.52	$ 11,443.83	$ 11,205.29
	Millinocket	343.5	146.5	490.0	$ 7,662.31	$ 15,989.73	$ 10,152.04
2015-2016 FY16	East Millinocket	143.5	61.5	205.0	$ 11,363.41	$ 14,095.54	$ 12,183.05
	Medway	99.0	56.5	155.5	$ 12,211.34	$ 11,210.89	$ 11,847.83
	Millinocket	344.0	151.0	495.0	$ 7,346.75	$ 15,371.26	$ 9,794.64
2014-2015 FY15	East Millinocket	134.5	69.5	204.0	$ 12,905.50	$ 13,724.56	$ 13,184.54
	Medway	106.5	53.0	159.5	$ 13,102.67	$ 12,049.52	$ 12,752.72
	Millinocket	321.0	166.0	487.0	$ 8,219.72	$ 14,110.14	$ 10,227.54
2013-2014 FY14	East Millinocket	130.0	64.0	194.0	$ 12,756.76	$ 16,348.35	$ 13,941.61
	Medway	106.0	60.5	166.5	$ 12,612.57	$ 10,872.17	$ 11,980.17
	Millinocket	343.5	167.0	510.5	$ 7,205.80	$ 14,795.19	$ 9,688.52
Source: Maine Department of Education							

Capital Investment Plan

Town of Millinocket

Five-Year Capital Investment Plan

Item	Year	Est Life	FY21	FY22	FY23	FY24	FY25	Est. Cost	Potential Funding Source
FIRE & AMBULANCE									
Ambulance - F450 Type III (A-3) (147,465 miles)	2009	10	$180,000					$180,000	Town Revenues & Taxes
Ambulance - F450 Type III (A-3) (65,000 miles)	2014	10				$180,000		$180,000	Town Revenues & Taxes
Ambulance - Power Cot						$20,000	$20,000	$40,000	Town Revenues & Taxes
Rescue Sled - Snowmobile	1997	25						-	Town Revenues & Taxes
Rescue Sled - Trailer	1997	25						-	Town Revenues & Taxes
Rescue Boat Motor	2000	25			$35,000			$35,000	Town Revenues & Taxes
Cardiac Monitor LIFEPAK	2006	15	$36,000					$36,000	Town Revenues & Taxes
Generator - Office	1986	30						-	
TOTAL			$252,000		$35,000	$200,000	$20,000	$471,000	
POLICE									
Police Cruiser - AWD SUV	2017	4		$35,000				$35,000	Town Revenues & Taxes
Police Cruiser - AWD Sedan	2015	4			$35,000			$35,000	Town Revenues & Taxes
Police Cruiser - AWD SUV	2016	4	$35,000					$35,000	Town Revenues & Taxes
Officer Vests (Possible Grant Money Available)	2015	5						-	
Service Weapons (Gloc 45 Model 21)	2012	15						-	
TOTAL			$35,000	$35,000	$35,000		-	$105,000	

PUBLIC WORKS									
Heavy Equipment (Note A)								-	
Transfer Site - Replace Trash Trailer	2011			$65,000				$65,000	Town Revenues & Taxes
Transfer Site - Replace Trash Trailer	2012				$65,000			65,000	Town Revenues & Taxes
Replace Equipment Trailer (Custom)	2001	20			$25,000			$25,000	Town Revenues & Taxes
Replace Plow/Dump Truck (Sterling #11)	2006	15				$150,000		$150,000	Town Revenues & Taxes
GMC 1-Ton Truck w/Plow Replacement	2009	10	$60,000					$60,000	Town Revenues & Taxes
Replace John Deere 310 Backhoe	2002	20		$85,000				$85,000	Town Revenues & Taxes
Replace Plow/Dump Truck (Sterling #12)	2006	15					150,000	150,000	Town Revenues & Taxes
TOTAL			$60,000	$150,000	$90,000	$150,000	$150,000	$622,500	
RECREATION DEPARTMENT									
Tennis Court Repairs								$46,435	Town Revenues & Taxes
LED Lighting								$55,000	Town Revenues & Taxes
Infield Renovations (3 Fields)								$22,190	Town Revenues & Taxes
Basketball Court Replacement								$28,000	Town Revenues & Taxes
Timbers & Safety Surface for Playground		Review FY20 CF						$27,200	Town Revenues & Taxes
Total Unassigned Budget								252,335	Town Revenues & Taxes
TOTAL								$471,160	

AIRPORT GRANT PROJECTS	Entitlement	State Share							
Entitlement funds requires the Town to pay the expenses up front and then file for reimbursement.									
Class III Rotary Plow with Carrier Vehicle & Wildlife Hazard Site Visit	$488,700	$27,150	$543,000						Grant/Town Rev & Taxes
Airport Master Plan Update & ALP	$152,000	$7,600	$167,200						Grant
TOTAL	$640,700	$34,750	$710,200						
GRAND TOTAL CAPITAL BUDGET	E1300.9504		$343,500	$205,000	$170,000	$367,500	$180,000		
GRAND TOTAL AIRPORT GRANT BUDGET	E1301-3118		$710,200						
HEAVY EQUIPMENT RESERVE BUDGET	E1300.9502		$15,000						
FUND BALANCE AND CARRY FORWARDS									
Assigned Fund Balance - Heavy Equipment Reserve		R0101.026							
Grant Match (State and Federal)			-$675,450						
Airport Grant Reserve		R0101.0922	-$16,800						
Total Capital Budget Raised by Taxes			$376,450						
Notes:	(A) Equipment purchased does not include any assumption for trade-in of equipment being replaced.								

Town of East Millinocket				
Capital Investment Plan				
Item	**Quantity**	**Estimated Cost**	**Estimated Timing**	**Potential Funding Source**
PUBLIC WORKS				
Plow Truck	1	$250,000	2021-2022	Tax Funded
Front End Loader	1	$250,000	2024-2025	Tax Funded
1-ton Truck	1	$65,000	2023	Tax Funded
WATER				
Chemical Building Upgrade		$180,000	2025	Water Savings - USER FEE FUNDED
Old Main St. Pipe Replacement			2030	Water Savings - USER FEE FUNDED
Engine for #3 Pump	1	$30,000	2024	Water Savings - USER FEE FUNDED
FIRE & AMBULANCE				
Scott Breathing Apparatus	12	$65,000	2024	Grants
Defibrillator	5	$150,000	2026	Grants
Ambulances	3	$500,000	2023-2028	Grants/Revenues
ADMIN				
Roof Replacement	1	$200,000	2030	Grants/Taxation
Banquet Hall Kitchen Upgrade	1	$100,000	2022-2025	Grants
Banquet Hall Meeting Room Upgrade	1	$30,000	2025	Grants
Banquet Hall Bathroom Upgrade	1	$30,000	2025	Grants
POLICE	The Town of East Millinocket budgets through taxation and contract service to purchase 1 new cruiser annually or biannually at approx. $20,000-$25,000.			

Town of Medway				
Capital Investment Plan				
Item	**Quantity**	**Estimated Cost**	**Estimated Timing**	**Potential Funding Source**
PUBLIC WORKS				
Plow Truck # 7	1	$185,000	2021-2022	Tax Funded / Equip. Reserve
1 - Ton Truck	1	$75,000	2023 -2024	Tax Funded / Equip. Reserve
TRANSFER STATION				
Outside Compactor	1	TBD	2022 -2023	Tax Funded / Equip Reserve
FIRE/AMBULANCE				
Ambulance	1	150,000	2022-2023	Tax Funded/Equip Reserve
Life Packs	2	60,000	2022-2023	Grants

Strategies & Policies

In order to plan for the current and future fiscal needs of the Katahdin Region, local policies and implementation strategies have been developed in addition to the following state policies and implementation strategies.

State of Maine

Policies:

Minimum policies required to address state goals:

1. To finance existing and future facilities and services in a cost effective manner.
2. To explore grants available to assist in the funding of capital investments within the community.
3. To reduce Maine's tax burden by staying within LD 1 spending limitations.

Strategies:

Minimum strategies to meet state goals:

1. Explore opportunities to work with neighboring communities to plan for and finance shared or adjacent capital investments to increase cost savings and efficiencies.

Time Frame: Ongoing

Responsible Agent(s): State of Maine, East Millinocket, Millinocket

Local

Millinocket

Policies:
Minimum policies required to address state goals:

1. To finance existing and future facilities and services in a cost effective manner.
2. To explore grants available to assist in the funding of capital investments within the community.
3. To reduce Maine's tax burden by staying within LD 1 spending limitations.

Strategies:
Minimum strategies to meet state goals:

1. Explore opportunities to work with neighboring communities to plan for and finance shared or adjacent capital investments to increase cost savings and efficiencies.

Time Frame: Ongoing

Responsible Agent(s): State of Maine, Millinocket

East Millinocket

1. **Policy:** To finance existing and future facilities and services in a cost effective manner.
   Strategies: To explore grants available to assist in the funding of capital investments within the community.
   Time Frame: 1-*15 years*
   Responsible Agent(s): Board of Selectmen, Administrative Assistant, Department Heads

Medway

1. **Policy:** The Town shall prepare a formal Capital Improvement Plan.
2. **Strategies:** The Board of Selectmen in conjunction with Department heads shall review and update the CIP on an annual basis and make recommendations to the voters
   Time Frame: Ongoing
   Responsible Agent(s): Department Heads and Board of Selectmen

3. **Policy:** Revaluation of the entire Town of Medway
   Strategies: The Medway Board of Selectmen along with the assessor's aide will do a revaluation of the entire town to bring values up to date
   Time Frame: Five-year plan
   Responsible Agent(s): Board of Selectmen and the Assessor's Aide

4. **Policy:** To identify and Apply for grants
   Strategies: To work with all departments in identifying and applying for grants to help fund capital improvement projects
   Time Frame: Ongoing
   Responsible Agent(s): Board of Selectmen and Department Heads

5. **Policy;** Shared Services
   Strategies: Work with neighboring communities to identify and continue shared services
   Time Frame: Ongoing
   Responsible Agent(s): Board of Selectmen and Department Heads

Chapter Fourteen:

CURRENT & FUTURE LAND USE

Goals/Vision

State Goal

None required.

Local Goals

Millinocket

To develop a harmonious balance between tourism, commercial and industrial development based on the natural resources in the area.

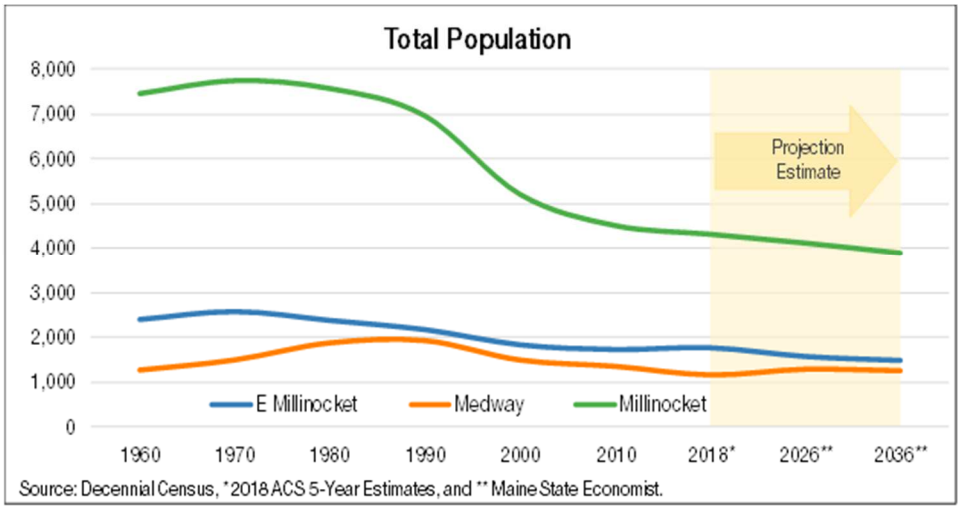
Introduction

The land use section of this plan is based on the information found in the inventory and analysis of the comprehensive plan. Although the land use plan is shaped by the policies developed in each section, consideration is given to the existing land use patterns and the expected future land use needs. Existing land use patterns are reviewed and efforts are made to minimize nonconforming uses within each proposed zone.

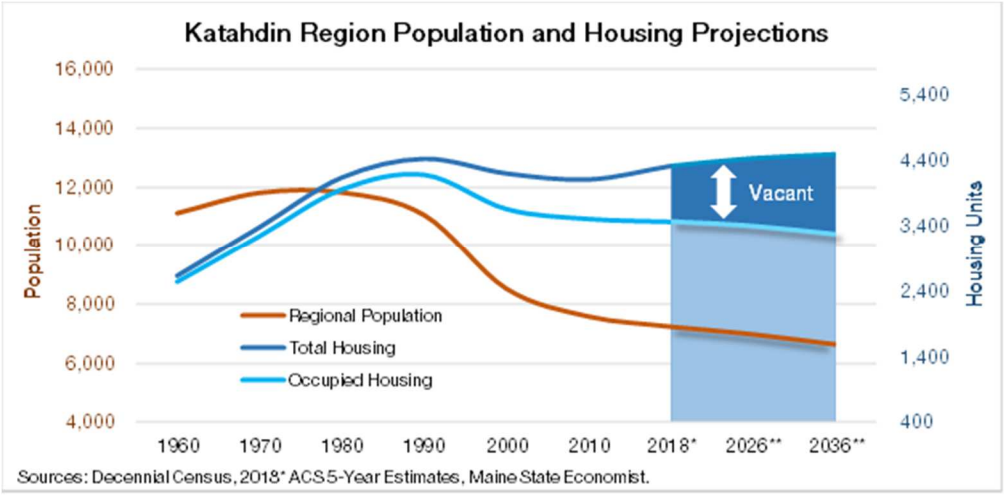
Growth management legislation requires the creation of growth and rural zones. The designation of growth areas is intended to direct development to areas most suitable for such growth and away from areas where growth and development would be incompatible with the protection of rural resources. Based on growth management, growth areas are to be located close to municipal services to minimize the cost to the municipality for the delivery and maintenance of these services. The designation of rural zones is intended to protect agricultural, forest, scenic areas, and other open space land areas from incompatible development and uses.

Existing Land Use

The Katahdin region's historic development patterns, centered on employment at Great Northern Paper mills in Millinocket and East Millinocket as well as the expansion of the Maine turnpike, have influenced historic growth and housing development. Similarly, the declining influence of those large businesses, subsequent economic stresses, and a decrease in population have affected recent trends in land use. The graph below, reproduced from the section on Demographics, shows that the decline in regional population began as early as the 1970s and is expected to continue decreasing from 7,234 in 2018 to 6,618 in 2036 – a decrease of 8.5%.



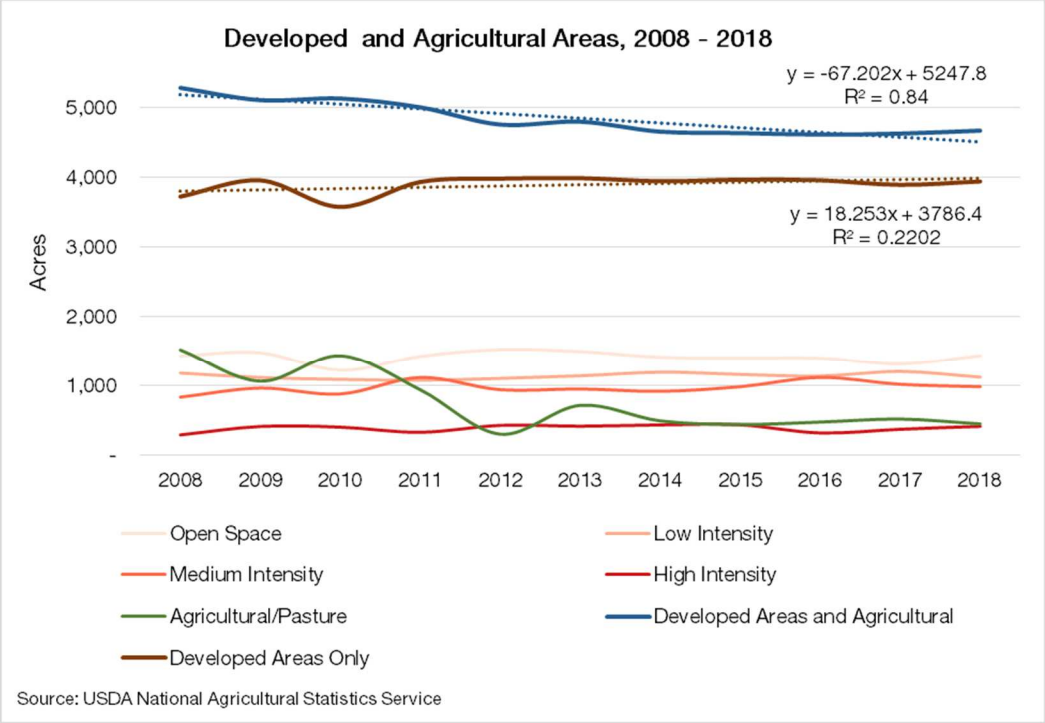
As population has decreased, however, household sizes in the region and across the country have tended to decrease as well. This phenomena has somewhat cushioned the effect of population decrease on overall occupied housing stock in the region. Additionally, seasonal home ownership in the county has increased as a whole, an effect seen in the Katahdin region. Thus, expected housing construction is projected to remain relatively flat, adding as few as 120 housing units between 2018 and 2036 across the three towns, an increase of 2.8%. Occupied housing units will continue to decrease from 3,466 in 2018 to approximately 3,200 in 2036 – a decrease of 7.7%.

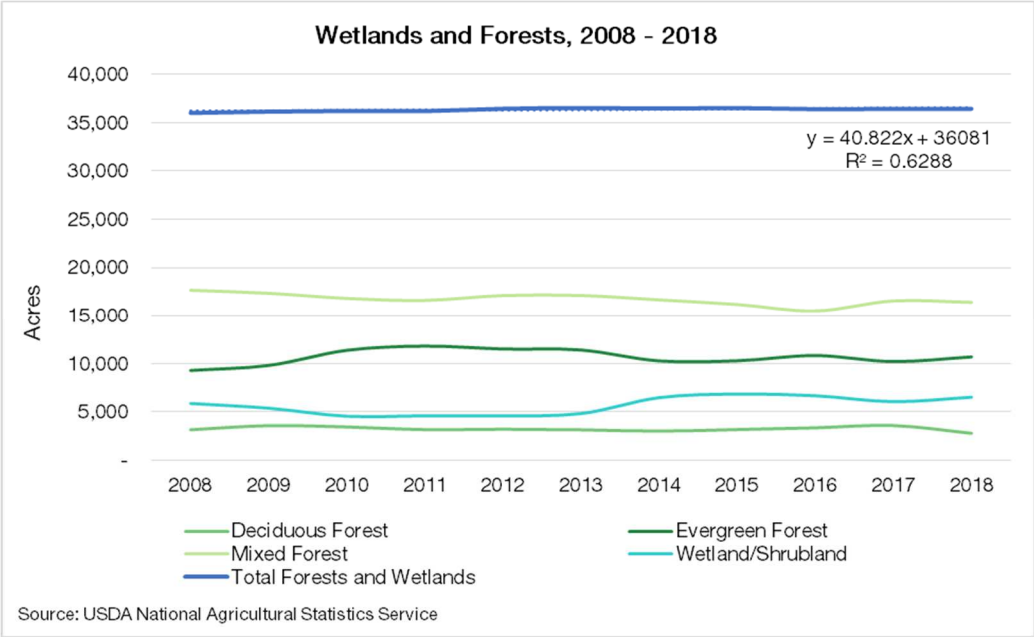


As demand for new housing has waned, the pressure for local development has also slowed. The United States Department of Agriculture's (USDA) National Agricultural Statistics Survey (NASS) is a remotely sensed dataset that categorizes types of land cover and land use. By analyzing the spectra of different mineral, vegetative, and manufactured surfaces, soil compaction and moisture content, and impervious surfaces, satellite imagery can indicate anything from a change in crop cover to the construction of housing. It should be noted that because this dataset relies on spectral classification and because the resolution is relatively poor and coarse – each pixel shows a 30-meter square – care must be taken during interpretation and other survey tools utilized. Pixels of 30 meters may result in the mischaracterization of some ground features.

Between 2008 and 2018, the Katahdin region saw an increase in developed land area of only 217.5 acres, or 5.8% of total developed area. This compares to a 70% decrease in agriculture and pasture-type land cover, accounting for a little over 1,000 acres. In total, human-managed landscapes such as

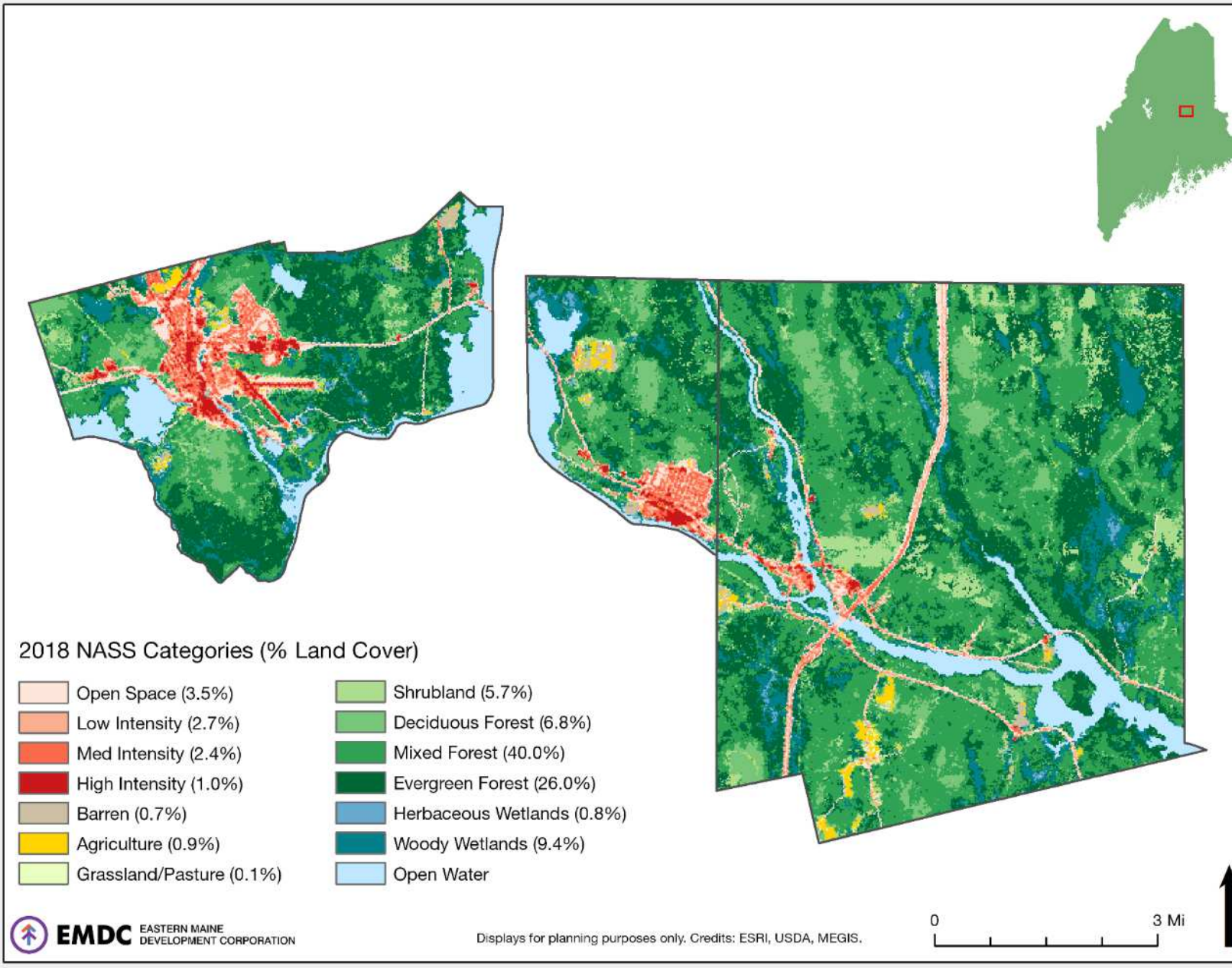
croplands, pastures, and developed areas decreased by 16%. During the same period, the region experienced a 0.7% decrease in total forest cover and a 10.9% increase in wetlands and shrublands – in total, these areas increased by 426 acres. These shifts fit with patterns of managed woodlands and regrowth following harvest, though true sustainability must take into account more than a ten-year sample period. According to this analysis, long-term trends for forest, wetland, and shrubland land cover are stable. Finally, measured water surfaces in the region increased by 190 acres. This change underscores the dynamic nature of riparian systems and the interminable forces of erosion. Note that in the Developed and Agricultural Areas table and 2018 NASS Categories map below, "low, medium and high intensity" refer to land development intensity.

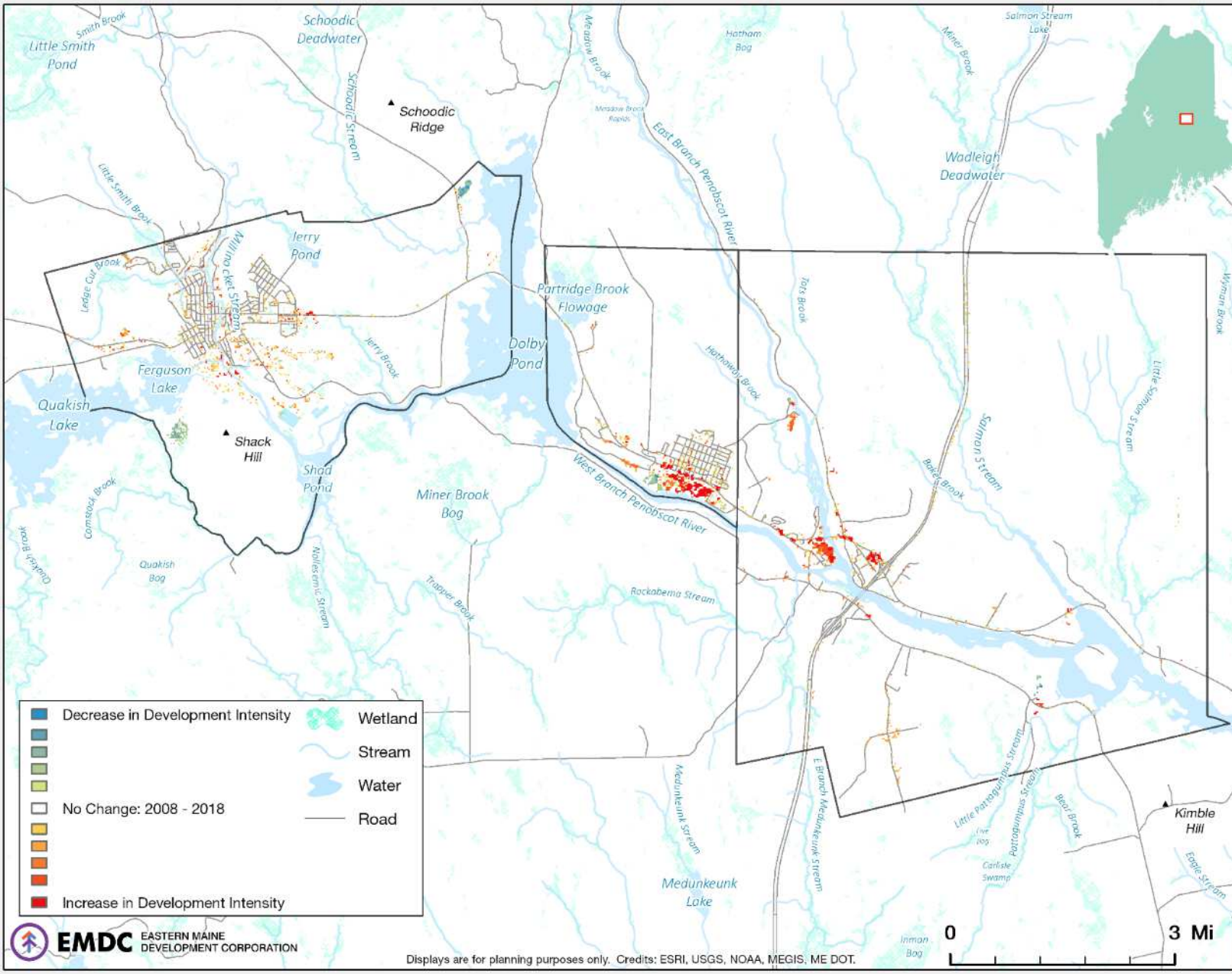




	2008 Acres	2018 Acres	Change
OPEN WATER	3,208.27	3,397.75	+ 5.9%
Open Space	1,430.22	1,433.56	+ 0.2%
Low Intensity	1,175.80	1,117.53	-5.0%
Medium Intensity	829.75	979.43	+ 18.0%
High Intensity	287.33	410.10	+ 42.7%
Total Developed	3,723.11	3,940.61	+ 5.8%
Agriculture/Crops	689.20	383.85	-44.3%
Grassland/Pasture	828.64	61.16	-92.6%
Total Agriculture	1,517.84	445.01	-70.7%
Barren	44.26	284.22	+ 542.2%
Deciduous Forest	3,168.68	2,801.06	-11.6%
Evergreen Forest	9,284.53	10,680.50	+ 15.0%
Mixed Forest	17,660.80	16,414.95	-7.1%
Total Forest	30,114.01	29,896.51	-0.7%
Shrubland	1,744.69	2,339.37	+ 34.1%
Woody Wetlands	3,799.61	3,844.98	+ 1.2%
Herbaceous Wetlands	334.48	337.82	+ 1.0%
Total Shrub/Wetland	5,878.78	6,522.17	+ 10.9%
TOTAL LAND	41,278.00	41,088.52	-0.5%

Source: USDA National Agricultural Statistics Service

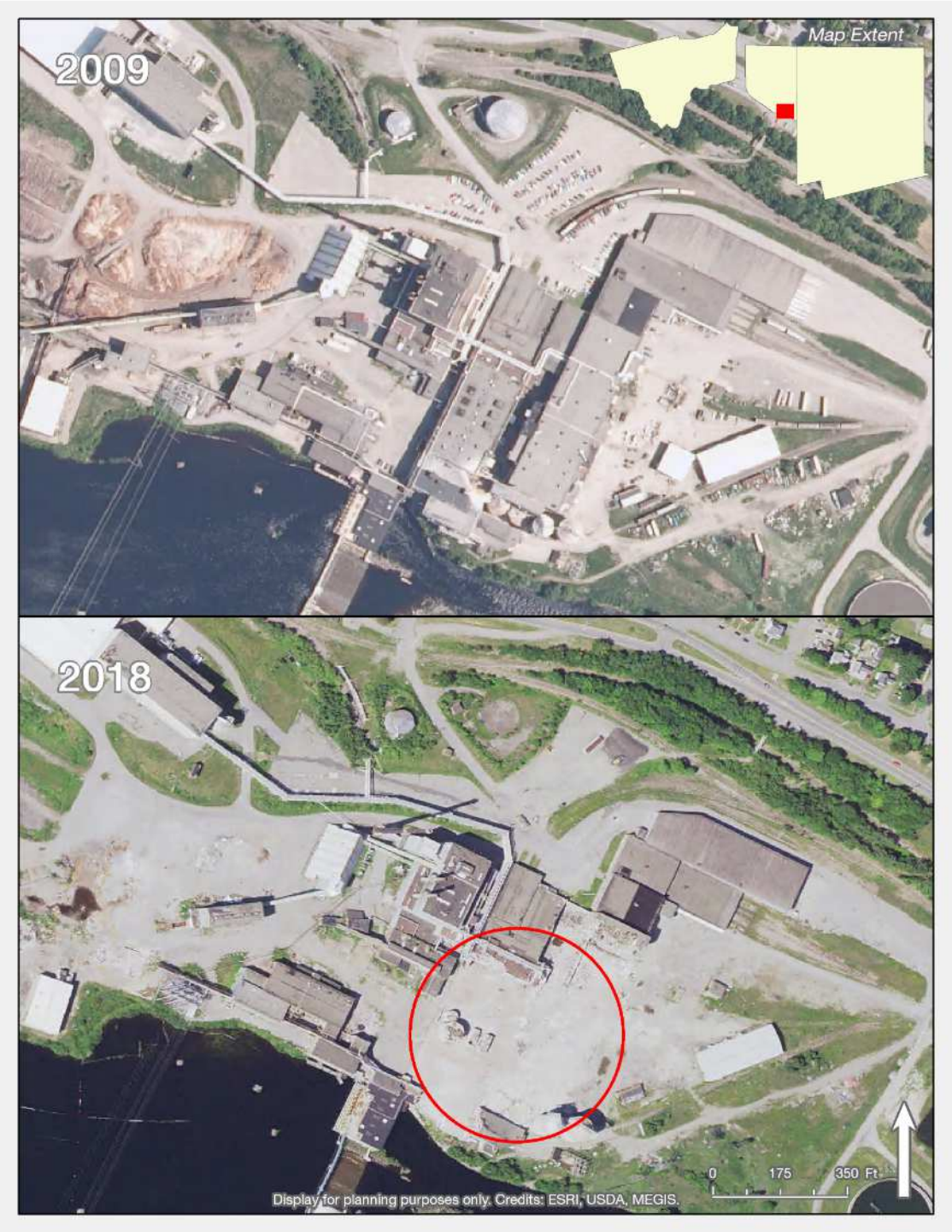

2018 NASS Categories (% Land Cover)
Open Space (3.5%)
Low Intensity (2.7%)
Med Intensity (2.4%)
High Intensity (1.0%)
Barren (0.7%)
Agriculture (0.9%)
Grassland/Pasture (0.1%)
Shrubland (5.7%)
Deciduous Forest (6.8%)
Mixed Forest (40.0%)
Evergreen Forest (26.0%)
Herbaceous Wetlands (0.8%)
Woody Wetlands (9.4%)
Open Water
EMDC
EASTERN MAINE DEVELOPMENT CORPORATION
Displays for planning purposes only. Credits: ESRI, USDA, MEGIS.
0
3 Mi


Little Smith Pond
Schoodic Deadwater
Schoodic Ridge
Schoodic Stream
Meadow Brook
Hatham Bog
Salmon Stream Lake
Miner Brook
East Branch Penobscot River
Wadleigh Deadwater
Jerry Pond
Partridge Brook Flowage
Dolby Pond
Ferguson Lake
Quakish Lake
Shack Hill
Shad Pond
Miner Brook Bog
West Branch Penobscot River
Salmon Stream
Baker Brook
Rockabema Stream
Medunkeunk Stream
Medunkeunk Lake
E Branch Medunkeunk Stream
Little Pottagumpus Stream
Pottagumpus Stream
Bear Brook
Kimble Hill
Carlisle Swamp
Eagle Stream
Decrease in Development Intensity
No Change: 2008 - 2018
Increase in Development Intensity
Wetland
Stream
Water
Road
EMDC EASTERN MAINE DEVELOPMENT CORPORATION
Displays are for planning purposes only. Credits: ESRI, USGS, NOAA, MEGIS, ME DOT.
0
3 Mi

In examining the shifts in developed land cover, however, there is a degree of uncertainty of whether those shifts were due to residential development or commercial and industrial development. Examining the largest changes between 2008 and 2018, several areas stand out:

1. The area of the former Great Northern Paper mill in East Millinocket;
2. The area directly northwest of the confluence of the East and West branches of the Penobscot River in Medway, adjacent to Medway Road/Route 157 and Pattagumpus Road/Route 116;
3. Areas adjacent to Medway Road/Route 157 west of the junction with I-95;
4. An area at the terminus of Hathaway Road near the East Branch Penobscot River in Medway;
5. An area near where Huber Road leaves the municipal boundary in Millinocket;
6. The area south of Ferguson Lake and the Quakish Dam in Millinocket.

Using National Agriculture Imagery Program (NAIP) imagery, we are able to examine high-resolution imagery for current and historic periods. Below is site number 1, the former mill in East Millinocket. Comparing imagery collected in 2009 and in 2018, one notices somewhat extensive demolition and cleanup activities. It is possible that cycles of use and disuse have invited weeds and scrub which are subsequently mown, altering the spectral profile of the landscape.



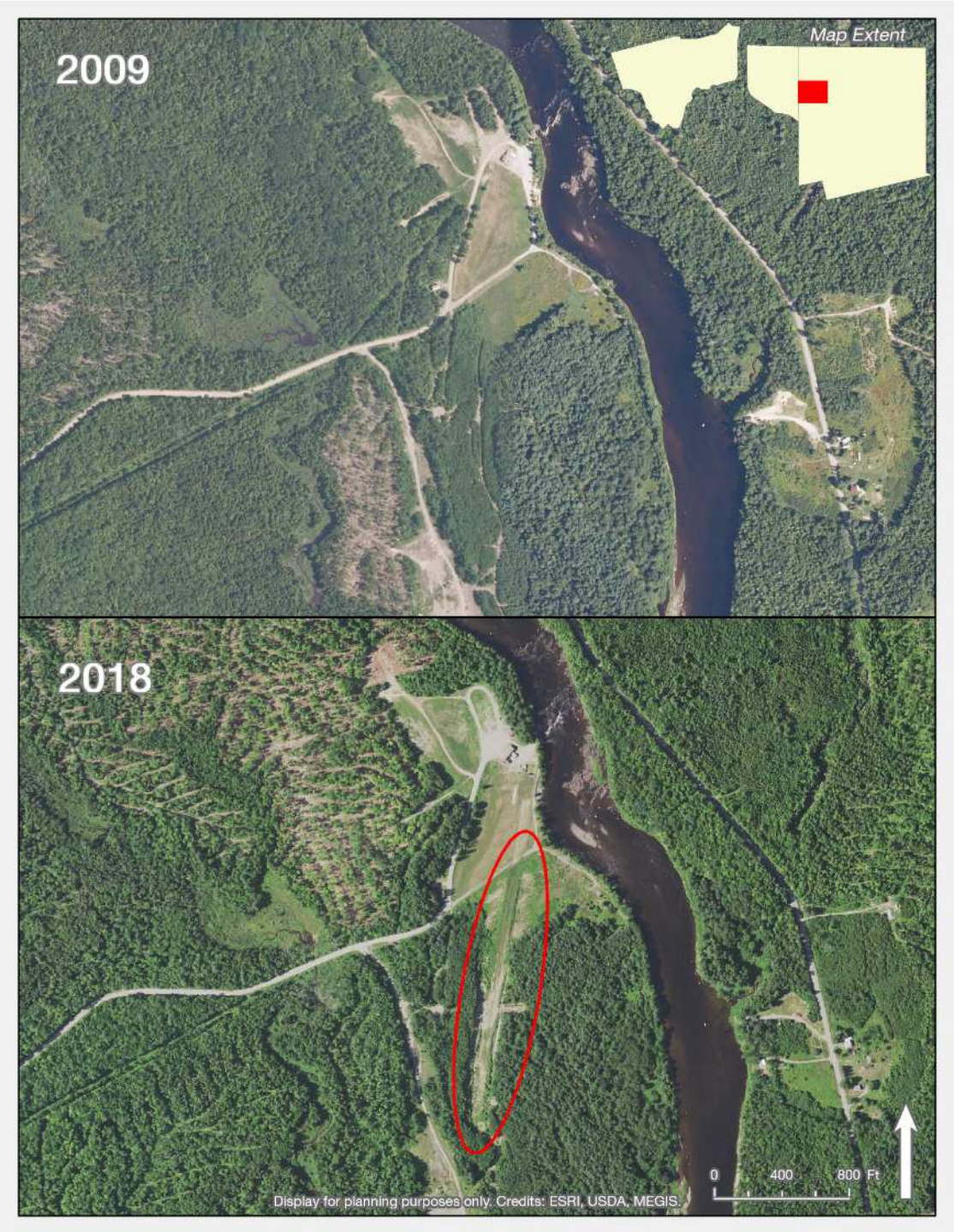
The second area of interest – just northwest of the confluence of the Penobscot River in Medway – is seen below. This area seems to have not experienced any residential development in the time period. Rather, activities to the east have disturbed soil and vegetation, resulting in a measured increase in development intensity.



Site three, the areas adjacent to Medway Road/Route 157 west of I-95, are shown below. Again, slight alterations in the tree line surrounding commercial lots as well as disturbed soils have caused a measured increase in development intensity.



Site number four is located at the terminus of Hathaway Road in Medway near the East Branch Sno-Rovers club. In addition to several logging operations in the west, there is an area of cleared land extending south-southwest from an already cleared field.



Finally, two areas have decreased in development activity. The first, site five, is situated at the Huber Hardwood Resources facility near the Millinocket town boundary. On the southern end of the property, an area of forest has been removed. However, it is likely that disturbances in soil and vegetative incursion has resulted in a measured decrease in land use intensity.



Site number six is located in the southwest of Millinocket at the municipal landfill, just south of Ferguson Lake and the Quakish Dam. In 2009, this area was extensively barren and stripped, subsequently recovering and thus resulting in a decrease in usage intensity. Note that the image below shows the bark pile at the Millinocket mill site but the 1,400 acres that are a part of that site and are in the process of being developed are not shown. The mill site has undergone significant change.



When we remove these large areas from our analysis of land use change, the expected figure drops from a measured increase of 217.5 acres to an increase of only 82.5 acres – 2.2% – over ten years. Compared with census data reported in the section on Housing, during the period between the 2010 census and the 2018 American Community Survey 5-Year estimates, the region increased by 208 housing units total. This figure includes single-family homes as well as rental units and duplexes. This increase – a 5% increase from 2010 – falls well behind the drop in population of approximately 344 people. The occupied housing rate – defined as those inhabited for six months or more out of the year – decreased from 3,511 in 2010 to 3,466 in the 2018 ACS estimates. Thus, much of the growth in housing was centered on vacant units largely for seasonal, recreational, or occasional use. The administrative capacity in Millinocket, East Millinocket, and Medway is adequate to manage their land use regulation programs, particularly their planning boards and code enforcement officers.

Lot Dimension Standards & Land Use Zones

Millinocket			
DIMENSIONAL REQUIREMENTS	**DISTRICT**		
	Residential		
	Downtown Residential Zone R1	**Medium Density Residential Zone (R2)**	**Rural Development Zone (RD)**
Minimum Lot Size	6,000 Sq. Ft	10,000 Sq. Ft	40,000 Sq. Ft
Minimum Road/Share Frontage	50 Feet	100 Feet	150 Feet
Minimum Front Yard Setback From Edge of Right-Of-Way	10 Feet	25 Feet	50 Feet
Minimum Side Yard Setback From Edge of Right-Of-Way			
Principal Structures	5 Feet	$5/10^2$ Feet	20 Feet
Accessory Structures	5 Feet	5 Feet	10 Feet
Minimum Rear Yard Setback			
Principal Structures	10 Feet	10 Feet	20 Feet
Accessory Structures	5 Feet	5 Feet	10 Feet
Maximum Lot Coverage	60%	25%	20%
Maximum Building Height			
Principal Structures	40 Feet	30 Feet	30 Feet
Accessory Structures	20 Feet	16 Feet	16 Feet
	Commercial		
	Downtown Commercial Zone (DC)	**Highway Commercial Zone (HC)**	**Neighborhood Commercial Zone (NC)**
Minimum Lot Size	5,000 Sq. Ft	1 Acre	7,500 Sq. Ft
Minimum Road/Share Frontage	50 Feet	200 Feet	75 Feet
Minimum Front Yard Setback From Edge of Right-Of-Way	0 Feet	50 Feet	20 Feet
Minimum Side Yard Setback From Edge of Right-Of-Way			
Principal Structures	NA	25 Feet	10 Feet
Accessory Structures	NA	10 Feet	5 Feet
Minimum Rear Yard Setback			
Principal Structures	10 Feet	25 Feet	10 Feet
Accessory Structures	5 Feet	10 Feet	5 Feet
Maximum Lot Coverage	90%	80%	60%
Maximum Building Height			
Principal Structures	40 Feet	40 Feet	30 Feet
Accessory Structures	20 Feet	20 Feet	16 Feet

Millinocket	
DIMENSIONAL REQUIREMENTS	**DISTRICT**
	Industrial (ID)
Minimum Lot Size	2 Acres
Minimum Road/Share Frontage	200/300 Feet
Minimum Front Yard Setback From Edge of Right-Of-Way	100 Feet
Minimum Side Yard Setback	
Principal Structures	25 Feet
Accessory Structures	25 Feet
Minimum Rear Yard Setback	
Principal Structures	25 Feet
Accessory Structures	25 Feet
Maximum Lot Coverage	30%
Maximum Building Height	
Principal Structures	100 Feet
Accessory Structures	100 Feet
	Commercial Forestland (CF)
Minimum Lot Size	10 Acres
Minimum Road/Share Frontage	200/300 Feet
Minimum Front Yard Setback From Edge of Right-Of-Way	100 Feet
Minimum Side Yard Setback	
Principal Structures	25 Feet
Accessory Structures	25 Feet
Minimum Rear Yard Setback	
Principal Structures	25 Feet
Accessory Structures	25 Feet
Maximum Lot Coverage	30%
Maximum Building Height	
Principal Structures	100 Feet
Accessory Structures	100 Feet

East Millinocket	
DIMENSIONAL REQUIREMENTS	**DISTRICT**
	Aquifer Protection (AP)
Minimum Lot Size	NA
Minimum Road Frontage	NA
Minimum Setbacks	NA
	Rural (R)
Minimum Lot Size	Municipal Sewer – 10,000 Sq. Ft Subsurface Wastewater Disposal – 20,000 Sq. Ft
Minimum Lot Size Per Dwelling	NA
Minimum Frontage and Setbacks	NA
Maximum Building Height	30 Feet
	Commercial (C)
Minimum Lot Size	Municipal Sewer – 10,000 Sq. Ft Subsurface Disposal – 20,000 Sq. Ft
Minimum Lot Area Per Family	5,000 Sq. Ft
Minimum Road Frontage	60 Feet
Minimum Lot Width	60 Feet
Minimum Lot Depth	75 Feet
Minimum Front Yard Setback From Edge of Traveled Way	20 Feet
Minimum Side Yard Setback	8 Feet
Minimum Rear Yard Setback	24 Feet
Maximum Building Height	30 Feet
Maximum Lot Coverage	-
	Industrial Park (IPD) & Industrial (ID)
Minimum Lot Size	10,000 Sq. Ft
Minimum Road Frontage	100 Feet
Minimum Lot Width	100 Feet
Minimum Front Yard Setback	50 Feet
Minimum Side Yard Setback	50 Feet
Minimum Rear Yard Setback	50 Feet
Maximum Lot Coverage	50%
Maximum Building Height	45 Feet
	Residential Development (RD)
Minimum Lot Size	Municipal Sewer – 10,000 Sq. Ft Subsurface Disposal – 20,000 Sq. Ft
Minimum Lot Area Per Family	5,000 Sq. Ft
Minimum Road Frontage	100 Feet
Minimum Lot Width	100 Feet
Minimum Lot Depth	100 Feet
Minimum Front Yard Setback From Edge of Traveled Way (Corner Lot)	35 Feet, 20 Feet
Minimum Front Yard Setback	Frontage Setback > 100' - 10 Feet < 100' - 5 Feet
Maximum Building Height	30 Feet
Maximum Lot Coverage	30%

The Town of Medway does not currently have an adopted zoning ordinance and therefore, no identified lot dimensional standards. However, Medway complies with the State of Maine's zoning laws.

Both Millinocket and East Millinocket utilize their zoning ordinances to manage land use within their boundaries. Provisions for residential development are present within each community. Commercial forestland (CF) zones in Millinocket protect those areas from development, whereas rural (R) zones and aquifer protection (AP) zones in East Millinocket protect those areas by steering development and commercial activities elsewhere. Both municipalities have zoning dedicated to industrial development.

Future Land Use

State Goal

To encourage orderly growth and development in appropriate areas of each community, while protecting the state's rural character, making efficient use of public services, and preventing development sprawl.

Introduction

Predicting future land uses requires an analysis of future populations, an examination of natural constraints to development, as well as an understanding of local, state, and federal restrictions on development. These constraints, along with attitudes towards regulation, will differ from community to community. Zoning, density limits, transfers of development rights, and other mechanisms communities used to manage future growth must be coupled with an informed, long-range plan in order to achieve the desired results. Using a comprehensive plan as a guide, towns have a better chance at developing targeted policies and practices that can enhance integrity of both built and natural environments and improve the public's relationship with each. To that end, the Growth Management Act requires communities to designate areas suitable for growth, but just as important are areas designated for recreation, for forestry and agriculture, and for habitat and water resource preservation.

After evaluating historic trends in housing and demography, it is necessary to map natural constraints to development. The following criteria are enumerated in *Comprehensive Planning: A Manual for Maine Communities* published by the Maine State Planning Office in 2005.

- Topography: steep slopes can severely limit construction and utility installation, as can the depth to bedrock. Rugged terrain can also limit the construction of roads and streets.
- Soils and geology: soil permeability can inhibit development, especially where soils are very saturated (hydric) or where soils are excessively drained, preventing the installation of a septic system. Certain soils are important as Prime Farmland or as highly productive woodlands, valuable to a community's ability to self-source food and other resources. Maine's underlying geology can also cause issues in well water such as arsenic, radon, manganese, and uranium.
- Drinking water resources: areas overlying aquifers and well recharge areas are sensitive to groundwater pollution and therefore require protection from pollution. Because aquifers can

carry water for miles before delivering it to a drinking supply, these resources need to be managed across political boundaries.

- Natural hazard areas: the most common hazards for Maine communities arise from flooding in riparian and marine environments. Flooding is a natural and enduring feature of our environment and only becomes a natural disaster when human development is in the way. To mitigate these hazards, infrastructure and development must be guided away from those areas.
- Wetlands and waterbodies: wetlands act as buffers for storm waters and often mitigate the worst effects of flood events while filtering sediments and contaminants. All water systems are unceasingly dynamic; development too near these features is inherently vulnerable to flooding and erosion.
- Habitats: all of Maine's flora and fauna are valuable in one way or another. Whether a species is a commercial asset, or whether that species is part of a much larger integrated ecosystem, these habitats need to be maintained if humans are to survive on this planet.
- Scenic areas: our communal pride in our state's beauty says a lot about our civic character. By acting to preserve both natural and cultural scenic value, we can ensure that Maine remains vibrant and worthwhile.

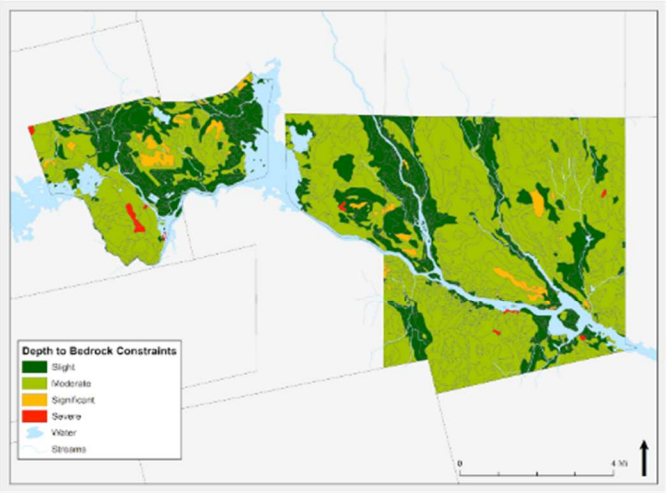
Rating Natural Resources for Constraints to Development					
Item	Variable	Severe	Significant	Moderate	Slight
Topography: Slope	>25%	X			
	15% to 25%		X		
	8% to 15%			X	
	1% to 8%				X
	<1%		X		
Depth to bedrock (public sewer reduces these constraints)	<12 inches	X			
	12 to 15 inches		X		
	15 to 48 inches			X	
	>15" in non-sands, >48" sands				X
Soils:					
Depth to groundwater (public sewer reduces these constraints)	<7 inches	X			
	7 to 15 inches		X		
	>15 inches in sands			X	
	>15 inches in other soils				X
Prime farmland	Yes		X		
	No				X
Woodland productivity	High		X		
	Medium			X	
	Low				X
Risk of erosion	Sandy on slopes >15%	X			
	Sandy on slopes 8% to 15%		X		
	Other soils				X
Aquifer production	High	X			
	Medium		X		
	Low				X
Flood plain	100-year	X			
	Outside of 100-year				X
Wetlands	Coastal	X			
	Freshwater of significance	X			
	Other		X		
Lakes and ponds: distance from high water mark	Within 100 feet	X			
	Within 100 to 250 feet			X	
	>250 feet				X
Marine waters: distance from high water mark	<250' in sandy soils, <100' in other soils	X			
	soils			X	
	500' +in sandy soils, 250' +in other soils				X
Habitat	Rare and endangered	X			
	Deer yards, coastal nesting, other high value		X		
	None of the above, but:				
	Part of limited no. of blocks of 250 +acres		X		
	One of many blocks of 250 +acres			X	
	None of the above				X
Scenic value	Rated high		X		
	Rated medium			X	
	Rated low				X
Other critical areas	All	X			

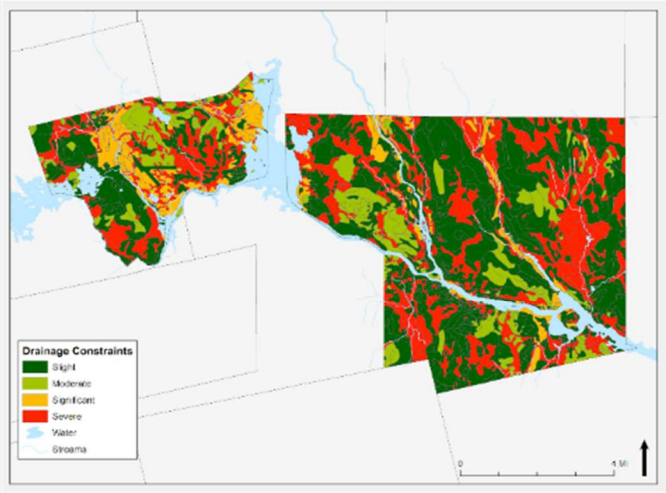
Source: Richert, E. and S. Most. 2005. Comprehensive Planning: A Manual for Maine Communities. *Maine State Planning Office.*

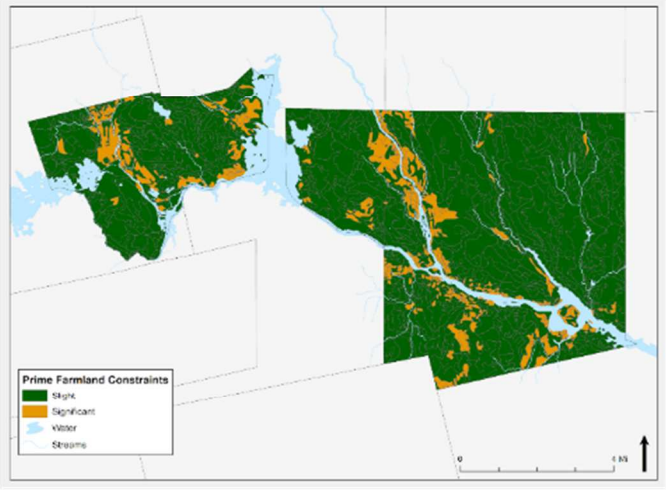
The inherent challenge in meeting each of these criteria is in finding *balance* between them. Prioritizing one element of municipal functioning at the expense of another often invites unintended and lasting consequences. To understand the intersection of these criteria, Geographic Information Systems (GIS) can be used to superimpose each constraint over an area of interest. This process once involved tracing and overlaying physical maps, but now uses digital representations of each element. By creating maps and describing each item in other sections, we can combine them into one unified measure of suitability or unsuitability. Layers considered were:

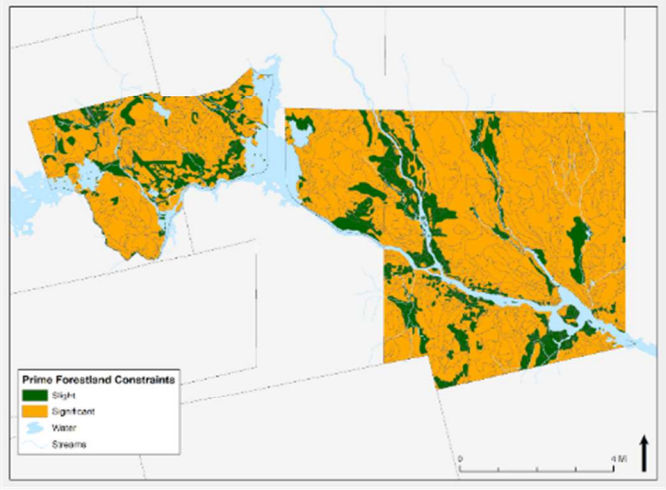
- Depth to bedrock;
- Soil drainage;
- Prime Farmland and Prime Forestland;
- Hydric soils;
- Significant habitats;
- Wetlands;
- Slope;
- Flood zones;
- Aquifer and well recharge areas;
- Lakes, ponds, rivers, and streams.

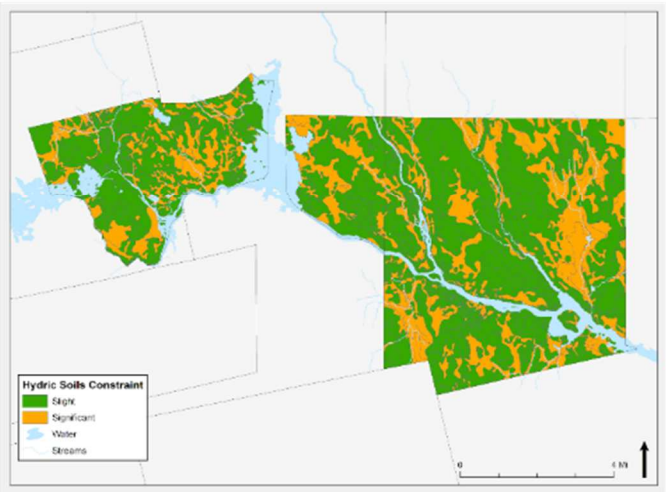
The suitability overlay begins by assigning a score for unsuitability to each variable, where a high score is the least suitable (i.e. water area) and zero is the most suitable (i.e. no constraints), and then summing those constraints across all variables. The result is a relative index of constraints to development, which are shown in the map. Emphasis on areas within 1,000 feet of a public, open access roadway shows that each town has ample area in which to focus development while retaining large contiguous tracts of working forestland, preserved habitat, and recreation areas.

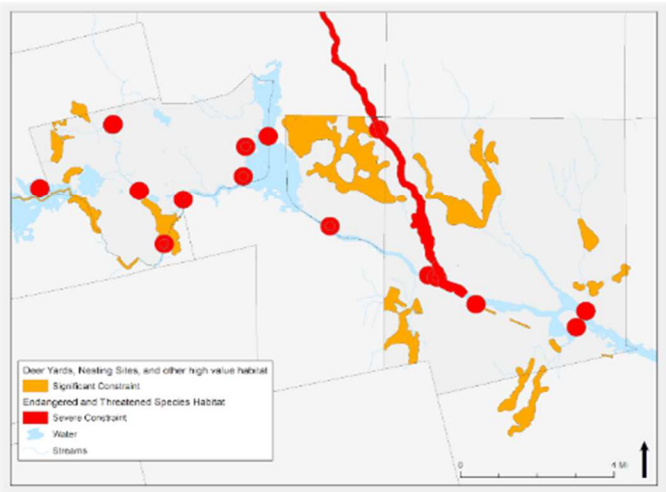

Depth to Bedrock Constraints
Slight
Moderate
Significant
Severe
Water
Streams

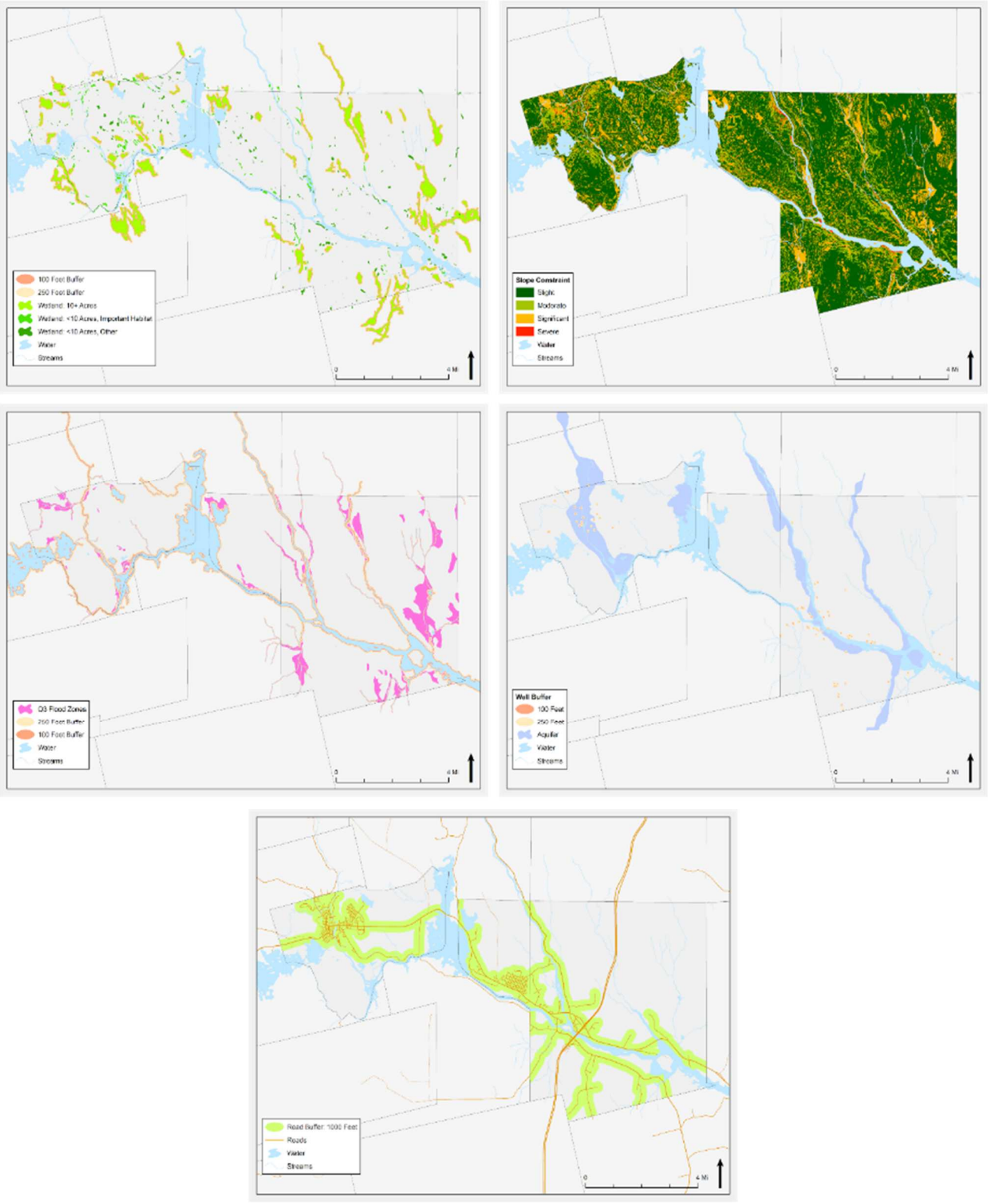

Drainage Constraints
Slight
Moderate
Significant
Severe
Water
Streams


Prime Farmland Constraints
Slight
Significant
Water
Streams


Prime Forestland Constraints
Slight
Significant
Water
Streams


Hydric Soils Constraint
Slight
Significant
Water
Streams


Deer Yards, Nesting Sites, and other high value habitat
Significant Constraint
Endangered and Threatened Species Habitat
Severe Constraint
Water
Streams



Comparing this analysis to the entire land area of each town and considering development trends for the previous decade, we find that there is ample space to accommodate development when it might occur.

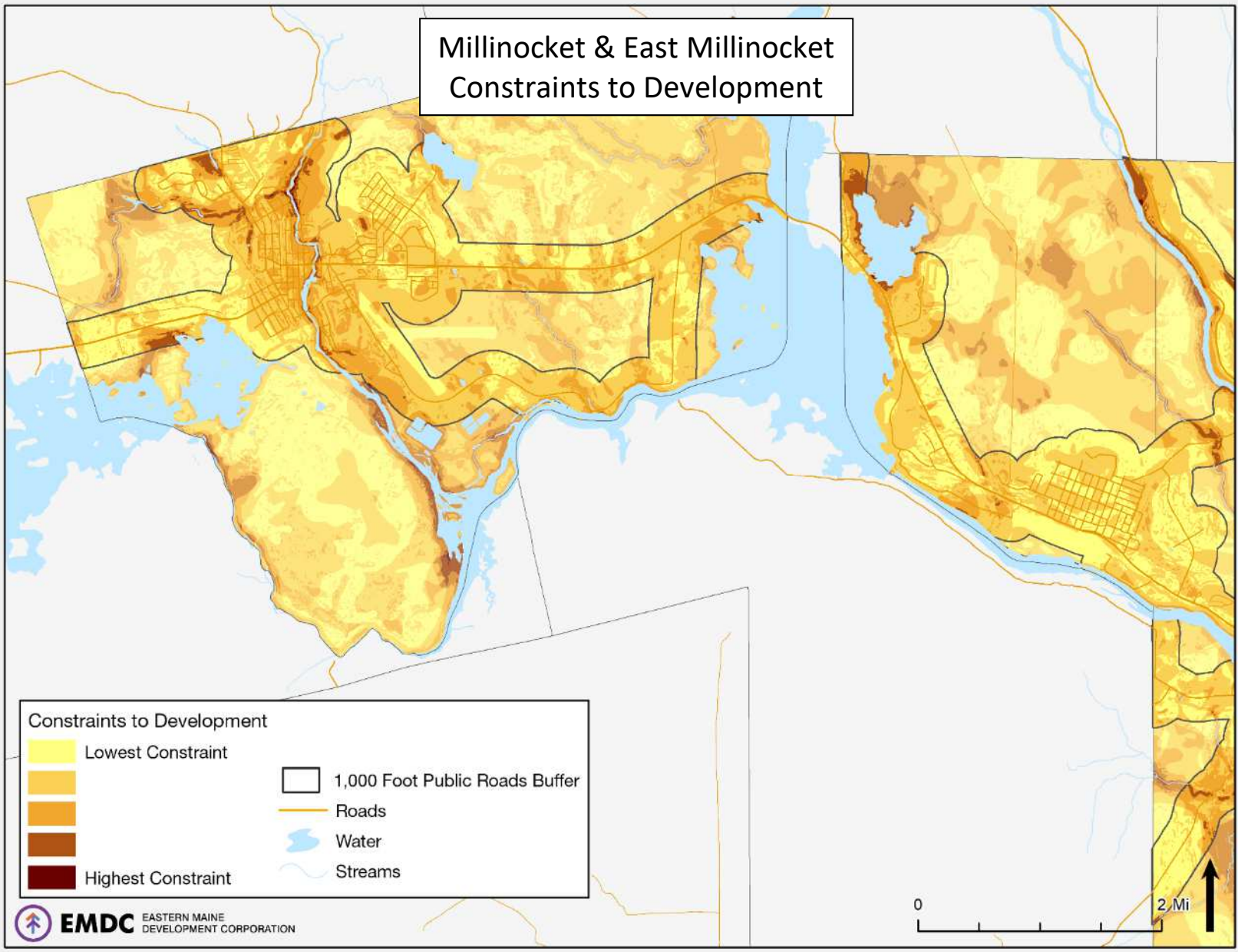
Suitability Index	East Millinocket		Medway		Millinocket	
1 to 6 (most suitable)	618.1	13.62%	2,151.5	8.18%	915.1	9.02%
7 to 13	822.2	18.12%	3,366.0	12.79%	2,006.7	19.77%
14 to 20	213.4	4.70%	915.5	3.48%	854.3	8.42%
21 to 27	56.2	1.24%	130.1	0.49%	102.6	1.01%
28 to 34 (least suitable)	1.0	0.02%	0.3	0.00%	3.1	0.03%
Source: USDA 2018 National Argicultural Statistics Service						

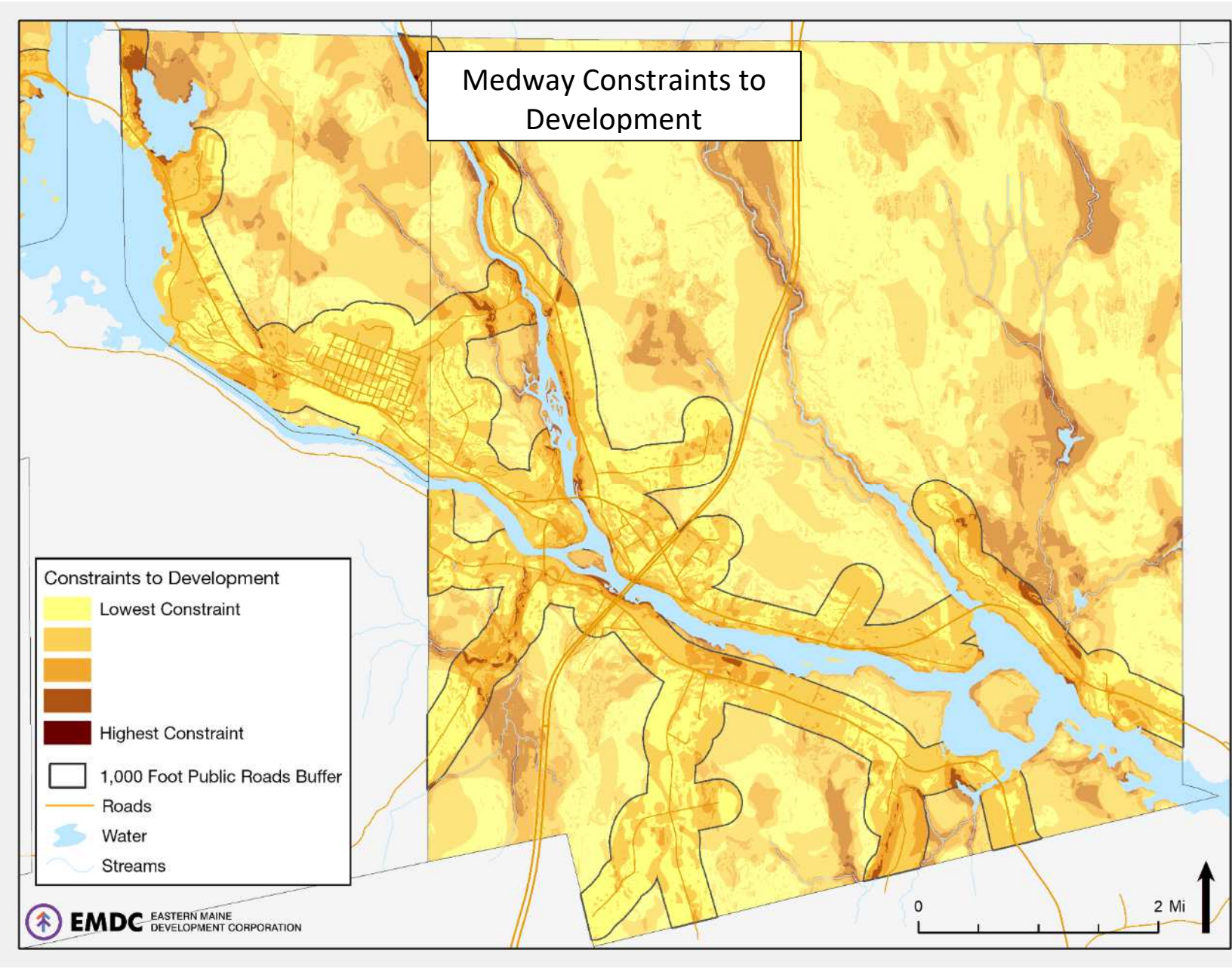
Zoning

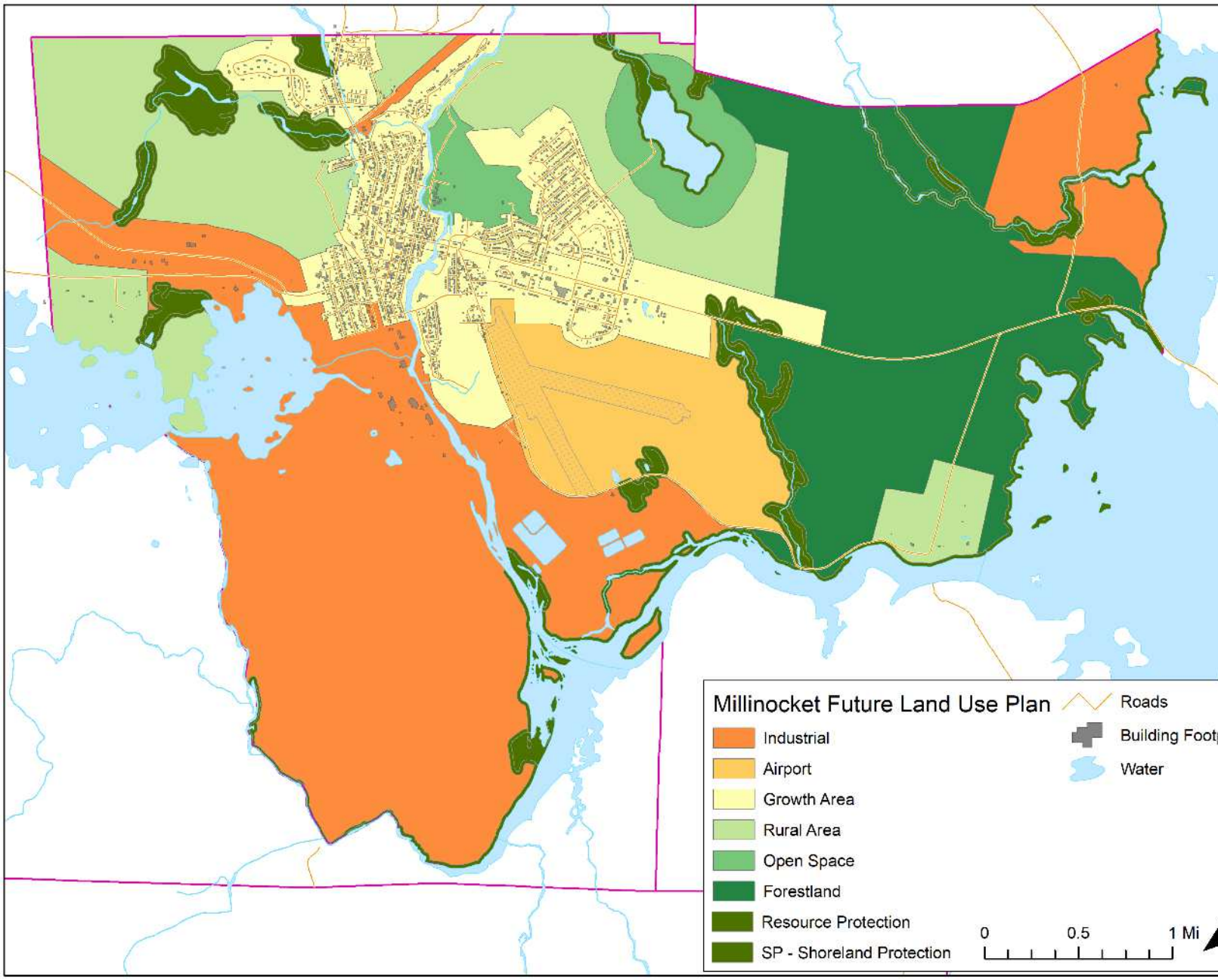
Zoning and land use ordinances in place in the Katahdin region can be informed by analyses of development suitability. Every municipality must balance the needs of its residents, the pressures of commerce and economy, and the obligation to environmental sustainability. Both Millinocket and East Millinocket have adopted zoning ordinances, while Medway has not. In each community, provisions for residential development are made around the already settled downtowns as well as in certain rural areas. As identified previously, Millinocket maintains extensive commercial forestland (CF) zones, which protect that area from development. East Millinocket's rural (R) zone offers comparable protections by encouraging development and commercial activities in designated zones.

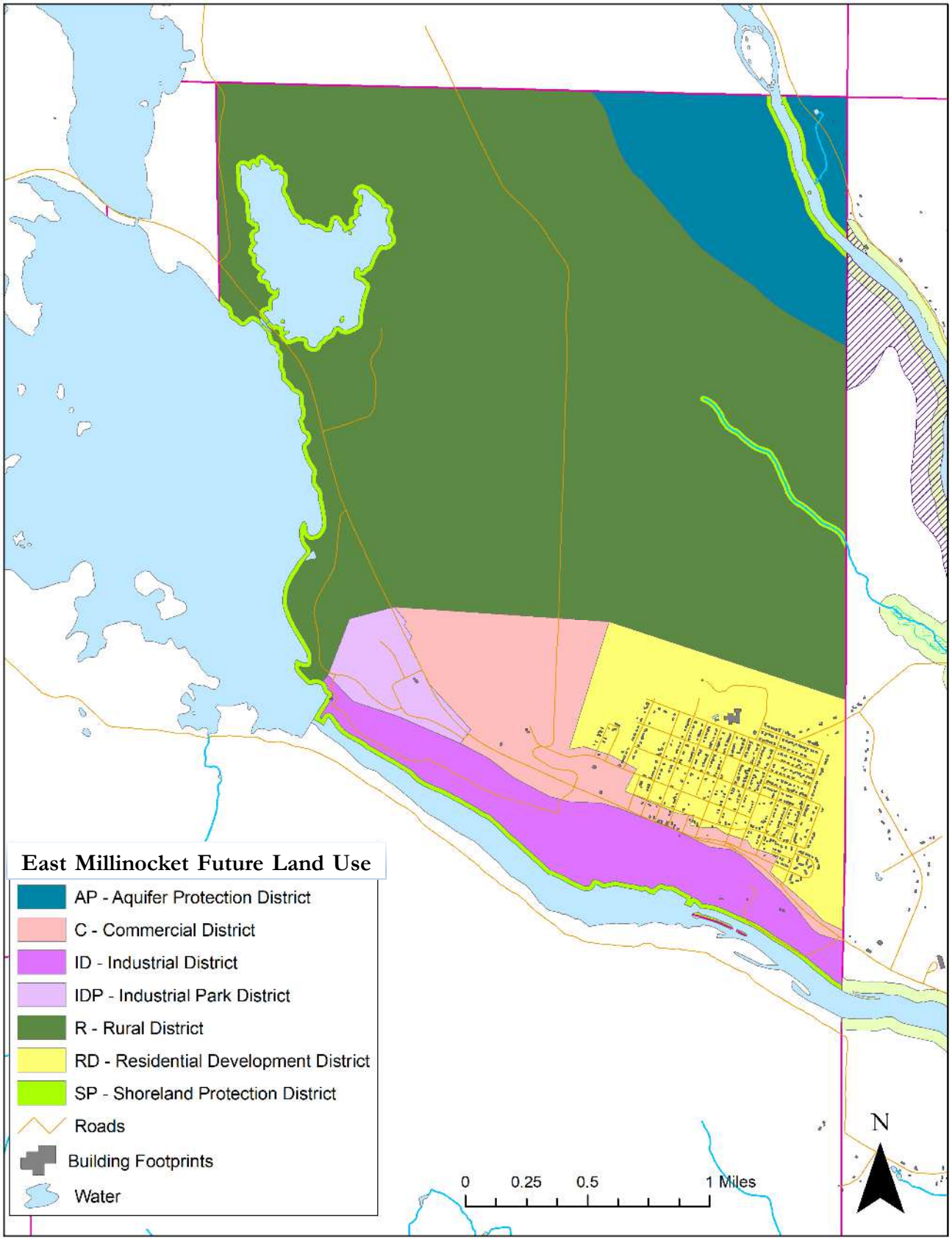
All towns adopt shoreland zoning to protect water resources and to protect against flooding. Millinocket extends this protection around Jerry Pond to a 1,000-foot buffer. East Millinocket extends a similar Aquifer Protection buffer surrounding the East Branch Penobscot River where it passes through its borders.

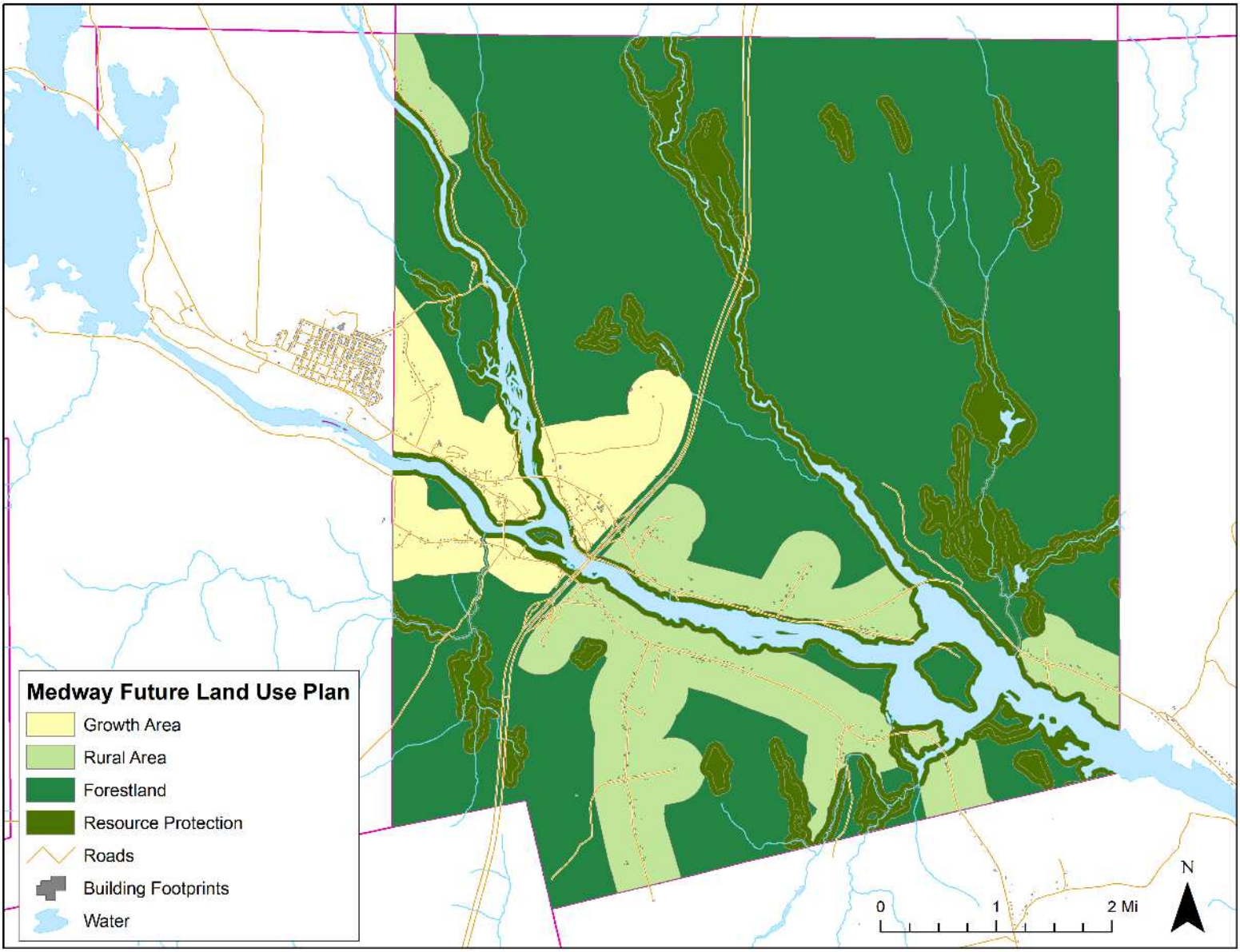
Because settlement patterns in Millinocket and East Millinocket differed from those in Medway, the ultimate impact of zoning on those three towns will differ as well. Medway was developed later, following the expansion of the Maine Turnpike, and there has been more pressure from spread out settlement patterns. However, the turnpike also acts as a barrier to development for much of the town. As a result, historic patterns of settlement along the Penobscot River and in the town's village center still predominate.


Millinocket & East Millinocket
Constraints to Development
Constraints to Development
Lowest Constraint
Highest Constraint
1,000 Foot Public Roads Buffer
Roads
Water
Streams
EMDC
EASTERN MAINE
DEVELOPMENT CORPORATION
0
2 Mi


Medway Constraints to Development
Constraints to Development
Lowest Constraint
Highest Constraint
1,000 Foot Public Roads Buffer
Roads
Water
Streams
EMDC EASTERN MAINE DEVELOPMENT CORPORATION
0
2 Mi


Millinocket Future Land Use Plan
Industrial
Airport
Growth Area
Rural Area
Open Space
Forestland
Resource Protection
SP - Shoreland Protection
Roads
Building Foot
Water
0
0.5
1 Mi


East Millinocket Future Land Use
AP - Aquifer Protection District
C - Commercial District
ID - Industrial District
IDP - Industrial Park District
R - Rural District
RD - Residential Development District
SP - Shoreland Protection District
Roads
Building Footprints
Water
0
0.25
0.5
1 Miles
N


Medway Future Land Use Plan
Growth Area
Rural Area
Forestland
Resource Protection
Roads
Building Footprints
Water
0
1
2 Mi
N

Land Use Districts

Millinocket
The various zoning districts in Millinocket's Future Land Use Plan include Industrial, Airport, Growth Area, Rural Area, Open Space, Forestland, Resource Protection, and Shoreland Protection. A significant portion of southern Millinocket is zoned for Industrial Development. In southeast Millinocket is a Commercial Forestland zone, which the town maintains extensively. The Commercial Forestland zone protects this area from development. In southeast Millinocket is the Airport Development zone. In the center of Millinocket is the Growth Area zone, which is comprised of Downtown Residential Development, Medium Residential Development, Highway Commercial Development, Neighborhood Commercial Development, and Downtown Commercial Development. Downtown Residential Development has the highest intensity, followed by Highway Commercial Development, Medium Residential Development, Neighborhood Commercial Development, and Downtown Commercial Development. Scattered within the town's boundaries are zones of Resource Protection, specifically Wetland Protection. Northwestern Millinocket is primarily made up of Rural Area and is zoned for Rural Development. Within the Rural Area zones are Open Space zones within which Shoreland Protection zones protect water resources and protect against flooding. Millinocket extends this protection around Jerry Pond to a 1,000-foot buffer.

East Millinocket
The notable zoning districts within East Millinocket's Future Land Use Plan are Industrial, Growth Area, Rural Area, Open Space, Forestland, and Resource Protection. In the southern portion of East Millinocket are the Commercial District, Industrial Park District, Residential Development District, and Industrial District, which is situated along the coast of the West Branch Penobscot River. These four districts comprise the town's Growth Area. The largest zone in town is the Rural District. Other districts in East Millinocket are the Aquifer Protection District and the Shoreland Protection District both of which are within the Resource Protection area in the Future Land Use Plan. As is applicable to other communities, East Millinocket adopts shoreland zoning to protect its water resources, which include portions of West Branch Penobscot River, East Branch Penobscot River, Partridge Brook Flowage, and Dolby Pond.

Medway
The Town of Medway does not currently have an adopted zoning ordinance. As depicted in the Future Land Use Plan, land is distributed between Growth Area, Rural Area, Forestland, Resource Protection, Roads, Building Footprints, and Water. Growth areas are to be located close to municipal services to minimize the cost to the municipality for the delivery and maintenance of these services. The designation of rural zones is intended to protect agricultural, forest, scenic areas, and other open space land areas from incompatible development and uses. Medway has a high intensity of Forestland followed by Rural Area and Growth Area. Designated Resource Protection areas surround East Branch Penobscot River and Penobscot River which connect and travel through the southern portion of the town.

Proposed Land Uses & Constraints to Development

Within Millinocket, East Millinocket, and Medway, there are ample opportunities for future development. In Millinocket, areas with the lowest constraints to development are in industrial zones, rural areas and growth areas. Very few areas have high constraints to development, particularly the designated growth area in the Future Land Use Plan, which supports future

development in this location. Similarly, in the designated growth area within East Millinocket's Future Land Use Plan, there are low constraints to development. The location of the proposed growth area is compatible with that of the current residential development district and commercial development district. Low constraints to development in East Millinocket coupled with the compatibility of proposed uses to current uses supports future development in the municipality. The Town of Medway has very few areas with high constraints to development. In the proposed growth area in Medway's Future Land Use Plan, there are low constraints to development. As a result, future development in the municipality is supported. To support the proposed land uses, the Katahdin region is seeking to utilize grant funding from the Northern Border Regional Commission and USDA Rural Developments Community program to expand broadband capacity. If completed, the Towns of Millinocket, East Millinocket, and Medway may consider directing increased broadband capacity towards proposed growth areas to support increased business activity including home-based businesses. Additional anticipated major municipal capital investments to support the proposed land uses have not been identified.

The proposed land uses in the Katahdin region support the region's vision by providing opportunities for growth and development while also prioritizing the protection of natural resources and open space. To ensure the continued protection of important and critical natural resources, regional growth areas will avoid these locations as much as possible and state agencies will be consulted for guidance and technical assistance.

Strategies & Policies

The following policies and implementation strategies ensure the support of the current and future land use needs in the State of Maine.

State of Maine

Policies:

Minimum policies required to address state goals:

1. To coordinate the community's land use strategies with other local and regional land use planning efforts.
2. To support the locations, types, scales, and intensities of land uses the community desires as stated in its vision.
3. To support the level of financial commitment necessary to provide needed infrastructure in growth areas.
4. To establish efficient permitting procedures, especially in growth areas.
5. To protect critical rural and critical waterfronts areas from the impacts of development.

Strategies:

Minimum strategies to meet state goals:

1. Assign responsibility for implementing the Future Land Use section to the appropriate committee, board or municipal official.
2. Using the descriptions provided in the Future Land Use section narrative, maintain, enact or amend local ordinances as appropriate to:
    a. Clearly define the desired scale, intensity, and location of future development;
    b. Establish or maintain fair and efficient permitting procedures, and explore streamlining permitting procedures in growth areas; and
    c. Clearly define protective measures for critical natural resources and, where applicable, important natural resources.
    d. Clearly define protective measures for any proposed critical rural areas and/or critical waterfront areas, if proposed.
3. Include in the Capital Investment Plan anticipated municipal capital investments needed to support proposed land uses.
4. Meet with neighboring communities to coordinate land use designations and regulatory and non-regulatory strategies.
5. Provide the code enforcement officer with the tools, training, and support necessary to enforce land use regulations, and ensure that the Code Enforcement Officer is certified in accordance with 30-A M.R.S.A. §4451.
6. Track new development in the community by type and location.
7. Direct a minimum of 75% of new municipal growth-related capital investments into designated growth areas identified in the Future Land Use section.
8. Periodically (at least every five years) evaluate implementation of the plan in accordance with Section 2.7).

Time Frame: Ongoing

Responsible Agent(s): State of Maine, East Millinocket, Millinocket, Medway

Local

Millinocket

1. **Policy:** *None at this time*
   Strategies:
   Time Frame:
   Responsible Agent(s):

East Millinocket

1. **Policy:** *None at this time*
   Strategies:
   Time Frame:
   Responsible Agent(s):

Medway

1. **Policy:** *None at this time*
   Strategies:
   Time Frame:
   Responsible Agent(s):