Agriculture and Forestry

Introduction:

In Maine, agriculture and forestry were the traditional economic backbones and the original engines that drove the local economy, and in many ways, they still do. Farm Credit East's Northeast Economic Engine report, completed in 2020, calculated that Maine's agriculture industry contributes over $3.6 billion in economic impact and supports approximately 27,000 jobs statewide. Even today, particularly in Bingham, dozens of families rely on forestry related industries for employment or on revenues from their woodlots. Farm and forest land also provides open space, wildlife habitat, and aesthetics, all which Bingham residents consider elemental to their community's rural character and critical to outdoor recreation.

This chapter profiles the current state of farming and forestry in Bingham, as well as the resources for supporting these activities.

Agriculture in Maine:

Maine has ranked number one in the United States for wild blueberry production since the 1950s. As of 2020, Maine ranked 3rd in the production of maple syrup and 9th for potato production.

TABLE 1: MAJOR LAND USES IN MAINE

Census of Agriculture	2007	2012	2017
Farms (number)	8,136	8,173	7,600
Approximate total land area (acres)	19,745,809	19,739,717	19,740,213
Farmland (acres)	1,347,566	1,454,104	1,307,613
Farmland in total land area (percent)	6.8	7.4	6.6
Cropland (acres)	529,253	477,343	472,508
Cropland in farmland (percent)	39.3	32.8	36.1
Cropland used as pasture (percent)	7.0	2.1	2.4
Cropland irrigated (percent)	3.9	6.5	6.7
Harvested cropland (percent)	74.4	84.0	76.3
Woodland (acres)	660,679	773,652	685,529
Woodland in farmland (percent)	49.0	53.2	52.4
Woodland in pasture (percent)	4.0	3.5	3.1
Permanent pasture and rangeland (acres)	62,014	81,707	62,369
Pastureland in farmland (percent)	4.6	5.6	4.8
Land in house lots, ponds, roads, wasteland, etc. (acres)	95,620	121,402	87,207
Land in house lots, ponds, roads, wasteland, etc. in farmland (percent of total farms)	7.1	8.3	6.7

Source: USDA, Economic Research Service, 2023

The USDA breaks down the major land uses for Maine's farmland based on type of commodity produced (Table 1). Even though agriculture is not the thriving industry it once was in Maine, from the data in Table 1, it is evident that Maine is still very much a farming state. While the number of farms has decreased since 2007, the approximate total acreage changed little in the decade between 2007 and 2017.

The data in Table 1 shows that the type of farms have changed. Most notably, the acreage used for cropland decreased by 11 percent, cropland used as pasture decreased by 66 percent, and irrigated cropland increased by 72 percent.

Agriculture in Somerset County:

The USDA conducts a county-by-county census of farms every five years. The data from the 2017 Census of Agriculture (most recent survey data available) shows that out of the 16 counties in Maine, Somerset Conty ranked second out of the top five for agricultural production.

FIGURE 1: SOMERSET COUNTY'S STANDING IN AGRICULTURAL SALES

Top 5 counties in agricultural sales, 2017	Total receipts percent of State	Total receipts 1,000 dollars
Total receipts		
1. Aroostook County	30.3	201,974
2. Somerset County	12.6	83,931
3. Washington County	10.4	69,253
4. Penobscot County	7.6	50,915
5. Kennebec County	7.3	49,007
State Total		666,962

Source: USDA, Economic Research Service, 2023

Farms in Bingham:

Out of necessity, many of Bingham's first citizens in the early 1800s were farmers, due to the need to be self-sufficient and produce their own food. Bingham's topography, soil, distance to market and low population have historically made farming especially challenging. Many of the early farms were on poor, rocky soil and were quickly abandoned during westward expansion or in favor of working in the mills. Farming was never a dominant industry in Bingham. In fact, there are still minimal large farms today. Table 2 shows farms in Bingham, although this may not be a complete list.

TABLE 2: LOCAL FARMS IN BINGHAM

Farm Name	Product/Specialty
Cooke Aquaculture, LLC Fish Hatchery	Salmon
2 Brook Farm LLC	Cheviot Sheep, fibers, meats

Source: Bingham Comprehensive Plan Committee members

In recent years, Bingham has seen an increase in small-scale farms, producing niche items as well as family homesteaders raising a variety of food for their families. When these types of farms have extra or leftover products, they often generously donate to the food cupboard for those who are in need.

Bingham currently does not have a farmers' market, community garden, or any Community Supported Agricultural program; though surrounding towns have farmers' markets. Bingham does, however, has vendors who come from other towns, such as Winslow and Concord, to sell their produce and other goods. The town should consider evaluating if there is a need and desire for a farmers' market. As a regional hub and service center, there is potential that vendors from more rural towns, as well as producers in Bingham would appreciate the opportunity to sell or buy goods locally. It would also provide an opportunity for residents to meet the people who dedicate the time to produce these items.

Since the farmsteads in Bingham are small-scale and often family owned and operated, they are not under any immediately identifiable threat. In fact, the number of small-scale family farms is increasing not only in the rural areas of town, but also in the village area. With the influx of new residents (detailed in the Community Profile chapter of this Plan), there is a noticeable trend towards family homesteads. This includes not just large gardens and crops, but also small-scale animal production, aimed at producing enough to feed a family.
Cooke Aquaculture, LLC is perhaps Bingham's most well-known commercial farm, though it is not a traditional farm. This aquaculture commercial farm raises pen-raised Atlantic salmon for commercial distribution.

Farmland and Open Space Tax Law Programs:

The state offers multiple tax programs aimed at improving and protecting agriculture and forestry operations. There are three current-use tax programs that relate to forestry or agriculture in Bingham: Farmland Tax Law, Open Space Tax Law, and Tree Growth Tax Law (Tree Growth will be addressed later in this chapter). The Maine Legislature declared in the Farm and Open Space Tax Law (Title 36, MRSA, '1101 et. seq.), that "it is in the public interest to encourage the preservation of farmland and open space land in order to maintain a readily available source of food and farm products close to the metropolitan areas of the state." These programs are detailed below.

- Farmland Tax Law: This tax law was adopted to encourage the preservation of farmland and open space land and to protect these lands from competition from higher-valued uses. The farmland program provides for the valuation of farmland based on its current use as farmland, rather than based on its fair market value for other potential uses. This reduced land valuation results in lower property tax bills for the owner. Lower taxes are intended to incentivize the preservation of Maine's farming communities. In

addition to reducing the farmland owner's tax burden, the municipality avoids costs associated with development and state subsidies are positively impacted.

- Open Space Tax Law: This law provides for the valuation of land based on its current use as open space, rather than its highest and best use. To qualify for open space classification, land must be preserved or restricted for uses providing a public benefit. This classification encourages landowners of open, undeveloped land to prevent or restrict its use from development by conserving scenic resources, enhancing public recreation, promoting game management, or preserving wildlife, and/or wildlife habitat. This is mutually beneficial, as the landowner's proportionate tax burden is reduced, the municipality avoids costs associated with development, and state subsidies are positively impacted.

TABLE 4: PARCELS OF LAND IN BINGHAM ENROLLED IN THE FARMLAND TAX LAW

	2010	2022
Number of Parcels	0	0
Acres First Classified	0	0
Farmland Acres	0	0
Farmland Valuation	$0	$0
Woodland Acres	0	0
Woodland Valuation	$0	$0

Source: Municipal Valuation Return Statistical Summary

TABLE 5: PARCELS OF LAND IN BINGHAM ENROLLED IN THE OPEN SPACE TAX LAW

	2010	2022
Number of Parcels	0	0
Acres First Classified	0	0
Total Acres	0	40
Total Valuation	$0	$25,560

Source: Municipal Valuation Return Statistical Summary

The lack of enrolled parcels in both the Farmland and Open Space Tax Law Programs underscores the difficulties of large-scale farming in Bingham due to geographical and environmental factors. No parcels were enrolled in the Farmland Tax Law Program, in both 2010 and 2022, while only 40 acres were enrolled in the Open Space Tax Law Program in 2022. No acreage was enrolled in the Open Space Tax Law Program in 2010.

Challenges and Threats to Farmland and Farms:

Aside from the Cooke Aquaculture, LLC, there are no traditional commercial agricultural farms in town; however, there are a few smaller parcels used for pastureland or hay and small homestead farms have established throughout town. Forestry, however, continues

to play a significant role in Bingham's economy. Bingham's forest industry is detailed below.

One of the biggest threats to farms and farmland is the development of solar farms on farm fields. Other threats include the conversion of use from agricultural land to commercial or residential land uses. This is a tradeoff, as residential development contributes to the town's housing stock and commercial development contributes to the town's tax base. To ensure Bingham's rural character is maintained, a balance must be struck between the development of land that was previously used for hay production or tree growth and retaining those agricultural and forestry land uses.

Importance of Forestry in Maine:

Maine has the largest contiguous block of undeveloped forestland east of the Mississippi River. Forestry has been a dominant industry in Maine for the last 200 years; however, 90 percent of the state, nearly 12 million acres, remains forested, the highest percentage in the country, counterintuitive to the harvesting operations.

Additionally, even though Maine has undergone years of timber harvesting, the state has managed to largely maintain its forest biodiversity with 39 commercial tree species. Even though timber harvesting has been occurring in Maine for over 200 years, the state has more forest cover today than it did 100 years ago. This is, in part, because much of the southern and central part of Maine was cleared for farming during the 1700s and 1800s. And as is the case with Bingham, agriculture operations declined in the 1800s and the cleared land reverted to forest.

Of the 12 million acres of forestland throughout the state, about 95 percent is privately owned, 33 percent is owned by family forestland owners, 61 percent is owned by private companies, and the federal government owns a scant one percent.

Even though global economic changes have hurt Maine's forest industry, forest products are still an essential part of the state's economy. Maine has approximately 200 forestry products businesses, employing around 24,000 people. The forestry products industry directly contributes about $1.8 billion to Maine's economy each year. Maine is the second largest paper producing state in the United States, behind Wisconsin.

Maine's second largest industry is outdoor recreation. The state's abundant outdoor recreational opportunities are a significant tourist attraction, contributing to the state's local economy. Fishing, hunting, hiking, whitewater rafting, kayaking, skiing, snowmobiling, mountain biking, moose watching, and fall foliage touring, to name only a few, draw tens of thousands of people to Maine's forests each year. It is estimated that Maine's outdoor recreation revenues contribute approximately $1 billion to the state's economy each year.

Forestry in Bingham:

Forestry is by far the largest resource-related industry in Bingham. Timber harvesting and related activities are under the purview of the Department of Agriculture, Conservation and Forestry (DACF), which includes Maine Forest Service as well as the Department of Conservation. Timber company giant, Weyerhaeuser owns approximately 13,569 acres of the total 22,342 acres which make up the town of Bingham. Weyerhaeuser's holding is around 60 percent of the town's total acreage. The remaining land area is largely forested and owned by individuals or small businesses.

This industrial forestland supplies much of Bingham's tax base, and a large portion of the employment for residents. There are also private residents who own large tracts of forestland but do not harvest the timber. In fact, the 2022 Municipal Valuation Return Statistical Summary shows 13,287 acres enrolled in the Tree Growth Tax Law. There are also a number of private landowners who do not participate in the Tree Growth Tax Law Program, and thus, are not counted here.

Woods operations such as timber and pulp wood support landowners like Weyerhaeuser, while the forested land supports hunting, hiking, mountain biking, fishing, and the other outdoor recreational activities for which Bingham is known. The abundant forests are an aesthetic draw for tourists, seasonal homeowners, and those in the outdoor recreation industry in Bingham.

From an environmental perspective, forested areas collect and hold water in the landscape during precipitation events, which reduces the volume and rate of runoff, leading to reduced soil erosion and phosphorous loading in waterbodies. Forested areas have a multitude of environmental benefits, such as purifying the air, providing habitat and travel corridors for wildlife, and providing outdoor recreational areas, to name a few.

Bingham's tree coverage, depicted in the *Tree Canopy Map* in the Appendix, shows a significant forested area across the town. Wooded areas are divided into coniferous softwoods, deciduous hardwoods, and mixed forests of both conifers and deciduous trees. Wooded areas may also include tree plantations, managed and unmanaged forests, and some developed areas where a closed canopy obscures the view of urbanization and is indicative of lower density development.

In addition to Weyerhaeuser's holdings of large parcels of commercial forest and other forested parcels throughout town, the Town of Bingham owns several woodlots of varying sizes. The woodlot near the transfer station was selectively harvested not long ago and is managed by a cut plan. The town owns another woodlot in the Old Bluff area.

TABLE 6: SUMMARY OF TIMBER HARVEST INFORMATION

YEAR	Selection harvest, acres	Shelterwood harvest, acres	Clearcut harvest, acres	Total Harvest, acres	Change of land use, acres	Number of active Notifications
1991	132	0	243	375	0	4
1992	316	0	137	453	0	8
1993	485	25	257	767	0	9
1994	484	110	485	1079	0	9
1995	407	0	165	572	7	7
1996	264	203	308	775	0	9
1997	514	125	86	725	10	12
1998	1357	390	173	1920	0	15
1999	574	68	446	1088	0	20
2000	761	319	285	1365	0	23
2001	508	352	90	950	0	13
2002	498	469	13.76	980.76	0	15
2003	806	507	96	1409	0	13
2004	347	807	338.2	1492.2	31	13
2005	62	511	286.3	859.3	0	7
2006	134	218	159	511	0	7
2007	160	319	12	491	0	14
2008	444	390	182.1	1016.1	0	11
2009	187	0	160	347	0	8
2010	150	489	407	1046	0	10
2011	217	180	0	397	0	9
2012	191.5	64	0	255.5	2	10
2013	50	287	0	337	0	9
2014	195.5	401	0	596.5	0	14
2015	295.18	682.52	0	977.7	0	10
2016	163.5	96	0	259.5	0	7
2017	57.5	180	23	260.5	0	8
2018	159	1007	0	1166	4.9	12
2019	48	354	87	489	0	7
2020	49	195	8	252	1	7
Total	**10,016**	**8,749**	**4,447**	**23,212**	**56**	**320**
Average	**334**	**292**	**148**	**774**	**2**	**11**

Source: Data compiled from Confidential Year End Landowner Reports to Dept. of Agriculture Conservation and Forestry- Maine Forest Service.

Table 6 shows the forestry harvest data from 1991 to 2020, along with totals and averages from each category. Notably, the “Change of Land Use, Acres” column shows only 56 acres were changed to another land use from timber harvested land, for an overall average of two acres across the 29-year period. Also notable, the number of clearcut acres has decreased since 1991, as harvesting practices change and become more focused on sustainability.

Land Use Policies:

Aside from the state mandated Shoreland Zoning Ordinance, Bingham does not have ordinances that regulate land uses such as farming or forestry practices. While the Shoreland Zoning Ordinance sets standards for farming and logging operations, the town has no other means of protecting existing farms or forestry operations, nor can it prohibit farming or forestry practices in any location.

The Department of Conservation regulates industrial forestry operations, but on a municipal level, there are no regulatory or non-regulatory measures being taken to protect forestry lands. In short, Bingham has no way to prevent incompatible land uses from occurring next to each other.

Bingham does not partner with any conservation organizations or land trusts to protect farms or forest operations.

Tree Growth Tax Law Program:

As of 2022, 44 parcels in Bingham were classified as Tree Growth properties under the State's Tree Growth Tax Law Program (Table 7). This program, like the Farmland Tax Law Program and Open Space Tax Law Program, provides landowners an opportunity to have their land valued for its productivity rather than its market value. Over the course of the last 12 years, there has been a 42 percent increase in the number of parcels enrolled in this program. Although no acreage was withdrawn in 2022, there has been a decrease in the total acreage enrolled in the Tree Growth Tax Law Program by 18 percent since 2010.

Other notable data includes an increase in the amount of softwood acres and a decrease in the number of hardwood acres enrolled in this tax program. The total value of land enrolled in this tax law program increased by 15 percent in the last 12 years.

TABLE 7: BINGHAM PARCELS ENROLLED IN THE TREE GROWTH TAX LAW PROGRAM

	2010	2022	% Change
# Of Parcels	31	44	42%
Softwood Acres	2,676	3,430	28%
Mixed Wood Acres	7,787	9,013	16%
Hardwood Acres	5,778	3,844	-33%
Acres Withdrawn	0	0	0%
Total Acres	16,241	13,287	-18%
Total Value	$1,937,506	$2,232484	15%

Source: 2010 & 2022 Municipal Valuation Return Statistical Summary

In contrast to the Farmland Tax Law and the Open Space Tax Law programs, the State reimburses municipalities for a portion of lost tax revenues from properties enrolled in the Tree Growth Tax Law Program. Additionally, local participation is typically higher because this tax law allows multiple uses on the enrolled property, as long as the parcel remains primarily used for the growth of trees to produce forest products that have commercial value. As with the Farmland Tax Law and the Open Space Tax Law programs, land withdrawn from the Tree Growth Tax Law Program before maturity is subject to financial penalties.

Challenges and Threats to Forestry Operations:

With forestry as the major industry in Bingham, logging truck traffic can present a challenge for several reasons. The heavy logging trucks result in increased town road maintenance. In the village area, although the road is maintained by the state, Route 201 bisects the village and big logging trucks traveling through the area decreases walkability of the downtown. The speed of the logging trucks is often an issue, as well. However, it is undeniable that the benefits to Bingham of being a logging town outweigh the challenges. In fact, the forest industry in Bingham has long been a staple of the economy.

The forest industry is currently stable but slowly declining. There are many potential and immediate threats to the future success of forestry operations in and around Bingham.

- Invasive species or newly emergent pests of any kind, such as the emerald ash borer, Hemlock woolly adelgid, fungal infections, and many other threats can have devastating effects on woodlots. These pests (insects, fungi, blight, disease, etc.) can damage, kill, or even destroy a crop of trees. And with new pests, there is little or no way to prevent this from happening.

- Poor management practices can compromise tree growth. Poor management practices can include examples such as overharvesting trees and replanting with the same species of trees. This practice results in the soil becoming depleted due to this monoculture and continued harvesting. Eventually, the soil will become too poor to sustain tree growth.

- Timber harvesting technology has increased greatly in the last few decades, to the point where it is predominantly mechanical. Timber can be harvested faster and more efficiently than ever before, while requiring fewer crews of workers. Trees only grow at a certain pace, and the advances in technology have outpaced the rate at which they grow. This results in harvesting smaller trees on smaller woodlots for less profit.

- The cost of harvesting timber is often less lucrative than just selling the land, particularly when timber prices drop. In the recent past, Weyerhaeuser has sold off some of its outlying parcels along Iron Gate Road, Pat Cassidy Road and Mahoney Hill Road for residential development. There has been discussion about subdividing and selling other large parcels containing between 500-1,000 acres.

These challenges and threats to the timber industry are of significant concern to Bingham's rural community and way of life. For example, if Weyerhaeuser were to stop harvesting timber and sell their enormous tracts of land, development in Bingham would increase dramatically. This sharp increase in development would impact the town in just about every way, from the town's character to the transportation system, to the economy, and the town's fiscal capacity, to name a few.

As detailed above, timber companies have already been selling off large parcels of land. This has led to increased development in parts of town that were previously rural and wooded. It has also led to an increase in people living off-grid. Providing any level of municipal services to areas of the town far from the village is cost prohibitive. Consideration should be given to ways to direct future development to areas of town that are already developed to reduce sprawl and reduce the cost of expanding municipal services.

New development in the rural areas also has potential to conflict with the existing logging operations. If a new development is created in an area surrounded by working forest, the future homebuyers may not understand the full implications of what that means, such as the noise of harvesting timber and proximity of logging trucks. While this is not yet an issue, it is something for the town to be aware of and consider when approving future developments.

That is not to say that all new developments in the rural area should not be allowed. If development is done with the proper precautions and in the right location, appropriate land uses would not only be beneficial, but they would also be harmonious with Bingham's character. For example, new campgrounds and camps would provide new jobs and recreation opportunities. Campgrounds on Mahoney Hill Road and Murray Road were created under these circumstances when Weyerhaeuser sold parcels of land to the current owners.

Analysis:

While farming was never the economic driver that forestry is in Bingham, the town's initial settlers farmed out of necessity. Today, there has been a resurgence in small-scale farms and family homesteads. Bingham should evaluate the need and desire for the creation of a farmers' market to support the farming efforts and provide a place to buy and sell locally produced goods.

Bingham's long history and reliance on forestry and logging have shaped the town's economic growth since the town was established. In early years, Bingham's status as a service center was due to the town's proximity to working commercial forestry operations, the Kennebec River, and ease of access to transportation.

While forestry practices today have evolved from those of the past, it is undeniable that forestry is still an essential factor on which Bingham's economy is dependent today. Parcels enrolled in the Tree Growth Tax Law Program have increased by 42 percent since 2010. The tourist industry, on which Bingham is also dependent, is largely driven by the large expanses of forested land or related to them in some way. With approximately 60 percent of land owned by a large timber company, the importance of forestry to Bingham is unquestionable.

With the numerous challenges the forestry industry is faced with today, the town should continue to support those with large tracts of timber land any way possible.

As Weyerhaeuser is the primary landowner in Bingham, changes to their forest management policies and practices would have a significant impact on the town. For this reason, Bingham should strive to continue working with the folks at Weyerhaeuser and to stay abreast of their plans.

Open communication with Weyerhaeuser is essential to the town staying proactive if the company chooses to sell large parcels of land in the future. Steps of being proactive include planning for a potential increase in development, considering future development patterns and location, and ways to manage an increased population.

Bingham may want to consider adopting some form of land use regulations to protect working farms and forests from the proximity of incompatible land uses, such as residential or commercial land uses near a working forest. Adopting a land use regulation written to protect the town and offer the Planning Board oversight of development if Weyerhaeuser ever sold large parcels of land would help maintain the town's rural character.