

Town of China

2020 Comprehensive Plan

Prepared by Kennebec Valley Council of Governments

DRAFT – MAY, 2020



Letter / Foreword from the Chair of the Comprehensive Plan Committee:

TABLE OF CONTENTS

	<u>Section</u>	<u>Page</u>
I.	Introduction: The Planning Process	1
II.	Community Assessment	
	One: Historic Profile	7
	Two: Demographic Profile	13
	Three: China's Natural Resources	37
	Four: Recreation and Culture	65
	Five: Land Use and Development	72
	Six: Business and the Economy	83
	Seven: Local Housing Profile	96
	Eight: The Transportation System	107
	Nine: Essential Services	119
	Ten: Fiscal Capacity	131
III	Recommendations	
	One: General Recommendations	139
	Two: Land Use Plan	160
	Three: Capital Investment Planning Process	167
	Four: Regional Coordination	169

Appendix: Maps

I. INTRODUCTION: THE PLANNING PROCESS

History of the Comprehensive Plan:

A comprehensive plan is a mechanism for managing the future of a community. Much like a business plan for a private business, the town's plan evaluates our assets and customer satisfaction levels, determines strategies to improve performance and profitability, and allocates resources. When it is a town doing the planning, our resources are the taxpayers' money, so even greater thought and effort must be put into spending wisely.

The Town of China has recognized the need for a new comprehensive plan, as the last plan was adopted in 2008 and has become obsolete both in real terms and in the eyes of the State. The last plan was completed long enough ago that the great majority of the information within it is outdated and of little use now except for valuable historical information.

Maine enacted the Growth Management Act in 1988, specifying the format and goals for local comprehensive planning and was subsequently amended to require local comprehensive plans to undergo a new State review for consistency every 12 years, incorporating new data and findings into the planning process. Therefore the Town felt the need to take a fresh look, using the new State guidelines. This led to the 2018-2020 planning process.

Since the current (2008) plan is supposed to still technically guide the Town in its everyday activities, its age makes it of little use. Responsibility for the update was assigned to the newly created Comprehensive Plan Committee, with the instruction to involve all community members to the extent possible.

Community Involvement:

China's Comprehensive Plan Committee has taken the lead in drafting this update to the plan, assisted by the Town Manager, Office staff and other local volunteers. Early in the process, the board reached out to China's local committees and organizations (many of which are profiled in this plan), different staff of the Town and individuals in constituencies such as real estate, business, and individuals with unique knowledge of the community. The committee's monthly meetings were always open to community members to participate in the discussions.

Community involvement culminated in a public visioning session held in May, 2019. Erskine Academy was the venue for an morning-long discussion of the direction of the town and attendees choose to focus on China Lake, Threemile Pond, housing, and land use / development. Community members were interested in the possibilities to improve access to the lakes, recreation opportunities, and hoped to continue to work to protect water quality. In addition to this process, a simple survey was drafted and distributed to as many tax payers as

possible, both in paper and electronic form. Thankfully, another group in town (China for a Lifetime) had recently conducted a town wide survey about issues in town so this was used as a basis of information collection combined with the short form survey.

Many of the comments and suggestions from China’s “Focus on the Future” have been incorporated into the recommendations of this plan.

China’s Focus on the Future:



**Calling all China Residents!
Focus on China's Future!**

A Community meeting will be held on
SATURDAY MAY 18TH
from 9am to 1pm
At **ERSKINE ACADEMY**
CAFETERIA
309 Windsor Rd, South China

Key Topics to be discussed include:

- ❖ Water Quality Of China Lake & Threemile Pond
- ❖ Housing
- ❖ Land Use and Development
- ❖ Developing a 10 year Vision

Want to make your opinions
count on issues that affect
you?

Help shape China's goals for the next 10 years!



COFFEE, SNACKS & LUNCH WILL BE PROVIDED

Door Prizes to be won from local businesses!

The “Focus on the Future” session also worked to create a simple Vision Statement that summarizes the community’s desired future community character in terms of economic development, natural and cultural resource conservation, transportation systems, land use patterns and its role in the region. Not surprisingly, a straightforward and succinct vision statement was preferred, and required very little editing once established in the previous plan. Participants in the sessions used the statement as a starting point to expand upon its ideas and the comments were used to shape policies going forward. The text of the vision statement, as it emerged from the visioning session, is as follows:

Looking Forward, Looking Back

This comprehensive plan builds on a vision of our future. The recommendations in the plan are a path towards that vision.

Twenty years from now, we want China to be a town which has retained its unique rural character and close sense of community; a town that has balanced individual property rights with community interests and goals. It will be a town that has approached the development process with an eye to promoting moderate growth, at the same time protecting the right to traditional lifestyles by recognizing that places such as farms and forests are economically productive spaces.

Twenty years from now, the town will have achieved consistent land use practices, guided by quantifiable, measurable criteria. In our vision, there is a healthy China Lake and Threemile Pond that serves as the cornerstone of its recreational and economic opportunities and planned development that provided an adequate supply to meet demand for residential, commercial, industrial and recreational uses, while encouraging efficient land use patterns.

Values and Aspirations

Following are values and aspirations that reflect the many views people have about our community at present and that have guided China's Comprehensive Planning Committee as it has addressed changes expected over the next 20 years.

- 1. We value the rural character and small community feel of the town.**
- 2. We enjoy our abundant natural resources and want them treated fairly and to be available for future generations to enjoy.**
- 3. We value China Lake, Threemile Pond and all of our water resources and want them to be adequately protected and we further want water quality to improve.**
- 4. We value agriculture and want to see farms succeed and continue to be a functional part of our landscape and economy.**
- 5. We value our forests and enjoy the rural quality they bring to the community. We further acknowledge the stewardship practiced by forest landowners.**
- 6. We want new development to be well planned and respectful of neighboring landowners. We acknowledge that growth will occur. We want it to occur in such a way that will enhance the character of the community.**

- 7. We want our land use regulations to be well written and fairly enforced so that they benefit the entire community.**
- 8. We want all age and income groups within our community to enjoy China's attributes and to encourage and facilitate community involvement and volunteerism.**

The key to a successful plan is not in the number of recommendations it can generate, but how well those recommendations can be put into action. This requires an implementation plan.

The responsibility for implementation almost always falls on the leadership of the town. China has discovered this through earlier plans. The last plan, adopted in 2008, has been a work in progress. To the town's credit, capital improvements were matched up with grant possibilities for desired programs or purchases and some new initiatives were begun, and others continued.

It is expected that this will also be the case with the 2020 plan. Though assembled by the Comprehensive Plan Committee, the plan contains ideas and contributions from town staff, elected officials, committees, outside organizations, and individuals. These constituents all have one thing in common: they are stakeholders in the future of China, and thus in this plan. It is their duty to see that the recommendations of the plan are carried forward.

While the implementation of the plan is dispersed through several individuals and organizations, a mechanism to monitor progress and resolve impediments is necessary. This plan recommends an annual, two-stage process:

- 1) The Planning Board will dedicate one meeting a year to review of progress on implementation of the plan. This meeting may be timed to coordinate with the annual report by the Code Enforcement Officer on residential and commercial growth for the year. The Planning Board will maintain a checklist of action steps that have been accomplished, those in progress, and those due to be addressed. The board will note any obstacles to implementation and suggest new or revised action steps if necessary.
- 2) The checklist will be forwarded to the Town Manager, who will present it to the Town Selectboard for review and direction. The review may be timed to correspond with the beginning of the annual budget process, so that any recommendations requiring a dedication of town funds or personnel may be integrated into the budget process. The chair of the Planning Board may attend this meeting to assist with interpretation of the recommendations or follow-up. The Selectboard shall make a record of the actions taken to implement the plan.

This process should provide adequate oversight and feedback to ensure that this plan is not ignored or forgotten. The process should also tell us when the plan is nearing its completion and will require updating.

II. COMMUNITY ASSESSMENT

- One: Historic Profile
- Two: Demographic Profile
- Three: China's Natural Resources
- Four: Recreation and Culture
- Five: Land Use and Development
- Six: Business and the Economy
- Seven: Local Housing Profile
- Eight: The Transportation System
- Nine: Essential Services
- Ten: Fiscal Capacity

***Data in these chapters was the best available at the time of writing and should be used as such, new data may be available since the completion of the plan. ***

PART ONE: HISTORIC AND ARCHAEOLOGICAL RESOURCES

A Brief History of China

The town of China surrounds China Lake, situated in the Kennebec valley. The town has a total area of 56.86 square miles, of which, 49.88 square miles is land and 6.98 square miles is water. Present-day China is bounded on the north by Winslow and Albion, on the south by Windsor, on the east by Palermo and on the west by Vassalboro. Augusta is very close nearby and is the biggest community in the region.

Early Settlement:

The Plymouth colony held a patent for a portion of Kennebec Valley and operated a trading post at Cushnoc (Augusta). They traded with the Indians for furs. Due to competition from other colonies and declining profits, this patent was sold to the Kennebec Proprietors in 1661. The area remained wilderness until after the end of the French and Indian Wars. After Britain and France made peace in 1763, pioneers ventured up the coast and inland, escaping the crowded older settlements for the pristine wilderness. The first settlements grew along the Kennebec River, which was the only convenient means of transportation.

The Kennebec Proprietors engaged John Jones to survey and lay out a plantation east of Vassalboro in 1773. He completed his mission in the spring of 1744, dividing 50 square miles of land into 200 acre lots. This was called the A Jones Plantation after the Surveyor.

Three Clark brothers -- Ephraim, Jonathan, and Edmund -- accompanied John Jones in 1774 and selected lots on Twelve Mile Pond (China Lake was 12 miles from Fort Western). The settlers that followed chose lots along the lake and outlying areas. The pioneer families farmed the land and subsisted as well as possible. They lived in log cabins and contended with many hardships. The resources of the lake, the availability of moose and other game, and what they could raise prevented starvation.

Transportation was poor with only bridle paths through the woods. The lake served as an important artery. In 1780, roads were laid out from Vassalboro to both ends of the lake. These were eventually widened and improved for wagon traffic.

Emergence of the Village:

In 1796, the settlement known as Jones Plantation was incorporated as the Town of Harlem. The area encompassed by Harlem included most of present day China (some of China Village

area was a part of Albion and Winslow.) The majority of the inhabitants of Harlem were farmers. Mills and small industries grew where water power was available. In the early 1800's sawmills, grist mills, and tanneries were built along the West branch of the Sheepscot in Branch Mills and Weeks Mills and on the brooks in the South China and China Village areas. China was incorporated as a town on June 5, 1818.

The population grew rapidly. Records indicated 244 inhabitants in 1770. In 1810, the US Census counted 939. By 1830, our population was 2,233.

Throughout its history, China Lake has played an important role in the community. The lake served as a source of food for the early settlers and many of its streams supplied water power for industries. In the 1880's the lake began to attract summer visitors; numerous cottages were built along the shore. One early colony, the South China Inn Association, traces its roots back to the 1890's. Numerous camps were founded over the years and they include: Camp Teconnet, Camp Abenakis, Camp Bel-Bern, Camp Ney-A-Ti, China Friends Camp, Baptist Conference, Killdeer Point Lodge, China Pavilion, Candlewood Lodge, and Willow Beach.

The stage coach was the first public means of transportation. The first stage, in 1827, connected Portland and Bangor and had a scheduled stop in China Village. Later, South China became a stop for those traveling between Augusta and Belfast. As many as five taverns were located between South China and Branch Mills to serve the stage route.

A narrow gauge railroad line was established between Wiscasset and Albion, passing through China. It was hoped that this line would eventually be continued into Quebec. The rail line never grew; however it became an important transportation hub for China and other towns by providing a conduit for goods and services. The railroad was closed in 1933 during the depression as a result of competition from the automobile.

The town continues as a rural community that takes advantage of its proximity to Waterville and Augusta as well as its abundant natural resources that provide an attractive place to live, even despite most economic activity concentrating in the larger service center communities.

Prehistoric and Archeological Sites

Prehistoric archeological sites reveal information about the Native American inhabitants, who did not leave any written records. The following four types of sites are significant:

- Habitation/workshop sites are next to canoe -navigable waters.
- Lithic quarries are places where stone raw materials are gathered. They occur at localized quartz, rhyolite and chert resources.
- Cemeteries are found on well-drained sandy or gravely sand soils usually near a river or lake.

- Rock art sites are found immediately next to canoe-navigable waters on bedrock outcrops.

The Maine Historic Preservation Commission (MHPC) has identified three known pre-historic sites (see Archeological Resources Map). Two are located on islands in China Lake, and one is located on the shore of Three Mile Pond. The shoreline of China Lake and nearby ponds and rivers are also archeologically sensitive. There is a need to conduct additional studies to determine the location of other pre-historic sites along these waterways. Since water bodies provide both travel routes and valuable food sources it is highly likely that other sites exist. Some of these sites are afforded protection due to the set-back requirements imposed by Shoreland Zoning and some areas may be currently under water due to changes in water levels over the years.

MHPC does not disclose the exact location of pre-historic sites to reduce the likelihood of damage. The Town would have to undertake surveys to locate any other sites and should incorporate into its ordinances a requirement that any proposed development that occurs adjacent to a probable archeological site be reviewed by the Maine Historic Preservation Commission. The map on the following page shows archeologically sensitive areas in China.

Historic Archeological Sites

Historic archeological sites statewide include English and French trading post, forts, homesteads of the 1600s and 1700s, and nineteenth century logging camps. Since water bodies provided transportation and power, these areas are usually the location for historic archeological sites. At this time, MHPC identify two historic archaeological sites have been documented for the town. These are the Talbot Brickyard though to be from the 1790s and the J. D. Jones Homestead which is mid-19th century.

Listed Historic Buildings and Structures

The National Register of Historic Places provides a repository of historically-significant structures and landscapes, submitted voluntarily by local citizens. The following areas in China are currently listed:

- China Village Historic District
- The Abel Jones House, in South China Village.
- Pendle Hill, on Route 202, near China Lake.
- The Pond Meeting House, on Route 202 (by the Friends Churchyard)
- The South China Community Church, in South China Village
- The Eli and Sybil Jones house at Dirigo Corner.

- Edmund and Rachel Clark Homestead, address restricted

The South China Library, in South China Village is currently classified as eligible for inclusion but is not currently on the list.

There are 73 other non-eligible properties that are still of historical note and these can be seen on the Historic and Archeological Resources Map, mostly in the South China Village area.

Local Historic Sites and Places

The following is a list of significant places within the Town that are not on the National Register. Additional research could reveal other locations and may show that some sites are eligible to be listed:

- Friends Camp, Lakeview Drive
- Grange Hall, Main Street, China Village
- Masonic Hall, Weeks Mills, Dirigo Road
- Old Weeks Mill School
- China Baptist Church (within China Village Historic District)
- Albert Church Brown Library
- Branch Church
- Weeks Mill Church
- Narrow Gauge Railroad (exempt)
- Clark House (Oldest house in town)

Cemeteries:

Cemeteries are another critical link with our heritage. The town has an obligation to protect and maintain some cemeteries, while others are private or family cemeteries. The following is a listing of known cemeteries in China, which can be seen also on the Historic Resources Map:

Branch Mills Cemetery	Chadwick Hill Cemetery	Chadwick Memorial Cemetery
China Village Cemetery and Extension	Clark Cemetery	Deer Hill Cemetery
Friends (Neck Road)	Friends Churchyard Cemetery	Dudley Cemetery
Friends-Dirigo Cemetery	Gray Cemetery	Haskell Cemetery
Hussey Cemetery	Jones Cemetery	Lakeshore Cemetery
LakeView Cemetery	Morrill Cemetery	Morrill-Bragg Cemetery
Nathaniel Bragg Cemetery	Number 28 Cemetery	Pleasant Ridge Cemetery
Sewall Cemetery	South China Cemetery	Stanley Hill Cemetery
Talbot Freeman Cemetery	Turner Cemetery	Weeks Mills Cemetery
Moe’s Mountain Cemetery	Williams Cemetery	Palmer Cemetery (Private)
Surchar Cemetery (Private)		

China Historic Preservation Committee / Town Preservation works

The China Historic Preservation Committee is unfortunately no longer active but in the past had taken a leadership role in preserving the Town’s historical legacy through various events.

Thankfully the town maintains Weeks Mills Schoolhouse

Scenic Areas

Although scenic areas might not be considered historic resources, they nevertheless can be highly valued by citizens as a part of our community heritage. Often, these scenic views are a cherished attribute that many people identify about their community. The following scenic areas include those that can be seen from both public places and private lands.

- Views from the Martin Farm
- Parmenter Hill (Highest point in town)
- The Brown Farm on Stanley Hill
- Deer Hill looking west
- Pleasant View Ridge
- Rockwood Drive overlooking Threemile Pond
- Route 202 corridor
- Hanson Road past Evans Pond
- The Causeway
- The Bog Road crossing at Hunter Brook
- Thurston Park
- The South China Landing
- The Narrows
- Indian Heart
- The west basin of China Lake
- The view from Route 202 of the Rufus Jones Homestead.
- The View from Branch Pond
- The Mud Pond area on both sides of the road

PART TWO: CHINA'S DEMOGRAPHIC PROFILE

Highlights of the Demographic Profile:

- China's population was estimated as **4,266** in the 2017 census.
- The population of China has been growing quickly since the 60's but has since dropped off and began to slow since 2000. Estimates show a brief fall in population between 2010 and 2017.
- The ratio between births and deaths has remained positive (more births than deaths), and a positive trend of in migration has boosted the overall population growth over time.
- China is aging as the baby boom generation moves through the population. The median age has progressed more than five years since 2000, and 45 percent of the population is now age 45 or older. A large portion of the population could be retiring within the next 20 years. Partly due to this trend, school enrollments are declining, with the most dramatic drop seen from about 2007 onwards.
- Outside population projections estimate China's population to begin to decline over the next 15 years. Outside projections do not take into account any initiatives for growth at the local level.
- The median household income in 2016 stood at \$53,125. This represents a 28 percent increase since 2000, just keeping pace with the 28 percent inflation rate. Incomes in China are just a little above the average for Kennebec County. The poverty rate in China (9.1 percent) is below the average for Kennebec County, including among the elderly and families.

This report contains a profile of the Town of China using data from State and Federal sources. While cold, hard data cannot draw a complete picture of the community, it can identify trends and relationships that the town can look at in planning for its future. The three major areas where statistics are useful are demographics (population), the economy, and housing.

From the Past to the Future:

Over the course of its existence, China has experienced a rise and fall of population, similar to its neighbors and the state. Economic and cultural factors have influenced population changes as displayed in the following table and graphed in the figure on the following page.

Table 1: Population change: 1890 to 2010

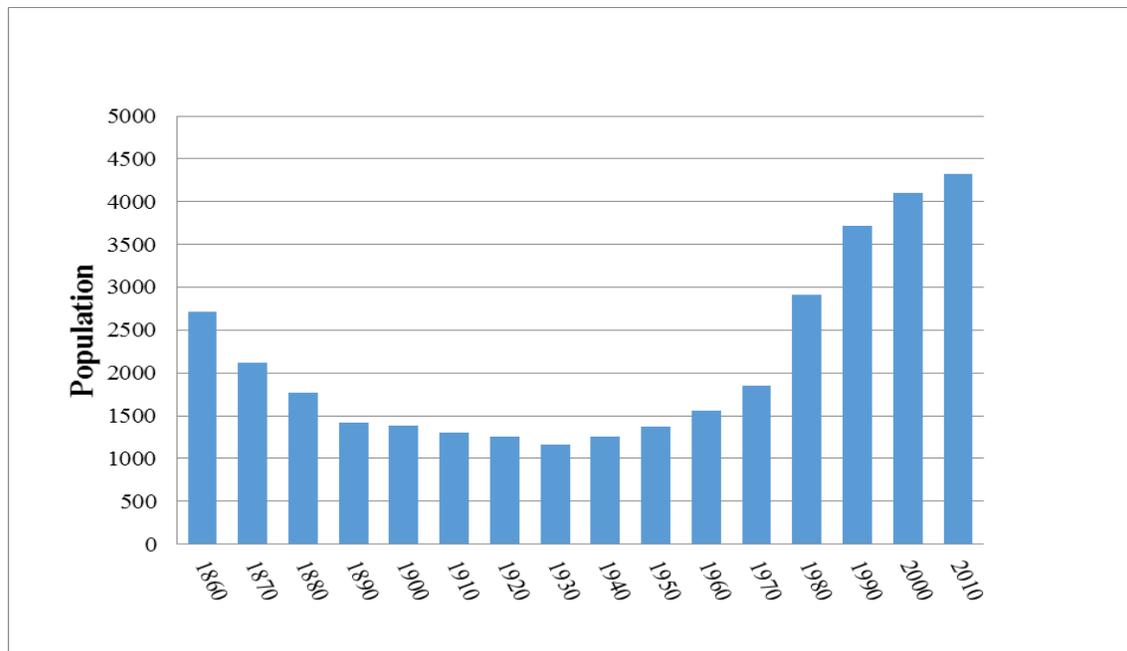
Year	Population		Year	Population
1890	1,423		1960	1,561
1900	1,380		1970	1,850
1910	1,297		1980	2,918
1920	1,257		1990	3,713
1930	1,163		2000	4,106
1940	1,252		2010	4,328
1950	1,375		2017*	4,266
			<i>Estimate</i>	

It took 60 years for China’s population to regain the 1890’s population of 1,423 persons. Population had declined ever since the 1850’s, until it began slowly to climb after 1940. After moderate gains between 1950 and 1970, the population grew rapidly for another 20 years. Since 1990, population growth has been slowing gradually.

The population more than doubled between 1970 and 1990, averaging 93 new residents per year. Between 1990 and 2010, the town’s growth slowed to closer to 31 new residents per year. Of course, this did not happen all at once, but we have only the census intervals as a guide. The vast majority of growth was in the 70’s, and since 2010, growth has continued to slow.

Kennebec Valley Council of Governments (KVCOG) does annual population estimates between census intervals. The estimates are based on what the town assessor reports as new housing added to the tax rolls each year. The estimate for 2017 shows China’s population at 4,338. If the figures are correct, the town has only added ten new residents in seven years.

Figure 1: 150 Years of Population Change in China



The census measures more than simply population. Other elements of the census are used in subsequent sections on housing and the local economy. Table 2 on the following page reports a breakdown of population characteristics over the past four census reports.

This table is more than just numbers. It has real meaning in terms of planning for our community. It illustrates that the average age of the residents is increasing and that, though the number of households are increasing, the number of single person households is increasing faster. Except in college towns, single person households tend to be elderly households. Elderly households tend to require a whole different set of public services.

Just as important is the overall decrease in household size. In just 20 years, China went from over three persons per household to 2.65. This is a national trend, reflecting social changes like smaller families, lower birth rates, and elderly independent living. But it has a real impact in China, because if we have fewer persons in each household, we need more houses just to sustain the current population. For every 1,000 homes in 1980, we had 3,050 occupants. In 2000, 1,000 homes only contain 2,650 occupants. In fact, we needed an extra 150 homes in 2000, just to accommodate the same number of residents we had in 1980.

These figures gain importance when we project the population and housing demand for the future. If the number of people in the houses continues to drop, the community will demand not only more houses, but smaller ones.

Table 2: Population and Household Characteristics: 1980-2010

General Population Characteristics	1980	1990	2000	2010
Total Population	2,918	3,713	4,106	4,328
Male Population	1,490	1,850	2,061	2,157
Female Population	1,428	1,863	2,045	2,171
Median Age	29.1	32.1	36.8	42.1
Total Households	958	1,267	1,549	1,718
Family Households	801	1,013	1,176	1,234
Married Couple Family Households	719	881	962	983
Nonfamily Households	199	254	373	484
Nonfamily Households Living Alone	131	195	272	378
Households with children (under 18)			626	557
Single-Person Household 65 years +	58	86	92	108
Average Household Size	3.05	2.93	2.65	2.52

Source: 1980, 1990, 2000, 2010 Census

Components of Population Change

Between 1990 and 2010, the town’s population increased by 615 persons. However, this is not solely a case of “immigration.” Population change in a community is a result of both natural change and migration. Natural change is the difference between deaths and births in the community over a period of time. Migration accounts for people moving in and moving out. Net migration is population change not explained by births and deaths.

Between 1990 and 2010 the natural change in China accounted for an increase of 345 persons, based on Town Clerk reports of vital statistics. That means that net migration accounted for 270 persons. Probably more than that number actually moved into town. Net migration is the *difference* between those who move in and those who move out.

Will the ratio of natural change and net migration continue? Considering the aging of the population, a trend toward smaller families and increasing housing values, it seems that deaths soon will begin to outpace births, resulting in a decline in natural change. Many towns with an older population than China’s already have a negative natural change. Availability of land, ease of access through Augusta thanks to the new bridge, improving lake water quality, and

other factors will continue to make China an attractive place to live, meaning that in-migration will build. This has planning implications, too. We cannot impact the rate of natural change with town policy; we can, however, affect the rate of migration – managing land use, economic development, and public service policies.

The median age of China residents is increasing. How does that play out in real terms? Table 2 shows age trends – which age groups are gaining, which are losing. Since the overall population increased by 16 percent, any age group gaining more than 16 percent is on the increase; those gaining less are shrinking.

Table 3: Age Trends 1990 to 2010

	1990 % of total	2000 % of total	2010 % of total	20 year change
Population	3,713	4,106	4,328	615 (16.6%)
Median Age	32.1	36.8	42.1	10.0 (31%)
Under 5 years old	298 (8%)	218 (5.3%)	233 (5.4%)	- 65 (-22%)
5 - 17 years old	875 (23.6 %)	918 (22.3%)	655 (15.1%)	-220 (-25%)
18 years and older	2,540 (68.4%)	2,970 (72.3%)	3,440 (79.5%)	900 (35%)
18 - 24 years old	288 (7.8%)	243 (6%)	351 (8.1%)	63 (22%)
25 - 44 years old	1,280 (34.4%)	1,262 (30.7%)	1,049 (24.2%)	-231 (-18%)
45 - 54 years old	409 (11%)	696 (17%)	790 (18.2%)	381 (93%)
55 - 59 years old	130 (3.5%)	227 (5.5%)	357 (8.2%)	227 (175%)
60 - 64 years old	114 (3%)	158 (3.8%)	316 (7.3%)	202 (177%)
65 years and older	319 (8.6%)	384 (9.4)	497 (11.5%)	178 (56%)

Source: 1990, 2000 & 2010 Census

Some important population changes and trends:

- The median age increase is dramatic. This aging trend is statewide and Maine is one of the oldest states in the nation.
- The number of children (under 18 years old) has decreased by almost a quarter. This has already led to lower school enrollments.

- The “family-age adults” age bracket (18 to 44) age category is decreasing. Without those adults of child-bearing age, the population of children will continue to decline. These young families are also the primary market for the kind of suburban-style new housing that has been popular in China.
- The “mature adult” age bracket (45 to 64) has nearly tripled over 20 years. This is a clear indication that the baby boomers are no longer babies. The post-war glut of children are now entering their 60’s. As this group was the one that put enormous strain on the school system in the 60’s and 70’s, and on the housing market in the 80’s and 90’s, they are about to put the same strain on senior housing and health care services.
- The 65 and older age category was beginning to show the outliers in the baby boom in 2010. The real impact will begin in this coming decade. Using standard survival rate multipliers, we can estimate that the 2020 census will show about 830 persons aged 65 and older. The senior population will go from 11.5 to about 20 percent of the entire population. This will have short-term implications for housing, health care, transportation, recreation, and other services.

Population and Household Trends:

Table 2 is not just statistics. It has real meaning in terms of planning for our community. It shows how much the average age of the residents is increasing and that, though the number of households are increasing, the number of single person households is increasing faster. In China, the number of single-person households almost tripled since 1980. One-third of China’s single person households are elderly households. Elderly households tend to require a whole different set of public services.

Just as important is the overall decrease in household size. In just 30 years, China went from over three persons per household to two and a half. This is a national trend, reflecting social changes like smaller families, lower birth rates, and elderly independent living. But it has a real impact in China, because if we have fewer persons in each household, then we need to either build more houses or lose population. For every 1,000 homes in 1980, we had 3,050 occupants. In 2010, 1,000 homes only contain 2,520 occupants. The numbers tell us that the growth is most dramatic in single-person households; therefore the housing demand would be for smaller homes.

These figures gain importance when we project the population and housing demand for the future. If the number of people in the houses continues to drop, the community will demand not only more houses, but smaller ones.

Seasonal Population:

The seasonal fluctuation in China has traditionally been a major phenomenon; after all, we have always been a lake town, and host for over 500 camps. But as the town grows and evolves, the impact of the seasonal population will weaken.

The 2010 census counted 508 homes “for occasional use.” If we assume that at the peak of the season, 90 percent of them are occupied, that adds over 450 more households to the town (an increase of more than 25 percent over year-round households). Since vacation homes tend to be family retreats, we probably average more persons per household. If we assume three per household, we come up with a seasonal population bump of almost 1,400 residents.

There are also several lodging places in China, consisting of cabins or rooms. There are about 60 of these, with a slightly smaller occupancy – perhaps 100 people total. The Friends Camp is the only remaining overnight summer camp in town. Friends Camp employs a staff of 24 and at the peak of the season has 95 campers for a peak population of 119. Retreats and special events at both the Friends Camp and the China Lake Conference Center can draw up to 1,000 additional people, but these events tend to be off of the peak season.

These figures result in no more than 2,000 added population at the peak season, giving China about a 40 percent population boost over the off-season. While these numbers have an impact on the local economy and transportation system, with each new year of growth in the town, the seasonal bump will become less and less noticeable.

Regional Perspective

China’s development pattern is not at all unusual for rural Kennebec County. All of the towns in this area prospered as farm towns during the 1800’s, went into decline during westward expansion and the urbanization period of the late-19th-early 20th centuries, and began to grow again as suburbs and green spaces. The region’s largest growth period was in the 70’s and 80’s, and has slowed since.

Like China, Albion and Windsor grew by around 50 percent in population between 1970 and 1980, with Vassalboro and Palermo growing at a slightly more sedate 30 percent. Since 1980, only Palermo accelerated. In thirty years between 1980 and 2010, China gained 48 percent (1,410 people). In the same period, Albion grew 32 percent (490 people), Vassalboro 27 percent (930 people), Windsor 51 percent (873 people), and Palermo 102 percent (775 people). While China clearly gained the most population, it was larger than Windsor and Palermo to start with, giving it a slower rate. Since 2010, population growth rates are uncertain, but Vassalboro

has seen a real building boom, with 84 new homes built, versus the average per town of about 45.

The towns are also somewhat similar in the other two high-impact population trends: median age and household size. Since 1980, China's median age has gone from 29 to 42, a bump of 13 years. Albion's median age has gone from 29 to 42.6 (13.6 years), Vassalboro's from 29 to 42 (13 years), Windsor's from 29 to 47 (18 years), and Palermo's from 30 to 42 (12 years).

Since 1980, the average household size in China has gone from 3.05 persons to 2.52, a 17 percent shrinkage. In the same period, Albion's household size has gone from 3.16 to 2.49 (a 22 percent shrinkage), Vassalboro's has gone from 3.03 to 2.42 (20 percent), Windsor's from 3.08 to 2.48 (19.5 percent), and Palermo's from 3.00 to 2.46 (18 percent). Despite the drop, these numbers are still indicative of more rural, owner-occupied households, though. In 2010, Winslow had an average of 2.34 persons per household, Waterville 2.13, and Augusta 2.08.

Where China holds a distinction among its neighbors is its seasonal population. China has 508 camps, 22 percent of its overall housing. Albion has only 53 (6 percent), Vassalboro has 189 (9 percent), Windsor has 69 (6 percent) and Palermo 311 (32 percent). In fact, of the 29 towns in Kennebec County, China ranks 3rd in the number of camps, only behind Belgrade and Rome.

Population Projections and Impacts

How much will China change in the future? Population projections provide the short and easy answer. These are mathematical extrapolations of past population growth and factors such as age distribution and household size.

The Office of the State Economist publishes a projection to the year 2034 (they prepared it in 2014). They estimate China's population will be 4,074, a decline of about 200. This is based partially on the advancing age of the residents, not a reflection of the popularity of the town. The Kennebec Valley Council of governments also does population projections. It estimates a 2030 population between 4,629 and 4,664. This estimate is based solely on the overall slowing trend of population growth. It should be noted that both sources estimated a 2020 population of around 5,500 as of the last plan (2008) and we will be falling well short of that.

Notice that one of these projections calls for growth, the other calls for a decline. Then, what good are projections? Projections are not a crystal ball; they are based on assumptions of trends from the recent past. But, we do have the ability to manage our own trends. The way we manage trends today influences the population of the future. If we change the local economy or housing market, we change how the community grows or changes.

What does the future hold for us if we follow the path of the projections described above? Or, what may happen to create a new future?

The 2008 plan developed a “slow growth scenario” wherein the population would only grow to 5,000 by 2020. It stipulated that housing growth would slow to only 25 new homes per year. In fact, the plan did not anticipate the 2008 recession and the drop in housing demand to only about seven per year since 2010, yielding an estimated population of only 4338 – ten more residents than in 2010.

How can it be that the town is adding seven new house each year, yet just barely keeping level with population? The answer lies in the continued reduction of household size. As mentioned above, the smaller the households get, the more houses we need to hold the same number of people. The estimate assumes that household size has continued the decades-long trend, going from 2.52 in 2010 to 2.46. Now, that trend is slowing, but even if it levels out at 2.4 in 2030, that computes to a demand for about four new houses per year.

The rate of housing development is a good way to estimate population growth, but it is also a good way to manage it. Local policies can affect the rate of housing growth through their influence on the cost of development or land use restrictions. (China has relatively low land development costs now, so it would be difficult to accelerate growth this way.)

Local policies can also influence the style of housing and with it the character of the population. Neighborhoods with large lots tend to add to building costs and require expensive homes to be built. Many times, these homes are 3-, 4-, or 5-bedroom homes suitable for large families with young children. At the other extreme, housing units can be designed exclusively for senior 1- and 2-person households. This type of development would more closely match the demand for housing, but would not add as much to the growth potential of the town.

Growth in population and households increases the demand for public services and commercial development. Unless specifically designed for senior citizens, each new household must have one or more jobs to support it. Younger, larger households will generate school children. Nearly all households require added waste management and road maintenance costs. All of these factors must be taken into account when projecting population growth.

Going back to the initial population projections (State: 4,074 by 2034; KVCOG, 4,629 by 2030) and using the assumption of four new homes a year as the break-even level with shrinking household size, we can look at the range of development possibilities.

Under the state's projection, the town will lose 274 residents between 2010 and 2034. Even at the new, smaller household size, that population will require only 1,697 housing units. A loss of 20 housing units over 24 years would hardly be noticeable, but even more would have to disappear because new homes would still be built. Disappeared units may be evidenced by a higher vacancy rate or the departure of mobile homes, for example. Economically, this scenario seems quite unlikely, as China is at the edge of both Augusta and Waterville urban influences, and sees a lot of spillover demand.

Under the KVCOG projection, the town would gain roughly 300 new residents between 2010 and 2030. That would result in a demand for 1,929 housing units, 212 more than existed in 2010. That is a rate of 10.6 per year. That rate might be achievable if the construction market continues to build from its low point (2012-2013) and we do not hit another recession.

Ten new homes per year (six above the replacement rate) would result in a slight increase in demand for jobs, assuming the new units are not for retirees. In China, the average is 1.33 jobs per housing unit, so 212 housing units would generate demand for 283 new jobs by 2030.

While some towns can use municipal policies to impact population change, it requires a need and consensus to take strong action, which China probably does not have. It is important, however, that the community pay attention to annual changes in housing development and other local and regional indicators. The town should continue to monitor the rate of new construction and the type of homes that are being built, and should continue to discuss the implications and address them through policy changes.

The Housing Stock:

The supply, quality, and availability of housing in China is a factor in the overall growth and health of the town. Although town government has very little control over the supply of housing, it is possible that any problems may be addressed at the municipal level. If a large proportion of housing is substandard, for example, or not energy-efficient, there are grants that the Town can use to help. If housing prices rise to the point where new houses are not affordable, that presents a whole new set of problems in getting people to move to town for the wages that are available.

The table below shows the development of housing by type since 1970. (There are some discrepancies, since the census changed its definition of seasonal unit in 1980, and there was no such thing as a mobile home in 1970.) The total number of housing units more than doubled between 1970 and 2010, with the biggest increase in the 80's when almost 50 new houses per year were built. The 1990's saw the biggest jump in mobile homes – in fact almost a third of new homes in the 90's were mobile homes. (Since 1980, a little under 20 percent of all new homes have been mobile homes.) The numbers do not actually add up, with 30 percent of the

housing additions being seasonal. There could be some overlap, but the bottom line is that there were not many traditional stick-built homes built in the 1990's.

Table 4: China Housing, by Type and Occupancy, 1970-2010

	1970	1980	1990	2000	2010
Total Housing Units	981	1,224	1,703	2,029	2,316
Occupied Housing Units	525	958	1,267	1,549	1,718
Vacant Housing Units	456	266	436	480	598
Seasonal Housing Units	417	174	365	418	508
Mobile Homes	53	142	148	243	342
Owner Occupied Housing	450	826	1,098	1,295	1,435
Renter Occupied Housing	75	132	169	254	283

Source: 1970, 1980, 1990 & 2000 Census

China has a good percentage of seasonal units compared to many towns due to the lake and lots of lake frontage suitable for camps etc. This may make the seasonal population fluctuation an issue in China. The number of vacant units is a concern, as it has increased dramatically since 1980. Regardless it has been at around 25% of the total housing stock. The rental vacancy rate (4.0%) is relatively low and lower than the owner vacancy rate (4.7%).

It looks as if the proportion of rental units is ever so slight increase over time. However, the numbers are relatively small and there was only modest growth up to 2010. The trend seems to be a small swing from owner occupied to rental properties although at a slow rate.

There is no data directly addressing how many renters live in houses versus apartments, but there is data on how many units there are in a building. 2,142 are single-family homes (including mobile homes), which means only about 130 are units in a duplex or multifamily building. Some of those may be owner-occupied, leaving a small number of single-family homes rented.

Very little statistical data exists on the *age and condition* of the town's housing stock. The census does ask questions such as how old a house is and whether it has modern plumbing and heating systems, but this is based on a statistical sample (formerly the "long form," now called the American Community Survey), and the samples are so small that in a town the size of China, the figure is little more than a guess.

The age of structures is sometimes an indicator of condition as well. Some very old homes are structurally very sound but may have inadequate wiring or plumbing. Homes built in the 60's

and 70's tended to have inadequate insulation, whereas homes built more recently have mostly conformed to modern building code requirements. In China, well over 300 houses were built prior to WWII (around 15% of all housing stock). Compare this to Kennebec County, where 23.9 percent are “pre-war” homes. 674 homes (27.8 percent) have been built since 1990; in Kennebec County, that figure is 23.9 percent.

According to the ACS, every occupied housing unit in town has complete plumbing (bathroom) and kitchen facilities. Remember, this is a statistical sample. Eighteen percent heat their homes primarily with wood, although the census doesn't think to ask if there is actually a central heating source to back up the wood. Twenty homes appear to use solar energy.

Price and Affordability

The price and affordability of housing is often a significant factor in the economic life of a town. Housing prices are generally set by the open market, but if supply and demand get out of whack it can result in insufficient housing for prospective workers or residents relocating to another town because they cannot afford local housing.

The growth management goal for affordable housing states that ten percent of new housing should be affordable to households making less than 80 percent of the median household income. The goal leaves it up to towns to determine whether that ten percent should be as stick-built homes, or mobile homes or rentals or elderly apartments.

The determination of whether housing is affordable begins with a discussion of cost. The census provides very good (though sample-sized) data regarding price of housing in China (see table below). This price is arrived at by owners' estimates of value, meaning it does not necessarily match up with actual recorded sales prices. According to the census, the median value of owner-occupied housing in 2010 was \$98,400. The rise in property values since 2000 was almost 65 percent, a substantial increase even considering the 28 percent inflation rate and the recent dip in home prices. The rise between 1990 and 2000 was not as high at 28 percent increase. What is noticeable is the increase in higher priced properties (over \$200k) over the last 10 years, presumably due to more growth and higher valuations of the shore front properties on China Lake and Threemile Pond.

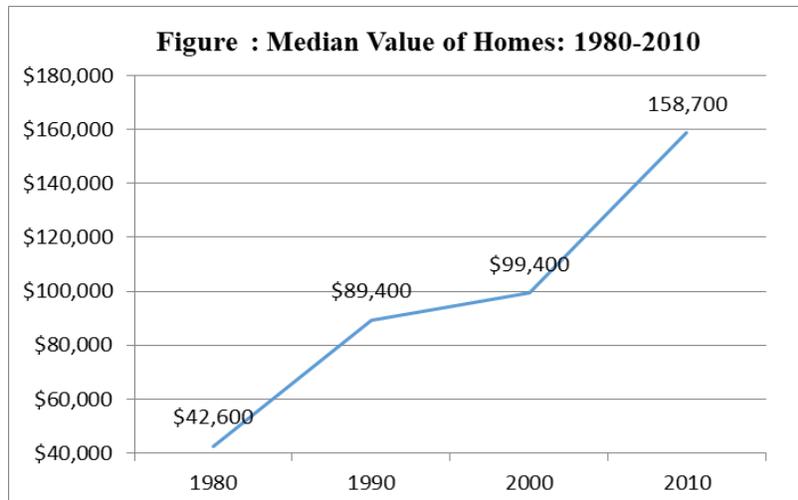
Table 5: VALUE* OF OWNER-OCCUPIED HOUSING UNITS, 2000 and 2010

	2000	2010	change
Median Value of Specified ² Housing Units	\$99,400	\$146,900	\$47,500 (47.8%)
Number of Units Valued at:			
Less Than \$50,000	46	189	143
\$50,000 - \$99,999	397	193	-204
\$100,000 - \$149,999	266	411	145
\$150,000 - \$199,999	80	225	145
\$200,000 - \$299,999	76	352	276
\$300,000 - \$499,999	6	146	140
\$500,000 - \$999,999	0	13	13

SOURCE: U.S. Census

^{*/1} "Value" is the census respondent's estimate of how much the property would sell for if it were for sale.
^{2/} "Specified" units exclude one-family houses on ten or more acres and units with a commercial establishment on the premises. In 2000, mobile homes were excluded as well, but not in 2010, accounting for the significant rise in housing counts.

Maine State Housing Authority (MSHA) tracks actual sales data, though it is sometimes out of date by the time it is published. According to MSHA, the median price (actual sales) of a home in 2017 was \$166,000. This represents a robust recovery from the slump in house prices after the 2008 recession.



The median household income reported by the census in 2016 was \$53,125, making the threshold of 80 percent of median \$42,500. MSHA calculates an affordable home at various income levels, factoring in interest rates and other variables, and using the rule of thumb that a household should pay no more than 28 percent of its monthly income in housing costs. According to MSHA figures, an income that is at the median level should be able to afford a home priced at \$161,139. Also the income needed to afford a median priced home is \$48,381. That means, in rough terms, anyone making the median income should be able to afford a

home in town. However looking at the income distributions, it also shows that almost half of households are unable to afford the median price. Some 750 households fall into this category.

Rentals

The table overleaf shows changes over time in the cost and affordability of rental housing in China. The median rent charged increased by 13 percent, a rate lower than inflation and of the increase in home values. Somewhat oddly perhaps, there are now rentals available for less than \$300 a month, where there were none available in 2000. Also where there were only 5 rental units costing more than \$1000 plus a month in 2000, there are now 21 – ten percent of the total rental stock. More important are the figures on affordability. Affordable rental housing has declined, while the number of renters paying more than 30 percent of their income for rent has increased significantly.

Table 6: COST OF RENTER-OCCUPIED HOUSING UNITS, 2000 and 2010

	2000	2010	% change
Median Monthly Rent Specified Renter-Occupied Units	\$525	\$594	13.1 %
# of Units With Cash Rent of:			
\$200 - \$299	0	25	-
\$300 - \$499	83	39	-53.0%
\$500 - \$749	88	85	-3.4%
\$750 - \$999	28	33	17.9%
\$1000 - \$1499	5	21	320%
Rent as a Percentage of Household income:			
Less than 20 percent	76	88	15.8%
20 – 30 percent	70	13	-81.4%
30 percent or more	66	102	54.5%
Rental Vacancy Rate	3.8%	6.2%	

Source: US Census, American Community Survey (2006-10)

MSHA also tracks rental data. According to MSHA statistics, in 2017, the average two-bedroom rental in China’s market area was \$751. The income needed to afford that rent was \$30,050. By their calculations the renter’s household median income is \$29,999 and able to afford a \$750 a month rent. That means that the average two-bedroom unit in China qualifies as “affordable,” though that data conflicts with the census data.

However, MSHA estimates that some 50% of renter households are unable to afford the average 2 bedroom rent in the China Labor Market Area. Finally according to MSHA, the average rent between 2013 and 2017 has actually fallen by 3.8 percent, while the median

income of renters increased by 5.8 percent. Therefore it could be concluded that on the whole, renting is becoming a little easier in recent years.

Compared with surrounding communities and Kennebec County as a whole, China's housing prices appear to be lower. In 2017, median home values in neighboring communities ranged from \$109,500 in Albion to \$170,000 in Vassalboro. The median value of homes in Kennebec County was \$149,900. The median rental cost in Kennebec County was \$793 per month, putting China's nicely below the average. The town of Winslow for comparison was \$1,460!

Provision of affordable housing options is assisted by MSHA programs. MSHA provides some state and federal options for buyers and renters. There is one known subsidized rent program participating housing complex in China, which is the old motel in South China off of Route 3.

The Local Economy

The state of the local economy helps the community in planning for future growth or change. Although statistics do not do a very good job of profiling the local employment dynamic, they do give us a sense of overall trends.

The economy section of this comprehensive plan seeks to describe issues and trends in the economic climate of the community and identify opportunities in public policy to promote the type of economic growth and development that will be in the best interests of the citizens and community. Census data in this section comes primarily from the American Community Survey (ACS), which provides annual estimates in between the traditional census years.

Education: The Foundation of Economic Growth

The contemporary job market is competitive and demands a high skill level from each worker. The loss of unskilled manufacturing jobs, the growing importance of the global economy, and rapid advances in technology have made education a necessity for today's workforce. The level of educational attainment is a measure of the ability of the community to sustain economic growth.

Table 7: Educational Attainment: 2000 to 2016

	China 2016	China 2000	Kennebec County 2016	Kennebec County 2000
Total adults 25 and older	3,071	2,744	86,359	79,362
Less than 9 th grade	76 (2.5%)	127 (5%)	2,908 (3.4%)	4,528 (5.7%)
9 th to 12 th grade no diploma	170 (5.5%)	170 (6%)	4,538 (5.3%)	7,183 (9.1%)
High school graduate	1,157 (38%)	1,074 (39%)	30,300 (35%)	29,882 (37.7%)
Some college, no degree	677 (22%)	472 (17%)	17,825 (20.6%)	15,143 (19.1%)
Associate degree	350 (11.4%)	311 (11%)	8,970 (10.4%)	6,224 (7.8%)
Bachelor's degree	408 (13.3%)	344 (13%)	13,097 (15%)	10,397 (13.1%)
Graduate/professional degree	233 (7.6%)	246 (9%)	8,721 (10.1%)	6,005 (7.6%)

Source: 2000 Census, 2016 ACS

According to table 7, the town has plateaued with its educational level in the past 16 years. Although the number of persons with a college degree increased to 991, the percentage of the population held steady at about 33 percent. Compared with Kennebec County, the town is falling behind a bit, with fewer 4-year college graduates and a higher percentage with high school or less education.

The number of persons with post-secondary degrees both in Kennebec County and China are lower than most of the New England States. Taken together with the declining number of young persons in the state, that creates problems for new enterprises especially in the high tech fields. The shortage of younger workers with advanced degrees will make it difficult to attract new high wage jobs. Strategies to retain young people and attract them back into the state are necessary along with strategies to increase the educational attainment of the existing labor force whenever possible. Much of the task of increasing educational levels falls on the state or the school systems, but some – such as increasing the availability of affordable housing for young people – can be affected at the municipal level.

Labor Force and Commuting Patterns:

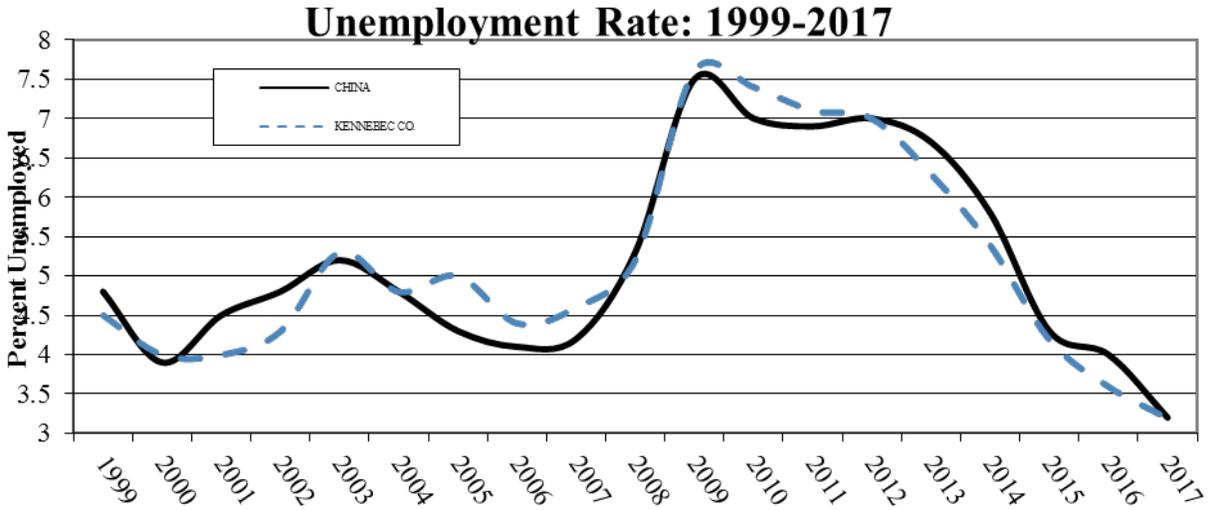
Workers are referred to, in government parlance, as the “labor force.” The labor force is generally regarded as everyone above 16 years of age who is not retired or disabled. In China, the labor force is about 65 percent of the total over-16 population. The decline of about five percent is probably due to more people retiring. As the table below shows, the labor force is composed of 53 percent men, 47 percent women. The percentage of women in the workforce has grown steadily over the years, (in 1980, it was only 41 percent) as women get higher levels of education and more freedom to pursue jobs and careers.

Table 8: Labor Force Trends 2000 to 2016

	2000 Census	2016 ACS
Population 16 years and over	3,110	3,440
Labor force, 16 years and over	2,176 (70%)	2,242 (65.2%)
Total employed persons	2,085 (96%)	2,068 (95%)
Total unemployed persons	83 (3%)	174 (5%)
Total males in labor force	1,164 (53%)	1,182 (52.7%)
Total females in labor force	1,021 (47%)	1,060 (47.3%)

Source: 2000 Census, 2016 ACS

Table 8 shows five percent unemployment in 2016. However, the census is a poor measure of unemployment, since it only measures employment status at one point (April 1) every ten years. The Maine Department of Labor monitors employment by town on a monthly and annual basis. As the chart below shows, after nearly ten years of fairly steady rates, China’s unemployment rate shot up during the 2008 recession, hovered for about four years, then has dropped precipitously since. As of 2017 (the most recent annual data available), the rate stood at 3.2 percent. That is a very decent rate, generally considered to be “full employment,” and certainly better than any other time in the past twenty years. It also means, however, that there is little additional opportunity for job growth, as nearly all available workers are already employed. Nor could new employers draw from outside of town; Kennebec County’s rate is identical to China’s, after several years of being slightly lower.



The location of employment is an element of the discussion as well as simply the numbers. China is part of a larger labor market, generally centered on Augusta. Unlike prior eras, when residents usually worked in a local business if not on their own property, only one out of every six members of China’s workforce has a job in China itself, and one in 20 work at home. The average commute time for a China worker is 29 minutes.

It’s a foregone conclusion, since China has only 707 jobs inside the town limits (according to the 2015 ACS).

Commuting patterns have implications for the transportation network and income levels (people will drive longer distance for higher wages). The table overleaf shows the numbers of China residents that work in other towns, with the following table showing the towns from which other workers commute to work in China. It’s not surprising that Augusta is by far the largest destination of China residents, drawing 26.5 percent of all China workers. Even Waterville draws more residents than work in town. In contrast, China’s suppliers of workforce are much more evenly distributed, coming from Vassalboro, Palermo, Augusta, and Waterville.

Table 9: Commuting Patterns for China Residents

Place of Work	Workers	Place of Work	Workers
Augusta	476	China	167
Waterville	192	Winslow	43
Fairfield	33	Oakland	65
Bangor	47	Portland	53
Auburn	35	All others	687

*Source: 2015 ACS***Table 10: Commuting Patterns for Persons Working in China**

Place of Residence	Workers	Place of Residence	Workers
China	167	Vassalboro	52
Windsor	29	Augusta	41
Albion	31	Waterville	41
Palermo	42	All others	326

Source: 2015 ACS

Job Profile:

The Census measures workers in several categories, so that we can tell how the workforce is profiled and how it is changing. The first of these is “Occupation.” The table below indicates that in China, service occupations are gaining in share at the expense of pretty much all other occupations. This may be partly the result of stagnation in educational attainment.

Table 11: Employed persons 16 years and Over by Occupation. 2000 to 2016

	2000 Census	2016 ACS
Total Employed	2,085	2,068
Service Occupations	280 (13.4%)	354 (17.1%)
Natural Resource, construction Occupations	277 (13.3%)	281 (13.6%)
Professional & Management Occupations	701 (33.6%)	682 (33.0%)
Sales & Office Occupations	521 (25%)	490 (23.7%)
Production, Transportation & Moving Occupations	306 (14.7)	261 (12.6%)

Source: 2000 Census, 2016 ACS

The census also classifies workers based on the industrial sector in which residents worked. This doesn't tell us so much about the workers themselves as about the health of the various industrial sectors.

Between 2000 and 2016, some of the following trends have been marked:

- Jobs in the construction industry have dropped from 220 in 2000 to 147 in 2016;
- Jobs in manufacturing have dropped from 276 to 238, continuing a long term trend;
- Jobs in transportation have been cut by 2/3 from 100 to 33;
- Health and social service sectors have been the big gainers, going from 494 to 659;
- Much smaller, but also meaningful gains have been posted by entertainment and recreation services, going from 64 residents employed to 134;
- The public administration sector has also declined, from 238 in 2000 to 102 in 2016, while professional and management service has gained from 96 to 181;

- Sectors such as retail and wholesale trade, farming/forestry, and business services have seen little change in 16 years.

The census also records the type of employer that residents work for. In China, about 71 percent of all workers are in the private sector. Twenty two percent work for public sector entities, while seven percent are self-employed.

Income as a Measure of Economic Stability:

Building a good economy is all about raising the standard of living of the community. Income levels are a good standard of measurement. Table 12 below compares China’s income profile over the recent past to that of Kennebec County on average. Table 13 shows how China’s median household income compares to our neighbor towns.

Table 12: General Income Data for Kennebec County and China

	Kennebec 2016	Kennebec 2000	China 2016	China 2000
Per capita income	\$26,418	\$18,520	\$24,365	\$19,262
Median household income	\$48,570	\$36,498	\$53,125	\$41,250
Median family income	\$33,375	\$43,814	\$64,643	\$42,768
Percentage below poverty level	14.6%	11.1%	9.1%	3.7%
Persons under 18 below poverty level	20.6%	13.5%	7.0%	2.0%
Persons 65 and older below poverty level	9.2%	10.2%	3.1%	7%
Families below poverty level	9.3%	8.5%	3.9%	2.1%

Source: 2000 Census, 2016 ACS

China’s median household income has risen by almost \$12,000 since 2000. However, that comes to only 1.6 percent per year, below the rate of inflation over that period. Kennebec County’s income rose 1.8 percent per year. China’s median family income rose 2.65 percent over the period, meaning family incomes grew faster than non-family’s. Since most non-families are elderly people, the increase in that age group has probably accounted for much of the reduction in income growth. However, even though the poverty level among children has risen greatly in 16 years, the poverty level among elderly has actually dropped.

Median household income is the basic measure of income levels. It measures the revenue, from all sources, for all members of a household, with the “median” being the point at which half of all households make more, half make less.

Table 13: 2016 Median Household Income Comparison

Location	Median Income	Location	Median Income
State of Maine	\$50,826	Kennebec County	\$48,570
China	\$53,125	Waterville	\$32,403
Albion	\$46,111	Augusta	\$40,555
Windsor	\$49,536	Vassalboro	\$54,736
Winslow	\$43,246	Palermo	\$48,529

Source: 2016 ACS

In eastern Kennebec County, only China and Vassalboro have household incomes over \$50,000, and over the statewide average. Waterville and Augusta have substantially lower incomes, but that can be inferred by the ratio of smaller and rental housing units.

The source of income helps us to understand how the economy is supported. In China, about 71 percent of households earn their primary income through wages, with another 7.6 percent self-employed. Thirty one percent of households get social security and 22 percent receive retirement income (some overlap with all three sources). Only seven households out of more than 1,600 get public housing assistance, although 212 get SNAP benefits. A relatively high 34 percent are retired and/or on social security.

Table 14 shows a breakdown by income cohort. A little over one in ten China households have incomes less than \$15,000 per year, which is a concern. Another nine percent make less than \$25,000. On the high end, about one out of six households have total income over \$100,000 per year.

Table 14: 2016 Household Income Ranges

Income Range	Households	Income Range	Households
Less than \$10,000	109 (6.4%)	\$50,000 to \$74,999	358 (21.1%)
\$10,000 to \$14,999	77 (4.5%)	\$75,000 to \$99,999	287 (17.0%)
\$15,000 to \$24,999	154 (9.1%)	\$100,000 to \$149,999	185 (10.9%)
\$25,000 to \$34,999	180 (10.6%)	\$150,000 and over	76 (4.5%)
\$35,000 to \$49,999	267 (15.8%)		

Source: 2016 ACS

PART THREE: CHINA'S CRITICAL NATURAL RESOURCES

Highlights:

- China is located in south eastern area of the Kennebec River valley. There are a few glacial features that add topography to an otherwise fertile and level river bottom landscape.
- Development concentrated in the village areas leaves most of the town in natural open space. There are extensive areas of forest and wildlife habitat. China Lake is a regional natural resource with several complexes of habitat areas. It is not currently threatened by any major development.
- The other significant pond resource in China is Threemile Pond.
- The water quality of China Lake, Threemile Pond as well as Hewitt and Meadow Brooks could be improved and there are some impairments to the water, this would need to be tackled on both a local and a regional basis.

Community Overview:

China's geographical location was chosen for its access to the surrounding natural resources. Located on around China Lake and the northeast shore of Threemile Pond, early settlers were able to take advantage of the water sources for transportation and water power. The town's topography is moderate and its soils are largely suitable for agriculture and development. China is located within the Kennebec River valley, within a large watershed that encompasses the majority of Kennebec County and parts of adjacent counties.

But natural resources must be viewed as both an asset and a constraint. Forested and non-forested wetlands are associated with many of the streams draining portions of the town. The preponderance of wetlands that surround Hunter Brook and the west branch of the Sheepscot River generally renders most of those areas unbuildable. By the same token, these wetlands act as a purification sponge for much of the water entering those streams and other water bodies nearby.

Topography:

Topography, along with soil characteristics, tends to dictate appropriate land uses and environmental values. Slopes exceeding 15 percent tend to make poor building sites; Slopes of less than 3 percent are characteristic of wetlands, but if well-drained may be good agricultural land. The steepness of slope and soil type also determine how erodible a soil may be and how well water drains through it.

China has no summits in excess of 640 feet but the significant peaks are Parmenter Hill, Moe's Mountain and Deer Hill reach the highest on the eastern / southeastern areas of town. Stanley Hill in the northwest area of town is also a notable landmark.

The overall contours of the landscape in town can be seen on the Contour Map.

Surficial Geology

Underlying soil types dictate in general terms the suitability of land for various uses. China displays conditions laid down in large part by glacial activity. There are four main types of deposits, which have characteristic grain size distribution and topographic position. They are till, outwash, silts and clays, and muck/peat. A brief description of each follows.

Tills were deposited directly by glaciers which covered most of New England about 10,000 years ago. These deposits, not subjected to the action of flowing water, consist of mixtures of materials ranging in size from clay to boulders.

Outwash is also a product of glacial action; however, unlike till, it has been stratified by glacial meltwater. These deposits consist largely of sand and gravel. In China, outwash is found in rather extensive deposits in the southern end of town around the Tobey and Dirigo Road area and the south end of the Windsor Road, and in smaller bodies along China Lake shore and the end of the Horseback Road. The outwash is geologically younger than the till, and may overlie

it in places, particularly along Sheepscot River Branch.

The silts and clays of China were deposited in bays and inlets of the sea as the glaciers retreated. These materials are restricted to places below about 300 feet elevation, and are widespread at the south and western areas of town. The silts and clays, which may be several hundred feet thick, were deposited at the same time as the outwash, but generally underlie the latter where the two are in contact.

Muck and peat deposits are water saturated, highly organic sediments. There are several good size deposits of this type in China, in the area connecting China Lake to Threemile Pond and the north and eastern areas of town.

Soils

China generally has some good soils that have food-growing and development capability. These soils also filter and store groundwater, not to mention provide gravel needed for road-building and other developed uses. Soils have been studied and classified throughout the town. Maps depicting various features of soil types accompany this plan.

Soil characteristics are particularly important to farming, road-building, and construction. Additional soils information is presented in the Land Use section of this plan.

Certain soils types in China as particularly fertile, either for crops (corn) or for timber (white pine). The town has little agriculture, so good farm soils aren't a factor. But the soils most fertile for tree growth are usually the same types as those best for farming, except that more stony soils and steeper soils also qualify. In China, that includes much of the lakeshore and stream valleys. The following soil types are among the best for tree growth:

Bangor silt loam	Berkshire loam	Buxton silt loam
Dixmont silt loam	Hadley silt loam	Peru loam
Plaisted gravelly loam	Stetson fine sandy loam	Winooski Silt Loam
Madawaska fine sandy loam	Melrose fine sandy loam	

These soil types can be picked out on the soil maps included with this plan.

Soils can also be ranked for their suitability for development. For development, soils don't have to be fertile; they just have to be easy to work. The best development soils are not too wet, not too steep, and not too rocky. (Note that nearly any soil can be developed. This rating system is based on the cost of development. The highly-ranked soils are the cheapest to develop, therefore, a good place to encourage growth.)

Soils can be considered as the best overall for development, including septic systems, excavation, and road-building. These soil types are:

Bangor silt loam Dixmont silt loam Plaisted loam
Berkshire loam Buxton silt loam Melrose fine sandy loam Peru loam

From this list, it's immediately apparent what common sense has said all along: that flat, well-drained land is good for both farming and development, and there is an inherent conflict between competing land uses which farming, because of relatively low economic returns, usually loses.

The State Plumbing code also has its list of soils, which are unsuitable for subsurface waste disposal. The plumbing code is only interested in those soils in which septic systems won't function: either water is too near the surface, subject to flooding, or too steep. Note that nothing is said about shallow to bedrock. Soils with water too near the surface are:

Biddeford silt loam Monarda silt loam Walpole fine sandy loam
Leicester stony loam Peat and Muck Limerick silt loam
Scantic silt loam

Soils subject to flooding (floodplain) are:

Hadley silt loam Winooski silt loam Limerick silt loam Mixed alluvial land

The plumbing code says that any soil on a slope of greater than 20 percent is too steep to build septic systems in.

CRITICAL NATURAL RESOURCES

China offers a variety of valuable habitat to land and water-resident animals. The extent and quality of wildlife habitat is an indicator of not just the abundance of animals but the overall health of the ecosystem. The Maine Department of Inland Fisheries and Wildlife (MDIFW) administers a program called Beginning with Habitat to illustrate information on wildlife habitat and critical natural areas.

The availability of high quality habitat for plants, animals, and fish is essential to maintaining abundant and diverse populations for ecological, economic, and recreational purposes. China has a significant amount of land that offers quality habitat for a variety of species. Beginning with Habitat (BwH), a collaborative program of federal, state and local agencies and non-governmental organizations, is a habitat-based approach to conserving wildlife and plant habitat on a landscape scale. The goal of the program is to maintain sufficient habitat to support all native plant and animal species currently breeding in Maine. BwH compiles habitat information from multiple sources, integrates it into one package, and makes it accessible to towns, land trusts, conservation organizations and others to use proactively. This information can be seen on the Critical Natural Resources Map, with descriptions of essential features below.

China offers a variety of valuable habitat to land and water-resident animals. The extent and quality of wildlife habitat is an indicator of not just the abundance of animals but the overall health of the ecosystem. Information on wildlife habitat and critical natural areas can be seen on the *Critical Natural Resources Map*, with descriptions of essential features below.

Deer Wintering Areas

Although deer are reasonably common in China, their existence is predicated on sufficient habitat. Summer habitat is not a limiting factor as winter habitat is. The existence of “deer wintering areas” is the controlling factor for deer numbers.

A deer wintering area is defined as a forested area used by deer when snow depth in the open/hardwoods exceeds 12 inches, deer sinking depth in the open/hardwoods exceeds 8 inches and mean daily temperatures are below 32 degrees Fahrenheit. Non-forested wetlands, non-stocked clear-cuts, hardwood types, and stands predominated by Eastern Larch are included within the DWA only if less than 10 acres in size. Agricultural and development areas within DWAs are excluded regardless of size. A rating of “indeterminate” means that no professional survey has been done to assess the value of the habitat and at this time the MDIFW is classifying all deeryards as indeterminate and calling areas “Candidate Deer

Wintering Areas” that would need verification on the ground.

China has nine identified significant deer wintering areas that can be seen on the critical resources map. Some are quite sizable and they are spread pretty evenly throughout the town except around the village areas.

There appears to have been no decrease in the number of deer wintering areas since the last plan and actually more potential areas have been classified.

Inland Waterfowl / Wading bird Habitat (IWWH)

Five criteria are used to rate IWWHs as high, moderate, or low value: (1) wetland type composition, (2) number of different wetland types, (3) size, (4) interspersion, and (5) percent of open water. Wetlands with a rating of “High” or “Moderate” are the only ones required to be protected under Shoreland Zoning and other State Laws. These are depicted on the map and listed in the table 15.

Table 15 - Significant Waterfowl and Wading Bird Habitat

Location	MDIF&W#	Rating
Surrounding Mud Pond in the Northwest of town bordering Winslow	030910	High
At the outlet of a stream in the Southeast of town bordering Windsor	030922	Moderate
Surrounding Dutton Pond in the North of town bordering Albion	030896	Moderate
Connecting China Lake and Muldoon Pond in the North of town bordering Albion	205579	High
South of Stanley Hill Road	030907	Moderate
Spanning Yorktown Road in the Northeast of town bordering Albion	0320891	Moderate
Large wetland spanning / south of Bog Brook Road, east of Hanson Road	030912	Moderate
Northeast of the junction of Route 3 and Alder Park Road	030946	Moderate
Connected to China lake south of the Clark Road	030941	Moderate
Surrounding the stream south of Alder Park Road east of Lakeview Road	030909	High
Northeast of the junction of Route 3 and Hanson Road	205619	Moderate
South of Route 3 bordering Palermo	205624	Moderate

Source: Maine Department of Inland Fisheries and Wildlife

Just like the deer areas there appears to have been no decrease in the number of Significant Waterfowl and Wading Bird Habitats since the last plan and actually more potential areas have been classified and better mapped since the last plan mapped wetlands more generally.

Significant Vernal Pools

A naturally occurring temporary to permanent inland body of water that forms in a shallow depression and typically fills during the spring or fall and may dry during the summer. The vernal pool contains no viable populations of predatory fish, and it provides the primary breeding habitat for wood frogs, spotted salamanders, blues potted salamanders and fairy shrimp. The presence of any one or more of these species is usually conclusive evidence of a vernal pool.

Protection of vernal pools is required under Maine Law, but identification is difficult, because they are ephemeral, and can usually only be identified in mid-spring. At this time there have been eleven formally identified in or bordering China to date which can be seen on the critical natural resources map. Extra protections through shoreland zoning should be considered for these sites.

Rare and Endangered Species and Habitats

Although not designated as a Focus Area of Statewide Ecological Significance or being found to contain any rare or exemplary natural communities or ecosystems there are several noteworthy species of both flora and fauna found in China.

The Maine Natural Areas Program has identified the plant Showy Lady's-slipper (*Cypripedium reginae*) which designated as a species of Special Concern and found at the southern tip of China Lake:

Habitat: Circumneutral peatlands (often at edges) or sunlit openings of mossy woods. [Forested wetland; Open wetland, not coastal nor rivershore (non-forested, wetland)]

Range: Newfoundland to North Dakota and Manitoba, south in Appalachians to Georgia.

Aids to Identification: The largest and showiest of our lady's-slippers. Foliage of non-flowering plants emerging in early spring may be mistaken for false hellebore. Flowering plants are unique with their tall leafy stems bearing one or two large flowers with white petals and sepals contrasting with magenta pink pouch. Densely pubescent throughout, the hairs may cause a rash similar to poison ivy.



Ecological characteristics: Showy lady's-slippers apparently require constant moisture, some sunlight and circumneutral soil conditions. In acid bogs their roots go under the acid *Sphagnum* to more neutral groundwater below. In clearings or woods edges colonies may be very large and flowering abundant, but plants in deep shade often lack flowers. *C. reginae* seeds seem to germinate best at depths of at least 5 cm. It has been suggested that this may account for the presence of dense colonies in deer yards where the deer hooves may help to push seeds to the appropriate depth. *C. reginae* takes about 15 years to reach flowering age, which explains why they are slow to reappear after colonies have been dug up.

Phenology: In Maine flowers late June to July.

Family: Orchidaceae

Synonyms: *Cypripedium spectabile*.

Reason(s) for rarity: Habitat destruction and collecting, also scarcity of suitable habitat.

Conservation considerations: Orchids are popular among some specialty gardeners, and populations of this species are vulnerable to unscrupulous or uneducated collectors. Plants dug from the wild usually do not survive; more importantly, removing these plants harms the natural population and may cause its eventual disappearance. Tissue-culture propagation of this species has been tried in limited instances, but any plants offered for sale have almost certainly been dug from the wild. This orchid grows and flowers best in moderate sunlight, and partial removal of the canopy can benefit the populations, if done correctly.

Although not technically within China a small island in Branch Pond bordering Palermo contains Fall Fimbry (*Fimbristylis autumnalis*) which is also a species of Special Concern:

Habitat: Sandy or peaty shores and low ground. [Open wetland, not coastal nor rivershore (non-forested, wetland)].

Range: Georgia to Louisiana, north to central Maine, southwest Quebec and southern Ontario. Also listed as rare in Vermont, but not elsewhere in New England.

Aids to Identification: This tiny sedge is easily overlooked. It grows in clusters or mats of plants 5-8 cm tall. Leaves are thread-like. The fruiting heads (spikes) are small (3-7 mm long) and egg-shaped and borne in clusters atop the short stems. *Fimbristylis* could be confused with small individuals of the related *Bulbostylis capillaris*; *Fimbristylis autumnalis* has flat stems and the larger leaves are wider than 1.0 mm, while *Bulbostylis capillaris* has capillary stems and leaves narrower than 0.5 mm. Also superficially similar is the tiny sedge *Lipocarpha micrantha* (very rare in Maine), which differs in having a leaf-like bract continuing above the spikes so that the spikes look like they emerge from the side of the stem.



Ecological characteristics: In Maine, *Fimbristylis* grows in sandy wet soils of pondshores where the water level drops over the summer (Outwash Plain Pondshores). It is typically found growing beneath the canopy of other herbaceous plants such as *Juncus pelocarpus*, *Dulichium arundinaceum*, and *Euthamia tenuifolia* (formerly *Solidago tenuifolia*). It is not known to occur in shrubby or wooded parts of wetlands.

Phenology: Flowers August - October; fruits September - October.

Family: Cyperaceae

Synonyms: *Fimbristylis autumnalis*, *Scirpus autumnalis*.

Reason(s) for rarity: Near northern limit of range, and Outwash Plain Pondshore habitat naturally scarce.

Conservation considerations: Heavy all-terrain vehicle use of the sandy habitats where this occurs has degraded the habitat in some locations and continued use will be detrimental to the plant populations.

Bald eagles (*Haliaeetus leucocephalus*) nest on the Island in Threemile Pond these famous birds generally nest along sea coasts, inland lakes and major rivers. Breeding habitat includes large trees, primarily old white pines, in close proximity (less than one mile) to water where food is abundant and human disturbance is minimal. Once abundant in Maine, were nearly extirpated throughout their range because of widespread use of environmental contaminants. With bans on the use of these contaminants and habitat protection measures, bald eagles have made a tremendous recovery. In 2009 they were removed from the state Endangered Species list. They remain listed as Special Concern. Bald eagles and their nests are protected by the U.S. Fish and Wildlife Service under the Bald and Golden Eagle Protection Act.

Two sites of nesting bald eagles have also been identified by local residents anecdotally.

On the northern border of town between the lake and town line is an area that is home to two different species, the first is endangered, the **Least Bittern** (*Ixobrychus exilis*).

These small heron like birds are relatively scarce breeders in coastal and inland wetlands, but they can be locally numerous where food is abundant. They nest in freshwater and brackish marshes with tall aquatic vegetation such as cattails and other reeds and rushes, preferentially in places interspersed with patches of open water and small stands of woody vegetation. Some birds forage during summer in saltmarshes and mangrove swamps, but they nest in those habitats less commonly. Least Bitterns winter in saltwater, brackish, and freshwater wetlands in the southernmost coastal areas of their U.S. range (especially southern Texas and Florida), as well as in Mexico, the Caribbean, and Central America.



Least Bitterns eat mainly small fish such as minnows, sunfishes, and perches. They also eat small snakes, frogs, tadpoles, salamanders, slugs, crayfish, other crustaceans, shrews, mice, dragonflies, and leeches. They may occasionally prey on eggs or young of Yellow-headed Blackbirds.

Nest sites are usually about 6-30 inches above the water, over water that is 3-38 inches deep. Nests are rarely more than 10 yards from the edge of the reed bed but are seldom at the edge itself.

In the same area are **Eastern Ribbon Snakes** (*Thamnophis sauritus*) which are not endangered but a species of special concern (A species of special concern is any species of fish or wildlife that does not meet the criteria of an endangered or threatened species but is particularly vulnerable, and could easily become, an endangered, threatened, or extirpated species due to restricted distribution, low or declining numbers, specialized habitat needs or limits, or other factors. Special concern species are established by policy, not by regulation, and are used for planning and informational purposes; they do not have the legal weight of endangered and threatened species.)

The eastern ribbon snake is a slender, semi-aquatic snake often observed near the edges of emergent marshes, wet meadows, scrub-shrub wetlands, beaver impoundments, bogs, river and stream floodplains, and vegetated shorelines of ponds and lakes. Ribbon snakes generally avoid deep water but will swim readily along the surface. Juveniles and gravid females may use uplands, but the extent of use is not well established.

In this habitat area ribbon snakes were likely found within 5m of water during May to September. From September to mid-October, snakes moved up to much further away from the shoreline. Most ribbon snakes documented in New England have been found below 305 m (1,000ft) elevation. Possible hibernacula include muskrat bank burrows and lodges, ant mounds, mammal tunnels, and rock crevices). Though ribbon snakes eat primarily amphibians, they will also consume lesser amounts of mice, spiders, small fish, and insects.

Finally another species of special concern is the **Great Blue Heron** (*Ardea Herodias*). These are recorded at two sites in China both in the previously identified Inland Wading Bird habitats in the eastern side of town (205624 and 030912). This is confirmed by local accounts of seeing the birds on China Lake.

Widespread and familiar (though often called "crane"), they are the largest heron in North America. Often seen standing silently along inland rivers or lakeshores, or flying high overhead, with slow wingbeats, its head hunched back onto its shoulders. Highly adaptable, it thrives around all kinds of waters from subtropical mangrove swamps to desert rivers to the coastline of southern Alaska. With its variable diet it is able to spend the winter farther north than most herons, even in areas where most waters freeze.

They eat mostly fish, but also frogs, salamanders, turtles, snakes, insects, rodents, birds. Has been seen stalking voles and gophers in fields, capturing rails at edge of marsh, eating many species of small water birds.

They breed in colonies, often of this species alone, sometimes mixed with other wading birds; rarely in isolated pairs. Sites of nests can be highly variable, usually in trees 20-60' above ground or water; sometimes in low shrubs, sometimes on ground (on predator-free islands), sometimes well above 100' in tree. Nests (built mostly by female, with material gathered mostly by male) is a platform of sticks, sometimes quite large.

Wetlands

China has several major large wetland areas and many smaller wetlands, both forested and non-forested, are scattered throughout the town. These wetlands and other surface water features may be viewed on the *Critical Natural Resources Map*.

Development activity in any wetland area is strictly regulated by state and federal governments. Non-forested wetlands of ten acres in extent or greater are protected from development by the Natural Resources Protection Act. The surrounding 250 feet of shoreland is governed under the Resource Protection District in the Town's Shoreland Zoning Ordinance. Development and timber harvesting are restricted in these areas, providing maximum protection to the wetland and wildlife dependent thereon.

Undeveloped Forest Blocks

There is a direct relationship between the number and variety of wildlife, and the size of their habitat. We are used to urban wildlife, such as skunks and chickadees, which do not need much open land to thrive. But other types of animals are much less seen, because they thrive in unbroken patches of forest. As roads, farms, and houses intrude on the landscape, the large habitat blocks break up and the wildlife that relies on them disappear.

The *Critical Natural Resources Map* illustrates the distribution of undeveloped blocks within China. The block that stands out as largest is the area South of Route 3 on the eastern side of town that goes into Palermo. This contains a variety of habitat types, including waterfowl and wading bird habitat, wetlands, and deer wintering areas as well as Blue Heron sites. There is currently no apparent development pressure in this area. Additional large tracts can be found in the areas outside of the major road corridors. Any kind of development pressure on these areas should be monitored.

Conserved Lands

China contains a 117 acre parcel of the Alonzo H. Garcelon Wildlife Management Area that is owned and managed by the Maine Department of Inland Fisheries and Wildlife. It is located in the area behind the Hannaford Supermarket development. Its purpose is to seek to protect ecosystem or specific wildlife and can be used for outdoor recreation, including hiking, water activities, hunting, ATVs, or Snowmobiles. Other land such as Thurston Park and the School Forest are not permanently conserved.

Wild Brook Trout

Both China Lake and Threemile Pond are identified as brook trout habitats although it is thought that the water quality is too poor to accommodate them at present. The West branch of the Sheepscot Stream (known locally as the Weeks Mill / Dirigo Stream) are also identified as brook trout habitats.

Maine supports the most extensive distribution and abundance of wild brook trout (*Salvelinus fontinalis*) in their native range within the United States; more than 1,200 lakes and ponds are managed for brook trout, of which approximately 60% are sustained by natural reproduction. In addition, brook trout occur in an estimated 22,248 miles of stream habitat, the vast majority of which are wild. Although brook trout populations are declining across their historic range within the United States (Maine to Georgia), a 2006 range-wide assessment by the Eastern Brook Trout Joint Venture (EBTJV) concluded that:

"Maine is the only state with extensive intact populations of wild, self-reproducing brook trout in lakes and ponds, including some lakes over 5,000 acres in size. Maine's lake and pond brook trout resources are the jewel of the eastern range: lake populations are intact in 185 sub watersheds (18% of the historical range), in comparison to only six intact sub watersheds among the 16 other states." Furthermore, Maine is the last true stronghold for stream dwelling populations of wild brook trout, supporting more than twice the number of intact sub watersheds as the other 16 states in the eastern range combined.

Maine's native and wild brook trout lakes, ponds, and flowing waters represent a unique and abundant resource not available elsewhere in the United States. Not surprisingly the MDIFW places a high priority on the management of this important resource, with a focus on protection, conservation, enhancement, and restoration of self-sustaining populations and the town of China should work to protect this resource also.

Atlantic Salmon

The Atlantic Salmon (*Salmo salar*) belongs to the trout family. They are anadromous fish, meaning they migrate from salt water to fresh water rivers and streams.

After hatching in gravel stream bottoms in the autumn, the tiny fry emerge after three to six weeks, seeking food. The fry grow into parr, about two inches long, feeding and growing in their native streams for 1-3 years. After developing into smolts, which average 6 inches in length, the salmon migrate to the ocean in the late spring. The adults return to their native rivers to spawn after living in the ocean for several years, and their lives end where they began.

Before people built dams, which blocked spawning routes, and polluted New England's rivers, hundreds of thousands of Atlantic salmon thrived in rivers throughout the region. Although some efforts have been made to protect the fish, they have declined to the point where last year only 100-150 salmon returned to the remaining salmon rivers in Maine.

Both spawning and rearing areas have been identified in China in the West Branch of the Sheepscot River and hence this is an important resource that should be protected.

Recent efforts have been made to increase fish passage by removing barriers on the outlet stream that runs through neighboring Vassalboro. These have been a success and seen many fish species such as Alewives returning to the waters of this region.

Visual Resources

China is an attractive town and its citizens appreciate the quality visual resources available, from the turn-of-the-century architectural styles of some buildings in the villages and residential neighborhoods to the views across China's lakes and other water bodies.

In the future it would be helpful to conduct a formal visual resources inventory, listing particularly noteworthy resources within town. A more informal list compiled by the Comprehensive Plan Committee identifies the following areas of note in town:

- 1.) Route 3 west of Dirigo road, looking northwest
- 2.) Route 32 / Vassalboro Road looking out to the Lake
- 3.) At elevation on Moe's Mountain looking west
- 4.) The Hunter Brook, Pleasant View Ridge Waterfall
- 5.) On the Neck Road looking south / southeast
- 6.) On Stanley Hill Road looking south / southeast

Developing a more conscious street tree program, inserting landscaping requirements into land use ordinances, minimizing tree removal during building site preparation and establishing attractive gateways are some of the approaches that could be utilized to enhance China's visual resources.

The current entrances, or gateways, at the Town boundaries and as one enters the village areas, may not fully meet the community's expectations for itself; there needs to be a common design theme that might be utilized to solidify a positive image for China. Signage and landscaping utilizing the design could then be installed at these critical locations to welcome visitors to a friendly, well-kept community, and residents to their home town. Although all entrances to the town and urban area should be addressed, priority locations are the town line on Route 137 into China Village area at the northern end of town.

Maintaining China's built environment is also a critical component in community attractiveness. China should perhaps look into community development programs to attract public dollars to stimulate neighborhood revitalization as well as developing methods to minimize poor looking private housing etc.

Water Resources

Brooks and Streams

China has extensive surface water resources. Due to the town's topography and several significant hills, there are different drainage basins contributing water either to the Kennebec River (briefly via Sebasticook River) through China Lake and the Outlet Stream, or down the West Branch of the Sheepscot River to the Sheepscot main river, out to the gulf. Some of the more prominent drainage ways include Hewitt Brook, Meadow Brook and Hunter Brook. The drainage divides for these and other unnamed brooks may be seen on the *Water Resources Map*.

The majority of streams in town are classified as Class B waters which are defined as general-purpose water that are managed to attain good quality water. They have an aquatic life use goal of approximately Tier 3 on the Biological Condition Gradient. Well-treated discharges with ample dilution are allowed but discharges shall not cause adverse impact to aquatic life in that the receiving waters shall be of sufficient quality to support all aquatic species indigenous to the receiving water without detrimental changes to the resident biological community. Therefore these streams are not highly sensitive ecologically but should still be protected where possible. There are no major threats known to the streams and their quality.

A drainage area in the south of town bordering Windsor, the main stream being **Hewitt Brook** that drains to the West Branch of the Sheepscot are classified as Class A waters which are managed for high quality with limited human disturbance allowed. They have an aquatic life use goal approximately Tier 1-2 on the Biological Condition Gradient. Direct discharges are allowed but highly restricted. There are currently problems with beaver damns blocking the culverts of this stream causing low flow and other associated problems.

Finally the West Branch of the Sheepscot River where it flows through town to the south is classified as Class AA waters and are managed for their outstanding natural ecological, recreational, social, and scenic qualities. Direct discharge of wastewater, dams, and other significant human disturbances are prohibited. This stream has tiered aquatic life use goals that direct that the biological condition of this classification be approximately Tier 1-2 on the Biological Condition Gradient.

Meadow Brook that drains into the West Branch of the Sheepscot is classified as an impaired waterbody by the Department of Environmental Protection. This means that the stream as a water resource does not meet one or more of its designated uses such as drinking water, aquatic life support, fishing or recreation

as established by Maine's Water Classification laws. The main issue seems to be the levels of dissolved oxygen in the water. Its Total Maximum Daily Load (TMDL) level and plan was approved by the EPA in 2016 and at least is said to be stable.

These major streams are protected by a 75-foot Stream Protection Zone as directed in the Shoreland Zoning Ordinance. No development is allowed within this zone and timber harvesting is limited to selective cutting. Shade retention over brooks and streams is critical for fisheries habitat. Tree and shrub cover in general is beneficial for the riparian zone utilized by various wildlife species.

General Protection and Enhancement of Fisheries and Fisheries Habitat

Fish habitat is vulnerable to a host of land-based activities, which often leads to a loss of riparian habitat. It is good general policy to require 100 foot undisturbed buffers along both sides of any lake, stream or stream-associated wetlands. The buffers should be measured from the upland wetland edge of stream-associated wetlands. Protection of these riparian areas diminishes erosion/sedimentation problems; reduces thermal impacts; maintains water quality; and supplies leaf litter/woody debris (energy & habitat) for the system. Protection of these important riparian functions insures that the overall health of the stream habitat is maintained. In addition, smaller headwater and lower order streams are often affected the greatest by development and these systems benefit the most from adequately sized, vegetated buffers.

It is also generally recommended that any in-stream work be limited to between July 15 and October 1 to prevent unintended impacts to these fisheries resources.

The major waterbodies in China are comprised of both warm water fisheries and cold water species. Both China Lake and Threemile Pond are managed for brown and brook trout.

China Lake

China Lake is the undeniable main hydrological feature of China and maybe the biggest feature of the town. The 3939 acre Lake is situated at the western boundary of the town and on the Vassalboro border. The majority of the pond as well as its shoreline is within China. Its mean depth is 28 feet and maximum depth is 85 feet. A Depth Chart is included with the Water Resources Map.

China Lake has a direct watershed of almost 34 square miles, meaning that activities on all this land can directly affect the water of the lake, a regional approach would be required to protect water quality. The majority of the watershed is undeveloped forest but within a 500m buffer of the lake 70% is in natural land cover, 14% in agricultural land cover and 16% is in developed land cover.

The lake drains into Outlet Stream, then the Sebecook River, then flows quickly into the Kennebec River. Significant inlets are from Hunter Brook and the main stream that crossed 202 and the Pond road.

There are four public access points to the Lake, the first being at the northern end of the Lake and another at the western shore located in Vassalboro. Additionally there is the Town Landing Road access point and another unutilized site on Fire Road 44.

Volunteer lake water quality monitoring has taken place on China Lake in three places since 1970/71. Transparency as well as chemical measures have been sampled. The results show that it ranks the water quality of China Lake to be considered to be below average based on measures of transparency, total phosphorus, and Chlorophyll. There are no documented invasive species listed for China lake.

Unfortunately the Lake is classified as an impaired waterbody by the Department of Environmental Protection. This means that the Lake as a water resource does not meet one or more of its designated uses such as drinking water, aquatic life support, fishing or recreation as established by Maine's Water Classification laws. Algae blooms are recorded to persist within the lake. Its Total Maximum Daily Load (TMDL) level and plan was approved by the EPA in 2001 and at least is said to be stable.

The flushing rate of a lake or pond indicates how often the lake water is renewed. The ratio of drainage area runoff volume to the lake volume determines the flushing rate. Flushing rate is a key component of the water quality models DEP uses to predict changes in lake phosphorus concentrations. The average flushing rate is about 1-1.5 flushes per year for Maine lakes. The flushing rate for China Lake is between 0.67 and 0.72 flushes per year, showing a low turnover of water passing through the lake which may account for many of the water quality issues.

Water quality is still monitored by the State DEP and four certified volunteers and the Kennebec County Soil & Water Conservation District work to preserve and improve the water quality through education and implementation of conservation practices.

The China Regional Lakes Association is a group of residents who's mission statement is to:

- Educate the public regarding China Lake which is declared by Law as public property owned and controlled by the State of Maine for the benefit of the public;
- To educate the public regarding the restoration and protection of China Lake;
- To encourage, facilitate and disseminate scientific research regarding China Lake;
- Through education, fund raising and other proper activities, to guard the waters of China Lake against pollution, to preserve the environmental health of the China Lake watershed and to protect and enhance the beauty of the Lake and its adjacent area.

The use of a Phosphorus Control Method as a tool for the town to use for regulating development and phosphorus export to lakes is active within town as an active method of control for phosphorous mitigation. Lake Smart is also a tool that enables volunteers to give advice to individual land owners. Owners associations also work to improve and maintain camp roads and use natural barriers to prevent

runoff into the Lake.

The Kennebec Water District operates the dam at the outlet of the lake which has a effect of levels and flushing rates etc.

The Maine Department of Inland Fisheries and Wildlife (IFW) reports that China Lake provides marginal habitat for cold water fish but productive habitat for warm water fish such as those listed below:

American Eel *Anguilla Rostrata*
Banded Killifish *Fundulus Diaphanus*
Blacknose Dace *Rhinichthys Atratulus*
Brook Trout *Salvelinus Fontinalis*
Brown Bullhead *Ameiurus Nebulosus*
Brown Trout *Salmo Trutta*
Chain Pickerel *Esox Niger*
Common Shiner *Luxilus Cornutus*
Creek Chub *Semotilus Atromaculatus*
Emerald Shiner *Notropis Atheinoides*
Fourspine Stickleback *Apeltes Quadracus*
Golden Shiner *Notemigonus Crysoleucas*
Lake Trout *Salvelinus Namaycush*
Largemouth Bass *Micropterus Salmoides*

Ninespine Stickleback *Pungitius Pungitius*
Northern Pike *Esox Lucius*
Pumpkinseed *Lepomis gibbosus*
Rainbow smelt *Osmerus mordax*
Redbreast sunfish *Lepomis auritus*
Sea-Run Alewife *Alosa Pseudoharengus*
Smallmouth bass *Micropterus dolomieu*
Threespine Stickleback *Gasterosteus Aculeatus*
White perch *Morone americana*
White sucker *Catostomus commersoni*
Yellow perch *Perca flavescens*

The Maine IFW stocked the lake with 1,250 brown trout in 2018 and 650 brook trout.

Along with aquatic animals the Pond is also home to a wide range of plant life but unfortunately there are no specific documented species. It is likely that there are much the same species to be found as are listed for Threemile Pond below.

Loons

Loon counts on the pond take place regularly and the loon population seems to have initially grown then maintained well from the 80's onwards.

Table 16 – Loon Count over time – China Lake

Year	Adults	Chicks	Year	Adults	Chicks	Year	Adults	Chicks	Year	Adults	Chicks
1983	12	0	1992	33	0	2001	52	1	2010	39	1
1984	3	0	1993	14	1	2002	32	0	2011	No Data	No Data
1985	32	0	1994	36	2	2003	65	1	2012	33	0
1986	32	0	1995	53	5	2004	27	4	2013	34	0
1987	24	1	1996	35	0	2005	38	5	2014	No Data	No Data
1988	6	0	1997	35	0	2006	41	2	2015	No Data	No Data
1989	20	3	1998	39	0	2007	17	0	2016	40	2
1990	26	4	1999	39	0	2008	31	1			
1991	41	4	2000	37	1	2009	38	1			

Freshwater Mussels

These species of freshwater mussel are found within China Lake, no crayfish have been reported but may be present.

Eastern elliptio *Elliptio complanata*

Eastern floater *Pyganodon cataraeta*

Eastern lampmussel *Lampsilis radiata radiata*

Possible threats to water quality on the lake include the following:

- Septic systems
- Sedimentation from main and camp roads, driveways, Lakeview Drive and Route 202 drainage ditches
- Clearing for development, gardening, etc.
- Timber harvesting
- Agricultural runoff is the most significant threat

Other issues on the lake are invasive species threats such as Milfoil. As is usual this is aimed to be minimized by boat inspections, education about the problem and increasing awareness as well as regular inspections on the lake itself.

Threemile Pond

Threemile Pond is a smaller water body in town that is south of China Lake and borders Vassalboro and Windsor in the Southwest corner of town. The 1,174 acre Pond only has part of its shoreline within China. Its mean depth is 17 feet and maximum depth is 37 feet.

Threemile Pond has a direct watershed of almost 18 square miles, meaning that activities on all this land can directly affect the water of the lake, a regional approach would be required to protect water quality. The majority of the watershed is undeveloped forest but within a 500m buffer of the lake 89% is in natural land cover, just 1% in agricultural land cover and 10% is in developed land cover.

The lake drains northwest into Webber Pond that flows into the Kennebec River. Significant inlets are from a stream that drains from nearby Threecornered Pond and a few smaller streams from the north.

There is one major public access point to the Pond at the northwestern end at the end of Threemile Pond Road. This is in Vassalboro and is an easement on a piece of conserved land from Inland Fisheries and Wildlife.

Volunteer lake water quality monitoring has taken place on Threemile Pond in at least one place since 1977 with two more sample sites added in the 1980's. Transparency as well as chemical measures have been sampled. The results show that it ranks the water quality of the Pond to be considered to be below average based on measures of transparency, total phosphorus, and Chlorophyll. There are no documented invasive species listed for Threemile Pond.

Unfortunately the Pond just like China Lake is classified as an impaired waterbody by the Department of Environmental Protection. This means that the Pond as a water resource does not meet one or more of its designated uses such as drinking water, aquatic life support, fishing or recreation as established by Maine's Water Classification laws. Algae blooms are recorded to persist within the pond. It's Total Maximum Daily Load (TMDL) level and plan was approved by the EPA in 2003 and at least is said to be stable.

The flushing rate of a lake or pond indicates how often the lake water is renewed. The ratio of drainage area runoff volume to the lake volume determines the flushing rate. Flushing rate is a key component of the water quality models DEP uses to predict changes in lake phosphorus concentrations. The average flushing rate is about 1-1.5 flushes per year for Maine lakes. The flushing rate for Threemile is just 1 flush per year, showing a lower end turnover of water passing through the lake which may account for some of the water quality issues.

The Maine Department of Inland Fisheries and Wildlife (IFW) reports that Threemile Pond provides marginal habitat for cold water fish but productive habitat for warm water fish such as those listed below:

American Eel *Anguilla Rostrata*
Banded Killifish *Fundulus Diaphanus*
Blacknose Dace *Rhinichthys Atratus*
Brook Trout *Salvelinus Fontinalis*
Brown Bullhead *Ameiurus Nebulosus*
Brown Trout *Salmo Trutta*
Chain Pickerel *Esox Niger*
Common Shiner *Luxilus Cornutus*
Fourspine Stickleback *Apeltes Quadracus*
Fallfish *Semotilus Corporalis*
Golden Shiner *Notemigonus Crysoleucas*
Largemouth Bass *Micropterus Salmoides*

Pumpkinseed *Lepomis gibbosus*
Rainbow smelt *Osmerus mordax*
Redbreast sunfish *Lepomis auritus*
Rudd *Scardinius Erythrophthalmus*
Sea Lamprey *Petromyzon Marinus*
Sea-Run Alewife *Alosa Pseudoharengus*
Smallmouth bass *Micropterus dolomieu*
White perch *Morone americana*
White sucker *Catostomus commersoni*
Yellow perch *Perca flavescens*

The Maine IFW stocked the lake with 600 brown trout in 2018 and 300 brook trout.

Along with aquatic animals the Pond is also home to a wide range of plant life including the following documented species:

Aquatic moss spp. *aquatic moss spp.*
Arrowhead, spp. *Sagittaria spp.*
Bladderwort, common *Utricularia vulgaris*
Bladderwort, hiddenfruit *Utricularia geminiscapa*
Bulrush, spp. *Schoenoplectus spp.*
Bur-reed, floating leaf *Sparganium fluctuans*
Bur-reed, giant *Sparganium eurycarpum*
Bur-reed, spp. (emergent) *Sparganium spp.*
Hornwort, prickly *Ceratophyllum echinatum*
Naiad, slender *Najas flexilis*
Pickerel weed *Pontedaria cordata*
Pipewort *Eriocaulon aquaticum*
Pondweed, fern *Potamogeton robbinsii*
Pondweed, flat-stem *Potamogeton zosteriformis*
Pondweed, floating-leaf *Potamogeton natans*

Pondweed, red-head *Potamogeton richardsonii*
Pondweed, ribbon-leaf *Potamogeton epihydrous*
Pondweed, slender *Potamogeton pusillus*
Pondweed, spiral-fruited *Potamogeton spirillus*
Quillwort *Isoetes spp.*
Rush, bayonet *Juncus militaris*
Spatterdock *Nuphar variegata*
Sponge, freshwater spp. *sponge, freshwater*
Stonewort spp. *Nitella spp.*
Water crowfoot, white *Ranunculus aquatilis var. diffusus*
Water lily, fragrant *Nymphaea odorata*
Water marigold *Bidens beckii*
Watershield *Brasenia schreberi*
Waterweed, slender *Elodea nutallii*
Wild celery (eel grass) *Vallisneria americana*

Loons

Loon counts on the pond take place regularly since 1999 and the loon population seems to have stayed relatively stable over the years.

Table 17 – Loon Count over time – Threemile Pond

Year	Adults	Chicks									
1999	2	0	2004	7	1	2009	5	1	2014	4	4
2000	6	0	2005	4	1	2010	4	2	2015	4	0
2001	8	2	2006	6	3	2011	1	0	2016	5	0
2002	5	1	2007	4	1	2012	5	2			
2003	2	0	2008	2	0	2013	5	1			

Freshwater Mussels

These species of freshwater mussel are found within China Lake, no crayfish have been reported but may be present.

Eastern elliptio *Elliptio complanata*

Eastern lampmussel *Lampsilis radiata radiata*

Possible threats to water quality on the lake include the following:

- Septic systems
- Sedimentation from main and camp roads, driveways, Route 202 drainage ditches
- Clearing for development, gardening, etc.
- Timber harvesting
- Agricultural runoff

Threemile Pond is also protected under the towns Phosphorous Control Regulations and all the other water quality programs in the area including the China Region Lakes Association. It also has the direct connection to Webber Pond in Vassalboro that is working on opening up fish passage for alewives and other species.

Flood Hazard Areas

The areas to the north of both China Lake and Threemile Pond experience their share of flooding, and flood hazard areas present a real development constraint in many areas along the shore of China Lake. The village area in the north end of town and specifically Route 202 are directly in the 100 year verified flood zones and if the road were to be inundated then it would cut off a major area of town.

Like many in the region the worst flooding in recent memory was in the Flood of 1987.

Other flooding issues are the continued blockage of the Outlet Stream and the effect it has on the levels of China Lake including evidence of shore erosion. There is also localized flooding in the Park Lane area of town where failed culverts have led to some small scale flooding.

The Town's Floodplain Management Ordinance is up to date with federal requirements.

Groundwater

There are basically two types of groundwater sources for drinking water in China: bedrock aquifers and sand and gravel aquifers (an aquifer being a saturated geological formation containing usable quantities of water). It has been estimated that 70% of homes with private wells in Maine rely on bedrock aquifers for their drinking water. It is safe to assume that the majority of homes in China that rely on private water supplies are tapped into bedrock aquifers. A Maine DEP study found that bedrock aquifers are vulnerable to contamination by such things as fuel storage tanks or failing septic systems.

That is not to say that sand and gravel aquifers are not as much of a concern for contamination. This geological formation functions as an area of groundwater recharge, that is, precipitation filters through it to supply the aquifer with water. One source of contamination can ruin an entire sand and gravel aquifer; an aquifer which often serves many households and businesses.

China has two major sand and gravel aquifers that yield enough water (the majority with 10-50 gallons per minute, but two locations that flow greater than 50 gallons per minute) to sufficiently serve a group of homes or a public water supply. These run southerly from the southern end of China Lake to the Windsor town line. The other is in the south central area of town south of Route 3 and covering Dirigo Road. The locations can be found on the Water Resources Map.

Both types of groundwater sources can be contaminated by a number of activities including sand and gravel mining, salt storage, waste disposal, underground storage tanks, industrial/commercial activity, junkyards, agriculture, and failing septic systems.

Salt Storage - China's salt pile is located at the Alder Park Road Transfer Station property as is the now closed general Waste Disposal Landfill.

Underground Storage Tanks - most of the underground storage and fuel tanks in China are in the village areas and there are four gas stations within town.

Industrial/Commercial Activity - lumber yards, sawmills, gas stations, cement production, and the like can be potential threats to groundwater.

Junkyards - all the fluids associated with motor vehicles can create groundwater pollution over time. There are some diesel based operations in town also.

Agriculture - a main concern with agriculture is animal waste, leaching nitrates into the ground. A secondary concern is pesticides or other toxic materials in use.

Failing Septic Systems - septic system effluent contains high concentrations of nitrates. Over 10 milligrams per liter of water causes health problems in children. A faulty system can discharge large concentrations of nitrates rapidly, though even a functioning system under the wrong conditions will contribute to elevated nitrates. These conditions are most likely to occur on soils which are severely limited in permeability.

Public Water and Sewer

The town does not have municipal water or sewer facilities. Private or community wells and subsurface wastewater disposal facilities are used throughout the community. There are currently 19 public water systems licensed by the State. These systems provide water to commercial or larger users such as schools and mobile home parks.

The state has an active program of planning assistance to protect the sources of public drinking water supply. Table 18 lists 19 water supplies and their sources, with locations illustrated on the Water Resources map. Most of them are deep wells, fairly safe from surface contamination. The two sources that should be of concern to the town are the Weeks Mills System (spring-fed) and the Dirigo Mobile Home Park system (shallow well). These two water sources should be aggressively protected from contamination, partly through a system of land use restrictions within the recharge area (discussion in the Land Use Plan Section of the Recommendations).

Town-wide, the long term prospect is for the continued use of private water and subsurface wastewater disposal systems. Short of discovering widespread contamination, there is nowhere in town with the density of development or shortage of water that would warrant a new public water supply.

Table 18: Public Water Systems in China

PWS NAME	PWS TYPE	Comments
PWS TYPE KEY: C=Community NC=Non-Community NTNC=Non-Transient, Non-Community		
Acorns To Oaks Learning Center	NTNC	
China Dine-Ah	NC	
China Lake Conference Center- Bentley	NC	
China Lake Conference Center- Dillon	NC	
China Lake Conference Center- Suke	NC	No SWA *
Cleveland Street Retreat Llc	NC	No SWA *
Dirigo Mobile Home Park	C	
Erskine Academy	NTNC	
Gregs Place	NC	
Hannaford Store - South China	NTNC	
Lake Region Apartments	NC	
Landing	NC	
Little Learners Cdc Inc	NTNC	No SWA *
Pellerins Campground/Cottages	NC	
Rsu 18 China Middle School	NTNC	
Rsu 18 China Primary School	NTNC	
Subway Sandwich Shop	NC	
Weeks Mills Water System	C	
Kennebec Water District	C	Source is in China (China Lake)

* The Drinking Water Program has no record of a Source Water Assessment for this source

Source: *Maine DHS, Drinking Water Program*

Notes on definitions:

Non-Transient, Non-Community System is: A non-community public water system that serves at least 25 of the same persons for six months or more per year. Examples include schools, office buildings, factories.

Community Public Water System is: A public water system which serves at least fifteen service connections used by year-round residents or regularly serves at least 25 year-round residents. (Year- round is defined as permanent residence greater than six months.) Examples include water utilities, mobile home parks, apartment buildings, nursing homes.

Transient Public Water System is: A non-community public water system that serves at least 25 persons, but not necessarily the same persons, for at least 60 days per year. Examples include restaurants, camps and campgrounds, motels and hotels, and golf courses.

Protection Efforts for Natural Resources

China has long acknowledged the regional nature of the natural resource base of the town. Perhaps this is the upshot of living on a major lake and it being so prominent in town.

Unfortunately the Town does not currently have a main Land Use Ordinance containing development standards to protect natural resources but they do have some other ordinances to help protect them:

- The Floodplain Management Ordinance - has it been updated on a regular basis, is it currently in conformance with federal standards.
- The Shoreland Zoning regulations contained which complies with State standards, and is more comprehensive in some respects;
- Solid Waste Disposal Ordinance.
- The Town has taken some steps on its own to address water quality issues in the China Lake and Threemile Pond Basin. The Town adopted a phosphorus control ordinance, which limits the amount of phosphorus that can leave the site when a parcel is developed. On wooded lots, owners are restricted in the amount of area that may be cleared, while on open parcels or difficult sites applicants are required to plant or retain buffers or install engineered systems for controlling runoff.
The CEO works with residents to apply the standards of the ordinance as well as all the necessary state environmental regulations and those that apply from the National Resource Protection Act.
- One thing that could be considered as a protection for open space and natural resources is inclusion in the towns subdivision regulations of cluster or conservation incentives that will leave more land protected from development.

PART FOUR: RECREATION RESOURCES

Overview:

- Recreational opportunity occurs largely through efforts of local volunteer groups as there is no formal department of the town, the town has two Recreation Committees with different purposes and a Thurston Park Committee.
- China has a few opportunities for passive recreation
- The major assets of the town are Thurston Park and the Schools playing fields and trails.
- China has an ATV / snowmobile club that organizes their activities and maintain trails systems for this use in town.
- Most other recreational opportunities are found close by in the Waterville / Winslow or Augusta area which include facilities for indoor ice skating and swimming etc.

The China Recreation Committees

The town has a recreation committee appointed by the Select Board that provides planning and oversight for programs and coordinates with other recreational groups and organizations. It has seven members and meets on an as needed basis.

A second recreation committee called China Rec Sports is made up primarily of parents of Pre-K through 6th grade children. These volunteers are elected by parents of China Rec Sports participants. In 2019 a 3rd recreation committee (China Youth League) was merged into China Rec Sports. This committee runs a soccer recreation program in the fall for Pre K to 6th grade, a basketball program in the winter for Pre K to 6th grade, and youth baseball and softball (for ages 5 through 12).

Youth football is run independently from the town and is for K to high school. All of these programs are run independently of the town.

The town does own the lighting of the multi-use playing fields adjacent to the schools. Users of the fields have reported that they are required to pay for the use of the lights. This has almost entirely eliminated the use of the lights.

Table 19: Public Facilities in China and the Region:

Name of the Facility	Location and Brief Description
Thurston Park/Forest	380 acre forest site in the northeastern corner of the town (town owned)
China School	Ball fields with outdoor lights and playground (town owned)
China School	Demonstration Forest and trail (town owned)
China Lake Boat Launches	Public boat launch area located on the Causeway Public boat launch located at the southern end of the lake Public boat launch located in Vassalboro Hand carry put-in at Alder Park Road (not utilized)
Town Museum	Located next to the Town office. Museum is open by appointment.
Three Mile Pond	Boat launch located in Vassalboro
Lake St. George	Located on Route 3 in Liberty the State park offers swimming, camping and picnic areas.
Damariscotta Lake	A 19 acre state facility that offers swimming and picnic areas.
Arboretum	Located in Augusta the facility offers 16 acres of trails.
Alonzo Garcelon Wildlife Area	Located in Windsor and Augusta the facility offers trails and shore frontage along Moody Pond

Thurston Park

Thurston park is a 380 acre town owned parcel located in the northeast corner of China. The parcel is mostly forested and trails access most of its areas. The park has its own committee to help manage the asset. Recently the town has approved the allocation of TIF monies to go towards the cost of some road improvements in the park.

Thurston Park continues to be quite popular, with several people using the park on a regular basis for hiking, biking, running, hunting, walking and training dogs, snowmobiling, and riding ATVs. The park is not only popular with town residents, both permanent and seasonal, but attracts residents from neighboring towns and visitors from all over the country

Recently Harold Burnett from Two Trees Forestry has developed a plan for the park which included some wood harvesting. This was carried out in July and August of 2017 and involved areas east of the Yorktown Road. Because of previous heavy logging activities, there was not a high yield of marketable trees, but did produce necessary thinning and improvement of the forest.

The harvest did yield approximately \$9,000. These monies will be used for maintenance activities at the park.

The committee also worked to improve access to the park from the north end. Work was done to clear back the trees and brush away from the road so that ditching and crowning of the road could be done. This will help with drainage to prevent the washouts that have been problematic in the past. Opening the canopy will allow more sun to enter and further dry up the roadway, hopefully preventing some of the problems with “mud season”. The rickety old bridge across the stream was removed and a new culvert was placed with a gravel roadway. A “beaver deceiver” was placed at the culvert to prevent further flooding caused by beaver activities.

These improvements should create much better access into the park. New gates were installed at both the north and south entrances to prevent vehicle traffic in the park except for snowmobiles and ATVs.

Plans for improving the south entrance are continuing and we hope to carry that out in the next year or so.

The beaver deceiver that was installed to prevent the beavers from obstructing the culvert and causing flooding of the north entrance road to the park.

The committee continually works on trail work in the park and the bog bridging on the Deer Trail was completed in spring of 2017. The trail to the monument marking the corner of Albion,

Palermo and China needs extensive work that is planned for this coming year. There is an estimated 5.2 miles of trails in the park as of 2019. These trails are intended to be multi use for hiking, biking, snowshoeing and skiing.

The committee continues to work on several other projects. Improvements in the picnic area including the addition of a composting toilet are planned for 2018.

Table 20: Private Recreational Facilities

Name of the Facility	Location and Brief Description
Erskine Academy	Ball Fields, tennis courts and track, located on Route 32 south.
Four Season Club	Club is located on Lake View Drive and offers a beach area and maintains the snowmobile and ATV Trails
China Lake Conference Center	Located on the Neck Road the facility is used for meetings and functions. A gym and indoor walking is available.
Pellerin Campground	Located off of Route 32 north.
GO Tubing Inc.	Alder Park Road – Snow Tubing, Ziplines and Disc Golf.

Outdoor Recreational Opportunities

Hunting & Fishing

Many China residents take part in the traditional outdoor activities of hunting and fishing. No problems regarding access to private land have been raised as concerns. Wildlife habitat is generally thought to be in good shape. There are no organized hunting or fishing clubs in China but some in the surrounding area. Private lands are generally open for the traditional outdoor recreational activities: hunting, fishing, hiking, and skiing.

China Lake and Threemile Pond both offer good fishing opportunities and there are regular organized Bass Fishing Tournaments on China Lake.

Swimming and Boating

China Lake does have two public boat landing sites in China and one in Vassalboro. There is not a public beach or park on China Lake; however, swimming is available on a fee basis at the Four Seasons Club. It would be prudent for the town to develop a strategy to improve public access onto the lake.

ATV and Snowmobiling

Aside from private riding there is the China Four Seasons Club in town which offers several recreational benefits. Members can make use of the beach, dock, and picnic area for them and their family. The Club also organizes trail rides for both ATVs and Snowmobiles and provides sponsored safety courses and programs. Their revenues support trail maintenance, improvement, and expansion. An estimation on the Snowmobile Trails in town are included in a attached map (these are an approximation and should not to be used as an official map or for navigation, nor is this map an accurate depiction of land owners permissions etc.). There are roughly 32 miles of snowmobile Trails within town which connect to other trails in neighboring communities and then link up to the Interstate Trail System.

Other Outdoor Recreation

Trails

A popular recreational activity for all ages especially adults is the availability of walking and biking trails. Currently Lake View Drive has adequate shoulder width to handle bike and walking traffic. An informal route that circles around China Lake is considered an attractive ride although there are some spots that might be difficult with no road shoulder etc. Other opportunities for additional trails may be found in Thurston Park and at the school forest area, along other roadways and through private land with landowner permission. The Central Maine Power transmission line right-of-way is used for hiking, cross country skiing, and ATV use.

The former Narrow Gauge Rail Line is a potential inter-community trail site. Currently portions of the rail line in Albion are used for the winter snowmobile trail. Expanding into a year round access trail would require the support, permission and cooperation of all the property owners in addition to support from neighboring communities. The Recreation Committee in Albion has begun exploring the potential for a year-round trail.

Parks and Recreation Facilities Comparison Table

The Bureau of Parks and Lands (BPL) provides community recreation facility guidelines using both small town averages and the Bureau's own suggested standards. The table below shows (column 4) the BPL standard for China's population of 4,100. The comparison is intended to show how local recreational facilities and programs compare with other small communities. Only public and town facilities are shown on the table.

Table 21:

Activity	China has:	Small Town Average	BPL Standard for community of 4,200
Park Acreage	380 acres	42 acres	n/a
Baseball Fields	1 field	1.8 fields	.70 fields
Softball Fields	2	1.7 fields	1.3 fields
Multi-Use Fields	2	1.7 fields	.90 fields
Basketball Courts	2	1.7 courts	2 courts
Tennis Courts	-0-	2.4 courts	2 courts
Recreation Halls	-0-	.41 halls	4 halls
Playgrounds	2 playground	2.3 playgrounds	2 playgrounds
Picnic Tables	3	10.3 tables	8 tables
Swimming Pools	-0-	3,251 square feet	4 pools
Boat Ramp & Vehicle Parking	4 spaces (More under development)	18 spaces	n/a
Nature Trails	School forest Thurston Park	1.3 miles	4 miles
Exercise Trails	-0-	n/a	4
X Country Skiing	Thurston Park	4.5 miles	4 trails
Ice Skating	Lake/Pond?	11,152 square ft	n/a

China appears to have an adequate inventory of public recreational facilities and activities. Many other activities are also available at private facilities both in China and in neighboring communities. Recreational activities that citizens identified in the public opinion survey should be addressed are illustrated below.

Planning Concerns and Issues

- Access to China Lake is probably the highest-priority issue. While there are three boat ramps (including Vassalboro), there is inadequate parking. Ideally, the Town should have a public park on the lake with picnicking, beach, and boat access.
- More formalized Biking routes with attention paid to safety (bike lanes or wide road shoulders) would be ideal within town.
- There appears to be a demand for youth recreation facilities. A new community park, with ballfields, tennis courts, and specifically a community building would address this need, as would expansion of the town and adjacent school facilities.
- There are also limited opportunities for senior recreation. This need will become more pressing as the baby boom age class begins to retire in the next decade. Since seniors are less likely to use outdoor facilities, this deficiency would best be addressed with a community building and new program offerings. These should really be looked into to integrate with any senior housing developments that might occur in the future also.
- As the town develops in the long term, access to private lands for passive recreation will diminish in some capacity. The town could choose to address this with a long-term open space plan for acquisition of conservation and public access lands or rights. At present however the ownership and management of Thurston Park seems to be sufficient. There were two failed attempts of public land acquisition working with Land for Maines future in 2014 and 2018, which shows how difficult such activities can be.
- Recreation facilities have a history of being classed as discretionary public services rather than essential, and funding suffers as a result. The Town can get more bang for its buck by ensuring cooperative efforts with neighboring towns such as Palermo, Albion, and Vassalboro. The Town can also seek greater participation in state and federal funding for recreation, through grants or other programs.

PART FIVE: LAND USE AND DEVELOPMENT

Community Overview:

China is a rural town between the larger regional service centers of Waterville and Augusta. As such, it contains few elements of institutional, commercial and industrial development, and is principally residential and rural land uses. The town consists of small village areas that contain the majority of development in the town around China Lake. Most other development is on the main road corridors through the town and there are denser areas of residential development on the Lake shore.

China gained traction as an industrial town during the 19th Century into the 20th, with sawmills and tanneries that utilized water power where it was available. This enabled it to create a small concentrated urban core but with no real other village centers. The connection of the old narrow gauge railroad also helped the town grow.

By having a small but reasonably stable population over the past few decades, China has managed to avoid much of the sprawl and strip development characterized in much of central Maine. The distance away from I-95 has meant there are no commercial clusters that are often associated with interchanges in a town.

Industrial and Commercial Development:

China, like many colonial towns, developed a water-powered industrial center surrounded by farm and forestland. Over the years, since World War II, China has struggled to keep a good base and has not been able to replace it with the retail trade or service businesses and the town became one of the "bedroom" communities of the region. The removal of rail service to the town in 1933 and its distance away from I-95 has undermined the area's competitive advantage in transportation.

Commercial development has historically located in the villages, but it, too, is spreading out. In the case of commercial growth, major businesses tend to locate with easy access to Routes 3, 32, or 202/9. Many smaller enterprises, such as home occupations and single-person businesses, can also be found along rural roads.

Looking ahead, it seems logical that development opportunities will continue to be on the 202 corridor, especially the south west area of town, the junction with route 32 to the south is another area that is likely to prime for development. The only other area may be at the northern area of town on 137 near China village.

The Institutional and Service Sector:

There are a good range of businesses within China that provide critical services to people throughout the town and region. However there is little in the way of healthcare, insurance, or financial services available in China. The area experiencing the most dramatic growth in China, however, is secondary education, however recent drops in k-8 enrollment have recently eliminated several teacher jobs (some vacant and some occupied). This is most apparent at the K-4th level where classes have been merged and portable classrooms have been removed and sold.

The Erskine Academy and the school district are some of the biggest employers in town and are central to the service economy in the town.

Economic development and an attractive, thriving community work hand-in-hand. Having access to an educated workforce looking for work when leaving education is attractive to companies looking to relocate.

Retail Development Patterns:

Like many small rural towns in the region, China has experienced a gradual but steady decline in its retail sector since the interstate was built. Numerous highway-oriented businesses, particularly fast food and retail chains, have chosen to locate further northwest and southwest closer to the interstate where they have increased traffic numbers. The competition has affected China's village districts. While this trend has been a growing problem for China's retail sector over the last 25 years, the situation has particularly hurt the village areas where more businesses are scattered through town or on the Route 3 corridor.

China is not a town comprised of fast-food chains and has a chance to try and develop some unique retail options with a specific appeal. There is an opportunity to consciously formulate the future character and direction of the village areas, and to develop even more attractive entrances to China. The Town is faced with a challenge and opportunity -- to find a way to reconfigure its denser areas to take advantage of the link between needed goods and services and the number of consumers within China's market area, particularly those many who pass through town or are coming to visit the lakes and ponds in town. The village centers are the hubs of the community, as well as critical contributors to the retail sector.

The Village areas:

Since the late 1960's, China's village areas has been in decline, arising largely from the construction of I-95 and from the growth of large shopping centers in Waterville, Augusta and Bangor. Prior to the opening of I-95, more of the traveling public passed through the village areas of China and patronized its shops.

China's four villages are vestiges of an earlier development pattern, albeit fairly healthy ones.

Each village is characterized by a mix of cultural, commercial, and residential buildings. Some have greater potential for new development than others, based on available land.

Agriculture and Forestry

Agriculture and forestry were the original engines of China's economy. Though its importance as economic drivers has decreased over the years, farm and forest land also provide open space critical to our community's character and it provides protection of the environment, including wildlife habitat.

Farm and forest land also provides a buffer against high taxes. Tax studies have demonstrated that farm and forest land has a higher ratio of tax revenue to service demands than any other form of commercial or residential development. That means farm and forest landowners subsidize the tax base of developed properties.

This section profiles the current condition of farming and forestry, and how we can better support these activities in China.

Agriculture in the Community:

Commercial farmland is that land which is being used in the cultivation and production of food and/or fiber. China's farmland provides many benefits to our community.

The capacity to produce food locally is a tremendous asset for a community, too often taken for granted. Most of the food Maine people eat is imported from either western states such as California, or from foreign countries. As a result, our food supply could be interrupted or threatened for any number of reasons. Production from local farms can make a substantial contribution to food security in the community.

Local farms also contribute to our economic stability. Farms generate local revenue. Jobs are created to work the farm as well as process the crops at harvest time. On average, each dollar spent on farming becomes seven dollars in its impact on the local economy. As far as taxes, farms on average pay six dollars in property taxes for every dollar of government services they use. This is a significant contribution to the economic well-being of a community.

Finally, local farms contribute to the quality of life in the community. By keeping farmland as farmland rather than developing it, scenic vistas and open space are preserved, enhancing the aesthetic qualities of the town.

Local Farms

We often think of farming as a way of life that is immutable and unchanging. But, like many other economic sectors, agriculture has re-invented itself over the past few decades to become more nimble and viable.

Principal farming enterprises in China have historically been poultry, dairy, livestock, and fruits and vegetables. Recent trends in Maine and elsewhere indicate that small, specialty farms are growing and replacing large, commodity-based farms. Large farms require prime farmland, hired labor, and transportation infrastructure, and support services. Small farms require only a local market for their products. Small farms can be managed part-time on small parcels of land, can specialize in niche products and value-added, and are flexible enough to shift products.

The US Department of Agriculture conducts a county-by-county census of farms every five years. In 2012 (most recent data available), there were 604 farms in Kennebec County, an increase of 149 (32 percent) over 1992. Even though the average size of a farm went down (from 193 to 129 acres) during that time, the number of farmers rose from 494 to 998 (one-third of them women) and the gross income from farms went from \$40.3 million in 1992 to \$49.8 million in 2012. That does not include value-added products, such as jams, cider, and maple sugar that many modern farms are so good at.

The recent public emphasis on “local” and “organic” is an effort to highlight the importance of small farms. Examples of small farms are local vegetable stands, Christmas trees, pick-your-own strawberries, maple syrup producers, and nursery operations. They market their goods direct from the farm or through farmers markets, which have also seen explosive growth in 20 years.

The table below lists most of the farming operations in China:

Table 22:

<u>Farm Name</u>	<u>Activity</u>	<u>Location</u>
Two Loons	Dairy, vegetables (organic)	East Vassalboro Road
Ben and Molly's	Christmas trees, pumpkins	Hanson Road
Raider's Sugarhouse	Maple Syrup	Bog Brook Road
Wye Farm	Hay (organic)	Weeks Mills
Full Fork	PYO strawberries, greens	Dutton Road
Dig Deep	Vegetables	Vassalboro Road
Haskell	Livestock, Dairy (organic)	Mann Road
Meadowbrook	Vegetables, beef (organic)	Stanley Hill Road
Bradbury Christmas Trees	Christmas Trees	Lane Road
Fredriksons	Dairy	Danforth Road
Michaud's	Corn / Dairy	Hanson Road
Stevens Farm	Diary	Pleasant View Ridge
3 Level Farm	Vegetables	Rt 32

Farm Support Efforts

The Maine Legislature declared in the Farm and Open Space Tax Law (36 MRSA, s.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.” Farmland is eligible for this valuation-reduction program if it consists of at least five contiguous acres in a single town, and has shown gross earnings from agricultural production of at least \$2,000 during one of the last two years, or three of the last five years.

This program enables farmers to operate without the additional burden of market-based property taxes. The land is not taxed based on its fair market value, but its production value, a significantly lower value in desirable towns like China.

As of 2017, there were 32 tax parcels in China registered in the Farmland Program. This included 674 acres of farmland and another 1,400 acres of woodlot, for almost seven percent of our total land area.

There are many other publicly-sponsored programs to support local agriculture, from the Sustainable Agriculture Program at the University of Maine, to the Farmlink Program of the Maine Farmland Trust (headquartered in Unity), which matches prospective farmers in search of land with retiring farmers in search of successors. The Maine Organic Farmers and Gardeners Association certifies organic farms and assists with marketing and technical support. The Maine Department of Agriculture, conservation, and Forestry (DACF) has over past

several years, put a great deal of effort into marketing local food, from promotions like Maine Maple Sunday and Open Farm Days, to support for farmers markets and farm-to-table for schools and institutions.

Prime Farmlands

Prime farmland is that land which is superior for the production of food, feed, forage, and other crops. Prime farmland has the soil quality, growing season, and moisture supply needed to produce a sustained high yield of crops while using acceptable farming methods. Prime farmland produces the highest yields and farming it results in less damage to the environment. *It is not necessarily farmland currently in production.*

One component of prime farmland is the soil type. The *Prime Farmland Map* in this plan shows prime farm soils. Certain soils have qualities that result in higher fertility and growth rates. However, due to the decline of traditional farming operations and methods, prime soils are no longer a principal factor in preserving agriculture. The new farming paradigm depends much less on the intrinsic fertility of the soil, and more on access to markets.

Commercial Forestry in China

Forest lands are defined by the State as land used primarily for the growth of trees and forest products. About three-quarters of Kennebec County, and about two-thirds of China, is wooded. This vast area, intermittently broken by farmsteads and recreational and urban areas, provides the base for employment, in the woods, in transportation, and in mills and lumberyards, for many people, contributing materially to the economy of the area. It goes without saying that the forest that covers two-thirds of the town also provides many taxation, environmental, and recreational benefits to the community.

According to reports on the forest resource in Kennebec County, about 25 percent of the wooded area is in the white pine/hemlock forest type. The spruce and balsam fir forest type is predominant in the northern area and in low-lying areas of organic soils – it covers about 40 percent of forest land area. Northern hardwood, consisting mainly of birch, beech and maple, is also an important forest type and covers approximately 12 percent. Other hardwoods in the elm/ash/red maple and the aspen/birch forest type cover approximately 29 percent.

Some harvesting of timber does occur in China, though these operations are generally limited to small wood lots – no industrial forest holdings. Statistics provided to China from the Maine Forest Service indicate that in the ten-year period from 2007 to 2016, an average of 415 acres per year was cut in China. One hundred and ninety acres were either clearcut for regeneration

or change of land use, 1,057 were cut by a shelterwood method (a method of cutting a mature forest while leaving enough trees standing to reseed) and over 3,000 acres were cut selectively. There are several parcels of land in China being managed for forest production, though no definitive inventory of them is available. This includes certified tree farms, tree growth parcels (which require management plans) and Christmas tree operations (which are often classified as farms, due to the short rotation cycle).

Table 23: 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
2006	158	92	15	265	2	25
2007	589	40	16	645	22	29
2008	294	0	0	294	9	27
2009	208	70	0	278	14	41
2010	142	60	0	202	1	35
2011	266	98	0	364	61.4	43
2012	448	325	0	773	20	42
2013	362	255	10	627	11	34
2014	151	38	0	189	1	27
2015	153	20	0	173	11	17
2016	537	151	0	688	14	22
Totals	3308	1149	41	4498	166.4	342

Tree Growth Program

The Maine Legislature declared, in the Tree Growth Tax Law, that the public interest would be best served by encouraging forest landowners to retain and improve their holdings of forest lands upon the tax rolls of the state and to promote better forest management by appropriate tax measures in order to protect this unique economic and recreational resource. The Tree Growth designation includes all parcels of forest land over 500 acres in size and, at the discretion and application of the owners, to parcels less than 500 acres but more than 10 acres in size. It permits valuation of forest land on the basis of its potential for wood production as opposed to market value.

Enrollment in Tree Growth is just a way of lowering your taxes, so some landowners choose not to enroll their forest land because of the program rules or other reasons. Land enrolled in the Tree Growth program is a little under ten percent of China's land area, which means that the majority of wooded land in China is not enrolled in the program.

Based on the 2017 Municipal Valuation Statistical Summary, China has 53 parcels of land registered in the Tree Growth designation. Those parcels cover a total of 2,993 acres: 26 percent softwood, 22 percent hardwood, and the remainder mixed. This enrollment is a slight increase over 2005, when a total of 2,604 acres on 47 parcels of land were registered, and almost double the acreage reported in 1991.

Town Forests:

The Town owns approximately 380 acres of Thurston Park Forest which is a managed for recreation, wood harvest and wildlife habitat. The town also owns the School Forest property adjacent to the Primary School.

Issues Affecting Farm and Forest Lands

The greatest threat to farmland and productive woodlands is sprawl. As the population increases, more residential areas will be needed. The best farmland and level woodland are typically very suitable for building; these areas are considered prime areas for residential and commercial development. The forest harvesting statistics cited earlier indicate that an average of 16 ½ acres per year are being taken out of forest into some other land use.

In order to remain productive and continue to be an environmental asset, farm and forest lands must also be managed sustainably. This means following management practices that have been proven to conserve the growing capacity of the land. Organic certification, for farm practices, and sustainable forestry certification from Maine Sustainable Forestry Initiative, are two examples of ways that landowners can achieve this.

Governmental Protection Measures

1. The Farm and Open Space and the Tree Growth Tax Laws are two very good ways to protect these economically and environmentally important areas by lessening taxes and the incentive to sell land for development.
2. The Shoreland Zoning Law and Subdivision Law provide communities a means to review development plans and have them modified if necessary to limit the impacts on farm and forest land. The subdivision law actually has provisions to discourage liquidation harvesting of parcels prior to subdivision.
3. Other state laws support continued efficient operation of these businesses, such as the Right to Farm Law and the Forest Practices Act.

4. Local land use ordinances: China requires a Notice of Intent be filled out by a landowner prior to timber harvesting (defined as cutting more than 10 cords per year for profit.) Additionally like most communities it has ceded the regulation of timber harvesting in the Shoreland Zone to the Forest Service.

China's Rural-Urban Balance:

According to the 2010 Census, 100 percent of China's population lives in a rural area. Considering that the urban area is considered “densely developed residential, commercial and other nonresidential areas” that does not seem out of line. As a result of this designation there is no real way to try and track the balance of people who live on town services such as the water and sewer district but any shift has implications for our economy and for our ability to deliver public services.

This creates strain on the other major public facility -- and the one with the greatest public investment -- the transportation system. The further people move from the centers of commerce and activity, the more miles they put on public roads.

Public sewer and water service would also be affected if China was to have a publicly run system.

Open Space:

Any growth in housing in the rural area, while significant, is usually limited to road frontage and diminished by the sheer size of the town itself. If we assume an average of one acre per home, the total area of rural China devoted to housing would amount to about 4 square miles, out of a total rural area of about 35. The remaining land is undeveloped.

Table 24: Undeveloped Land Acreage	
Tree Growth	2,993
Farm & Open Space	2,074
Other know areas	<ul style="list-style-type: none"> - Kennebec Water District Land - Town and Private Cemeteries - Thurston Park - School Forest and Fields

Above is the major portion of undeveloped land in China. It does not include several tracts of forest or farmland, but does indicate a general pattern (see *Existing Land Use Map*). Tree Growth accounts for thirteen percent of the rural land base.

There is very little officially conserved land in China so little could really be said to be permanently undeveloped. Tree Growth and Farm/open space land is preserved by tax policy, and could be developed if tax policy or development values change significantly. As seen on the map, there is only development along the roadways in town and by the lake/pond shores, so open space does not seem to be in any short supply whatsoever. The only pressure seems to be for residential development on the shore of the Lake as this is a finite resource that is almost fully used.

Subdivision Development:

New subdivisions tend to reflect patterns in development. Subdivisions are regulated in China by State Statutory ordinance. Since 2010 there have been no recorded subdivision developments in town, only some minor revisions to existing ones. This shows that there has been a marked decline in concentrated residential development as in the previous decade there were close to one hundred new residential lots created by subdivision. This may have been due to the housing market crash making it a poor choice at the beginning of the decade and no real demand for these type of developments growing as the economy improved. This is not, however, the total story on development patterns in China.

Current Regulations

China's Land Use Ordinance is based on shoreland zoning but adds a rural district, with a 40,000 square foot minimum lot size, a requirement for building permits, and some performance standards. China has a separate Phosphorous Control Ordinance, which adds development restrictions on properties within the China Lake and Threemile Pond watersheds. The Phosphorous Control Ordinance usually has the effect of requiring larger lots within the watersheds.

Lot requirements include lot size or area [principal structures (residential): 40,000 square feet; principal structures (commercial) 60,000 square feet] and shore frontage (200 feet-residential and 300 feet-commercial), in the Resource Protection, Stream Protection, and Shoreland Districts. There is a maximum lot coverage percentage that varies based on watershed.

New commercial/industrial development and expansions require a Conditional Use permit that carries additional requirements.

China's Subdivision ordinance follows the standard State guidelines.

PART SIX: BUSINESS AND THE ECONOMY

Highlights of the Economic Profile:

- The town of China is not a well-recognized employment center for the area. The vast majority of China's workers commute to out-of-town jobs, while around 600 non-residents commute into China to work. Only about 5 percent of the jobs in the labor market area are in China.
- In 2017, China had a labor force of 2,239 workers, with about a 53:47 men to women ratio. It averages out to 1.32 workers per household.
- China's unemployment rate during most of the 2000's averaged around four to five percent. The rate grew to a high of 7.6 percent during the national recession in 2008-2009, but has been slowly dropping back since then, standing at about 3.2 percent in 2017, effectively full-employment.
- China has a limited mix of commercial and industrial employers, with Hannaford Supermarket being the largest. Health care and education industries are by far the town's resident's largest employers. About 78 percent of workers are in the private sector, either self-employed (7 percent) or working for wages (70 percent). 22 percent work in the public sector.
- The town faces challenges familiar to the region of maintaining an economic base for its residents and prevent any more decline in jobs and population.

As with many central Maine communities in recent times, China has had a challenge with regard to economic development, in most industry sectors. The Historic Profile outlines the active role that community leaders and citizens in general have played in purposefully attracting employment and tax base to China throughout its history. These efforts continue to this day, as the Town must try to keep up with shifts in economic activity that has shifted from manufacturing and agriculture to a more service-oriented economy, as well as changes in retail consumption patterns.

This chapter seeks to describe current conditions, outline China’s role in the regional economy, identify the town’s numerous economic development assets, examine visible trends and areas of need, incorporate public sentiment and lay out a direction and strategy to guide the Town’s economic development efforts for the foreseeable future.

China’s Role as Regional Employment Center:

China is a reasonable source of labor for the region, with an estimated 2,168 townspeople working (employed). As one can see from the table below, only a small fraction of China workers hold jobs in town, with the next largest number of workers coming from Augusta and Waterville that only represent a tiny amount of their total labor force. The majority 284 come from numerous assorted towns combined. In total there are an estimated 774 people working jobs within the town.

Town of Residence	Employed Workers in 2017	Working in China in 2017	Percent Employed in China	2017 Unemployment Rate
China	2,168	167	7.7%	3.2 %
Vassalboro	2,161	52	2.4%	3.3%
Palermo	804	48	6.0%	2.8%
Waterville	7,158	43	0.6%	3.9%
Augusta	8,765	41	0.5%	3.3%

SOURCE: 2017 Civilian Labor Force Estimates,; (Maine Department of Labor), 2016 U.S. Census ACS

Where the vast majority of China residents go to work is illustrated in table 27. The largest destination for work is, unsurprisingly, nearby Augusta with the other larger towns/cities picking up the majority of the rest. This supports the idea of China mainly as a “bedroom community” rather than an employment center itself.

TABLE 27: Commuting Patterns		
Town of Employment	Coming from China in 2015	% of total workers commuting outside town
Augusta	476	26.5%
Waterville	192	10.7%
Oakland	65	3.2%
Portland	53	2.9%
Bangor	47	2.6%
Employing 30-50: Winslow, Auburn, Chelsea, Fairfield		
SOURCE: 2015 Civilian Labor Force Estimates," (Maine Department of Labor), 2015 U.S. Census		

The average commute took 27.1 minutes in 2010, but has increased slightly to 29.2 minutes in 2016, suggesting that a lesser percentage of residents may work in China now, or that commuting distances have steadily increased as more employment opportunities are created outside of the region.

China is part of the Augusta Labor Market Area (LMA), which is how most Department of Labor (DOL) statistics are organized. The Augusta Micropolitan LMA currently encompasses 22 towns, including the following though boundaries can change every ten years:

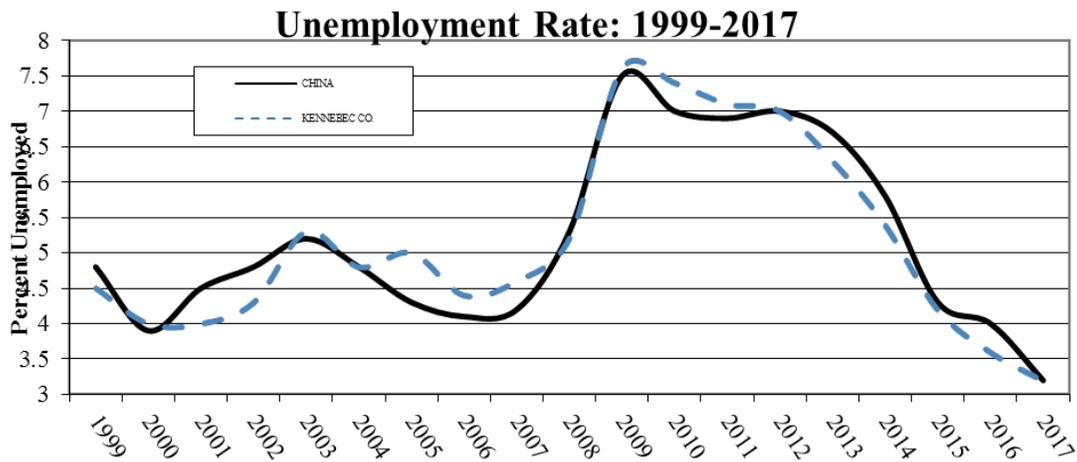
- | | | |
|--------------|--------------|---------------|
| Augusta | Manchester | Somerville |
| Belgrade | Mount Vernon | Vassalboro |
| Chelsea | Palermo | Wayne |
| China | Pittston | West Gardiner |
| Farmingdale | Randolph | Whitefield |
| Gardiner | Readfield | Windsor |
| Hallowell | Rome | Winthrop |
| | Sidney | |

The total labor force in the LMA, as of 2017, was 41,025, with China comprising only about 5.46 percent of the workers and also the same percent of the employment. With China providing its fair share of employment in the LMA, it is not surprising that the unemployment rate for the town and LMA are about the same at 3-3.2%.

Local Labor Force and Employment

In 2016, China had a labor force of 2,242, according to the census. Census numbers are based on a statistical estimate; Department of Labor numbers are considered more accurate and its estimate for the beginning of 2017 was 2,239. The total working age population is 3,440. The census provided that those in the labor force contains an estimated 1,182 males and 1,060 females. That is 65.2 percent of all working-age males and females. (The census defines “working-age” as everyone over 16 years of age, regardless of whether they are retired.) That is an average of 1.32 workers for every household. In 73.7 percent of households with young children, both parents worked.

The recent history of the unemployment rate in China and in Kennebec County is illustrated in the graph below. Both lines follow the statewide and, indeed, national trends in the economy. The recession beginning in 2008 interrupted what was a reasonable positive trend. China’s unemployment rate has been above that of Kennebec County through the recent past. China’s unemployment rate climbed to 7.6 percent in 2010, but fell back to 3.2 percent in 2017.



The census categorizes workers by the type of industry they work in (table below) and their occupation (table overleaf). “Industry” refers to the type of business they are employed in, and is a good measure of the strength of various industrial sectors. “Occupation” refers to the type of job a worker does, and may indicate trends in education, salary levels, and opportunities for future growth.

A diversity of employment opportunities available to area residents is reasonable for the community. In 2016, employment in the education and health care industries led the way by a large margin; three other sectors – manufacturing, retail, and professional – were the next largest groups. This is quite consistent with national trends, where any form of service-based economy is on the rise. With local schools and hospitals in the area, an increasing number of jobs in education and health-related occupations are likely to remain available.

Industrial Sector	Number of Workers	Percent of Workforce
Agriculture, forestry and fisheries	78	3.77%
Construction	147	7.11%
Manufacturing	238	11.51%
Transportation, Warehousing & Utilities	33	1.60%
Wholesale trade	39	1.89%
Retail trade	244	11.80%
Information Services	44	2.13%
Insurance, Real Estate, Finance	89	4.3%
Professional, Scientific, Management	181	8.75%
Education and Health care	659	31.87%
Entertainment and recreation services	134	6.48%
Other services	80	3.87%
Public Administration	102	4.93%

Source: American Community Survey (2012-16)

Almost one-third of China’s workers are in an Education or Healthcare occupation assuming they work in the local school system or nearby hospitals and health systems. There is a significant amount employed in management and professional positions which are usually the higher salaried jobs. It would be useful to determine which of these occupational categories is changing over time, but the census bureau shuffles them every few years to account for new

OCCUPATION	No. of Workers	Percent of Workforce
Managerial and Professional	682	33.0%
Sales and Administrative	490	23.7%
Service Occupations	354	17.1%
Natural Resources or Construction	281	13.6%
Production, Transportation	261	12.6%

Source: American Community Survey (2012-16)

occupations arising. One notable figure is the manufacturing jobs which has decreased by 38 jobs over the last 6 years.

Among China workers, 70.8 percent are employed in the private sector as wage or salary workers, and another 7.6 percent are self-employed. A substantial 21.6 percent work in the public sector.

Local Business:

The town does not currently maintain any type of directory of local businesses, but the committee has tried to compile a list through local knowledge, this list is not fully verified but gives a good picture of the type and extent of businesses within the town of China:

Public and non-profit Business / Employers

Name:	Location:
Town of China	Lakeview Drive
China Conference Center	Neck Road
Friends Camp	Lakeview Drive
China School	Lakeview Drive
Erskine Academy	Windsor Road
SKDC Headstart	Lakeview Drive
Grace Academy	Route 3
Churches	Multiple locations
Post offices	Multiple locations

Route 3 Commercial Activities

Bar Harbor Bank	Northland Telephone
Beth's Family Hairstyling	Back's Ice Cream
S&T Motors	Hannaford Supermarket
O'Brien Oil	Family Dollar
Right Choice Contractors	Maritime Energy
Maine Medical Marijuana	Tobey's
Nostalgia Store	Fieldstone Quik Stop
Junk Horse Antiques	Joann Austin, Attorney
Roddy's Redemption	
China Area Wash and Dry	MA Haskell (Oil)
Comprehensive Land Technologies (CLT)	
Lakes Region Apartments	Knowles Electrical
Zippy's Car Wash	Adams Realty
Second Hand Shop	Happy Acres Antique Shop
Greg's Place Restaurant	Whitt's Design Silk Screening
Memorial Sales	China Storage
Kempton Tobey and Son Contractors	Route 3 Truck Caps
Right Choice Builders	Learning Center Daycare
China Dolls Day Care	Realty Of Maine
Odds & Ends Flea Market	

Commercial Activities (other than Route 3)

Name	Location
Ron Reed Antiques	May Flower Lane
The Landing	Lakeview Drive
New England Imports	Lakeview Drive
LaVerdiere Store & Redemption Service	Waterville Road
Michaud's Dairy Farm	Neck Road
Lakeview Lumber	Lakeview Drive
3-Level Farm	Vassalboro Road
2 Loons Farm	Vassalboro Road
32 General	Windsor Road
Dad's Mums Flowers	Windsor Road
Scott Pierce Machine Shop	Weeks Mill
John Finley Electric	Weeks Mill
Blaine Casey Contractor	Lakeview Drive
Diesel Dan's	Waterville Road
Steven's Farm	Pleasant View Ridge
Branch Pond Flowers and Gifts	Branch Pond Village
Varneys Bed and Breakfast	Neck Road
Irving Circle K	Lakeview Drive
Whatever Shop	Windsor Road
Meadow Brook Farms	Stanley Hill Road
China Neck Farms	Neck Road
Danny Oullette Sand and Gravel	Southern Oaks Drive
Wayne Chadwick Excavations	Dirigo Road
Jessica Fredette Massage Therapy	Lakeview Drive
Fernald Family Chiropractic	Lakeview Drive
Norm's Small Engine Repair	Lane Road
MJEK Seafood	Lakeview Drive
John Boivin Plumbing	Waterville Road
Outback Beauty	Windsor Road
China Dine-ah	Lakeview Drive
China Village Restaurant	Vassalboro Road
Tropical Sunations II Tanning	Vassalboro Road
Shear Techniques Salon	off Lakeview Drive
Wildwood Inc. Gunshop	off Waterville Road
The Landing Snack Bar	Lakeview Drive
The Townline Newspaper	Lakeview Drive
Pellerin Cabins and Campground	Vassalboro Road

In the future it could be helpful to understanding the local economy to collect some additional information, such as the nature of the business (included in some cases now), number of employees, and perhaps any business needs or concerns (e.g. trained labor, access to markets, room for expansion, environmental permitting, etc.). This could be done in a more detailed economic study if the town saw fit.

China is covered by the mid Maine Chamber of Commerce that offers many benefits and service to those that choose to become members.

Additionally, many self-employed people are not listed in many places, so the actual number of businesses in town is probably between 100-120.

The largest private employer is Hannaford Supermarket which seems to be stable and unlikely to move location at any time in the foreseeable future. Other significant employers include RSU 18 School District and Erskine Academy.

The greatest concentration of commercial activity, primarily retail and professional, is undoubtedly in the section of Route 3 around the junctions with route 32. Anchor businesses include Hannaford Supermarket. Most of the remaining businesses are scattered throughout town, on the rural roads or perhaps more concentrated in the village centers.

Local Opportunities:

Opportunities for more significant growth may include agriculture, wood products, precision machining, and other similar industries. It is also expected that more people will continue to work from home, taking advantage of high-speed internet connections and new technology. As demographic trends suggest, the number of jobs in the education sector may subside or remain stable, but those in the healthcare sector are expected to increase significantly as the baby boomer generation ages.

There are some vacant commercial properties within town that could be utilized without the need to build new development.

Another identified need is for reliable, affordable high-speed internet service that would enable business of all types to flourish.

Regional Economic Trends:

Traditional Manufacturing

The Augusta and Waterville Labor Market Areas have both experienced the closing of traditional manufacturing facilities over the past twenty years. The Hathaway Shirt Factory (Waterville), Scott/Kimberly-Clark Paper Mill (Winslow), and the American Tissue Plant (Augusta) are examples of the decline of this sector. The demands of a global economy will continue to place pressure upon existing manufacturing operations.

The Big Box Retail Trend

The construction of WalMarts, Home Depots, and other large retail stores in the region and the state has signaled a major shift in our retail economy. The big box stores, so named for their size and exterior design, are often called category killers because they put similar retail

operations out of business, so much so that even businesses in China are affected by Augusta stores. Typically only small convenience stores or specialty shops seem able to maintain a presence in the face of this level of competition, but with other stores like Family Dollar, it is even hard for family businesses to survive.

The Lure of the Service Center

Over the past thirty years, the majority of new regional commercial opportunities have located in Augusta or Waterville. This is not limited to the big box sector or traditional manufacturing. Local services, such as medical and financial services are centralizing. This has occurred at the same time as the customer base – in the form of the general population – has moved from the urban places out into suburban and rural towns.

Full Employment

Overall, the state and the Augusta region are experiencing a low unemployment rate. Even lower unemployment rates occur along the coast and the southern portions of the state. Despite manufacturing plant closings and slow job growth, unemployment rates have varied from a low of 3 percent to a high of 7 percent in past years. Companies may not move to the area because there are a lot of people waiting for work; they are more likely to move here because they know they can outcompete existing employers on wages and lure new workers with relatively cheap housing.

Industrial Sector Analysis:

As outlined in the History section of this Plan, China, like most colonial towns, grew up around the Lake and lived with water-powered industrial activities where available surrounded by farm and forestland. Over the years, the industrial base has continued to decline, China has turned increasingly to some retail trade and to service businesses as the town became one of the "bedroom" communities of the region.

The largest industrial operations in the immediate area are thought to be Duratherm Windows, Mid-State Machine, Huhtamaki, Alcom Trailers. Jonny's seeds may also fall into this category.

Service Sector Analysis:

A small number of China businesses provide critical services to people in the region.

Education, accounting, engineering, legal services, computer support and repair, construction, banking, insurance, surveying, hair and beauty salons, and health and fitness services are common types of local service, some of which can be found in town. Many of these services are small scale and provided by home-based businesses. Hannaford has a Pharmacy in the store also and there is Bar Harbor bank in town.

Ideally there would be a medical center and dental service available for residents, especially the older population so they do not have to travel.

Retail Sector Analysis:

The traditional retail sector in the village areas has been like many communities in decline as more stores are located in the larger communities of Waterville and Augusta. China has a small amount of stores and restaurants that are still established in town as is reflected in the list on the previous pages.

Economic Development Strategy

China has an Economic Development Committee and the China for a lifetime committee that work on these issues. The town also has a Tax Increment Financing system that can allocate monies to certain projects in town or make loans to businesses that may require some capital.

Prospects for New Businesses and Services

Important questions that must be addressed are what commercial and/or services are needed or desired to serve the community and what needs are not currently being served by local and regional commercial enterprises?

These questions need to be examined with awareness of existing market realities. China will almost certainly remain a residential community whose character is defined by China Lake. The community can, however, develop economically with a mix of local and regional services in a way that respects and enhances its character, especially in terms of the environment and water quality.

Economic strengths of the town

- The Town is part of the Augusta Labor Market Area that benefits from the employment stability afforded by State Government in Augusta and the region.
- The Town has easy access to both the Augusta and Waterville Labor Market Areas
- Regional services are available in Augusta, Waterville and Belfast.
- We have a relatively well-educated and trained workforce.
- High average household incomes.
- The town has a reasonable tax rate.
- China Lake and the rural countryside offer an attractive economic potential.
- Cultural opportunities are available in the region. Portland and the Coast are both less than an hour away.

- The Town is a partner in the First Park in Oakland.
- Our major commercial arterial (Route 3) has a high traffic count.
- The school system is highly regarded and attracts many families into the community.
- Three phase power is available along the Route 3 corridor.
- Agricultural and Forestry activities play an important part in the overall economic picture.

Possible economic weaknesses of the community:

- The town lacks municipal sewer and water, limiting development options.
- The town does not designate certain areas for new commercial growth. Most of the town allows both residential and commercial uses. This raises the possibility of public opposition to specific business development proposals.
- China Lake and Threemile Pond watersheds present some additional development restraints with respect to phosphorus and stormwater management.
- The Route 3 corridor has been designated as a mobility arterial and is subject to strict traffic access requirements.
- The town lacks a clearly defined commercial center.
- More stringent ordinances related to lot coverage and phosphorous loading.
- Like the region and State, there is a lack of skilled workforce available.

Route 3 Corridor

The Route 3 Corridor is the existing focus of China’s commercial activity. It is dominated by small businesses that provide a wide range of local goods and services. The corridor holds the potential for further growth due to the following:

- High traffic counts along the corridor
- Land is available for development
- Some small commercial clusters already exist on the corridor.
- The road is State maintained.
- The route is a major tourist corridor.

- Continued new residential construction in China and the region.
- The roadway provides excellent commercial visibility.
- The new bridge project in Augusta is bringing increased access to the corridor.

Important features of the Route 3 Corridor include the following:

- The corridor is dominated by residential and undeveloped land. Some land is unsuitable for development due to wetland, ledge, and poor road access.
- The existing land parcel uses along the corridor include roughly 50 undeveloped parcels, 47 residential uses, 21 existing commercial parcels.
- Traffic along the corridor is increasing at the rate of roughly 3 percent per year.
- The western portion of the corridor has the most defined commercial cluster. Most commercial uses are spread out along the road. The dominant character of the eastern portion of the corridor is rural.
- The corridor could easily evolve into a commercial strip. The wide right-of-way and alignment accents the most negative elements of strip development.
- The corridor is considered a mobility corridor and plays an important role in moving traffic between Augusta and coastal communities. The arterial provides access to tourist, commercial, and commuter traffic traveling to work and services in Augusta or Belfast.

The designation of Route 3 as a mobility corridor presents what may be the greatest constraint on future commercial development. Access management rules associated with a mobility corridor can pose serious drawbacks for growth. Local access is discouraged for an arterial designed to move traffic quickly and safely over long distances.

Existing uses are not affected by the rules, but new construction will need to be planned and designed to meet the standards. The most limiting factor for development along the corridor is the requirement that any new entrance be a minimum distance from an existing driveway. The corridor has many existing access points, impeding new development unless creative solutions are explored.

Some techniques that could be used to site new development consistent with the rules include:

- Share access points for multiple users
- Purchase existing properties to eliminate conflicting access points.

- Planning and developing a service road which would access multiple properties. Or, property owners could cooperatively design their frontage for the future placement of an access road.
- Redesign multiple access ways for abutting properties into a single entrance point.
- Create access onto the site from an adjoining local road.

Projections and Land Use Implications

It is difficult to do commercial and industrial projections with any degree of accuracy, but it is critical for the community to be clear about the type of growth it desires and have appropriate locations available to accommodate such growth.

The areas that have been identified for commercial and/or industrial development are not formally defined as the town repealed its Land Use Zoning ordinance. This Comprehensive Plan identified certain growth areas in a general (non-regulatory) sense that largely suggest growth to occur adjacent to current similar uses (Route 3 / 32 areas etc.). These current areas are believed to be suitable and adequately spacious for anticipated commercial and industrial development.

Formal adoption of Zoning or Land Use regulations would help this side of development and should be considered for discussion by the town at some point in the future.

PART SEVEN: CHINA HOUSING PROFILE

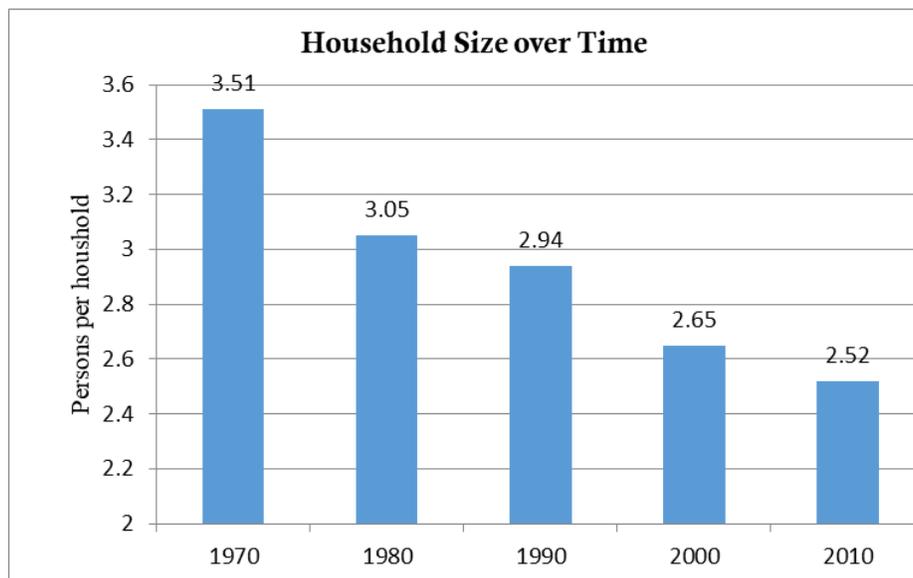
Highlights of the Housing Profile:

- Due to the steadily declining size of the average household, China's housing stock continues to grow despite the lack of population growth. The town has 1,092 more housing units now than in 1980, and 543 more households.
- Since 1980, the housing supply has grown by almost 90%; the majority of this growth has been mobile homes and single-family units. There has actually been a good significant increase in multifamily units over the last 35 years.
- The town will continue to add housing units at a reasonable rate, but the style of unit may need to change to fit the demographic need. There are almost twice the number of small households as there are appropriate-sized units. A little over a fifth of all households in 2010 were single persons, and under a third of that number were elderly. As population continues to age, there will be more and more demand for small units that accommodate seniors and single persons.
- The housing stock is in generally good condition, it is generally newer than the average for Kennebec County.
- The value of residential property in China made a healthy jump between 2000 and 2010, from \$99,400 to \$146,900 for the median single family home. The 2010 figure, however, was based on a sample that included some homeowners before the great price drop in 2008, so it may not be fully accurate. Homes in China – at least the average ones – are currently affordable for households making 80 percent of median household income.
- At the same time that property values were going up, rents in China were not rising at the same rate. The median monthly rent rose by only about 13% percent, from \$525 in 2000 to \$594 in 2010. As with owner-occupied housing, rents are remaining generally affordable. According to the MSHA, approximately 50% of renter households are unable to afford the average 2 bedroom rent in the China Labor Market Area
- Projections for growth in housing stock must account for continued decline in household size. Assuming a five percent smaller household in 2030, China will only

need to add about 290 housing units, an average of 19 per year, to maintain its current population level. There is no real housing pressure in this regard but the types of housing (need for more rental units for young families and housing options that better meet the needs of the elderly) may need to be considered.

China’s Housing: Supply and Demand

The purpose of housing is to provide residence for the population. The characteristics of the population drive the demand for housing, and vice versa. An aging population or a number of single-person households signals a demand for smaller housing units, while a surplus of large homes will naturally attract larger households. A community which does not respond to changes in housing demand is one that is likely to lose its population or change its character.



“Average household size” is the number which connects the population with the demand for housing. As the chart above shows, the average number of persons in a household in China has been shrinking steadily. This is a national trend. Almost all social and economic factors favor smaller households – more independent living among youth and elderly, smaller families, and more single-parent families. While there are early indications that this trend may be reversing in some parts of the country, it has not yet done so in China.

What does this mean for housing demand? In short, fewer persons per household means more housing is needed for the same population. When the average household in China contained 3.51 persons in 1970, the town had only 525 occupied housing units. With the town gaining 2,478 residents in the past 40 years, it now has 1718 households. Over a 40 year period, that averaged about 30 new homes per year. This is a household increase rate far exceeding the

increase in individuals as with a household size of 2.52, 983 new housing units would have covered the population increase. Over all this indicates a notable decline in household size and possible increase in housing vacancies.

Of the 1718 households in 2010, almost three quarters of them (1,234) were families. The average family size was 2.91. A little over half were families with the traditional husband and wife. Almost 100 (about 5%) are single-mother families. Another 378 households (about one-quarter) were single-person households. In 108 of these, the single occupant was over 65 years old. In 2000, 92 households were single and elderly.

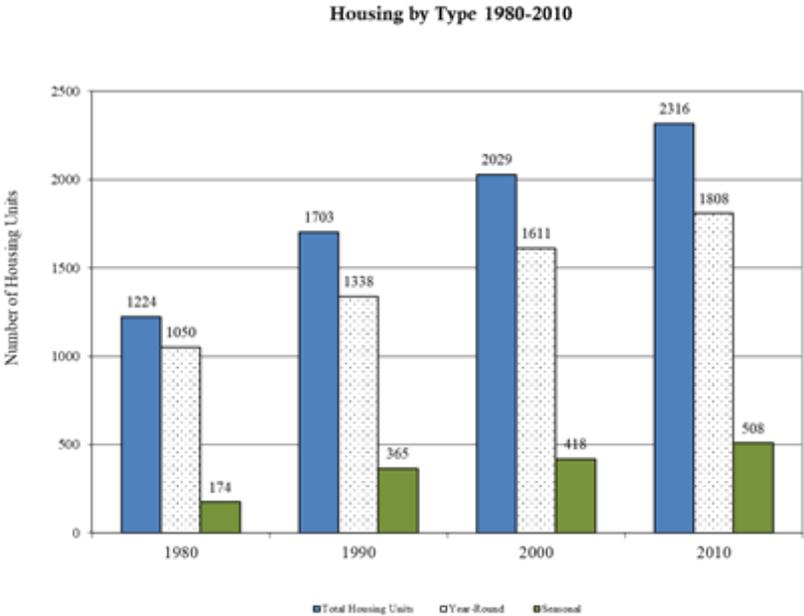
The table below illustrates changes in China's housing supply over the past thirty years. Overall, the supply of housing has grown by almost 35 percent. Any individual component growing below that rate is lagging; components growing above that rate are becoming more prominent. The stock of traditional, site-built homes has grown slower than the average. The numbers show an increase in both smaller and larger multi-family units but this is not really backed up by local knowledge of such types of growth. There has also been a huge increase in mobile homes. Mobile homes only became a popular affordable option in the late 70's-early 80's, accounting for the big bump at that time, but this trend has continued to grow in China as it may be a popular affordable option.

TABLE 30: TRENDS IN HOUSING STOCK AND TENANCY, 1980 - 2010

Type of Unit	1980		1990		2000		2010		Change 1980-2010	
	#	%	#	%	#	%	#	%	#	%
All Housing Units	1224		1703		2029		2316		1092	89.2%
1-unit site-built	850	69.4%	1326	77.9%	1669	82.9%	1815	78.4%	965	113.5%
2-4 units	60	4.9%	62	3.6%	93	4.6%	80	3.5%	20	33.3%
5 or more units	15	1.2%	14	0.8%	11	0.5%	51	2.2%	36	240.0%
Mobile home	96	7.8%	148	8.7%	243	12.0%	337	14.6%	241	251.0%
Year-Round Housing Units	1007	82.3%	1338	78.6%	1611	79.4%	1808	78.1%	801	79.5%
Seasonal Units	174	12.0%	365	21.4%	418	20.6%	508	21.9%	291	134.1%
Vacant Units	223	18.2%	436	25.6%	480	23.7%	598	25.8%	375	168.2 %
Owner-Occupied Units	1043	85.2%	1098	64.4%	1295	63.8%	1435	62.0%	392	37.6%
Renter-Occupied Units	132	10.8%	169	9.9%	245	12.1%	283	12.2%	151	114.4%

SOURCE: U.S. Census

China has a good percentage of seasonal units compared to many towns due to the lake and lots of lake frontage suitable for camps etc. This may make the seasonal population fluctuation an issue in China. The number of vacant units is a concern, as it has increased dramatically since 1980 but this may be explained by the fact that from 1990 onwards the vacant number represents seasonal within it. Regardless it has been at around 25% of the total housing stock. The rental vacancy rate (4.0%) is relatively low and lower than the owner vacancy rate (4.7%).



It looks as if the proportion of rental units is ever so slight increase over time. However, the numbers are relatively small and there was only modest growth up to 2010. The trend seems to be a small swing from owner occupied to rental properties although at a slow rate.

The census estimates that only 225 of occupied housing units have three or fewer rooms – 9.7 percent of all units. A single person household is most suited to three or fewer rooms. China has 406 of these, so there are almost twice the number of small households as there are appropriate-sized units. That is even assuming that all of the <3 room units are already devoted to single-person households. The census estimates that 7 houses in China contain more than one occupant per room.

Housing Location Trends

China’s community character is defined to some extent by its village cores and rural environs. This does not seem to be under threat from any substantial development or maintenance of existing homes in the rural areas. Unfortunately, when looking to the census, China was not determined to have any qualifying urban areas, for any kind of count about where the housing is located.

Local information lets us know that the majority of development on residential units is unsurprisingly on the Lake front, often as rebuilds of old camps to more substantial houses. Otherwise there is no real pattern other than general dispersed development in the “rural” areas. Other noteworthy development in past years is the Alder Park mobile homes and the Sheepsfoot Estates subdivision.

As there are no additional septic systems allowed in the inner village areas due to the minimum lot size requirements. This is obviously restricting new housing from developing there.

Statewide, the trend for development of new housing has been characterized by the term “suburban sprawl.” We have seen small suburban towns explode in population and cities shrink. China is somewhat touched by this. The town has a more active village core, but plentiful rural land available for development if ownership patterns and zoning encouraged it.

Recent code enforcement records show the following trends of steady building going on:

TABLE 31: Recent Permit Records				
	2015	2016	2017	2018
Building Permits	127	158	130	158
Plumbing / Septic	66	80	95	81
Total	193	238	225	239

China does not currently have any municipal housing projects and as such it is something that should be investigated in the near future to try and address housing needs within the community.

Housing Conditions

The 2010 Census found that all of China's housing units met criteria for complete kitchen and plumbing facilities.

There are no known older homes in town that visibly need renovations.

Age in 2016 (years)	#	Percent of total
0 - 3	0	-
4 - 13	13	0.6%
14 - 23	313	13.9%
24 - 33	348	15.5%
34 - 43	497	22.1%
44 - 53	418	18.7%
54 - 63	190	8.4%
64 - 73	118	5.2%
74 or more	353	15.7%

The age of structures is sometimes an indicator of condition as well. Some very old homes are structurally very sound but may have inadequate wiring or plumbing. Homes built in the 60's and 70's tended to have inadequate insulation, whereas homes built more recently have mostly conformed to modern building code requirements. In China, well over 300 houses were built prior to WWII (around 15% of all housing stock). Compare this to Kennebec County, where 23.9 percent are "pre-war" homes. 674 homes (27.8 percent) have been built since 1990; in Kennebec County, that figure is 23.9 percent.

Price and Affordability

The growth management goal for affordable housing states that ten percent of new housing should be affordable to households making less than 80 percent of the median household income. The goal leaves it up to towns to determine whether that ten percent should be as stick-built homes, or mobile homes or rentals or elderly apartments.

The determination of whether housing is affordable begins with a discussion of cost. The census provides very good (though sample-sized) data regarding price of housing in China (see table below). This price is arrived at by owners' estimates of value, meaning it does not necessarily match up with actual recorded sales prices. According to the census, the median value of owner-occupied housing in 2010 was \$98,400. The rise in property values since 2000 was almost 65 percent, a substantial increase even considering the 28 percent inflation rate and the recent dip in home prices. The rise between 1990 and 2000 was not as high at 28 percent increase. What is noticeable is the increase in higher priced properties (over \$200k) over the last 10 years, presumably due to more growth and higher valuations of the shore front properties on China Lake and Threemile Pond.

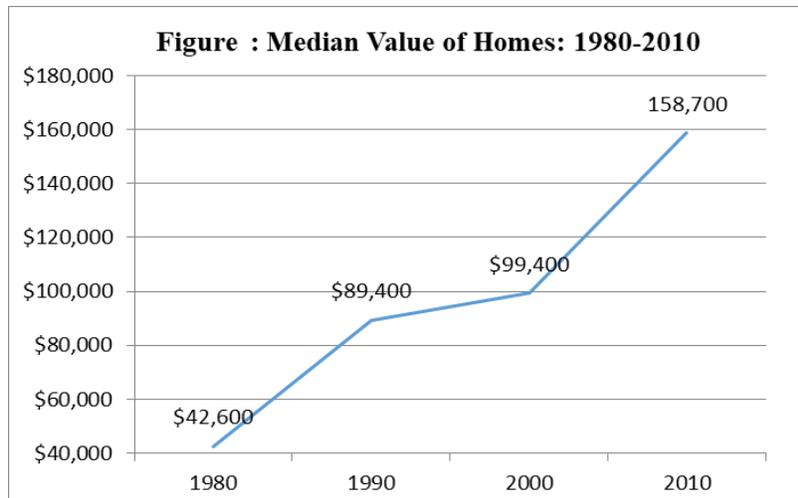
TABLE 33: VALUE¹ OF OWNER-OCCUPIED HOUSING UNITS, 2000 and 2010			
	2000	2010	change
Median Value of Specified ² Housing Units	\$99,400	\$146,900	\$47,500 (47.8%)
Number of Units Valued at:			
Less Than \$50,000	46	189	143
\$50,000 - \$99,999	397	193	-204
\$100,000 - \$149,999	266	411	145
\$150,000 - \$199,999	80	225	145
\$200,000 - \$299,999	76	352	276
\$300,000 - \$499,999	6	146	140
\$500,000 - \$999,999	0	13	13

SOURCE: U.S. Census

^{1/} "Value" is the census respondent's estimate of how much the property would sell for if it were for sale.

^{2/} "Specified" units exclude one-family houses on ten or more acres and units with a commercial establishment on the premises. In 2000, mobile homes were excluded as well, but not in 2010, accounting for the significant rise in housing counts.

Maine State Housing Authority (MSHA) tracks actual sales data, though it is sometimes out of date by the time it is published. According to MSHA, the median price (actual sales) of a home in 2017 was \$166,000. This represents a robust recovery from the slump in house prices after the 2008 recession.



The median household income reported by the census in 2016 was \$53,125, making the threshold of 80 percent of median \$42,500. MSHA calculates an affordable home at various income levels, factoring in interest rates and other variables, and using the rule of thumb that a household should pay no more than 28 percent of its monthly income in housing costs. According to MSHA figures, an income that is at the median level should be able to afford a home priced at \$161,139. Also the income needed to afford a median priced home is \$48,381. That means, in rough terms, anyone making the median income should be able to afford a home in town. However looking at the income distributions, it also shows that almost half of households are unable to afford the median price. Some 750 households fall into this category.

Rentals

The table overleaf shows changes over time in the cost and affordability of rental housing in China. The median rent charged increased by 13 percent, a rate lower than inflation and of the increase in home values. Somewhat oddly perhaps, there are now rentals available for less than \$300 a month, where there were none available in 2000. Also where there were only 5 rental units costing more than \$1000 plus a month in 2000, there are now 21 – ten percent of the total rental stock. More important are the figures on affordability. Affordable rental housing has declined, while the number of renters paying more than 30 percent of their income for rent has increased significantly.

TABLE 34: COST OF RENTER-OCCUPIED HOUSING UNITS, 2000 and 2010			
	2000	2010	% change
Median Monthly Rent Specified Renter-Occupied Units	\$525	\$594	13.1 %
# of Units With Cash Rent of:			
\$200 - \$299	0	25	-
\$300 - \$499	83	39	-53.0%
\$500 - \$749	88	85	-3.4%
\$750 - \$999	28	33	17.9%
\$1000 - \$1499	5	21	320%
Rent as a Percentage of Household income:			
Less than 20 percent	76	88	15.8%
20 – 30 percent	70	13	-81.4%
30 percent or more	66	102	54.5%
Rental Vacancy Rate	3.8%	6.2%	

Source: US Census, American Community Survey (2006-10)

MSHA also tracks rental data. According to MSHA statistics, in 2017, the average two-bedroom rental in China’s market area was \$751. The income needed to afford that rent was \$30,050. By their calculations the renter’s household median income is \$29,999 and able to afford a \$750 a month rent. That means that the average two-bedroom unit in China qualifies as “affordable,” though that data conflicts with the census data.

However, MSHA estimates that some 50% of renter households are unable to afford the average 2 bedroom rent in the China Labor Market Area. Finally according to MSHA, the average rent between 2013 and 2017 has actually fallen by 3.8 percent, while the median income of renters increased by 5.8 percent. Therefore it could be concluded that on the whole, renting is becoming a little easier in recent years.

Compared with surrounding communities and Kennebec County as a whole, China’s housing prices appear to be lower. In 2017, median home values in neighboring communities ranged from \$109,500 in Albion to \$170,000 in Vassalboro. The median value of homes in Kennebec County was \$149,900. The median rental cost in Kennebec County was \$793 per month, putting China’s nicely below the average. The town of Winslow for comparison was \$1,460!

Provision of affordable housing options is assisted by MSHA programs. MSHA provides some state and federal options for buyers and renters. There is one know subsidized rent housing complex in China, at the Old Motel building on Route 3.

Projections

Referring to the population projections in the Demographic Profile, it is difficult to anticipate any demand at all for housing – a population estimated by two outside sources as growing to about 5,000 over the next 15 years. However, that does not take into account the decline in household size. Between 1970 and 2010, the simple fact of the shrinking household drove demand for 30 new homes per year. Between 1990 and 2010, while China was steadily growing in population, it added about 613 – (Census) (but only approximately 200 by local records) housing units to the tax rolls, just about covering this demand.

We cannot expect household size to continue to shrink indefinitely, but if we assume that it will shrink another five percent over the next fifteen years, the average will go to about 2.4 persons per household. In order to house the 5,000 or so residents the town would need to contain 2,083 households, which providing the housing stock stays stable, it can easily provide.

The town could also choose to visualize a scenario of growth.

Example #1: Kennebec County increased its housing stock by about 8.2 percent in the 2000's. If China were to increase its housing stock at the same rate, over twenty years, the town would see about 395 new homes – an increase of nearly 20 homes per year. At a household size of 2.4, that would result in a 2030 population of 5,276. This seems somewhat unlikely.

Example #2: The 2008 plan estimated a conservative growth rate of 45 persons per year. If we took that estimate and projected it to 2030, the population would be 4,868, with a construction rate of new homes of about 18 per year.

A construction rate of only 18-20 homes per year can make it difficult to establish a target of ten percent of new homes being classified as affordable. Over a ten-year period, though, 200 new homes would mean 20 would need to be affordable under the planning goal – a sale price of \$161,199 or rent of \$750 a month. Under the two growth scenarios, affordable housing requirements would mean 2 units per year (#1) or 1 unit every 1.8 years (#2). The aging of the population also suggests that condominiums and innovative retirement community living arrangements are likely to be needed in town within the next 15 years. While not necessarily falling within the definition of affordable housing, this is a housing type that will be in demand.

The addition of housing units will require the consumption of more land for development. How much will be needed to accommodate demand? With the town wide minimum lot size of 40,000 square feet, development at the 10-year projected rate would consume at least about 166 acres or double that in the shoreland zone. Under the fast growth scenario, it would consume at least 184 acres.

Development of the rural area is a worst-case scenario typical of sprawl. China seems to be experiencing a high percentage of new development outside of its existing village zones. This is likely due to the rules of no new septic systems in these areas.

Current Housing Regulations

Land Development Code (includes Subdivision, Flood Plain Management, Phosphorus Control, and Shoreland Zoning)

ICC Building codes (International Residential, International Building, International Energy Conservation)

ASHRAE Ventilation Code (90.1)

Radon ASTM E 1465-08

Uniform Plumbing Code

06-096 CMR 241 (subsurface waste water rules)

06-096 CMR 242 (seasonal conversion plumbing rules) Life Safety Code (NFPA 101)

PART EIGHT: THE TRANSPORTATION SYSTEM

Introduction

Residents of China are primarily dependent upon the automobile for access to work, shopping and recreation. The vast majority of China residents work and shop in Augusta or Waterville, while the transportation system also brings people and goods in to China.

Route 3 is the principal arterial road in China, connecting Augusta/I-95 to the coast and is an important highway for the entire region. It provides commuters access to jobs in Augusta and the Belfast region, and is an important route for tourists visiting China or the coast. The construction of the Cushnoc Crossing Bridge linking I-95 to Route 3 has not added to traffic in China, but has improved access to and through Augusta, reducing the commute time for some workers.

US Route 202 is the historical corridor up through the state, and for years before the interstate, it carried the lion's share of traffic from Augusta to Bangor. That is why the road is built much wider and stronger than today's traffic would warrant. Even with the interstate, load limits restricted the size of trucks, forcing them to use Route 202 through China as a bypass. This practice only changed a few years ago, when load limits were raised on the interstate.

Additional state highways in China include Route 32, extending south into Windsor and north into Vassalboro, and Route 137, leading into Winslow and Waterville. Route 32 south and 137 are in very good physical condition and well built, while 32 north has had some work done on it in recent years but has noted issues of lack of a shoulder in places and some culvert erosion. In addition, Weeks Mills Road, Stanley Hill Road, Alder Park Road and a portion of the Neck Road are "state aid" roads – receiving state maintenance in the summer and town maintenance in the winter. These roads are shown on Transportation Map 1.

The remainder of roads in China are either town ways, maintained entirely by the Town, or private roads, on which the Town is prohibited from spending taxpayer dollars. Many of the roads that access lakefront property fall into the latter category.

Condition and Maintenance of the Road System

Many of China's main roads are the responsibility of the State to maintain and improve. Route 3 is maintained by the State in very good physical condition and Routes 137, 9/202 north of South China, and Route 32 towards Windsor are in adequate condition. In contrast, other State responsibility roads are nowhere near as well-improved. The following state roads all need work: Stanley Hill Road, Weeks Mills Road, Neck Road.

The town road committee along with the Road Commissioner have done a good job maintaining and improving local roads. If the town continues to adequately invest in ongoing road improvements and maintenance it should enjoy a well maintained local road system.

In the table on the following pages, roads classed “local” are town ways. Route 3 is a state highway, roads classed “major collector” are secondary state highways, and roads classed “minor collector” are shared maintenance with the State and Town.

Table 35: China’s Public Roads
Source: MDOT and China Road Committee

Road Name	Road Class	Road Mileage	Surface Type
Route 3 Belfast Road	arterial	7.5	paved
Route 9/202 Lakeview Drive	major collector	7.11	paved
Route 9/137 Waterville Road	major collector	1.41	paved
Route 9/137 Albion Road	major collector	.53	paved
Route 32 North, Vassalboro Road	major collector	3.08	paved
Route 32 South, Windsor Road	major collector	2.97	paved
Alder Park Road	minor collector	1.77	paved
Weeks Mills Road	minor collector	2.50	paved
Stanley Hill Road	minor collector	1.90	paved
Neck Road (portion)	minor collector	2.10	paved
Neck Road (portion)	local	2.17	paved
Achorn Lane	local	.40	paved
Arnold Road	local	.87	paved
Back Deer Hill	local	.64	paved
Bradford Drive	local	.60	paved
Bog Road	local	.88	Paved
Bradford Lane	local	.60	Paved
Branch Mills Road	local	.73	paved
Causeway Road	local	.43	paved

Chadwick Hill	local	.16	paved
Clark Road	local	.17	gravel
Cross Road	local	.92	paved
Danforth Road	local	.50	paved
Deer Hill Road	local	2.18	paved
Dirigo Road	local	3.90	paved
Dutton Road	local	1.20	paved
Hanson Road	local	3.57	paved
Horseback Road	local	.40	paved
Ingraham Road	local	1.14	paved
Jones Road	local	.29	paved
Kidder Road	local	.90	paved
Killdeer Point Road	local	.21	paved
Lane Road	local	.48	paved
Mann Road	local	1.00	paved
Mayflower Lane	local	.19	paved
Maple Ridge Road	local	1.85	paved
McCaslin Road	local	.45	paved
Meadow Wood Drive	local	.19	paved
Morrill Drive	local	.08	paved
Morrill Road	local	.60	paved
Old Waterville Road	local	.64	paved
Old Windsor Road	local	.12	paved
Parmenter Hill Road	local	1.90	paved
Parmenter Terrace	local	.21	paved
Peking Street	local	.13	paved
Pleasant View Ridge Road	local	4.26	paved

Plummer Road	local	.27	paved
Pond Road	local	.37	paved
Pond Hill Road	local	.21	paved
Rockwood Drive	local	1.36	paved
Shuman Road	local	.50	paved
Smith Road	local	.15	paved
South Road	local	.73	paved
Tobey Road	local	.48	paved
Town Landing Road	local	.11	gravel
Tyler Road	local	1.12	Paved
Tylers Corner Road	local	.09	paved
Village Street`	local	1.76	Paved
Village Street Extension	local	.13	paved
Water Street	local	.20	paved
West Tobey Road	local	.15	Paved
Western Ridge Road	local	1.11	paved
Wing Road	local	1.00	paved

Total Road Lengths

Arterial Roads	7.5 miles	State maintained
Major Collector	15.10 miles	State maintained
Minor Collector	8.03 miles	Town/State
Local roads	45.01 miles	Town maintained

Total public road miles: 75.64 miles

Private Roads

China has a considerable number of private roads. Most private roads are identified as Fire Roads surrounding China Lake. The fire roads are named or numbered, with house numbers for E-911 identification. Typically, school buses will not travel on private roads and students must catch the bus at the public road intersection. Likewise, emergency vehicles traveling over private roads may be hampered from reaching residents due to poor maintenance, snow, mud, or other weather conditions. Since most of the private roads are in close proximity to the lake, there has been serious concern over the years over erosion and phosphorous runoff into the lake from these roads.

The town allows the creation of new private roads, usually as part of subdivisions. The current *Subdivision Ordinance* sets out minimum construction standards for private roads proposed to access subdivision lots and requires a maintenance agreement for shared costs at the time of approval. Any road proposed for Town acceptance, including existing roads, must meet the standards in the *Ordinance for Acceptance of Streets and Ways*.

Discontinued Roads

The Winding Hill Road and portions of the Tobey Road and Arnold Road are listed as discontinued roads. The Yorktown Road that goes through Thurston Park could also be considered discontinued and more maintained as a trail.

Local Road Maintenance and Improvement

The China Road Committee, in consultation with the Road Commissioner, oversees the road maintenance budget and uses a road improvements plan to schedule maintenance and major rebuilding projects. The town has undertaken an aggressive schedule of road improvements and now schedules every road for repaving every eight years. Approximately \$720,000 is budgeted each year for road maintenance, of which \$54,200 is granted from the Maine Department of Transportation (DOT). State funds may only be used for capital improvements, such as paving and culvert replacement.

Road maintenance is undertaken by the town's highway department and private contractors. The department consists of one full-time and two part-time employees. Major road and drainage projects are contracted. Smaller projects and regular maintenance are the responsibility of the highway department.

Recently completed projects include the widening and sidewalk installation on the Causeway Road as well as box culvert replacement. The Bog Brook Road has also had a culvert recently replaced.

Bridges

Bridges are an essential part of the road system. Bridges have different design and structural features and must be maintained on a different schedule than ordinary roads. A number of years ago, the DOT assumed responsibility for the majority of bridges in the state, including some on town roads. The location and responsibility of China bridges is shown on Transportation Map 1.

The following six bridges are located in China, together with their status, as determined by inspections by DOT in 2016 and 2017:

- A bridge over the Sheepscot River on Dirigo Road. This bridge is a steel culvert bridge 28 feet long, built in 1982. The bridge is in fine condition, though the river channel is showing some signs of damage;
- The 9/202 bridge over Muldon Stream between Danforth Road and Albion Road. This is a concrete culvert only 10 feet long, replaced in 2007. The bridge is in good condition, although the channel underneath is showing some signs of damage;
- The Branch Mills Bridge over Branch Mills Stream. This is one of two Town-owned bridges. It was built in 1931, consisting of a concrete slab spanning 22 feet. Although reaching the end of its expected age, the bridge and its components is in fair condition. The substructure is showing minor deterioration.
- A bridge over Mud Stream in China Village on the Causeway Road. This is the other Town-owned bridge. It is also a box culvert, 16 feet long by 60 feet wide and constructed in 2018. This box culvert replacement was phase 1 of a larger causeway redevelopment project.
- A bridge over the Sheepscot River on Route 3, near the Palermo line. This is a 22-foot long concrete culvert built in 1966. It is shown to be in good physical condition, with some deterioration in the channel underneath.
- A bridge over the Sheepscot River on Weeks Mills Road. This is a 25-foot long concrete frame bridge built in 1972. It is in fine physical condition, with a little damage to the channel underneath.

Usage of the Highway System

The Maine DOT is responsible for monitoring usage of its roads through a system of traffic counts. Traffic counting is reported in units of Average Annual Daily Traffic – the total number of vehicles going past a given point on an average day. Traffic counts are measured annually only at one point on Route 3; elsewhere, they are recorded every 2 to 5 years.

Table 36 shows traffic count data as tabulated by the Maine DOT. A visual representation of average daily traffic volumes is presented on Transportation Map 2.

Table 36: Annual Average Daily Traffic Count

	2006	2011	2017	Average % change
Route 3 east of Alder Park Road	6,420	6,410	6,620	0.3 %
Route 3 southwest of Route 32 west junction	9,450	9,290	9,110	-0.3
Route 9/202 northwest of Route 3	3,360	2,740	3,650	0.75
Route 9/202 north of Route 137	2,950	2,570	2,660	-0.95
Route 32 northwest of Old Route 3	1,800	2,050	2,440	2.8
Route 32 south of Weeks Mills Road	2,870	3,270	4,490	4.15
Weeks Mills Road east of Route 32	1,030	1,180	1,210	1.5
Route 137 west of Main Street	4,510	4,250	4,550	0.1

Source: Maine DOT *Transportation Count Book*, 2006, 2011, 2017

The first observation from this table is that Route 3 clearly carries the most traffic in the town. This is not a surprise. What may be a surprise is that the volumes have changed very little since 2006. Part of that is due to the recession in 2008-9, which drove up gas prices and limited economic activity, but part is also in the kind of activity that is occurring along the road. Both of these count points are outside of South China, so do not pick up local traffic. It's possible that the drop in 2017 traffic west of Route 32 is people shopping locally instead of driving into Augusta.

The 2008 recession impact can be seen on more than just Route 3. The same drop in traffic was seen statewide, if not nationwide. Even three years later, in 2011, five of the eight count points in China recorded a drop in traffic.

Outside of these two observations, there are still trends to be found in the traffic volume data. Annual increase of more than two percent have been observed on both Vassalboro Road and Windsor Road. There is no new source of traffic on Vassalboro Road, but the new Hannaford's on Windsor Road may be drawing customers from the south. The only two points with a loss in traffic are the Augusta Road and Albion Road. This happens to be the route on which heavy trucks used to travel to avoid weight limits on the interstate; it is possible a portion of that decline is due to the decline in truck traffic.

The other common measure of usage of the highway system is tracking of crashes. Crashes happen for all sorts of reasons, not just traffic, but they are generally attributable to some feature of the road system. Most common is crashes at intersections, but many crashes can happen on open road segments, from deer hits to weather-related crashes.

Transportation Map 3 shows the location of highway crashes reported during 2017 (82 in total). The crashes are identified by type, so you can see which ones are deer, intersections, or other causes. The vast majority of crashes are along Route 3, which is consistent with it being the busiest highway in town. Somewhat surprisingly, there are relatively few in the South China commercial area.

The map also shows one “High Crash Location,” along Route 3 east of Branch Mills Road. The DOT defines a high crash location as one where there have been eight or more crashes over three years and where the rate of crashes factored for traffic is greater than average. There is relatively little development in this area, so it is possible that the rate of crashes is due to deer plus some speeding and some connected with the store.

The Highway System and Development

Traffic counts and problem locations are symptoms of a much deeper issue: the relationship between highways and development. Obviously, highways are designed to serve the properties within their corridors, but there comes a point at which development exceeds the capacity of a highway to serve it. This may result from development within the corridor or development in the immediate proximity of the road. Awareness of the link between transportation and land use is growing rapidly, especially among transportation system managers responsible for finding the millions of dollars it costs to expand capacity, and who would much prefer the relatively small cost of managing development instead.

The Maine DOT has established a set of regulations for new development impacting state highways. Traffic Movement Permits are required for major developments, such as shopping centers or large subdivisions. For all other development on state highways, driveway access permits are required. Permitting rules contain different standards based on road classification. Route 3 has the tightest access rules; the remaining roads have relatively moderate rules. All of the rules have some standards for sight distance, driveway width, spacing, safety, and drainage.

There are a number of other ways in which the town can influence the impact of development on transportation. They include:

- i. Updating local road design and construction standards to reflect current practices.
- ii. Offering different road design options based upon anticipated use and traffic volume.
- iii. Rear lot access options to reduce road frontage development.
- iv. Incorporating pedestrian and bicycle travel lanes into public roads and major developments.
- v. Proper design and location of major land use activities.
- vi. Implementation of the ongoing road maintenance plan.

Corridor Planning

The Department of Transportation periodically undertakes a corridor-scale view of transportation needs, employing Kennebec Valley Council of Governments to work with towns along the corridor to integrate planning for economic development and transportation. This happened most recently in 2016, with the development of the Augusta-to-Midcoast Corridor Plan. The plan provided guidance for development and transportation improvements along Routes 3, 105, and 17 and the connecting roads.

As part of the planning process, KVCOG held a brainstorming session at the China town office, with 27 residents participating. A set of suggestions was recorded, including:

- First and largest issue is speeding traffic on Route 3, particularly in the reduced speed zone in South China. Particularly noticeable is that large trucks are not slowing.
- Increase in large trucks is attributed to expansion of Searsport cargo terminal.
- Safety issues with entrance of Cross Hill Road into Route 3 and left turns from Route 3 onto Whitehouse Road (neither of which are in China).
- Numerous commercial driveways onto Route 3 in South China cause traffic conflicts and safety issues. Traffic does a lot of dodging and weaving through this section.
- The intersection of Route 3 and Route 32 north is poorly designed for the volume of traffic and new development. DOT needs to redesign.
- Drivers are using Village Street through South China to dodge the light on Route 3.
- Need to keep wide shoulders on Route 3 for pedestrians and bikes, but cars often swerve into shoulder to avoid left-turners. Need for a center third lane.
- Alder Park/Dirigo intersection with Route 3 – poor sight distance in winter.
- Too many commercial signs on Route 3 – too distracting
- Need warning lights for approaching vehicles (e.g. Cross Hill intersection)
- Need pedestrian crossing at Route 32 south intersection (access to Hannafords)
- Need park and ride lot.
- Public transit need, but not enough ridership potential. Possible alternate days.
- Development, expansion of alternate vehicle trails – ATV, snowmobile, bikes.
- Route 32 is bad for bikes, also Neck Road.

The plan provided a set of recommendations for system improvement along Route 3:

- Consider extending the speed limit reduction for South China village slightly to the west to encompass additional commercial development;

- Study the South China commercial strip for ways to reduce traffic speeds, such as landscaping, curbing striping, center left-turn lane. Maintain at least a four-foot shoulder for pedestrians and bicycles;
- Promote the existing park and ride lot located at Fieldstone Quickstop. Most of the Fieldstone quickstop parking lot is owned by DOT and approximately 12-15 spaces are designated for park and ride.
- DOT and the Town should work with roadside businesses to narrow or eliminate selected access points;
- The Town should adopt provisions in regulation of commercial development to limit new commercial access onto Route 3.

Not connected with the corridor plan, a number of suggestions have been made over the years for highway improvements. They are listed below, in no particular order and without recommendation. Many of the suggestions are already being implemented at the state or local level.

- Reduce the volume of truck traffic that uses Routes 3 and 202/9/137 due to weight restrictions on I-95.
- Install a traffic signal at the intersection of Route 3 and Route 32 south, or widen a portion of the intersection to better accommodate turning traffic. This was done in recent years.
- Increase police patrols along Route 3 and Lakeview Drive to reduce speeding. This was also implemented recently.
- Improve Stanley Hill Road, Weeks Mills Road and the Neck Road
- Address the number of roads and driveways that access onto Route 3 between the Route 32 intersections, and where possible make shared common entrance ways.

Non-Highway Transportation Resources

The principal mode of transportation is the automobile and its local and state road system. Nevertheless other modes of transportation play a role in our lives. The following is a discussion of some of the more significant transportation modes that serve China.

Air Travel:

The Augusta and Waterville airports offer a limited number of commercial flights (passenger service from Augusta only) and provide access for private and corporate planes and small jets. Both airports are a 20 minute drive. The Portland Jetport and the Bangor Airport offer commercial passenger service to a number of different hubs. The Manchester Airport in New Hampshire offers a popular alternative to Boston's Logan Airport.

Railroad:

There are no rail lines in or near China, however, a narrow gauge rail line discontinued in the 1933 at one time extended from Albion to the coast. A portion of the right-of-way is still visible and potentially useable for recreational access.

The nearest active rail line (Guilford – Springfield Terminal) is located in Waterville, but without loading access is virtually useless to local commerce. The Auburn Intermodal Freight Facility an hour away allows tractor trailers to be loaded directly onto freight cars for long-distance shipment.

Passenger rail service has recently been re-established between Brunswick and North Station in Boston and reports are that it is flourishing. Plans call for eventually expanding passenger access along the coast and into central Maine via Waterville and Bangor, but this is a decade or more in the future.

Public Transit:

Interstate bus service is not available in China, but may be accessed both in Augusta and Waterville. Local public bus service is not available for the general population.

The Kennebec Valley Community Action Program provides rides to elderly and other persons through a volunteer driver program and demand-response bus for disabled clients. Other social service agencies also provide transportation for their clients. It is expected that, with the aging population, the demand for public transportation of this type will increase dramatically over the next twenty years.

Pedestrian Modes:

Sidewalks are not common in town, however many people walk along the road edge or in the shoulder. A popular walking route despite traffic is Lakeview Drive, especially during the summer. In 2011, the Town installed a new sidewalk in South China along Village Road and Old Windsor Road. Obviously, there is a demand for more pedestrian venues, if not for transportation then for fitness and recreation. Thurston Park provides some good opportunities for recreational walking trails.

Bicycle Lanes:

The paved shoulder along Route 3 and Route 9/202/137 provides a wide and safe bicycle travel way that is identified in the State Bicycle Map. Other local roads are used for bike traffic but are not especially safe due to unpaved shoulders and narrow roadways.

The DOT has published a guidebook entitled *Explore Maine by Bike*. The guidebook has a series of 33 loop tours throughout the state with recommended travel routes. Tour #20 goes through China. It originates in Waterville, goes down through Vassalboro and enters China on the Neck Road. From China Village, there are three options. The easy option is to return to Waterville via Route 137. The moderate option is to travel down Lakeview Drive to Route 3 back into Vassalboro north on Route 32. The challenge option is to go up Pleasant View Ridge Road and Permenter Hill Road to Branch Mills, then back along Route 3 to Dirigo Road, then down to Weeks Mills, and across the Tyler Road into Windsor.

There are no off-road routes especially identified for bike travel.

PART NINE: ESSENTIAL SERVICES

General Government:

Town Selectboard

China utilizes a Selectboard/Manager form of Government. The Town Selectboard has five members; Select persons are elected to staggered two (2) year terms. In the even years 3 members are elected. In the odd years, two members are elected. Nomination papers are available each August and the town meeting takes place in the Spring before the end of the fiscal year. The members can reside anywhere in China.

The Selectboard elects the Chairman from among its members following each election. The Chairman presides over all Selectboard meetings and acts as the Town Officer designated to represent the Town in agreements with other governmental entities, but has no administrative duties except as required to carry out the responsibilities outlined in the Town Charter.

The Selectboard meets several times a month and also has workshops or emergency meetings as needed.

Town Staff

The Town Manager is responsible for running the Town and hiring all other employees. There are currently fifteen positions reporting directly to the manager. The current Town Manager also acts as the Tax Collector, Treasurer, Road Commissioner, Civil Emergency Preparedness Director & Agent to the Overseer of the Poor.

Town employees include the following:

Town Clerk:

The town clerk is an appointed position. The duties of the Town Clerk include the issuance of Marriage, Birth and Death certificates, as well as maintaining the town's building permits and general town records, including those associated with elections and town meetings. The current Clerk also acts as the Registrar of Voters, Deputy Tax Collector and Deputy Treasurer.

Treasurer & Tax Collector:

The Town Manager currently acts as the Town's Treasurer and Tax Collector.

Taxes are committed in July or August every year and are due in two (2) installments; the last Friday of September, 1st half and the last Friday in March for the 2nd half. Interest of 8.0% starts after those dates of every year. As per State Law, the ownership and valuation of all Real Estate and Personal Property subject to taxation is fixed as of April 1st. Personal Property evaluations are updated on a yearly basis.

The current Tax Assessor is staffed by William Van Tuinen Associates. They do not keep regular office hours at the town but can be seen by appointment.

Animal Control:

The ACO's primary responsibility is to enforce the municipal animal control duties in Title 7 and Title 17 of Maine Law as well as the towns Dog Ordinance. It is currently held by Kim Bolduc-Bartlett.

The Town of China has a contract with Kennebec Valley Humane Society in Augusta to take stray animals. Animal control officers loan have-a-heart traps to residents.

Code Enforcement Officer:

Provides local enforcement of town codes and land use ordinances etc. The current schedule is Tuesday 7-4, Thursday 7-4 and Friday 7-2. The CEO can also be called to schedule an appointment as needed.

Citizen Committees

Civic involvement is the lifeblood of the town. How people feel about their community is greatly influenced by how they receive information, how involved they are in decision-making, and how open and fair they perceive the process to be.

A healthy town needs active, productive, accountable citizen committees advising the Town Selectboard and staff on various aspects of Town government. These Committees need a support system; just as paid workers do, to effectively perform their jobs, including factors such as:

- clear mission and objectives;
- leadership;
- access to information and effective communication;
- adequate meeting space;

- clear expectations of committee members, including attendance requirements;
- committed participants who understand the time and effort expected of the job; and
- public recognition and appreciation from the Town Selectboard and staff for the valuable public service provided.

Currently there are the following Boards/Committees active in China:

Planning Board	Forestry Committee
Appeals Board	Historical Preservation Committee
Board of Assessment Review	Historical Society Committee
Budget Committee	Implementation Committee
Broadband Committee	Police Services Committee
Capital Investment Committee	Open Space Committee
Cemetery Committee	Recreation Committee
China for a Lifetime Committee	Road Committee
Comprehensive Plan Committee	Revolving Loan Fund Committee
Economic and Community Development Committee	Thurston Park II Committee
Emergency Preparedness Committee	Tax Increment Financing Committee
Facilities Committee	Transfer Station Committee

The Town of China is a member of numerous districts and regional organizations, in addition to partnering with several independent local entities. The following entities are partners with the Town of China, and the town maintains continuous representation.

- RSU 18 Board of Directors (two positions serving a 3 year term)
- Kennebec Regional Development Authority (First Park)
- Kennebec Valley Council of Governments (KVCOG) Board of Directors
- Maine Resource Recovery Association (MRRA)
- Municipal Review Committee (MRC)
- Maine Municipal Association (MMA)
- Spirit of America

Town Office:

China's town office, located on Lakeview Drive, is the center of general town administration, records, and public meetings. The two-section structure was built in the 1980's and houses eight town employees in the areas of general office, assessing, management, and welfare. It also has a large meeting room adjacent to the offices and a separate portable building on site that can act as a secondary meeting room and emergency shelter if needed. The building is ADA accessible and it's water supply was recently upgraded. There is a possible need for more space in the future. Especially regarding the need for records retention.

Cemeteries:

There are 29 public cemeteries in the town of China. Although there are a two private cemeteries, most are maintained by the town.

A map of cemetery locations in China is included in the Historic Resources Chapter of this Plan. Cemetery lots are for sale in the China Village Extension, Branch Mills, Dirigo Friends, Deer Hill, and Pleasant View Ridge Cemeteries.

Chadwick Hill Cemetery is not a Town Cemetery

Solid Waste and Recycling:

The Town of China's Transfer Station and Recycling Center is located at 191 Alder Park Road. It currently has five member of staff. The town has a contract with the PERC facility for solid waste and recyclable materials are taken to different places that will give the best price for the market.

Approximately 1300 tons of solid waste per year comes through the station as of last year, which comes out to about 1500 pounds per year from each household. The town recycles a good amount (especially now that cardboard is mandatory to recycle) and totaled around 800 tons of material last year as well as about 6.5 tons of electronic waste. Paint and waste oil are also taken.

The current administrative budget for the operation of the landfill is approximately \$320,000. Additionally the town has assigned Capital Equipment recommendations of \$80,613 - (\$56,319 for a Pre-Crusher & Compactor and \$24,094 for a New Forklift).

The addition of the Town of Palermo to use the facility has been very successful. This increased recycling over the 2016 totals. Other private users are allowed to use the facility as long as they pay the associated fees. All residents and camp owners who enter the Transfer Station must have a Transfer Station RFID placard.

A new building has been constructed for the “free for taking.” All are welcome to use the “free for taking” area. The building has been successful at its new location and seems to be utilized well by the town. A new hopper has been budgeted for in as an upcoming investment.

The Town has also transferred out just a little less than 800 tons of mixed Construction Demolition Debris

The transfer Station does accept most Household Hazardous Wastes but there are regional events at least annually where these materials can be brought.

The town currently contracts with Coastal Waste Management through an arrangement with Municipal Review Committee (MRC).

Public Water:

The town does not have municipal water or sewer facilities. Private or community wells and subsurface wastewater disposal facilities are used throughout the community. There are currently 19 community well systems providing water to commercial or larger users such as Erskine Academy.

There is a listing of the 19 community well systems are discussed in the Water Resources Section of this Plan.

The long term prospect is for the continued use of private water and subsurface wastewater disposal systems although there has been some general costing for the introduction of a basic municipal system which would be approximately \$35 million.

Public Safety:

Police Protection

Kennebec County Sheriff's Department and State Police provide the town's law enforcement, but the town contracts with other local police forces for part-time officers. The officers patrol our China roads and set up the speed detection trailer on various roads in China.

There is currently just a small budgeted amount of about \$37,000 for the police force in town.

There a total of 440 incidents reported in the 2018 FY. The majority being business and residence checks and traffic stops.

Fire Protection

There are three independent volunteer fire departments in China. They are located in the villages of China, South China, and Weeks Mills. The departments cooperate with each other and also have mutual aid agreements with surrounding communities. Rescue services are provided independently by China Rescue.

In 2018 the fire departments responded to 230 calls of varying nature and had a total of about 57 total volunteers.

Fire Department financial reserve:

FY19 Balance: \$85,071

FY19 Appropriated: \$20,000 (\$945 in other additions)

Total: \$106,016

	FY19/20 BUDGET	FY20/21 PROPOSED
CHINA VILLAGE VOL FIRE DEPT	24,500.00	26,230.00
SOUTH CHINA VOL FIRE DEPT	24,000.00	24,000.00
WEEKS MILLS VOL FIRE DEPT	27,000.00	18,300.00
FIRE DEPT EMERGENCY VEH INS	5,000.00	5,000.00
WORKERS COMP FIRE/RESCUE	2,000.00	2,000.00
CHINA RESCUE	17,195.00	20,500.00
RESCUE EMER VEHICLE INS	930.00	930.00
MALPRACTICE INS RESCUE	1,824.00	1,824.00
INLAND MARINE INS	1,800.00	1,800.00
PROPERTY/LIABILITY INSURANCE	1,250.00	1,250.00
WTVL PSAP/SOMRSET CTY DISP	23,000.00	31,000.00
FIRE/RESCUE STIPENDS	40,000.00 -	
FIRE DEPT CAP EQUIP	20,000.00 -	
TOTAL	\$188,499.00	\$132,834.00

SUPPORTING REVENUES
PROPERTY TAXES 132,834.00
TOTAL \$132,834.00

China Rescue:

The rescue department provides rescue services consisting mostly of medical emergencies, traffic accidents and assistance to the fire departments. Delta Ambulance provides paramedic service and transport to medical facilities. The department has just 6 members and major equipment includes a rescue vehicle and a rescue boat. They took 307 calls in 2018 but had missed some calls (50) due to lack of man power.

Health Care

Ambulance service is provided by Delta Ambulance in Augusta.

While not typically a municipal function, basic medical services are an essential regional service. China is fortunate to have a good level of quality medical services available close by. In Augusta is the Maine General Hospital with its many services and local offices.

Convalescent Care and Assisted Living

China does not have any nursing homes or assisted living facilities located within town with these services being more available in nearby Waterville and Augusta Areas.

Other Services

KVCAP offer transportation to medical appointments and services on an on demand basis for residents that require it.

Additionally the China for a lifetime Committee is working to identify and look for ways to provide for the needs of older residents in town. A lot of this will be through a volunteer network.

Education:

Public education for China residents is provided by Regional School Unit (RSU) #18, which also serves the communities of Belgrade, Oakland, Rome and Sidney.

Schools operated by the district are as follows: The total enrollment for the district in 2018 was 2,633.

Oakland	Atwood Primary	PreSchool to G2
Belgrade	Belgrade Central	PreSchool to G5
China	China Middle	G5 to G8
China	China Primary	PreSchool to G4
Sidney	James H. Bean	PreK to G5
Oakland	Messalonskee High	G9 to G12
Oakland	Messalonskee Middle	G6 to G8
Oakland	Williams Elementary	G3 to G5

The school system is a high priority of China residents. This is evidenced on an annual basis with the adoption of a school budget that is higher than that of surrounding communities. This strong commitment to education puts an increased level of strain on the municipal budget of over three and a half million dollars, and as a combined tax rate, it can be hard on many property taxpayers.

Table 37: Per-pupil Expenditures, 2017-2018 Fiscal Year

School District	Elementary	Secondary
RSU 18 (China)	\$11,155	\$10,590
RSU 38 (Readfield)	\$11,909	\$13,386
SAD 54 (Skowhegan)	\$11,200	\$11,618
SAD 49 (Fairfield)	\$10,945	\$12,031

For the 2017-2018 fiscal year expenditures within RSU 18 were slightly lower than other school districts when measured on a per-pupil basis, as seen on the table above. Per pupil expenditures are the common method for comparing school investments across jurisdictions. Since per-pupil expenditures would be expected to rise as a result of falling enrollments, such as been happening in China, the fact that RSU 18 costs are still within close range with neighboring districts is acceptable.

As evidenced by trends in the demographics chapter enrollment in public schools has been declining on average one percent per year for much of the past decade. Some of this is to be expected as a result of aging of the baby boom, but the accelerated decline since 2007 may be due to other factors. RSU 18 enrollments are also in decline, although the non-China portion of those numbers is declining faster so China is taking more of the burden.

School Education

China Primary and Middle School on Lakeview Drive (202) takes pre-school through to Grade 8 and has a current enrollment 232 and 197 respectively which have been declining over the past 5 years. There are plans to expand the Primary School facilities in the same way that the middle school was recently expanded (an additional 2,300 sq ft of space). The original building for both schools are beginning to show their age.

Messalonskee High School in Oakland has a current enrollment of 723 which has also declined by 74 over the last 5 years. There is high school choice in China so students may choose which school to attend in the region.

Erskine Academy

This is a private school within China that is 60% publically funded and has 560 students in grades 9–12 from eight sending towns (Chelsea, China, Jefferson, Palermo, Somerville, Vassalboro, Whitefield, and Windsor, which offer school choice and pay tuition), and private pay tuition by families. The class of 2018 included 139 graduates. 1% are international students. There are 86 employees, 39 of whom are Erskine alumni.

School Transportation

RSU 18 runs numerous busses to and from China on the following schedule:

Bus 123 - C123-AA (Route # 1)

Start Time: 6:45 a.m. Pick up K-12 Students on the China/ Winslow town line, then onto the Albion Road, Waterville Road, Morrill Road, Parmenter Terrace, and Lakeview Drive. Stops at the China Schools.

C123-BB (Route #2)

Start Time: 7:15 a.m. China Schools to Erskine Academy, transferring grades 9-12.

Bus 150 - C150-AA (Route #1)

Start Time: 6:35 a.m. Pick up grades K-12 on Maple Ridge Road, Stanley Hill Road, Neck Road and Main Street. Stops at China Schools.

C150-BB (Route #2)

Start Time: 7:15 a.m. Pick up grades 9-12 transfers at China Middle School and proceed on Lakeview Drive picking up 6-12 students.

Stops at Erskine Academy.

Bus 117 - C117-AA (Route #1)

Start Time: 6:40 a.m. Pick up grades K-12 on Dirigo Road south of the Tobey Road, South Road, Deer Hill Road, Lane Road, Back Deer Hill Road, Wing Road and Winding Hill Road.

Stops at Erskine Academy and China Schools.

Bus 151- C151-AA (Route #1)

Start Time: 6:45 a.m. Pick up grades 9-12 on Route 3, Route 105, Weeks Mills Road, South Road, Dirigo Road and Alder Park Road. Other stops to meet the bus: M.A. Haskell Fuel 6:20a.m., 32 General Store 6:27 a.m., Freeman Road parking lot 6:40 a.m., China Schools 6:55 a.m., Causeway

Church parking lot 7:00 a.m.

Stops at Messalonskee High School.

Bus 126 - C126-AA (Route #1)

Start Time: 7:00 a.m. Pick up grades K-12 on Windsor Road, Tyler Road, Shuman Road, Weeks Mills Road.

Stops at China Schools.

Bus 159 - C159- AA (Route #1)

Start Time: 6:45a.m. Pick up grades K-12 on the Tobey Road, and north from the Tobey/Dirigo Road intersection on the Dirigo Road, Route 3, Branch Mills Road, Parmenter Hill Road, Hanson Road, Mann Road, and Cross Road. Stops at China Schools.

C159-BB (Route #2)

Start Time: 7:25 a.m. Start Point: China Schools. Transfer grades 9-12 to Erskine Academy.

Bus 114 - C114-AA (Route #1)

Start Time: 6:40 a.m. Pick up grades K-12 on Vassalboro Road, Route 3 from the China/Vassalboro town line to the Route 3/Lakeview, Rockwood Drive and Village Street. Transport 9-12 students to Erskine Academy. Continue on Lakeview Drive picking up K-8 students to the China Schools.

Bus 118 - 118-AA (Route #1)

Start Time: 6:40 a.m. Pick up grades K-12 on Pleasant View Ridge Road, Danforth Road, Dutton Road, McCaslin Road, Bog Brook Road, and Hanson Road. Stops at China Schools and then onto Erskine Academy.

Bus 128 - C128-AA (Route # 1)

Start Time: 6:40 a.m. Pick up grades K-12 on Legion Memorial Drive. Continue to South Route 32 (Windsor Road) picking K-12 students including the Arnold Road and Bradford Lane. Continue back to Route 3 and head east picking students up from the intersection of Route 32 and Route 3 to the intersection of Route 3 and Alder Park Road. Pick up K-12 students on Alder Park Road and then onto China schools.

There are no other major educational institutions in China but there are some within the region. One is the Kennebec Valley Community College, located on in Fairfield adjacent to the Interstate. The school provides post-secondary education in medical, mechanical, and other technical disciplines. KVCC has been often expanding with a new classroom building and added parking, and both enrollment and budget are growing. Others include Snow pond Arts Academy in Sidney, Colby and Thomas Colleges in Waterville and Unity College in Unity.

Public Works:

The functioning of the Public Works / Highway Department is discussed separately from transportation because of the wider nature of their responsibilities. In addition to roads (both summer and winter maintenance), public works cares for sidewalks, street trees, parking lots, drainage ditches and parks and cemeteries.

The highway department currently has two full-time and one part-time employees. The Public Works / Highway Department Manager oversees the daily operations and the road committee serves as an advisory board to the Road Commissioner and Select Board. Major road work including paving and road rebuilding is contracted to private companies through a bid process. The highway crew is responsible for much of the on-going maintenance projects.

A capital replacement fund has been established for the public works buildings and equipment. At this time the building space and condition of buildings is adequate to fit China's needs. Equipment needs are sufficient to provide excellent service to the town.

The town recently took delivery of a new International Harvester Truck with plowing equipment to replace the oldest truck in the fleet. All large town plow trucks now have appropriate equipment for effective winter road maintenance.

The town has a long term road improvement/resurfacing plan initiated by the Road Committee and Road Commissioner. The town is now partnering with the State DOT in road projects owned by the State but within town limits.

Camp roads are private roads and the individual/collective owners provide for the maintenance and upgrading of the respective roads. The China Region Lakes Alliance has provided for some financial support for maintenance of camp roads through DEP grant awards. The poor condition of private subdivision roads have proven to be a problem area in the past, but recent amendments to the town's road standards are intended to address that.

Equipment for public works is budgeted through an annual appropriation in the municipal budget. This appropriation (equipment reserve) can be carried over for higher-cost items.

China Libraries:

The town is served by the Albert Church Brown Memorial Library and the South China Public Library. Library services are available to area residents without charge.

Library operations are funded by a combination of town funds, endowments, donations, and volunteer services. Both libraries are open on Saturday mornings and at limited hours during the week.

Albert Church Brown Library has a community room with a capacity of 50 that can be used for many different events that require AV equipment.

The South China Library has begun construction on a new location (33 Jones Road in South China Village) which may be completed in a few years' time. This should increase Library capacity and enable it to hold more activities, programs and events. The South China Library is a non-profit entity and is only able to provide minimum maintenance levels.

2017 saw 1,385 recorded patron visits and 359 households had library cards, it also makes available wireless internet for residents that is an important community service. It also holds a well utilized summer reading program for local children.

Communication Infrastructure:

Broadband internet is provided by Spectrum and Consolidated Communications. According to preliminary data gathering by Connect ME this covers most of the town (linked to addresses on roads) with the option to achieve more than 25 down / 3 up (Mbps). There are some private road areas that do not achieve this threshold.

The town has entered into a contract (6 year deal) with Hussey Communications to provide a direct Wi-Fi service to underserved residences that has the potential of approximately 15Mbps at the cost of about \$25 per month.

Cellular service is anecdotally problematic with some areas having poor, unreliable or no signal. The town would have to lobby the cellular companies to extend current towns etc. to try and remedy this.

PART TEN: FISCAL CAPACITY

Overview:

Similar to other towns in Maine, China is limited in the methods it may use to raise revenues. The property tax is an overly burdened yet stable source of revenues. The Town has always been conscious about the need to develop and maintain a strong and diverse non-residential tax base with which to support municipal services. The strong ties between the Town and its major employers have been important over time in maintaining taxpayer willingness to contribute to municipal needs and the community's quality of life.

China offers a level of service reflecting the needs and priorities of the community utilizing a combination of public and private resources. For example, a full-time public police department is not an affordable option, while taxpayers have opted for waste services whereas the lack of water and sewer operation, keeps costs down but have major drawbacks of development. China has two libraries and has a robust fire and rescue service in addition to other core services (Code, Public Works etc.).

The Town has a reputation in the region for having low taxes in comparison to the larger communities nearby. China is one of the smaller towns in the service area and has had to support older infrastructure but has thankfully had no long-term indebtedness. China's 2018 adjusted tax rate of **\$15.80** per thousand dollars of valuation is certified as 100 percent ratio. Taxes reflect the community's strong commitment to education expressed by a voter-approved local option budget (that amount over and above the minimum required to match allocated State funds). The RSU #18 and Kennebec County assessments together constitute about 64 percent of the total tax burden for China residents and businesses. China's municipal officials have no involvement in the preparation or recommendations of these two budgets.

With its relatively low valuation compared to other towns in the school district, China carries roughly 20% percent of the five-town school district's financial burden, which is its equal share mathematically but not a fair share as it relates to the towns size and tax base. Without the additional local option funding, the Town's tax rate would be lower; however, the impact on educational services provided would also be noticeable if the local option were not funded. During 2018-2019, the five-town tax base is supporting a high proportion (about 60 percent!) of the cost of education in RSU18, with the State contributing about \$436,000 less this year and leading to a \$1.58 million increase in the local match requirement. The overall district budget has increased by 2.83% from the previous year.

While this chapter will not focus on educational or county budgets, it is important to understand the significant impact these assessments have on the municipal tax rate. In 2019, the municipal budget,

inclusive of the capital budget, totaled around 36 percent of all town expenses; Kennebec County represented 5 percent and RSU18's portion amounted to 58 percent. While a dollar spent in any of these programs has the same eventual impact on taxpayers, it is helpful for taxpayers to realize the level of financial support going to various services.

	<u>Governmental Activities</u>		
	<u>2018</u>	<u>2017</u>	<u>Change</u>
Revenues:			
Program revenues:			
Charges for services	\$ 182,817	\$ 170,898	\$ 11,919
Operating grants and contributions	61,467	62,697	(1,230)
General revenues			
Taxes	7,310,702	7,150,552	160,150
Intergovernmental	443,880	333,822	110,058
Investment	43,868	90,071	(46,203)
All others	31,184	166,792	(135,608)
Total Revenues	8,073,918	7,974,832	99,086
Expenses:			
Administration	986,585	891,420	95,165
Protection	239,614	182,138	57,476
Public works	1,063,585	707,317	356,268
Solid waste operations	388,445	344,306	44,139
Community services	117,903	120,045	(2,142)
Education	4,741,164	4,471,590	269,574
Recreation	24,590	26,067	(1,477)
County tax	396,462	400,830	(4,368)
Economic development	98,790	-	98,790
Interest on long-term debt	(2,000)	(1,900)	(100)
Capital outlay	(1,186)	107,644	(108,830)
Total Expenses	8,053,952	7,249,457	804,495
Change in Net Position	\$ 19,966	\$ 725,375	\$ (705,409)

The Town has a clear accounting and budgeting system in place which makes it very easy to track expenditures by program and line item. This enables town officials and members of the public to readily understand how municipal funds are spent. A summary of expenses and revenues by account for 2017-2018 are shown adjacent.

In general, revenues had remained stable through the last few years even growing very slightly. Other revenue sources most affected by outside factors were State Revenue Sharing and Investment Income.

State Revenue Sharing, which is based on state sales and income tax revenues, decreased significantly as the recession took hold and the Legislature began

raiding those program funds. State Revenue Sharing would likely recover if the program was fully funded by the Legislature. There has been a move to increase this amount by a few percent per year to reach a 3% level just recently (2019). Investment Income is still significantly lower and economists predict that interest rates will be low for the next few years; however, the town's fund balance continues to grow, which will also aid in the recovery of investment income.

Excise taxes are slowly starting to pick up as the economy comes back and this revenue source will likely continue to increase slightly each year.

The tables overleaf display information about China's tax base. Table 38 displays the reasonable proportion (6 percent) of the Town's tax base that is exempt from taxation. The Town could explore fees in lieu of taxes to recover some support for especially relevant municipal services (e.g. roads and public safety), thereby expanding the towns income.

Table 38: Exempt Real Estate Property

EXEMPT CATEGORY	2017
State of Maine	\$589,000
Public Municipal Corporation	\$7,218,700
Literary & Scientific	\$6,771,100
Churches & Parsonages	\$6,768,100
Benevolent and Charitable	\$819,900
Fraternal Organizations	\$597,600
Veterans	\$197,600
Other	\$4,000
TOTAL EXEMPT PROPERTY	\$23,764,000
STATE VALUATION	\$392,849,500
PERCENT EXEMPT	6.0%
SOURCE: Municipal Valuation Return Statistical Summaries, Maine Bureau of Taxation	

Table 39: Real And Personal Property By Type

Year	Land	Buildings	Total Land & Building	Production Machinery & Equipment	Total Real and Personal Property	TIF District Captured Value	TIF Tax Revenue	Motor Vehicle Excise Tax	Distribution & Transmission
2017	\$188,430,400	\$204,419,100	\$392,849,500	\$3,192,300	\$7,465,800	\$22,577,250	\$358,984	\$883,230	\$44,908,200
SOURCE: Municipal Valuation Return Statistical Summaries, Maine Bureau of Taxation									

Regional Comparison:

Compared with surrounding communities and county averages in 2017 (the latest year for which comparative population, valuation, and tax rates are available), China's full value tax rate in 2017 was low at \$15.90 per \$1000, being under the county average of \$17.26 but lower than Winslow (just) and certainly Waterville and Augusta. Albion and Windsor are both lower tax rates. Within the other communities of the school district, you can see the tax commitments and rates are low as well.

Table 40: Relative Tax Burden - 2017, China And Reference Communities

JURISDICTION	2017 POPULATION	2017 STATE VALUATION	PER CAPITA VALUATION	2017 COMMITMENT	FULL VALUE TAX RATE	PER CAPITA ASSESSMENT
China	4,266	\$392,849,500	\$92,088	\$6,365,013	\$15.90	\$1,492
Waterville	16,374	\$660,040,600	\$40,310	\$16,697,596	\$23.33	\$1,020
Augusta	18,626	\$1,589,040,000	\$85,313	\$34,774,846	\$20.38	\$1,869
Winslow	7,608	\$567,281,800	\$74,564	\$10,101,331	\$16.74	\$1,328
Vassalboro	4,330	\$296,023,900	\$68,366	\$4,352,839	\$14.55	\$1,005
Windsor	2,561	\$290,530,600	\$113,444	\$3,732,372	\$12.80	\$1,457
Albion	1,976	\$116,753,040	\$56,086	\$1,888,732	\$16.00	\$956
Kennebec County	121,289	\$9,925,233,794	\$81,831	\$177,082,311		\$1,460

SOURCE: 2017 Census; Maine Revenue Services

2017 State Equalized Valuation and Tax Rates: 2017 Municipal Valuation Return Statistical Summary

Accounting Practices:

The Town has its financial records audited annually. The 2018 audit was performed by the firm of PurdyPowers and Co. and includes a detailed description of all Town funds and accounting practices. The report was favorable in its characterization of the Town's approach to financial management. In 2018, the General Fund balance at year-end was calculated at \$2.2 million. This does satisfy the 3-month expenditure cushion that accountants recommend be kept on-hand, but the Town has done well to maintain a balance to that level.

Grant Income:

Grant income is kept out of the regular budget, so it does not appear in the statements displayed earlier in this section. Recent grants related to town operation totaled \$57,243 including some money for culverts.

Special Revenue Funds:

The following special revenue funds have been established to hold and account for specially designated resources that are restricted by law or administrative action:

Special Revenue Fund:

General Fund: **\$660,298**

Non-major Special Revenue Funds:

General Fund: **\$16,087**

Major Special Revenue Fund: TIF Fund **\$33,464**

Reserve Accounts as of 6/30/2018

Reserves:

China Village Volunteer FD	311
Equipment reserve	64,113
Compactor reserve	39,878
Boat launch reserve	1,703
Growth management reserve	9,383
Fire Department reserve	85,071
Sand/salt shed	22,591
Lake access	125,229
Weeks Mills FD building	10,205
Recreation reserve	15,000
Legal reserve	36,549
Community days	13,663
Rescue reserve	43,330
Planning Board	8,000
Dispatching	60,145
PSAP e911	17,789
South China VFD	5,477
2018 Bi-Centennial	10,077
Unemployment claims	7,548
Total other reserves	<u>576,062</u>
	<u>\$ 918,465</u>

Capital Project Funds:

The Town also maintains separate capital project funds which often receive transfers and intergovernmental revenue. The Town maintains a capital equipment replacement plan and funds that plan each year. The Town has a general capital improvement account. More of this is detailed in the Capital Investment Planning Section of this plan.

Fiduciary Funds

These funds are used to account for resources held for the benefit of parties outside the Town of China. These funds are not reflected in the government-wide financial statements because the resources of these funds are not available to support the Town's own programs. The accounting used for fiduciary funds are much like that of proprietary funds. They use the accrual basis of accounting.

As of the end of the 2018 financial year there was \$721,821? in Fiduciary funds.

Proprietary Funds:

The Town of China maintains any proprietary funds of \$ 363,876

Current Debt Service:

At June 30, 2018 the Town had \$15,766 in total debt service which is a stable and relatively small amount.

Tax Collection Rate:

Due to the town's efforts to manage the Town's funds as frugally as possible, the property tax burden is reasonable and affordable to the majority of the Town's taxpayers. If non-payment at the end of the fiscal year is a reliable indicator, the Town's collection rate at the end of 2018 was 97.7%.

While voting to support a high local option portion of the school budget, all are affected by the result, regardless of ability to pay. Tax liens have been placed on ??? properties in 2018. The collection rate for current year taxes has been running in a similar range. Town officials, both elected and appointed, remain vigilant at trying to minimize the tax burden.

Summary and Findings:

This Comprehensive Plan finds that the Selectboard and administration have been doing a good job in managing the budget with the usual uncertainties in State, education and national conditions. The Town and Selectboard is committed to the efficient and cost-effective delivery of public services. The board continues to review the current mix of public services and develop budget recommendations that protect the provision of essential services, set priorities, and emphasize the need for keeping taxes reasonable. The Town is striving to maintain competitive taxation with respect to the municipal budget and is always seeking innovative and sustainable solutions to that end. They are also committed to limiting the need to incur new public debt by reviewing and updating a multi-year capital plan that addresses the town's needs.

DRAFT

III. RECOMMENDATIONS

One: General Recommendations

Two: Land Use Plan

Three: Capital Investment Planning Process

Four: Regional Coordination

DRAFT

ONE: GENERAL RECOMMENDATIONS

This section of the Plan lists general recommendations, in the form of policies and strategies, for each of the elements of the plan. These recommendations are intended to address the issues raised in the review and analysis of the elements in Section II, *Community Assessment*. The matrix also shows a suggested implementation timing and responsible party.

For the purpose of this chapter, the implementation priority is divided into near-term, mid-term, long-term, and ongoing:

- “Near-term” is presumed to be activities which can be completed within two years. These are primarily changes to Zoning and other ordinances, and easily-achievable actions.
- “Mid-term” activities will be commenced and/or completed between two and five years after adoption. These consist of lower-priority activities or those which require additional planning or preparation.
- “Long-term” activities are those which are more nebulous, and for which the path to implementation has not yet come into focus.
- “Ongoing” is used to identify strategies which are currently in place and should continue.

Policies:	Strategies:	Implementation:
<p>HISTORIC RESOURCES:</p> <p>Official historic buildings, sites, and artifacts are not overly common in China, but there remains a connection with our valued heritage. Like many towns in Maine, we have an historical society, but insufficient resources to do all the identification and preservation work that is warranted. There are a number of historic cemeteries in town also. Some historic and archeological resources have been identified in China, but more work is needed to preserve and restore them.</p> <p>Goal: To preserve the town's historic and archeological resources for the enjoyment and education of future generations.</p>		
<p>1. The Town recognizes the importance of buildings and sites of historic significance and will look to reinvigorate the China Historical Committee to further develop historic listings.</p>	<p>1.1 – Support the Historical Committee in efforts to integrate and catalog historical documents etc.</p> <p>1.2 – Conduct a comprehensive inventory of historical buildings in China, for potential identification and inclusion on state or federal historic listings.</p> <p>1.3 – Establish a historical marker program for locally identified historical sites and buildings in China.</p> <p>1.4 – Consider the development of an Ordinance to protect Listed and Eligible Historic buildings.</p>	<p>Historical Committee, near term.</p> <p>Historical Committee, mid-term.</p> <p>Historical Committee, mid-term.</p> <p>Historical Committee / Planning Board, mid-term.</p>

Policies:	Strategies:	Implementation:
<p>2. The Town will prevent disturbance of archeological resources by regulating development in areas likely to contain those resources.</p>	<p>2.1 – Look into possible ordinance provisions or building standards that require applicants to identify and protect archeological resources in sensitive areas. Make building permits conditional with appropriate use.</p> <p>2.2 – Make MHPC information and map of areas with high archeological potential widely available.</p>	<p>CEO / Planning Board, ongoing</p> <p>Code Enforcement Officer, near term</p>
<p>NATURAL RESOURCES:</p> <p>China’s land and water assets provide a necessary buffer against environmental degradation and support for resource-based economic activity such as forestry. Water-based assets provide a basis for recreation and tourism, as well as sustaining life. Protection of these assets from over-development is an important function of this Plan.</p> <p>Goals: To protect China's natural resources, including wetlands, wildlife and fisheries habitat, shoreland, scenic vistas, and unique natural areas. To protect the quality and manage the quantity of China's water resources, including the lakes, streams, and groundwater aquifers.</p>		
<p>4. Provide strong regulatory protection for critical natural resources, including surface and groundwater, wildlife habitat, and wetlands.</p>	<p>4.1 – Look into the possibility of greater standards of Land Use Regulation, subdivision, shoreland zoning, and site plan ordinances regarding pollution, erosion control, and preservation of critical natural resources. Update to current practices as necessary.</p>	<p>Planning Board, ongoing</p>

Policies:	Strategies:	Implementation:
	<p>4.2 – Consider protection provisions within any current and future land use ordinances and incorporate maps and information from this plans relevant section into analysis of protected areas.</p> <p>4.3 – Consider wellhead protection zone standards.</p> <p>4.4 – Work with Kennebec County to develop and maintain an all-hazard emergency response plan.</p> <p>4.5 – Continue to keep the Flood Ordinance up to date.</p> <p>4.6 – Educate the public on septic system upkeep, etc., through the enforcement of the plumbing code and relevant sections of the Land Use ordinance</p> <p>4.7 – Continue erosion control training for Best Management Practices for Public Works employees and municipal contractors.</p> <p>4.8 – Make enforcement of all existing and future regulations a high priority.</p>	<p>Planning Board, near term</p> <p>Planning Board, near term</p> <p>EM Director, ongoing</p> <p>Planning Board, ongoing</p> <p>CEO, ongoing</p> <p>Town Manager, ongoing</p> <p>CEO, ongoing</p>

Policies:	Strategies:	Implementation:
<p>5. Engage in community-wide and regional efforts for the Town’s principal environmental assets: China Lake and Threemile Pond</p>	<p>5.1 – Maintain commitment to and support of the China Region Lakes Association (CRLA) and / or Lake smart.</p> <p>5.2 – Review and revise the Phosphorous Control Ordinance to enable greater compliance and better results for water quality protection. Also look to bolster enforcement options.</p> <p>5.3 – Research and consider becoming involved with a local Land Trust such as Seabasticook Valley or Kennebec Land Trusts.</p> <p>5.4 – Encourage local school district, and town events to utilize China Lake / Threemile Pond as a learning resource. Working with CLRA, provide landowner education for protection of critical natural resources.</p> <p>5.5 – Continue to monitor invasive species (both plants and fish) on the lake / pond and provide educational materials at appropriate locations. Utilize volunteer inspection programs.</p>	<p>Town Manager, ongoing</p> <p>Planning Board, near term</p> <p>Town Manager, ongoing</p> <p>Town Manager, ongoing</p> <p>All town representatives, ongoing</p>

Policies:	Strategies:	Implementation:
<p>Natural resource-based industry was China’s first form of economic development, and still provides jobs and income for many households. In addition, forest land provides multiple other benefits. Farming in Maine overall is evolving from a commodity-based mass market industry to a locally-based business and this is perhaps an opportunity for the town. Forest management is supported by markets for wood products that are beyond local control, but since the forest gains value from one year to the next, it can generally withstand temporary fluctuations.</p>		
<p>Goal: To safeguard China's agricultural and forest resources from development which threatens those resources, by building a strong and healthy resource-based economy</p>		
<p>6. The Town will consider farming, and forestry, and its infrastructure a valuable part of its economic base. Agriculture will be encouraged and supported to the same extent as other businesses.</p>	<p>6.1 – Incorporate commercial agriculture into the Town’s commercial and industrial development efforts through planning for incentives such as tax credits, business promotion, and financial assistance.</p> <p>6.2 – The Town should promote local foods and value-added industry through support of local farmers markets and incentives for related businesses. It will also look into the logistics and feasibility of beginning a Farmers Market in town.</p> <p>6.3 – The Town will review any ordinances, permits or policies to ensure that they are farm-friendly.</p>	<p>Town Manager, near term</p> <p>Town Manager, ongoing</p> <p>Planning Board, near term</p>

Policies:	Strategies:	Implementation:
<p>7. The Town recognizes the importance of land as a prospective agricultural base. Identification of prime farm soils will help to preserve this base.</p>	<p>7.1 – Work with Maine Farmland Trust, local Land Trusts and other programs which offer conservation / agricultural easements and similar programs to preserve valuable farmland.</p> <p>7.2 – Require identification of prime farmland soils on any subdivision plans and commercial developments.</p> <p>7.3 – To preserve land and open Space, look into implementing Cluster / Conservation standards in the towns Subdivision Regulations.</p> <p>7.4 – Promote and educate residents about the Farmland Tax Programs.</p>	<p>Town Manager, ongoing</p> <p>Planning Board, near term</p> <p>Planning Board, near term</p> <p>Town Manager, near term</p>
<p>8. Seek to manage forest land in the town for sustainable yields and multiple uses.</p>	<p>8.1 – Maintain the forest management plan for the town owned land.</p> <p>8.2 – Report violations of the state timber harvesting regulations and evidence of invasive plant species or insects.</p> <p>8.3 – Promote and educate residents about the Tree Growth Tax Programs</p>	<p>Town Manager, ongoing</p> <p>CEO, Town Manager, ongoing</p> <p>Town Manager, near term</p>

Policies:	Strategies:	Implementation:
<p>RECREATION:</p> <p>China has some limited facilities that provide indoor and outdoor recreation and cultural opportunities for area residents. Access to recreation and cultural facilities is available for a wide spectrum of interests and needs especially in the region. With such a broad range of opportunities, obviously there are several areas available for improvement.</p> <p>Goal: Promote and protect the availability of indoor and outdoor recreation opportunities for China citizens, including access to surface waters.</p>		
<p>9. Improve water access to China Lake, and Threemile Pond.</p>	<p>9.1 – Improve and promote non-motorized boat access to all the town’s waterbodies.</p> <p>9.2 – Begin working towards the creation of a waterfront park and/or improved public boat / swimming access to China Lake.</p> <p>9.3 – Investigate the feasibility of more or improved public boat launches on Threemile Pond and/or South end of China Lake.</p>	<p>Town Manager, mid term</p> <p>Town Selectboard, ongoing</p> <p>Town Selectboard, long term</p>
<p>10. Continue improvements to town parks and open spaces, including local recreation programs.</p>	<p>10.1 – Continue supporting and utilizing the Recreation Committee and Thurston Park committee, continuing collaboration with the local schools and/or local organizations.</p>	<p>Town Selectboard, mid-term</p>

Policies:	Strategies:	Implementation:
	<p>10.2 – Expand opportunities in parks, possibly through establishing non-sport activities for adults, community gardens, and more community events.</p> <p>10.3 – Continue to maintain current town facilities and promote access to facilities.</p> <p>10.4 - Seek new ways to increase recreation opportunities for the elderly and work in cooperation with neighboring communities and regional groups.</p>	<p>Recreation Committee, near term</p> <p>Selectmen, Town Manager, ongoing</p> <p>Recreation Committee, near term</p>
<p>11. Improve local recreational trail opportunities.</p>	<p>11.1 – Continue to support snowmobile/ATV groups with trail maintenance/development.</p> <p>11.2 – Improve/maintain walking paths in urban portions of town.</p> <p>11.3 – Continue to look for more trail opportunities through town and region.</p>	<p>Town Selectboard, ongoing</p> <p>Public Works, ongoing</p> <p>Recreation Committee, Town Manager, mid term</p>

Policies:	Strategies:	Implementation:
<p>12. Improve information about and access to local cultural offerings.</p>	<p>12.1 – Adequately support the needs of the libraries in town, including proper maintenance of the buildings.</p> <p>12.2 – Promote the local arts community and creative projects in cooperation with local organizations and Maine Commission for the Arts.</p> <p>12.3 – Encourage newspapers to expand coverage of municipal affairs. Improve and update the town website as necessary.</p>	<p>Town Selectboard, ongoing</p> <p>Town Manager, ongoing</p> <p>Town Manager, ongoing</p>
<p>LOCAL ECONOMIC DEVELOPMENT:</p> <p>The local economy of the Town of China is always important and linked to many other areas of town policy. Like many other communities, the Town is fighting trends that are not favorable, such as being in a rural part of the state and lack of investment capital. But China has several assets as well – it’s waterbodies, recreational opportunities and good quality of life. China must begin to work on building on these assets, cooperating with private business and regional economic players, and maintaining a focus on suitable matches if it is to succeed in building a more robust economy.</p> <p>Goal: To promote an economic climate that increases job opportunities and overall economic well-being. Encourage development of local business in appropriate areas of town.</p>		
<p>13. Continue to work with regional development partners and public-private initiatives to identify and develop new business and employment opportunities.</p>	<p>13.1 – Participate in regional economic development planning efforts of Kennebec Valley Council of Governments, SBDC and any other regional entities.</p>	<p>Town Manager, ongoing</p>

Policies:	Strategies:	Implementation:
	<p>13.2 – Expand cooperation with the Mid Maine Chamber of Commerce.</p> <p>13.3 – Continue to utilize TIF programs and State / Federal grants to enable greater economic growth.</p>	<p>Town Manager, near term</p> <p>Town Manager, ongoing</p>
<p>14. Improve access to funding, business, and training opportunities for prospective entrepreneurs and job seekers.</p>	<p>14.1 – Promote access to the Small Business Development Center for business advice and counseling.</p> <p>14.2 – Seek out and develop opportunities for more skill training through adult education, vocational programs, KVCC, or employer-based programs.</p>	<p>Town Staff, ongoing</p> <p>Town Staff, near term</p>
<p>15. Target development efforts to specific commercial clusters within the town – Route 3 Corridor and the Route 137 / 202 / Main Street area.</p>	<p>15.1 – Look to revive the economic development committee of volunteers (include business owners etc.)</p> <p>15.2 – Work to retain and market the Route 3 Growth area as a commercial hub and explore possible use of the Tax Increment Financing.</p>	<p>Town Manager, Town Selectmen, near term</p> <p>Town Selectmen, Manager, near term</p>

Policies:	Strategies:	Implementation:
	<p>15.3 – Have an up to date local business registry and make it available on the town Website.</p> <p>15.4 – Develop a much more focused Economic Development Plan for the community</p> <p>15.5 – Review current ordinance standards to guide the design and development of commercial activities.</p>	<p>Town Manager, ECDC, mid term</p> <p>Town Manager, ECDC, mid term</p> <p>Planning Board, ECDC, Town Manager, mid term</p>
<p>16. Ensure that local economic development remains a continued priority, with local energy and resources dedicated to economic development efforts.</p>	<p>16.1 – Support and grow the Economic Development Committee and ensure that adequate staff resources are dedicated to economic development activities.</p> <p>16.2 – Identify appropriate grant programs to further the Town’s economic development strategies in the most cost-effective manner possible.</p> <p>16.3 – Continue to recognize the value of Conservation and Recreation as an increasing economic driver and work to support and foster these activities.</p>	<p>Town Selectmen, Town Manager, mid term</p> <p>Town Manager, ECDC, ongoing</p> <p>Planning Board, ECDC, Town Manager, ongoing</p>
<p>17. Work to create an environment that is attractive to business to locate in China.</p>	<p>17.1 – Work to maintain competitive Tax Rates</p>	<p>Town Selectmen, Manager, ongoing</p>

Policies:	Strategies:	Implementation:
	<p>17.2 – Create marketing materials that make clear the benefits of the town to businesses and how to easily navigate establishing in town.</p> <p>17.3 – Take opportunities to encourage businesses to locate in existing properties that are available.</p>	<p>ECDC, Manager, short term</p> <p>ECDC, Manager, ongoing</p>
<p>HOUSING:</p> <p>China has a slowly growing housing stock, mostly of a rural nature, despite the low population growth of the town. There is older classic architecture in the village areas, with some contemporary and mobile homes across the rural areas. Considering the changing demographic structure of the town, the town can anticipate need for more rental housing and senior housing. Affordability is not an issue for owner-occupied homes, but it is an issue for rentals, partly because of the tight market for them. There are no land use standards to protect residential neighborhoods from commercial encroachment but due to the current nature of the town this has not been a significant issue.</p> <p>Goal: To encourage and promote a range of affordable, decent housing opportunities for China citizens.</p>		
<p>18. Continue to ensure that housing in China is available and affordable for the existing and projected workforce. At least 10 percent of new housing units should be affordable.</p>	<p>18.1 – Review and as needed amend growth area land use regulations to increase density, decrease lot sizes, setbacks and road width, or provide incentives such as density bonuses, to make housing less expensive to develop.</p> <p>18.2 – Designate location(s) in growth areas where mobile home parks are allowed pursuant to 30-A</p>	<p>Planning Board, medium term</p> <p>Planning Board / CEO, ongoing</p>

Policies:	Strategies:	Implementation:
	MRSA 4358(3)(M).	
<p>19. Plan for shifting demographic demands for housing, particularly for senior needs.</p>	<p>19.1 – Investigate the feasibility of forming a local housing consortium to construct more rental housing.</p> <p>19.2 – Work with local hospitals/senior organizations to develop a plan for senior/assisted housing within the community or region.</p> <p>19.3 – Allow the addition of at least one accessory apartment per dwelling unit in growth areas, subject to site suitability.</p> <p>19.4 – Use the occupancy permit system to monitor building permit progress and communicate with town assessor.</p> <p>19.5 – The town should consider retaining certain tax-acquired properties and purchase appropriate sites throughout town which are best suited to provide housing opportunities for low income and elderly.</p>	<p>Town Manager, mid term</p> <p>Town Manager, long term</p> <p>Planning Board / CEO, near term</p> <p>Code Enforcement Officer, near term</p> <p>Selectboard, ongoing</p>
<p>20. Maintain the quality of the existing housing stock.</p>	<p>20.1 – Seek grant funding for local homeowners to upgrade / maintain homes and make them more</p>	<p>Town Manager, ongoing</p>

Policies:	Strategies:	Implementation:
	<p>energy efficient.</p> <p>20.2 – Maintain an adequate Building Inspection program and consistently enforce the MUBEC.</p>	<p>Selectboard, CEO, ongoing</p>
<p>21. Preserve residential neighborhoods.</p>	<p>21.1 – Review and enforce current home occupation standards.</p> <p>21.2 – Investigate regulatory options to address issues of nuisance or unkempt yards and basic design standards for new development</p> <p>21.3- The town should look at adopting a Health and Safety Ordinance for multi-family units, to ensure healthful standards for renters in town.</p>	<p>CEO, Planning Board, ongoing</p> <p>CEO, Planning Board, near term</p> <p>Planning Board, Town Manager, Medium term</p>

Policies:	Strategies:	Implementation:
<p>TRANSPORTATION:</p> <p>In today’s society, transportation is a critical element to the local economy and community, providing access to jobs, services, and products. China’s transportation system is structured to provide access both within the town and to a larger market area. The road network serves primarily motor vehicles and is generally in good condition, but with no close access to the interstate system. The town has a small pedestrian network, and no direct access to public transportation.</p> <p>Goal: To maintain and improve an efficient transportation system that aids economic growth and serves all users.</p>		
<p>22. Maintain a safe and convenient intermodal transportation system in the most cost-effective manner within budgetary constraints of the town.</p>	<p>22.1 – Maintain adequate funding in the local road budget for continued maintenance of local roads.</p> <p>22.2 – Participate in DOT funding solicitations and planning for future road and pedestrian improvements in China and the region.</p> <p>22.3 – Review and update the Ordinance For The Acceptance Of Streets and Ways to provide comprehensive and modern design and maintenance standards for new roads. This should include engineering standards for road construction and erosion control and storm runoff standards to minimize phosphorous export.</p>	<p>Town Selectmen, ongoing</p> <p>Town Manager, ongoing</p> <p>CEO, Planning Board, near term</p>

Policies:	Strategies:	Implementation:
<p>23. Create and maintain a safe and attractive pedestrian and bicycle network in the village portions of town.</p>	<p>23.1 – Make sure to fix and maintain existing sidewalks</p> <p>23.2 – Request DOT and/or public works look at the possibility of extended sidewalks in popular areas.</p> <p>23.3 – Request DOT look at the possibility of Bicycle routes / lanes as well as effective crosswalks in the South China Village and Route 3 / 32 / Hannaford area.</p> <p>23.4 – Consider the need of Preparing a bicycle-pedestrian plan to identify gaps or infrastructure needs in the system.</p>	<p>Town Selectmen, Manager, ongoing</p> <p>Town Manager, long term</p> <p>Town Manager, long term</p> <p>Town Manager, ECDC, near term.</p>
<p>24. Ensure that the transportation system is compatible with other community values.</p>	<p>24.1 – Train Public Works crews in best management practices for erosion control and habitat protection.</p> <p>24.2 – Look to support any public transit initiatives as they arise.</p> <p>24.3 – Look for grant opportunities or private partnerships to install electric vehicle charging Station</p>	<p>Public Works Director, ongoing</p> <p>Selectboard, Town Manager, ongoing</p> <p>Town Manager, near term</p>

Policies:	Strategies:	Implementation:
	in town.	
<p>PUBLIC FACILITIES AND SERVICES:</p> <p>China provides limited public services to its residents. The Town is responsible mainly for fire, and emergency services, public works, and other utilities, and cooperates with the school district on education. The town operates the Transfer Station Facility. The Town therefore needs to be very good at controlling its budget. Cost-effective methods of service delivery are a top priority.</p> <p>Goal: Meet the public service demands of the China citizens and business community in the most cost-effective manner possible</p>		
<p>25. Utilize fiscal responsibility and public involvement to provide needed general Government Services in the most cost-effective manner possible.</p>	<p>25.1 – Actively pursue cooperative purchasing opportunities with neighboring towns, regional organizations, and the school district.</p> <p>25.2 – Continue to utilize a team approach to town government operations, sharing labor on joint projects, and meeting regularly among all town workers.</p> <p>25.3 – Welcome community involvement through use of informational displays and outreach techniques, and active use of the Town website.</p>	<p>Town Manager, ongoing</p> <p>Town Manager, ongoing</p> <p>Town Manager, ongoing</p>

Policies:	Strategies:	Implementation:
<p>26. Provide Emergency Services at current level of staffing and continue to fund improvements through Capital Improvement Plan (CIP).</p>	<p>26.1 – Continue the police protection arrangement with County, State and Local organizations whilst monitoring the budgetary costs.</p> <p>26.2 - Actively seek opportunities for regionalization of fire protection services, including shared equipment purchases and training sites and other opportunities.</p> <p>26.3 – Continue to monitor the adequacy of fire call response time and hydrant / water availability.</p> <p>26.4 – Continue EMS and provision of emergency first aid by town personnel. Monitor insurance and training requirements for first responder personnel.</p>	<p>Town Manager / Selectboard, ongoing</p> <p>Town Selectboard, Fire Chief, ongoing</p> <p>Fire Chief, ongoing</p> <p>Town Selectboard, Fire Chief, ongoing</p>
<p>27. Continue cost effective solid waste management and recycling services.</p>	<p>27.1 – Continue funding and utilization of the towns Transfer Station.</p> <p>27.2 – Consider changing the license for the transfer station to receive other products and maintain a waste stream that will not have negative environmental effects.</p>	<p>Selectboard, Public Works, Ongoing</p> <p>Transfer Station Committee, long term</p>

Policies:	Strategies:	Implementation:
	<p>27.3 – Make Transfer Stations improvements as recommended by the Transfer Station Committee.</p> <p>27.4 – Look into ways to improve the recycling service and rates.</p>	<p>Transfer Station Committee, Public Works, mid-term</p> <p>Transfer Station Committee, Public Works, mid-term</p>
<p>28. Work with education providers to promote learning and involvement in civic affairs while keeping affordable.</p>	<p>28.1 – Elected school board members and Town Selectboard should meet to discuss issues of joint interest.</p> <p>28.2 – Promote the use of service learning opportunities to get students contributing to civic improvement.</p>	<p>Town Selectboard, School Board, ongoing</p> <p>Town Manager, School Superintendent, near term</p>
<p>FINANCIAL RESOURCES:</p> <p>China is in acceptable financial condition, with very little debt and sound financial management. In general, revenues have been reasonably stable after stabilization from the 2009 recession. The Town Manager and Selectboard are committed to working to achieve a balanced budget with respect to the municipal side and seek innovative and sustainable solutions to that end.</p>		
<p>29. Recognize the limitations of the property tax, and seek to diversify the tax base while exploring creative sources of</p>	<p>29.1 – Seek new and diverse forms of industrial and commercial development to be situated in appropriate locations.</p>	<p>Town Selectboard, Town Manager, near term</p>

Policies:	Strategies:	Implementation:
municipal funding.	<p>29.2 – Support legislative initiatives to increase state financial support to towns and schools.</p> <p>29.3 – Explore grant opportunities available to assist in the funding of capital investments within the community.</p>	<p>Town Selectboard, ongoing</p> <p>Town Manager, near term</p>
30. Improve the town's fiscal capacity to provide existing public facilities with minimal impact on the annual budget.	<p>30.1 – Formalize the town's Capital Improvement Program and expand its scope.</p> <p>30.2 – Capitalize the Capital Improvement Reserve Account with estimate of annual depreciation of existing buildings.</p> <p>30.3 – Maintain a working knowledge and listing of grants and deadlines for financing special projects.</p>	<p>Town Manager, near term</p> <p>Town Selectboard, near term</p> <p>Town Manager, ongoing</p>

PART TWO: LAND USE PLAN

Current Land Use Patterns:

China has developed and continues to develop as a classic New England town – villages / “urban” cores and a rural expanse of undeveloped land. This pattern of development may be partially due to the historical large land ownership, but probably has much to do with the settlement patterns around water resources and a historic network of in-town services and amenities.

China does not have an official Census-Designated-Place (CDP) that encompasses more developed areas therefore it is classified 100% rural in this sense.

The past ten years have been an era of continued reasonable growth for China – with around 300 new housing units since 2000. During slow growth periods, there tends not to be a lot of moving around but China has actually seen an net in migration of 270 in the last 20 years; this was likely due to growth around China Lake. Statistically, the rural districts have seen the majority of building permits since in the past, but there has been no significant development of residential or commercial buildings in the last 20 years.

Subdivisions are noteworthy in that there have been none recorded by the town in the last 10 years or so. Large scale concentrated residential development has been tempered greatly by the 2008/9 housing crash and demand has seemingly not returned. A large amount of subdivision in the 2000’s may still not all be fully developed and sold yet also as a result of the economic conditions.

The urban or village areas of China have experienced little single-family and multi-family development over the past decade, as well as a general maintenance of the residential housing stock. It is clear that the value of living close to the village centers of China is not really a strong factor with the desire to be out in the rural areas outweighing it.

Notable Issues:

In community discussions, it has been clear that the pattern of growth is not really a large issue in China. There is adequate land available in China’s existing rural areas, so that there is no real need for any kind of detailed land use planning to control large amounts of growth. The town hence has very basic Zoning or Land Use standards that do not go much beyond mandated shoreland protections.

Vision:

China's vision guiding the town's activities contains multiple references to ideals that can be achieved through good land use strategies:

Looking Forward, Looking Back

This comprehensive plan builds on a vision of our future. The recommendations in the plan are a path towards that vision.

Twenty years from now, we want China to be a town which has retained its unique rural character and close sense of community; a town that has balanced individual property rights with community interests and goals. It will be a town that has approached the development process with an eye to promoting moderate growth, at the same time protecting the right to traditional lifestyles by recognizing that places such as farms and forests are economically productive spaces.

Twenty years from now, the town will have achieved consistent land use practices, guided by quantifiable, measurable criteria. In our vision, there is a healthy China Lake and Threemile Pond that serves as the cornerstone of its recreational and economic opportunities and planned development that provided an adequate supply to meet demand for residential, commercial, industrial and recreational uses, while encouraging efficient land use patterns.

Values and Aspirations

Following are values and aspirations that reflect the many views people have about our community at present and that have guided China's Comprehensive Planning Committee as it has addressed changes expected over the next 20 years.

- 1. We value the rural character and small community feel of the town.*
- 2. We enjoy our abundant natural resources and want them treated fairly and to be available for future generations to enjoy.*
- 3. We value China Lake, Threemile Pond and all of our water resources and want them to be adequately protected and we further want water quality to improve.*
- 4. We value agriculture and want to see farms succeed and continue to be a functional part of our landscape and economy.*
- 5. We value our forests and enjoy the rural quality they bring to the community. We further acknowledge the stewardship practiced by forest landowners.*
- 6. We want new development to be well planned and respectful of neighboring landowners. We acknowledge that growth will occur. We want it to occur in such a way that will enhance the character of the community.*

7. *We want our land use regulations to be well written and fairly enforced so that they benefit the entire community.*
8. *We want all age and income groups within our community to enjoy China's attributes and to encourage and facilitate community involvement and volunteerism.*

Active Land Use Planning is explicitly named in an ideal (no 7) and is most certainly seen as a tool that could be used to achieve the vision.

Land Use Plan Strategies:

Growth/Rural Boundaries:

Growth areas are intended to accommodate higher density housing, and some growth areas are intended for larger commercial projects and large subdivisions. Most commercial activities, except for home occupations and natural resource businesses, will be directed or strongly encouraged to locate into designated growth areas. Most future municipal capital investments will be directed to growth areas.

The obvious course would be to use the current village areas as the basis for the growth areas which form natural centers for growth, but these are also within lake watersheds. Given the sensitivity of the town's lakes, any effort to increase density or impervious surface within these watersheds will likely be met with a great deal of skepticism, not to mention the considerable constraint of water and sewer availability. Second, the other natural attractant for growth – particularly the commercial variety – is Route 3. The temptation to designate all of Route 3 as a growth area must be tempered with a recognition of the impacts on its safety and mobility.

In many cases it often makes sense to further break a growth area into industrial, commercial, village, or suburban categories. The only reason to do this is if the town were to adopt a different set of policies for one type of growth (e.g. suburban residential) versus another (e.g. highway commercial). With the town seemingly not wanted this level of land use regulation it looks like a simpler solution is needed.

Therefore due to the lack of demand for development overall and the adequacy of current supply, and the lack of any substantive land use regulations, a very basic growth area will be defined by this plan. Several of the growth areas designated in the old plan have not really proved to be areas where development has occurred and hence the committee after feedback and consultation with the public have agreed to the following:

Designated Growth Area

This area contains the existing South China village center located at the southern end of China Lake and encompasses the major intersections of most major routes in town. It runs right from the town line with Vassalboro to approximately half a mile after the 202 intersection. It covers the existing commercial hub around Hannaford's and south as far as Sproul and Crow Hill Road on route 32.

It is intended to serve as a mixed-use growth area for residential and suitable commercial activities. Allowing higher density to a lower minimum lot size along with lower dimensional requirements is recommended. Architectural design guidelines/incentives are recommended so that new development blends in with any traditional village architecture. This area is shown on the Future Land Use Map –in this Plan's Appendix. As mapped it is 1,121 acres with several undeveloped lots. The boundaries tried to conform to parcels where appropriate but this was not based on any real reason for incorporated some parcels over others.

Anticipated major capital investments needed to support the proposed land use will depend on Implementation of strategies in Pubic Facilities and Services Chapter.

This growth area was selected because it has the following attributes:

- Many of the Town's public facilities and services are already located in this area.
- This area contains existing homes and most businesses.
- This area is located at the intersection of most State Routes that run through town
- The area is an existing village center
- The area aligns with the Vision Statement

Critical Resource Areas

The existing Shoreland Zoning Resource Protection Zone in China is designated a Critical Resource Area and is protected by mandatory regulatory mechanisms. Other high-value areas identified by the Natural Resources Chapter of this plan may also be designated as Critical Resource Areas and will be protected primarily by non-regulatory mechanisms. This area aligns with the Vision Statement.

Rural Area

The balance of the land in town will be designated as a Rural Area. This area is intended for agriculture, animal husbandry, forestry, outdoor recreation, natural resource based activities such as lumber yards and sawmills, and agricultural based activities, which will be encouraged.

Housing and home occupations will be allowed but will ideally be expected to conform to the rural character of the area so that traditional activities such as farming and forestry will not be hindered. This area aligns with the Vision Statement. The area is also shown on the Land Use Map in the Appendix.

“Growth District” on the map includes all of the contiguous area *except* Rural. This area is clearly shown on the Future Land Use Map in the appendix which also shows the development constraints (natural resources and shoreland zones that are protected). There is still plenty of developable land within the growth area.

The fundamental strategy is to direct a minimum of 75% of new municipal growth-related capital investments into designated growth areas identified in the Future Land Use Plan. This shows the Town’s approach of using public investments, rather than regulation, to reduce any future development pressure in the rural area and encourage it in and around the village. (It must be noted that by definition, road maintenance and some other rural investments would not count as “growth-related”)

Regulatory Changes:

The town currently has little in the way of land use regulations that need to be reviewed or refined. There may be renewed interest in developing further land use regulations as the town used to have a more comprehensive land use ordinance (the current one is called a Land use Ordinance but is essentially only state mandated shoreland zoning plus watershed overlays for the Phosphorous Control Regulations) and this certainly should be explored as a tool that helps the town.

Non-regulatory Changes:

The Town recognizes the potential and reality of market-based incentives to steer growth away from valuable rural areas and towards existing built-up areas. Historically, both residents and businesses have been attracted to the availability of public services, utilities, and amenities in China’s village areas. However, the most glaring difference is the lack of public water and sewer service (for commercial and multi-family development). Other incentives remain though such as proximity to parks, sidewalks, and an inviting environment have proven strong attractions for continued development in the growth area.

The Town has contributed to this trend by investing in its village infrastructure. Although not ignored, rural areas of town have generally not been targeted for capital improvements outside of transportation infrastructure and location-dependent recreation facilities.

Nevertheless, opportunities exist to encourage growth in the “urban” area while discouraging additional growth in the rural area without imposing a regulatory burden. The strategies recommended in this section are a wide range of non-regulatory tools for directing growth.

Strategies to Encourage Growth in Growth Area:

- Pre-plan for access management and site impacts of commercial development along Route 3.
- Explore the revision / creation of land use regulations that encourage and promote village-scale development densities and styles within designated growth area, including mixed-use and multi-family development.
- Look to develop and expand usage of village area parks generally, with dog walks, community gardens, and places to hold community events.
- Clean up existing sidewalks and walking paths in village area of town and look to make more areas accessible on foot.
- Continue to market the available land and buildings for commercial development and expand access to land by improving access to the area.
- Develop areas as a gateway to the community, with improved entry signs.
- Identify infrastructure and parking improvements, façade improvements, and amenities for the South China village area.
- If ever considering sewer and utility provision, coordinate development with private developers to be more efficient and cost-effective for the overall area. The Town should not authorize sewer development outside of the growth district.

Strategies to Discourage Growth in Rural Areas:

- Coordinate efforts to implement conservation projects and seek out land conservation opportunities.
- Incorporate future potential for agriculture and forestry into the Town’s economic development planning and strategies.
- Continue to promote enrollments in current-use agricultural and tree growth tax programs.

- Discourage mobile home parks and other forms of large, high-density development.

Monitoring and Evaluation:

The Town should put into place a formal system to track growth and development. This will become more important as and when growth picks up again in the future. The Town should be able to monitor growth on at least an annual basis and respond if it becomes apparent that growth is not responding to the strategies in this plan.

The following strategies are recommended:

- The Code Enforcement Officer will continue to utilize a permit tracking system to identify the location by district of new housing and commercial buildings.
- The Code Enforcement Officer will prepare a written report for the 2020 calendar year and on an annual basis thereafter with the results of the permit tracking. The report will be presented to the Planning Board and Town Selectboard for review and discussion.

PART THREE: CAPITAL INVESTMENT PLANNING PROCESS

Description of Existing Process:

The Capital Investment Plan (CIP) component of the Comprehensive Plan identifies growth related capital investments and a strategy for accommodating them. The CIP anticipates future expenses, sets priorities and timetables, and proposes a mechanism to fund them. The plan is important because it alerts both municipal officials and citizens about future expenses and allows the Town to find the most cost effective way to finance the Improvement.

The Capital Investment Plan will include items identified in this plan which are called capital expenses. A capital expense is defined as having a cost that is not a maintenance or operating expense.

The Town of China already does some form of capital planning for its municipal facilities. The Town maintains a prioritized listing of anticipated capital needs.

Over recent years, the Town of China has utilized capital budgeting to assist with the community's growth and infrastructure development. Budget lines are included each year to cover capital expenditure costs and is currently set at \$161,000 for buildings and \$155,000 for equipment, vehicles etc.

As the coordinator for all the town's activities, the Town Manager is responsible for the CIP. However, he/she must rely on the department heads to submit needs and cost estimates, and on the Selectboard to help set priorities. Thus, the CIP process should be prepared alongside the annual budget, so that a portion of the annual budget is set aside to fund the CIP. This can be in the form of contributions to a reserve fund, one-time appropriations, or commitment to pay interest on a loan.

China's CIP will continue to be developed as directed by the Town Manager, with input from the budget committee and Town Selectboard, by incorporating the guidelines needed to reach the goals of the initial project list presented in the plan.

The revised CIP will be integrated with the budget process beginning in 2020. The capital investments listed below include both those identified by this plan and other capital improvement projects that have come up in town discussions over the past three years.

DRAFT

Public Works:

Vehicles (Seven)

Estimated Cost: \$1,063,600

Paid from Reserve Accounts at approximately \$155,000 per year

Building addition to public works garage Wash Bay/ Storage

Estimated Cost: \$125,000

Paid from Reserve Accounts at approximately \$25,000 per year

Transfer Station 5 Year Plan

Equipment

<u>Fiscal Year</u>	<u>Item</u>	<u>Cost</u>	<u>Remarks</u>
2019-2020 \$3000	Can w/cover for Pre- Crusher	\$10,000	Replacement for one open-top can for
2020-2021	No costs identified		
2021-2022 2019)	New Skid Steer with extended bucket	\$75,000	Trade-in Value \$25,000 (Sales Estimate,
2022-2023	3 yd front end loader	\$130,000	Trade-in value estimated at \$30,000 Cost may be shared with Roads.
2023-2024	no costs identified		
2024-2025	no costs identified		

Facilities

<u>Fiscal Year</u>	<u>Item</u>	<u>Cost</u>	<u>Remarks</u>
2020-2021	Covered structure for pre-crusher controls	\$15,000	Structure will protect/cover electric controls and act as safety cover for TS workers. TS personnel will build.
2020-2021	Electricity and heat for Free-for-the-Taking building.	\$3,500	Lighting is insufficient for late Afternoon shopping in winter. Can't test any electrical device.

2020-2021	Bunker for toilet demolition	\$5,000	10 x 10 ft concrete pad w/3 ft concrete bunkers on 3 sides. Heavy equipment can be used to demolish instead of sledge hammer.
2020-2021	Bunker for Refrigerators and ACs	\$5,000	Dedicated location. 10 x 10 ft concrete pad w/3 ft concrete bunkers on 3 sides
2021-2022	Guard House/gate for screening vehicles	\$12,000	Ability to screen all loads entering TS. TS personnel will build. Will require electric, eat pump, computer, monitor and WiFi.
2021-2022	Upgrade and pave back perimeter road	\$30,000 est	Provide additional lane for disposal of recyclables/demolition/yard waste
2023-2024	No costs identified as yet		
2024-2025	No costs identified as yet		

Town Office

- \$80,000 for the addition of a secure document storage room. Had originally planned for FY21, but it will now be postponed to FY22.
- A new outdoor classroom at the Town Forest (aka China School Forest) will also be postponed to FY22, valued at \$56,000.

PART FOUR: REGIONAL COORDINATION

As part of the northern Kennebec service area (Augusta and Waterville are the Service Centers), China can play an important role in bringing together communities for the purpose of enhancing economic development, managing government resources, and protecting natural resources. In addition, China participates in larger regional organizations where it is evident that a regional effort is more effective.

Current regional activities include (this is not an exhaustive list):

- Mutual aid with neighboring municipalities for recreation and fire-rescue services;
- China has mutual aid agreements with it's neighboring communities for fire / rescue service.
- Board member of Kennebec Valley Council of Governments; RSU 18 Board of Directors (two positions), works with Kennebec Regional Development Authority (KRDA) and the First Park development
- Joint transfer station partnership with Palermo

For the purpose of this comprehensive plan, several of the recommendations contain a regional component. The following is a listing of those strategies:

- 4.4 - Work with Kennebec County to develop and maintain an all-hazard emergency response plan.
- 5.1 – Maintain commitment to and support of the China Region Lakes Association (CRLA) and / or Lake smart.
- 5.3 – Research and consider becoming involved with a local Land Trust such as Sebasticook Valley or Kennebec Land Trusts.
- 7.1 – Work with Maine Farmland Trust, local Land Trusts and other programs which offer conservation / agricultural easements and similar programs to preserve valuable farmland.

- 10.4 - Seek new ways to increase recreation opportunities for the elderly and work in cooperation with neighboring communities and regional groups.
- 13.1 – Participate in regional economic development planning efforts of Kennebec Valley Council of Governments, SBDC and any other regional entities.
- 19.1 – Investigate the feasibility of forming a local housing consortium to construct more rental housing.
- 19.2 – Work with local hospitals/senior organizations to develop a plan for senior/assisted housing within the community or region.
- 25.1 – Actively pursue cooperative purchasing opportunities with neighboring towns, regional organizations, and the school district.
- 26.2 - Actively seek opportunities for regionalization of fire protection services, including shared equipment purchases and training sites and other opportunities.

DRAFT

APPENDIX: MAPS

Basic Planning Map

Historic and Archeological Resources

Critical Natural Resources

Forest and Farmland

Relief Map

Soils Map

Water Resources

China Lake Depth Chart

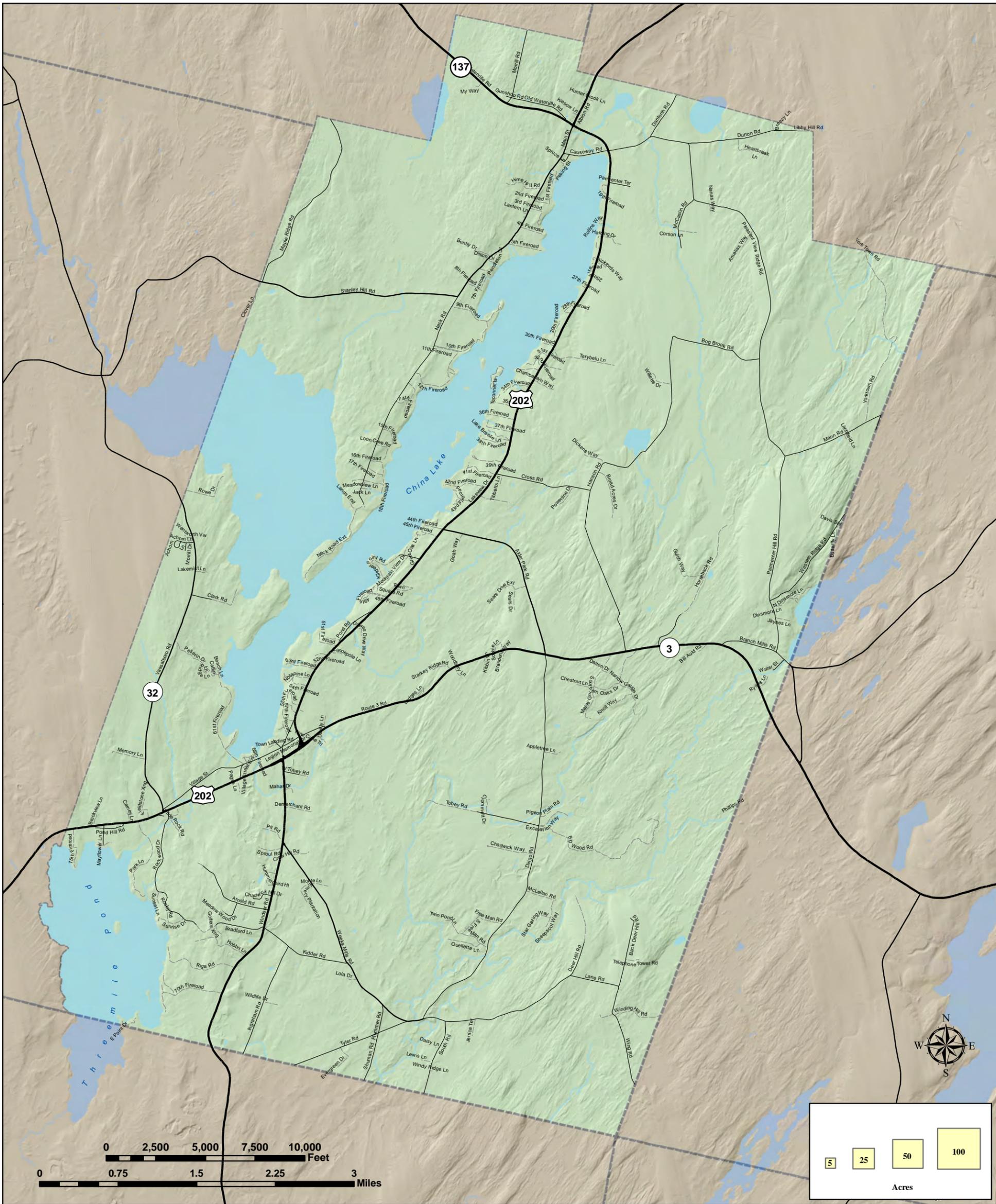
Snowmobile Trail Map

Existing Land Use

Future land Use

Transportation Maps

- General Transportation
- Traffic Volumes
- Crashes

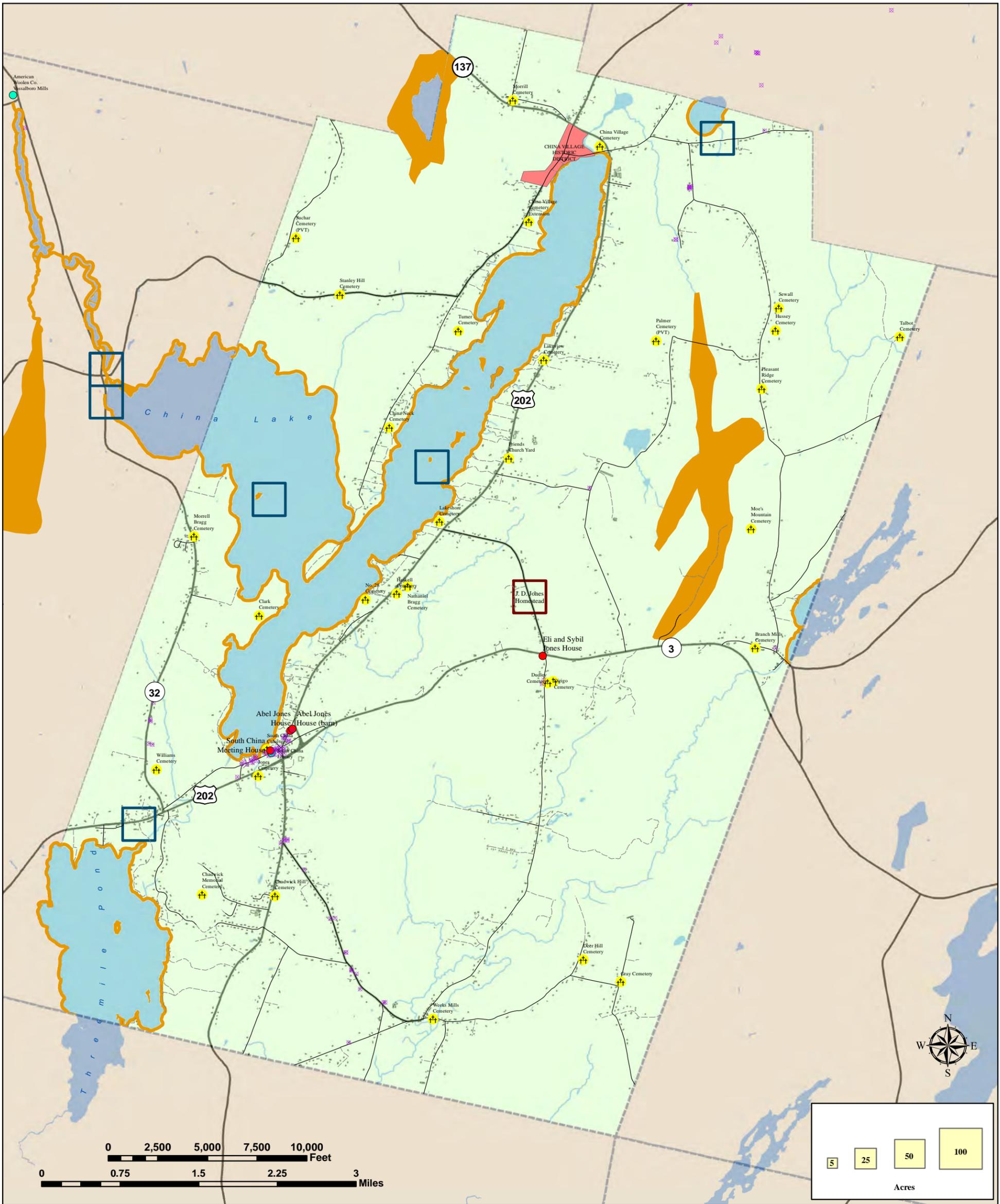


Town of China
Kennebec County, Maine
Basic Planning Map
2020 Comprehensive Plan

Map Legend	
China Roads	
	State Highway
	State Aid
	Local
	Private
	Lakes, Ponds & Rivers
	Streams



Neither KVCOG nor the Town of China assume any liability for the data delineated herein. All information depicted on this map is for planning purposes only and non-regulatory. Boundary data is based on digital sources and may differ from ground-based observations. Data Sources: Maine Office of GIS, Maine DOT Created 08-2018 by JG

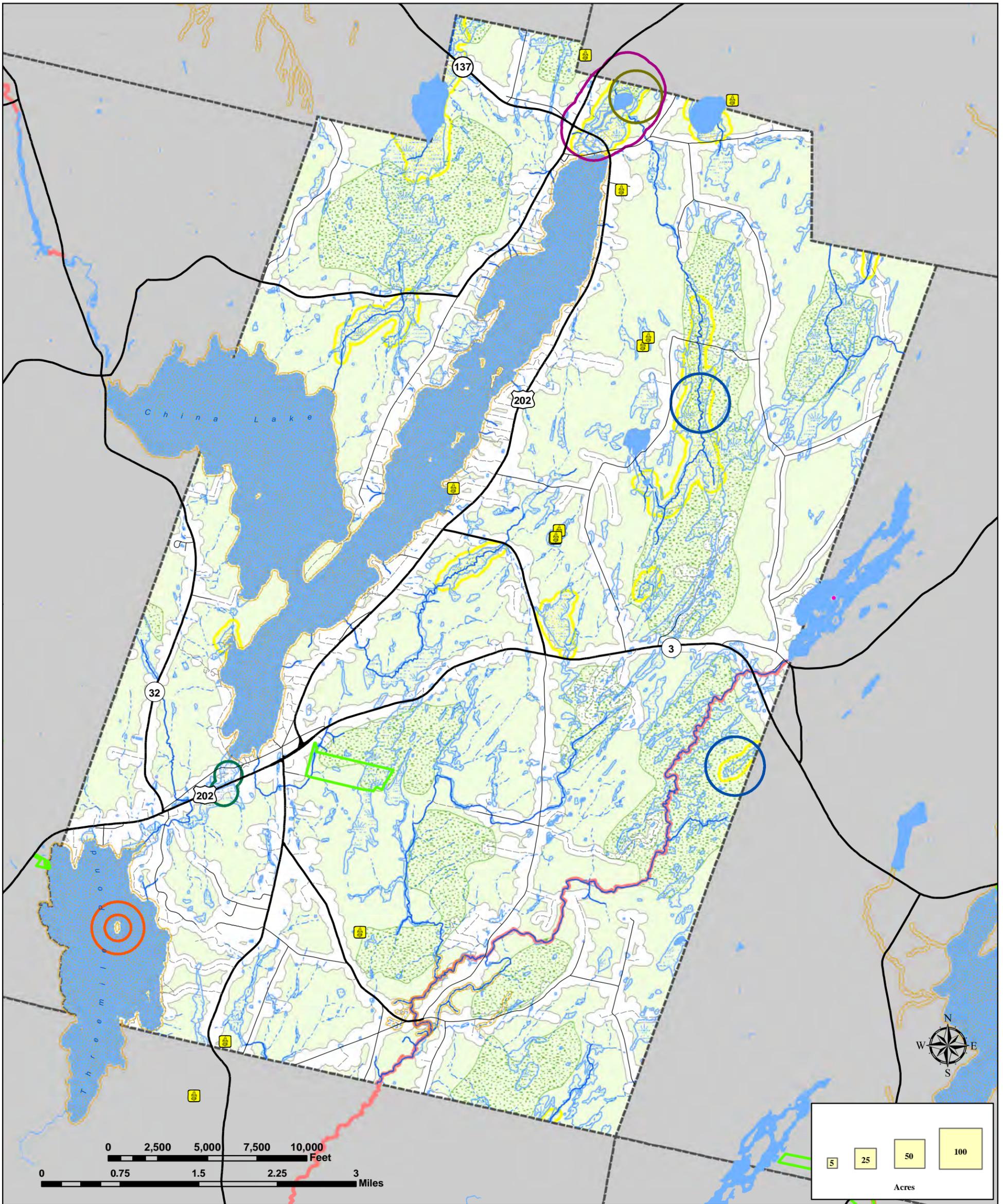


Town of China
Kennebec County, Maine
Historic and Archeological
Resources Map
2020 Comprehensive Plan

Map Legend	
— Local	Known Historic Archaeological Sites
- - - Private	Known Prehistoric Archaeological Sites
🌊 Lakes, Ponds & Rivers	Areas sensitive for Prehistoric Archaeology
🌊 Streams	Historic Properties
China Village Historic District	● Eligible
China Building Footprints	● Listed
	✳ Not Eligible but of note



Neither KVCOG nor the Town of China assume any liability for the data delineated herein. All information depicted on this map is for planning purposes only and non-regulatory. Boundary data is based on digital sources and may differ from ground-based observations. Data Sources: Maine Office of GIS, Maine DOT Created 10-2018 by JG



Town of China

Kennebec County, Maine

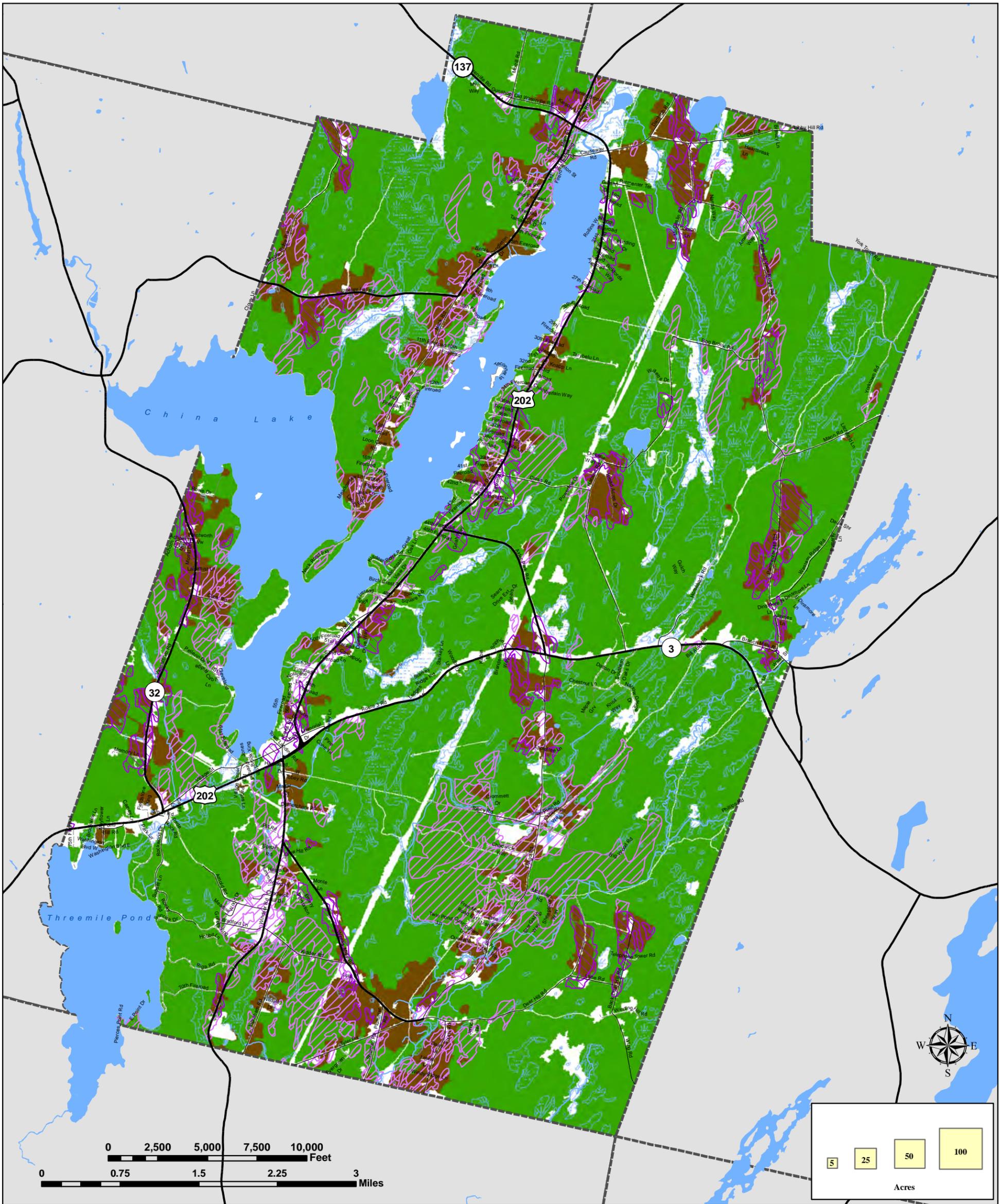
Critical Natural Resources Map 2020 Comprehensive Plan



Map Legend

- | | |
|--|---|
| Lakes, Ponds & Rivers | Species: Endangered, Threatened, or of Special Concern |
| Perennial Streams | Bald Eagle |
| Intermittent Streams | Eastern Ribbon Snake |
| Significant Vernal Pools | Great Blue Heron |
| Conserved Lands | Least Bittern |
| Brook Trout Habitat | Rare Plant Species |
| Wild Salmon Habitat | Fall Fimbray |
| Inland Wading Bird and Waterfowl Habitat | Showy Lady's Slipper |
| Deer Wintering Area | Undeveloped Blocks |
| Wetlands | |

Neither KVCOG nor the Town of China assume any liability for the data delineated herein. All information depicted on this map is for planning purposes only and non-regulatory. Boundary data is based on digital sources and may differ from ground-based observations.
Data Sources: Maine Office of GIS, Maine DOT Created 10-2018 by JG



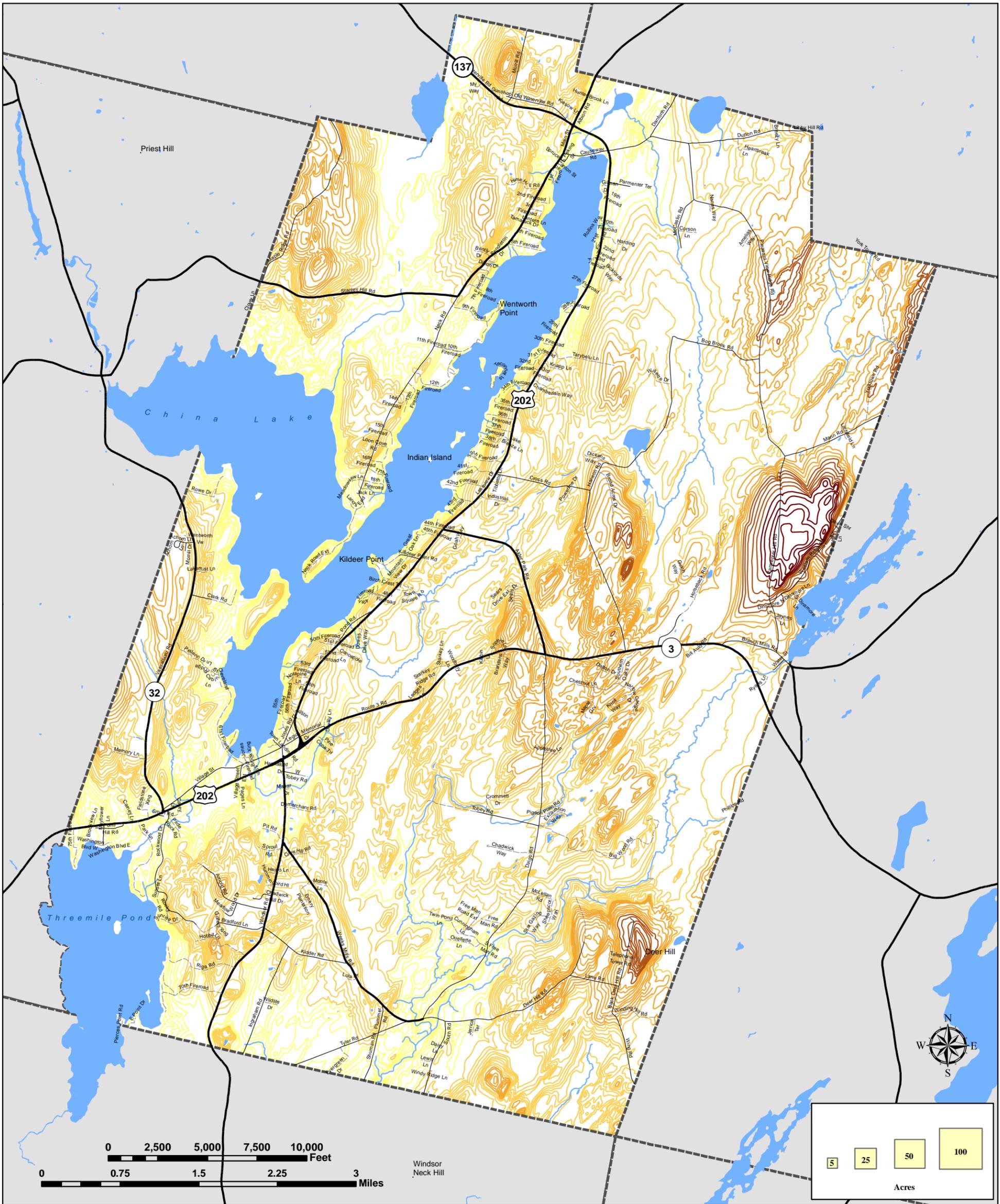
Town of China

Kennebec County, Maine
Forest and Farmland Map
2020 Comprehensive Plan

Map Legend	
Roads	All areas are prime farmland
State aid	Farmland of statewide importance
State hwy	Cultivated Crops, Pasture, and Hay Land
Local	Forestland
Private	Open/Other Land
Ponds and Rivers	Wetlands
Streams	



Neither KVCOG nor the Town of China assume any liability for the data delineated herein. All information depicted on this map is for planning purposes only and non-regulatory. Boundary data is based on digital sources and may differ from ground-based observations. Data Sources: Maine Office of GIS, Maine DOT Created 12-2018 by JG

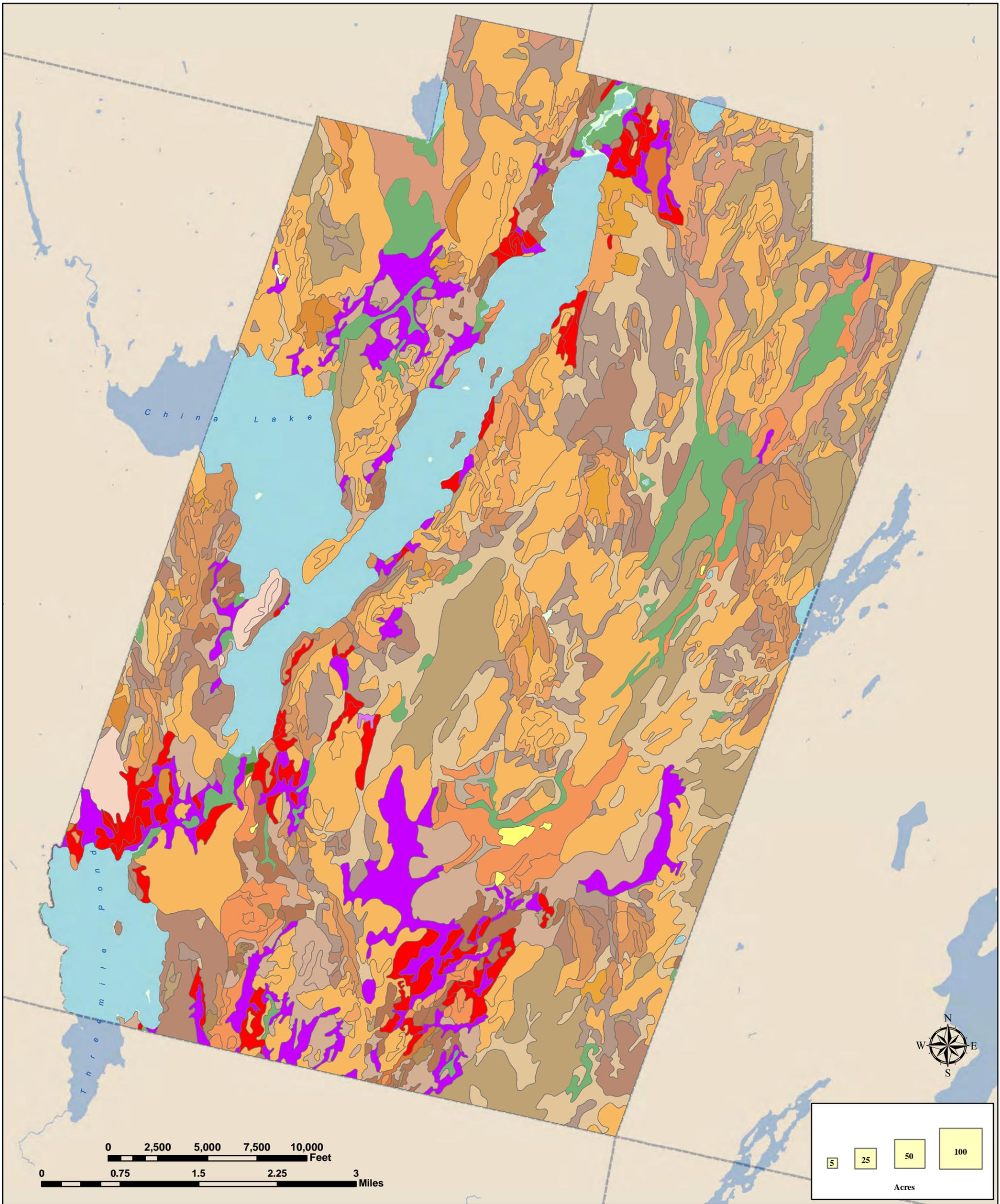


Town of China
Kennebec County, Maine
Relief Map
2020 Comprehensive Plan

Map Legend	
Roads	FEET
— State aid	190 - 250
— State hwy	251 - 350
— Local	351 - 450
- - - Private	451 - 550
— Ponds and Rivers	551 - 640
— Streams	



Neither KVCOG nor the Town of China assume any liability for the data delineated herein. All information depicted on this map is for planning purposes only and non-regulatory. Boundary data is based on digital sources and may differ from ground-based observations. Data Sources: Maine Office of GIS, Maine DOT Created 12-2018 by JG

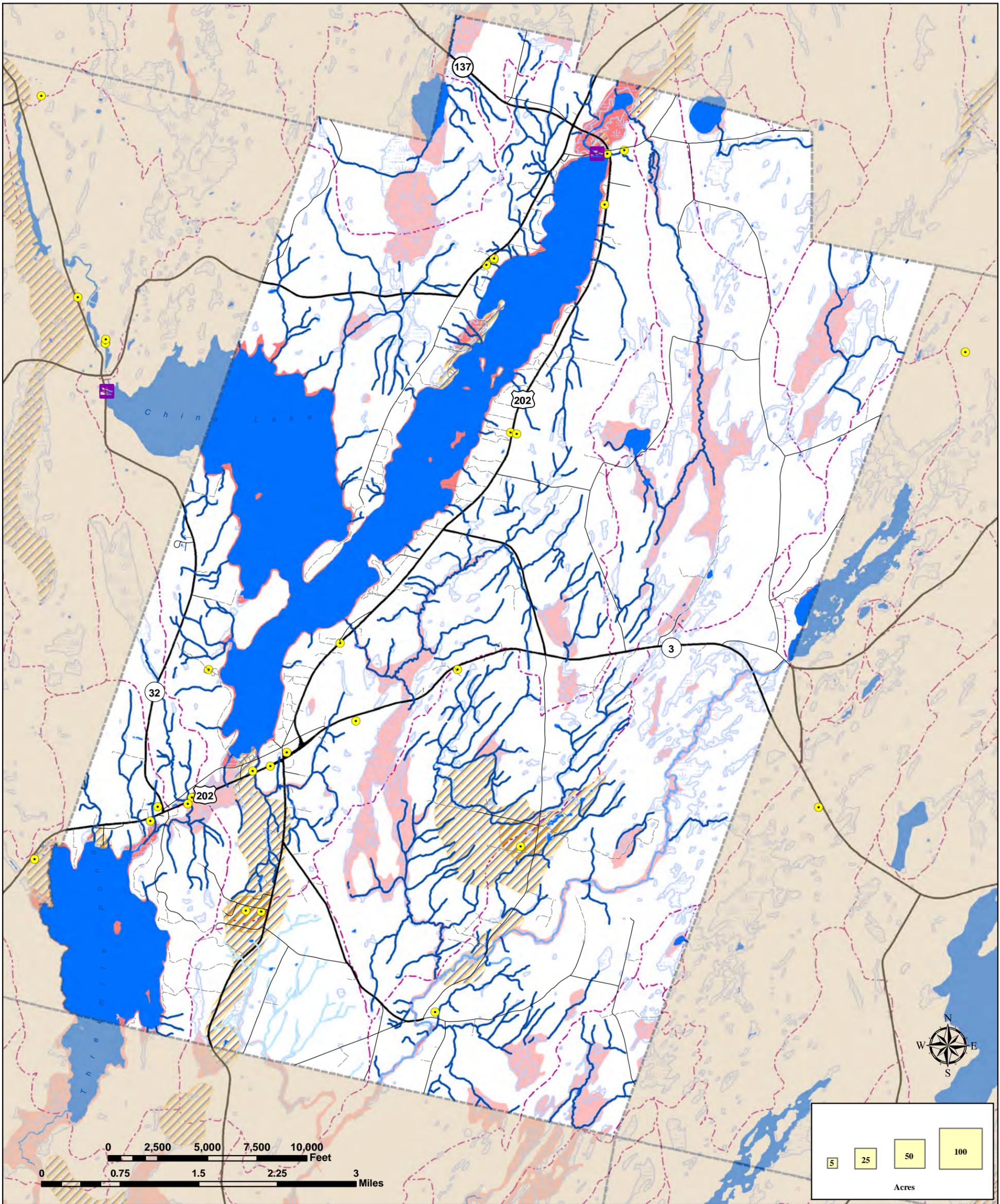


Town of China
Kennebec County, Maine
Soils Map
2020 Comprehensive Plan

Map Legend		
China Soils		
Merry Oaks-Moncure complex	PAXTON FINE SANDY LOAM	SCANTIC SILT LOAM
BIDDEFORD MUCKY PEAT	PAXTON VERY STONY FINE SANDY LOAM	SCARBORO MUCKY PEAT
BUXTON SILT LOAM	PAXTON-CHARLTON FINE SANDY LOAMS	SCIO VERY FINE SANDY LOAM
CUT AND FILL LAND	PAXTON-CHARLTON VERY STONY FINE LOAM	SUFFIELD SILT LOAM
DEERFIELD LOAMY FINE SAND	RIDGEBURY FINE SANDY LOAM	TOGUS FIBROUS PEAT
HARTLAND VERY FINE SANDY LOAM	RIDGEBURY VERY STONY FINE SANDY LOAM	VASSALBORO FIBROUS PEAT
HINCKLEY GRAVELLY SANDY LOAM	RIFLE MUCKY PEAT	WINDSOR LOAMY SAND
HOLLIS FINE SANDY LOAM	SACO SOILS	WOODBIDGE FINE SANDY LOAM
HOLLIS-ROCK OUTCROP COMPLEX	SAND AND GRAVEL PITS	WOODBIDGE VERY STONY FINE SANDY LOAMS
LIMERICK SILT LOAM		



Neither KVCOG nor the Town of China assume any liability for the data delineated herein. All information depicted on this map is for planning purposes only and non-regulatory. Boundary data is based on digital sources and may differ from ground-based observations.
 Data Sources: Maine Office of GIS, Maine DOT Created 08-2018 by JG

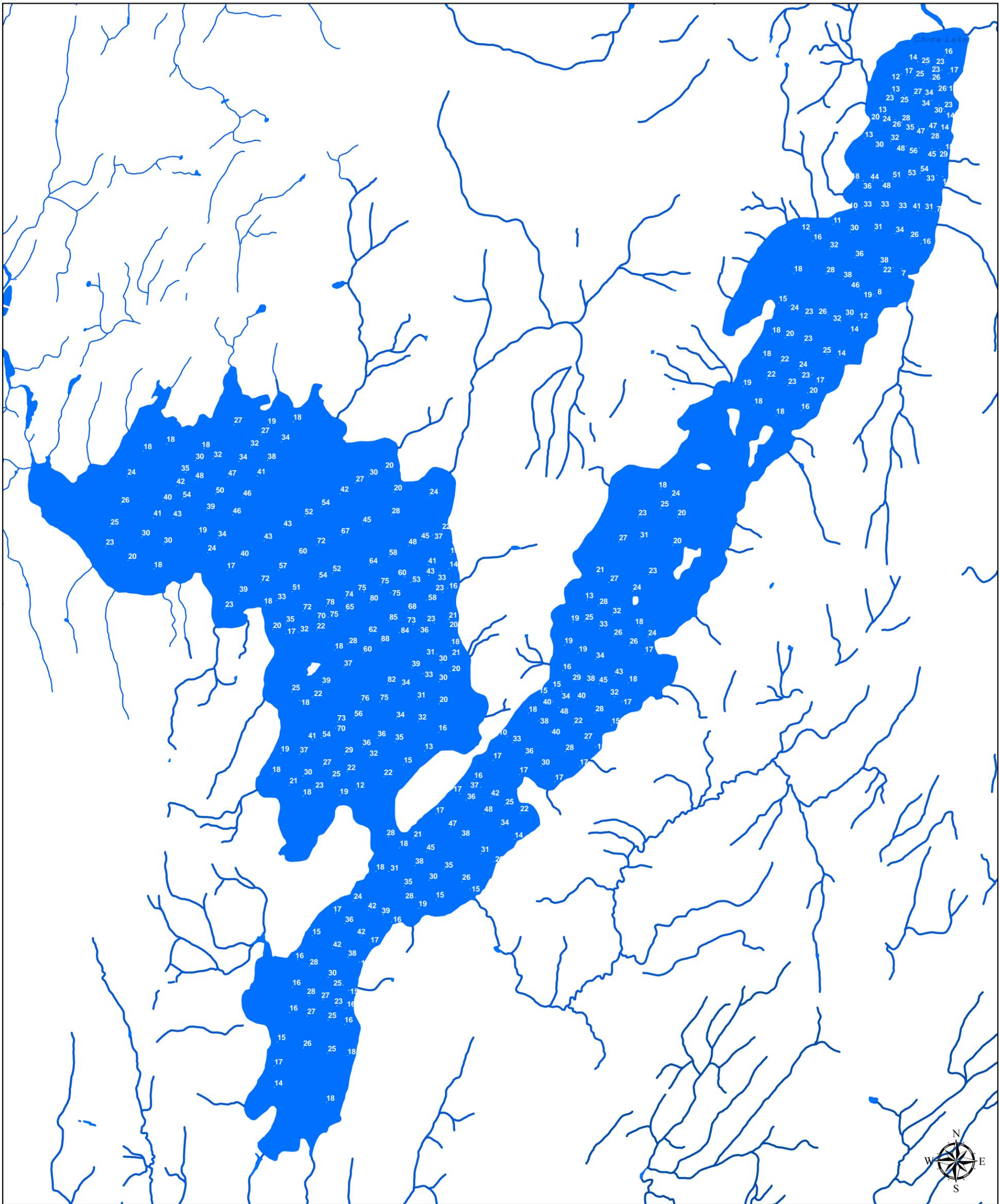


Town of China
Kennebec County, Maine
Water Resources Map
2020 Comprehensive Plan

Map Legend	
	Lakes, Ponds & Rivers
	Class A Stream
	Class AA Stream
	Class B Stream
	Public Boat Launches
	Public Water Supply Wells
	Wetlands
	Aquifers
	Flow of 10-50 gpm
	Flow of >50 gpm
	Floodzones
	100 year Flood with Base Flood Elevations
	100 year Flood with no Base Flood Elevation
	Watersheds



Neither KVCOG nor the Town of China assume any liability for the data delineated herein. All information depicted on this map is for planning purposes only and non-regulatory. Boundary data is based on digital sources and may differ from ground-based observations. Data Sources: Maine Office of GIS, Maine DOT Created 11-2018 by JG



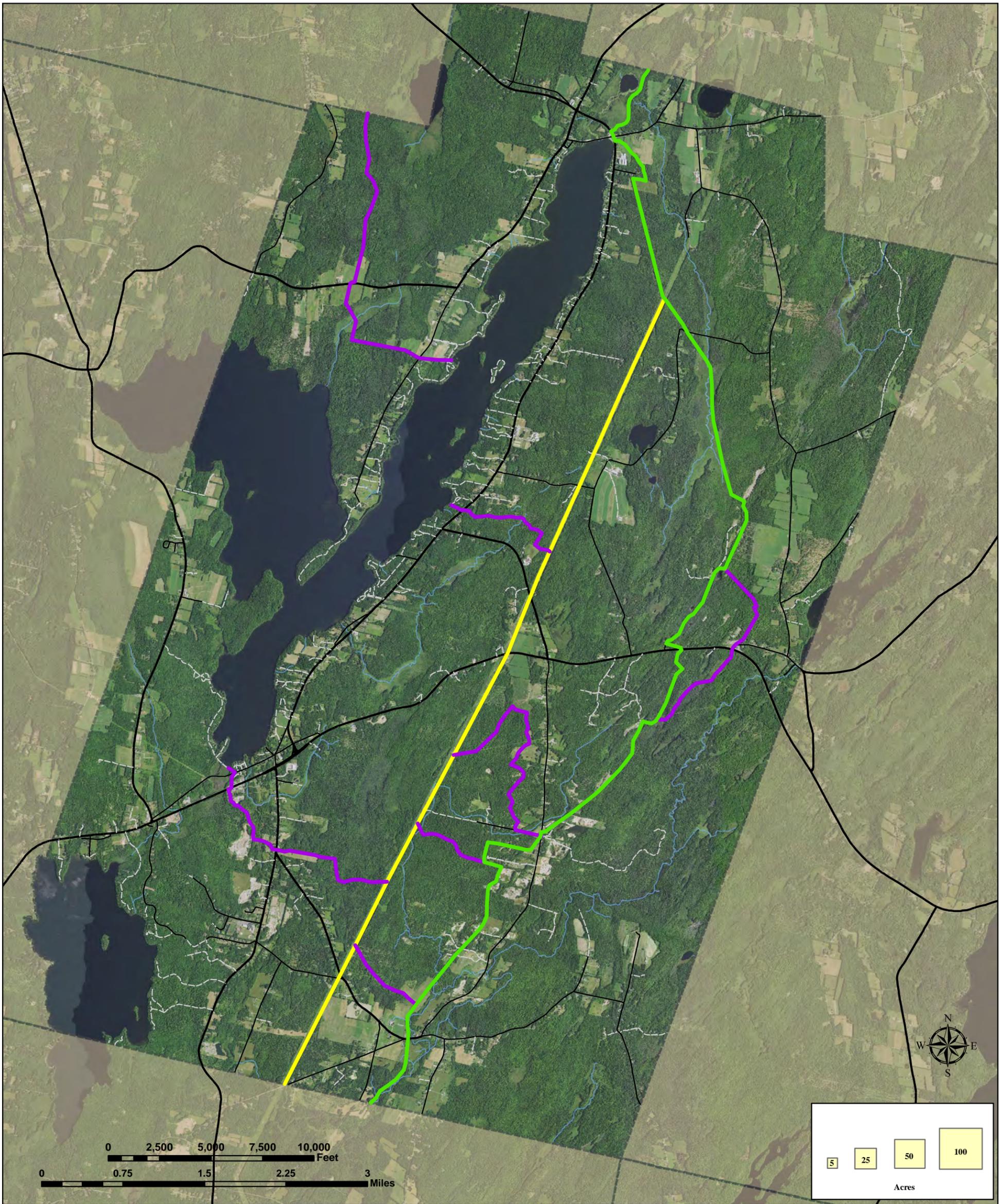
Town of China

Kennebec County, Maine

CHINA LAKE DEPTH CHART 2020 Comprehensive Plan



Neither KVCOG nor the Town of China assume any liability for the data delineated herein. All information depicted on this map is for planning purposes only and non-regulatory. Boundary data is based on digital sources and may differ from ground-based observations.
Data Sources: Maine Office of GIS, Maine DOT Created 11-2018 by JG



Town of China

Kennebec County, Maine

Snowmobile Trail Map 2020 Comprehensive Plan

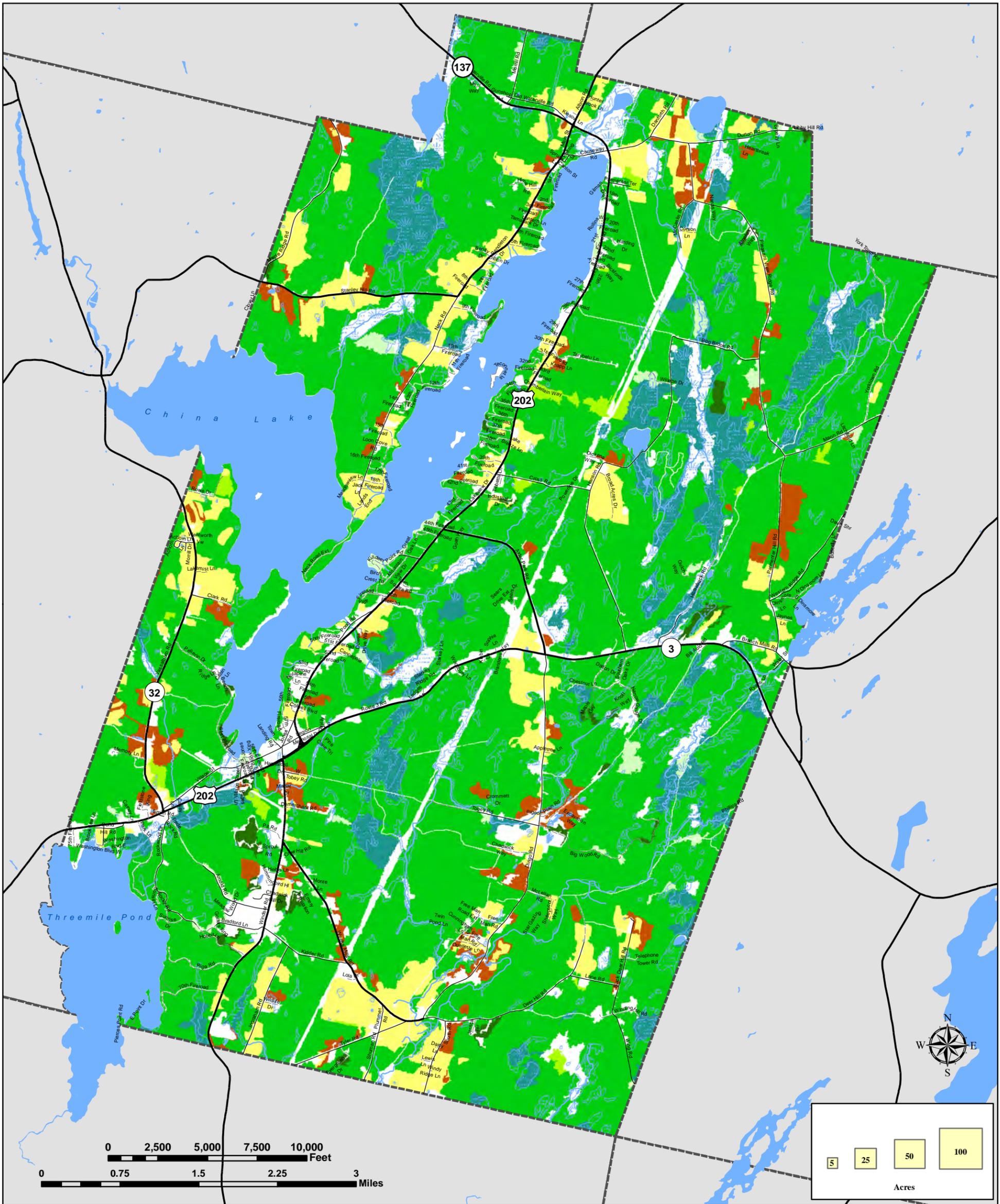


Map Legend

- Local Roads
- - - Private Roads
- Streams
- China Snowmobile Trails
- Local Trails C1 - 7
- Narrow Gauge Trail C1
- Power Line Trail C2

NOTE: Trails are a general estimate and not to be used as an official map or for navigation, nor is this map an accurate depiction of land owners permissions etc.

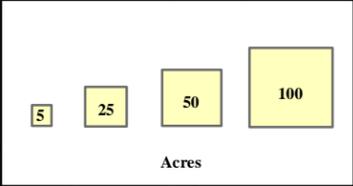
Neither KVCOG nor the Town of China assume any liability for the data delineated herein. All information depicted on this map is for planning purposes only and non-regulatory. Boundary data is based on digital sources and may differ from ground-based observations.
Data Sources: Maine Office of GIS, Maine DOT, China Four Seasons Club Created 12-2019 by JG



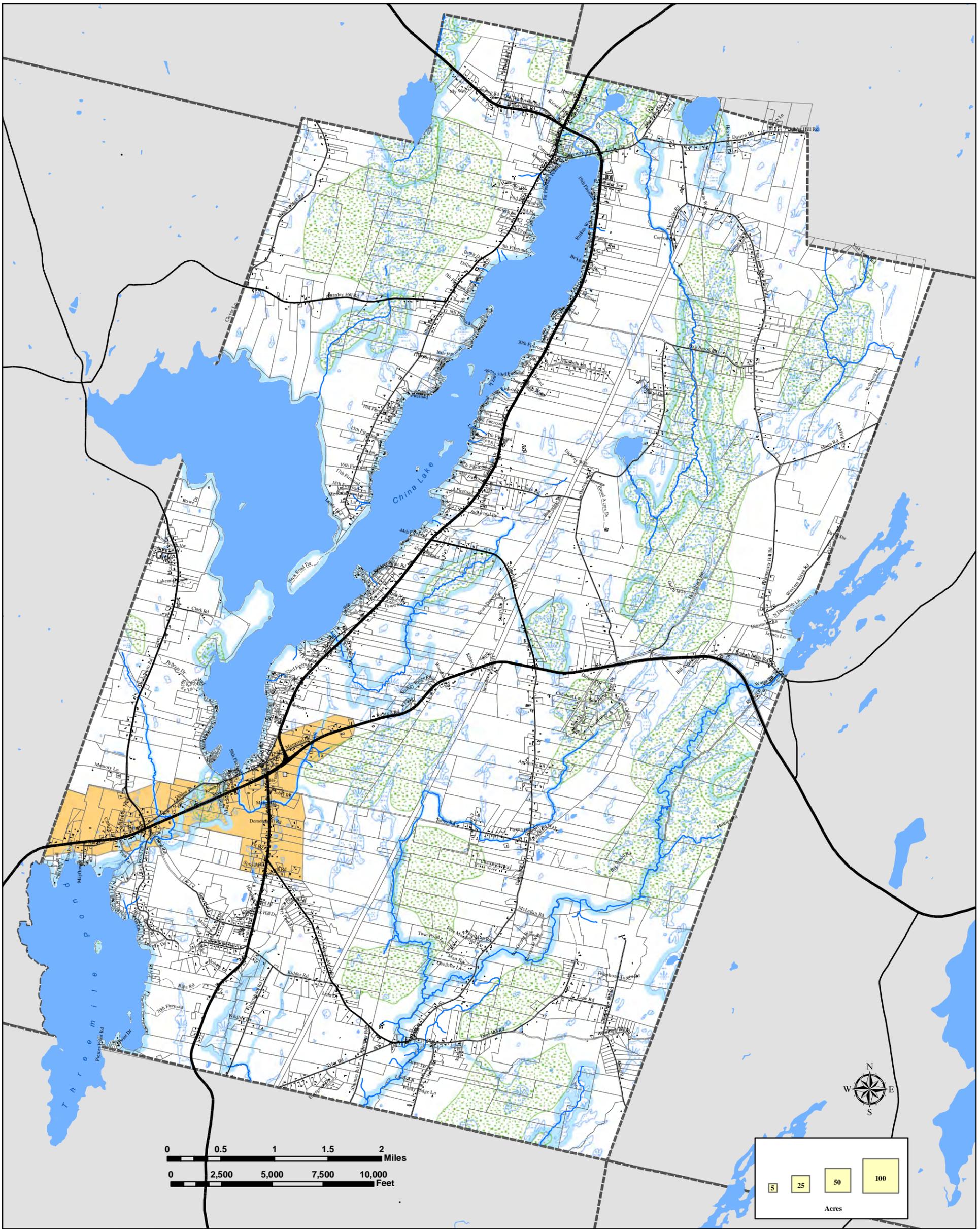
Town of China
Kennebec County, Maine
Existing Land Use Map
2020 Comprehensive Plan



Map Legend	
Roads	Open/Other Land
— State aid	Cultivated Crops
— State hwy	Pasture / Hay
— Local	Forest
--- Private	Wetland Forst
🌊 Ponds and Rivers	Recent Clearcut
🌊 Streams	Light Partial Cut
🌊 Wetlands	Heavy Partial Cut
	Regenerating Forest



Neither KVCOG nor the Town of China assume any liability for the data delineated herein. All information depicted on this map is for planning purposes only and non-regulatory. Boundary data is based on digital sources and may differ from ground-based observations.
 Data Sources: Maine Office of GIS, Maine DOT Created 06-19 by JG



Town of China
Kennebec County, Maine

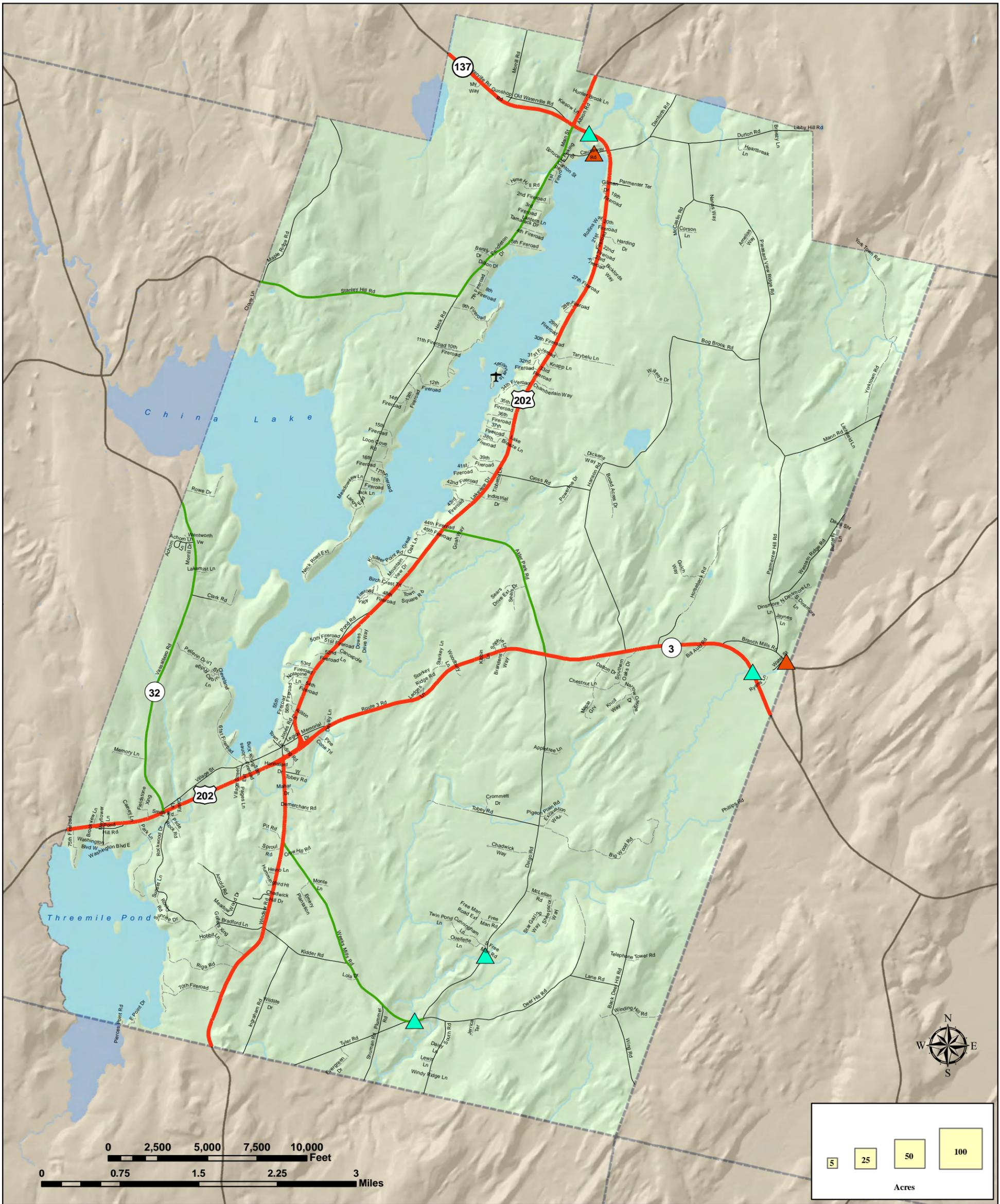
Future Land Use Map
2020 Comprehensive Plan



Map Legend		
Roads	Ponds and Rivers	Future Growth Area
State Highways	Building Footprints	Rural Area
State Aid	Streams	Development Constraints
Local	Wetlands	Critical Natural Areas
Private	Parcel Boundaries	Shoreland Zones*

* NOT TO BE USED AS OFFICIAL SHORELAND ZONING MAP

Neither KVCOG nor the Town of China assume any liability for the data delineated herein. All information depicted on this map is for planning purposes only and non-regulatory. Boundary data is based on digital sources and may differ from ground-based observations.
 Data Sources: Maine Office of GIS, Maine DOT Created 10-2019 by JG

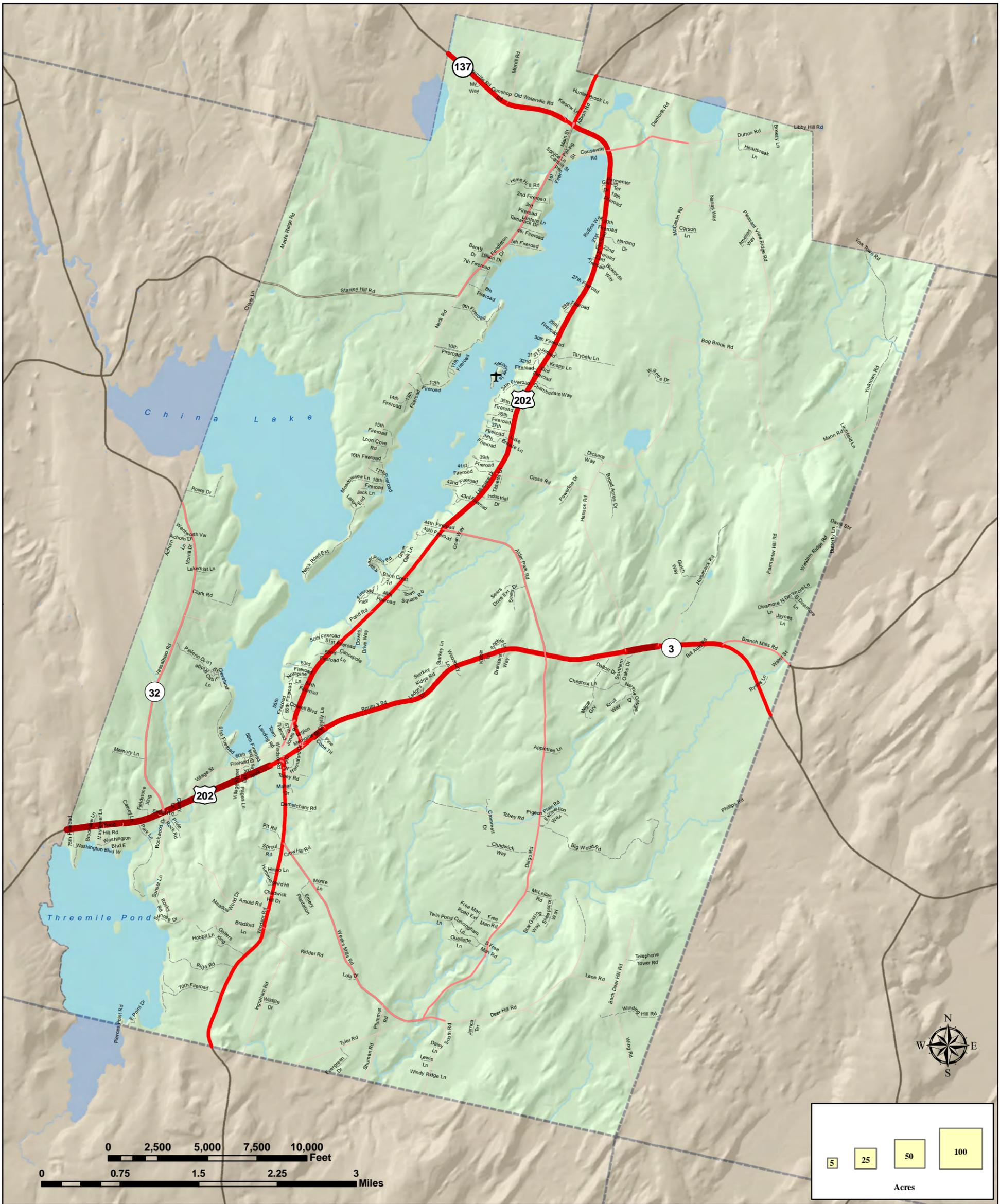


Town of China
Kennebec County, Maine
Transportation Map
2020 Comprehensive Plan

Map Legend	
China Roads	China Bridges
<i>Jurisdiction</i>	<i>Maintainer</i>
State Highway	State
State Aid	Town
Local	Lakes, Ponds & Rivers
Private	Streams



Neither KVCOG nor the Town of China assume any liability for the data delineated herein. All information depicted on this map is for planning purposes only and non-regulatory. Boundary data is based on digital sources and may differ from ground-based observations. Data Sources: Maine Office of GIS, Maine DOT Created 08-2018 by JG

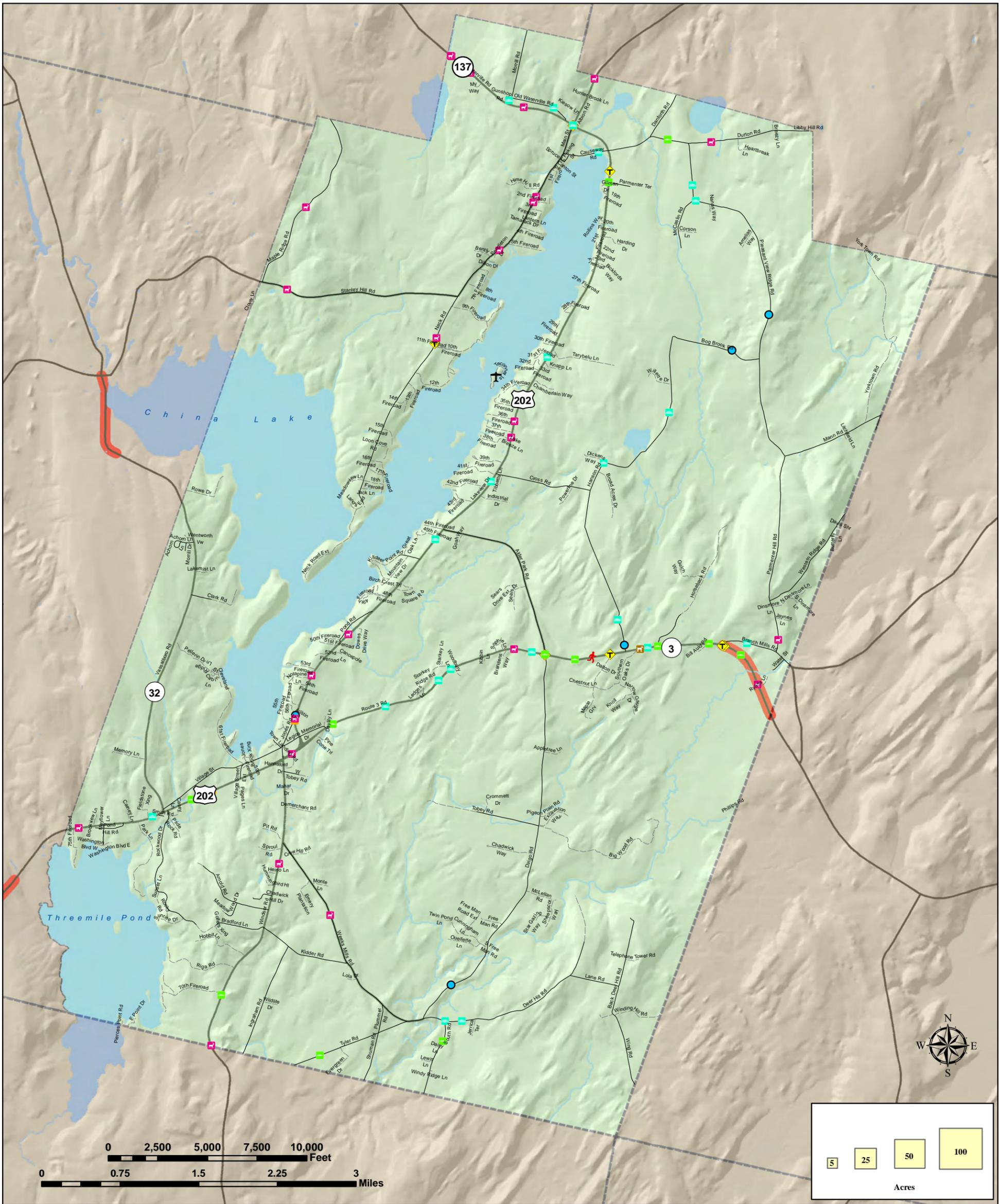


Town of China
Kennebec County, Maine
Transportation Map
2020 Comprehensive Plan

Map Legend	
Annual Average Daily Traffic	Private Roads
0 - 1000	Lakes, Ponds & Rivers
1001 - 2500	Streams
2501 - 5000	
5001 - 7000	
7001 - 9703	



Neither KVCOG nor the Town of China assume any liability for the data delineated herein. All information depicted on this map is for planning purposes only and non-regulatory. Boundary data is based on digital sources and may differ from ground-based observations. Data Sources: Maine Office of GIS, Maine DOT Created 08-2018 by JG



Town of China
Kennebec County, Maine
Transportation Map
2020 Comprehensive Plan



Map Legend	
	Roads
	Private Roads
	Lakes, Ponds & Rivers
	Streams
	High Crash Location Segment
	Head-on / Sideswipe
	Rear End / Sideswipe
	Went Off Road
	Intersection Movement
	Pedestrians
	Deer
	All Other Animal
	Other

Neither KVCOG nor the Town of China assume any liability for the data delineated herein. All information depicted on this map is for planning purposes only and non-regulatory. Boundary data is based on digital sources and may differ from ground-based observations. Data Sources: Maine Office of GIS, Maine DOT Created 08-2018 by JG