

CASTINE COMPREHENSIVE PLAN



UPDATED: April 23, 2010

ADOPTED: November 2, 2010

SPO



Maine State Planning Office

Executive Department

JOHN ELIAS BALDACCI

Governor

MARTHA E. FREEMAN

Director

June 21, 2010

Dale Abernethy
Town Manager
P.O. Box 204
Castine, ME 04421

Dear Mr. Abernethy,

On April 30, 2010 the State Planning Office received and accepted for review the Town of Castine Comprehensive Plan. We understand that organizing, processing, writing, debating, and eventually completing a Comprehensive Plan is an arduous task, and for doing this we extend our sincere appreciation to you, your committee, and your residents. With great pleasure, I inform you that this Office has found your Plan to be both '*complete*' and *consistent* with the Maine Growth Management Act.

According to state law, our review process consists of two phases. First, we review all elements of the Plan, save the Future Land Use Plan. This is called a review for 'completeness.' If we determine that the Comprehensive Plan is 'complete,' we undertake phase two, which is a focused review of the Future Land Use Plan, ultimately leading to a determination of consistency with the Growth Management Act. This process was created to encourage collaboration with municipalities, and, if necessary, giving opportunities to modify the Comprehensive Plan prior to official notification of whether a Plan is consistent with the Growth Management Act. Fortunately, Castine does not require any extra opportunities to modify the Plan. Rather than write two separate letters, I am combining both the review for 'completeness' and review for consistency with the Growth Management Act into this single letter.

This Office has completed our review of the Castine Comprehensive Plan for consistency with the Growth Management Act using the Comprehensive Planning Criteria Rule (Chapter 208). Using this criteria, we have found the Comprehensive Plan dated April 23, 2010 consistent with the Maine Growth Management Act.

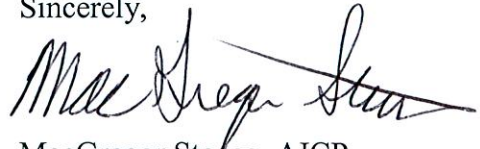
As prescribed by state law, our office has solicited comments on the Plan from other state agencies. These comments provide additional detail and other suggestions that the comprehensive plan committee should find useful. The comments are meant as recommendations, actions you can take to improve your Plan, but not requirements from this Office. Our finding of consistency is not conditioned on their inclusion. The following agencies provided comments on your Plan (attached):

- Department of Inland Fisheries & Wildlife
- Department of Environmental Protection
- Department of Transportation

We do understand the complexity of the comprehensive planning process. Our goal in developing the Rules that govern this process is to help each town end up with a plan that reflects that town's unique character and style while also supporting the State's goals and policies for managed growth. We appreciate any input you wish to make on the Comprehensive Plan Rule and your experience with it so that we can continue to refine the process.

Thank you.

Sincerely,

A handwritten signature in black ink, appearing to read "MacGregor Stocco", written over a horizontal line.

MacGregor Stocco, AICP
Senior Planner

Cc: Tom Martin, Hancock County Planning Commission

Enclosure: Comments from other agencies

Castine Comprehensive Plan Update

+++++

FOR REVIEW BY THE MAINE STATE PLANNING OFFICE

Prepared by the Castine Comprehensive Plan Committee:

Scott Vogell - Chair

Jean Cass

Jeff Loustau

Robin Mass

Donald Mordecai

Liz Parish

Lynn Parsons

Lee Wylie

Dale Abernethy – *Ex Officio*

**with technical assistance from the Hancock County Planning
Commission and Mainely Solutions.**

+++++

April 23, 2010

TABLE OF CONTENTS

INTRODUCTION.....	4
VISION STATEMENT	5
PUBLIC PARTICIPATION SUMMARY.....	6
EVALUATION MEASURES.....	8
GLOSSARY OF LOCAL TERMS	9
GLOSSARY OF GOVERNMENT ENTITIES	10
COMPREHENSIVE PLAN SUMMARY.....	11
A. POPULATION INVENTORY AND ANALYSIS.....	17
A. POPULATION GOAL	21
B. ECONOMY INVENTORY AND ANALYSIS	22
B. ECONOMY GOAL.....	27
C. HOUSING INVENTORY AND ANALYSIS	29
C. HOUSING GOAL	36
D. TRANSPORTATION INVENTORY AND ANALYSIS.....	38
D. TRANSPORTATION GOAL	45
E. PUBLIC FACILITIES AND SERVICES INVENTORY AND ANALYSIS.....	49
E. PUBLIC FACILITIES AND SERVICES GOAL	65
F. RECREATION INVENTORY AND ANALYSIS.....	69
F. RECREATION GOAL	76
G. MARINE RESOURCES INVENTORY AND ANALYSIS	77
G. MARINE RESOURCES GOAL.....	84
H. WATER RESOURCES INVENTORY AND ANALYSIS	87
H. WATER RESOURCES GOAL	92
I. NATURAL RESOURCES INVENTORY AND ANALYSIS	94
I. NATURAL RESOURCES GOAL	103
J. AGRICULTURAL AND FOREST RESOURCES INVENTORY AND ANALYSIS.....	105
J. AGRICULTURAL AND FOREST RESOURCES GOAL.....	110
K. HISTORIC AND ARCHAEOLOGICAL RESOURCES INVENTORY AND ANALYSIS.....	111
K. HISTORIC AND ARCHAEOLOGICAL RESOURCES GOAL	116
L. LAND USE INVENTORY AND ANALYSIS	117
L. LAND USE GOAL	125
M. FISCAL CAPACITY INVENTORY AND ANALYSIS.....	127
M. FISCAL CAPACITY GOAL	135
N. CAPITAL INVESTMENT PLAN GOAL	137
O. REGIONAL COORDINATION GOAL	139
THE CASTINE FUTURE LAND USE PLAN.....	142

Table of Contents

TABLES

Table A.1	Change in Age Breakdown, Year-round Population, 1990-2005
Table A.2	Projected Population through 2020
Table A.3	Castine Population Components
Table B.1	Class of Workers, Employed Persons 16 years and older, 2000
Table B.2	Castine & Hancock County: Employment by Industry Sector, 2000
Table B.3	Town Businesses, 2010
Table B.4	Retail Sales, 2002-2008
Table C.1	Change in Castine Housing Units, 1990-2000
Table C.2	Change in Castine Housing Types, 1990-2000
Table C.3	Estimated Number of Occupied Year-Round Housing Units (does not include seasonal and vacant units) in 1990 and 2000 for Castine and Hancock County
Table C.4	Contract Rent of Year-Round Renter-Occupied Units for Castine and Hancock County, 2000
Table C.5	Change in Housing Affordability Index in Castine, 2001-2005
Table C.6	Projected Dwelling Units in Castine
Table D.1	Average Annual Daily Traffic
Table E.1	Fire Department Vehicles and Fire Boat, 2009
Table E.2	Fire Department Calls for Service, 1998-2008
Table E.3	Ambulance Calls for Service
Table E.4	Adams School Actual and Projected Enrollment
Table E.5	Status of Public Works Equipment, 2009
Table E.6	Summary of Water Department Pipe Conditions, 2009
Table E.7	Summary of Sewer System Improvements, 2009
Table E.8	Summary of Sewer Department Pipe Conditions, 2009
Table F.1	Recreation Resources, 2007
Table F.2	State Guidelines for Recreation and Park Services/Facilities
Table I.1	Priority Trust Species found in Castine
Table I.2	Summary of Conservation Land, 1995-2009
Table J.1	Farm and Open Space Taxation Parcels, 1996-2008
Table J.2	Tree Growth Parcels, 1996-2008
Table J.3	Summary of Land Protection Under Farm, Open Space and Tree Growth Taxation, 1996-2008
Table J.4	Timber Harvesting Trends, 1994-2008
Table K.1	Historic Archaeological Sites, 2006
Table L.1	Changes in Land Use Acreage, 1995-2009
Table L.2	Summary of Conservation Land, 1995-2009
Table L.3	Soil Suitability for Low Density Development
Table L.4	Estimated Acreage of Individual Zoning and Resource Protection Overlay Districts, 2009
Table M.1	Trends in Valuation, 1995-2008
Table M.2	Trends in Tax Commitment, 1993-2008
Table M.3	Summary of Municipal Valuation by Type, Castine Area, 2007
Table M.4	Revenue Sources, 2007-2008
Table M.5	State School Subsidies, Castine

Table of Contents

Table M.6	Summary of Selected Expenditures
Table M.7	Summary of LD 1 Spending Limits
Table M.8	Summary of Municipal and School Budgets, 2008-2009
Table N.1	Anticipated Capital Expenditures, 2010-2014
Table N.2	Anticipated Road and Infrastructure Expenditures, 2010-2014

MAPS

Map I:	Pavement Conditions
Map II:	Sanitary Sewer System
Map III:	Storm Water System
Map IV:	Water System
Map V:	Closed Shell Fishing Areas
Map VI:	Water-dependent Uses
Map VII:	Water and Marine Resources
Map VIII:	Land Use and Utilities
Map IX:	Topography and Hydrology
Map X:	Cultural Resources and Transportation
Map XI:	Zoning Districts
Map XI-A:	Zoning Districts On-Neck
Map XII:	Future Land Use

Introduction

To the Castine Community:

The 2010 Castine Comprehensive Plan update is the result of several thousand hours of work by Committee members over nearly four years. In addition, dozens of our fellow citizens have aided us with their insights, comments and suggestions. It is our hope that our work will meet with your approval when it goes before a Town Meeting later in the year.

One of our first tasks was to develop a Vision Statement that expresses our hopes for the future. After meeting with the community, we adopted the following: **A year-round thriving community that values our heritage, village character and natural beauty.** In all of our meetings, the Vision Statement, printed in script on a 15-foot banner, hovered about us. We never forgot it.

It did not take long for us to realize that in 2010 Castine stands at a crossroads. At present, we are an aging community in an aging State in an aging part of the country. In this sense, we are no different from most Maine coastal communities. But, as the Plan makes clear, we have a number of challenges not faced by them. Years of neglect have brought about a deteriorating infrastructure. The presence of a large post-secondary institution, currently the Town's largest employer, presents both challenges and opportunities. An extraordinary amount of the Town's physical assets are exempt from taxation, limiting its ability to raise needed revenue. The list could go on.

As required by statute, the Plan consists of 13 chapters each consisting of an Inventory and Analysis section listing the resources of the Town followed by a second section listing Goals relevant to the chapter itself. These are followed by two additional chapters of Goals that analyze capital investment needs and regional coordination efforts of the Town. Finally, there is a Future Land Use Plan that contains suggestions of how best to meet the challenges that face us as a community.

Upon approval by the voters, the Plan becomes the written embodiment of our collective view of Castine's future. Yet the Plan is simply a guide for managing change and not a zoning ordinance. Any changes that are recommended to the Town's land use ordinances must ultimately be specifically approved by a Town Meeting.

Since the Plan is visionary, not regulatory, it provides only guidance to our Town officials. Nonetheless, we encourage every Town officer and board member to strive to implement the recommendations of this Plan so that we may meet the vision of Castine as **a year-round thriving community that values our heritage, village character and natural beauty.**

Castine Comprehensive Plan Committee

VISION STATEMENT

Town Vision Statement: A year-round thriving community that values our heritage, village character and natural beauty.

Castine aims to accomplish this vision by promoting an economy that offers well paying, sustainable jobs both within Town and within commuting distance, a safe and cost-effective transportation system and equitable policies that preserve and enhance the Town's historic, cultural and natural resources. The Town wishes to continue and expand regional cooperation in matters in which it shares common interests with other towns.

PUBLIC PARTICIPATION SUMMARY

The Committee sought public participation in developing the Plan through a variety of methods. As required by law, all meetings of the Committee were open to the public and were held in the Castine Town Hall. The Committee met at least 70 times since May 2006, initially once a month, twice a month beginning in 2008 and, from the summer of 2009 through the end of February 2010, on a weekly basis.

The Committee initially sought public participation through a written survey of Town residents to answer the following questions: what are the aspects of our community you most want preserve; what are the most important challenges facing the Town; and how do you suggest that the community best meet these challenges.

In addition to its regular meetings, the Committee sought public participation in three Visioning Meetings in November 2006, February 2007 and July 2007.

The first Visioning Meeting sought further community input on the first question from the written survey. Residents at the meeting were asked to identify the most important physical and natural features of the Town and the aspects of the Town that give it its unique character. The Committee gathered the information from both the answers to the first question on the written survey and the first Visioning Meeting, compared it to the draft Vision Statement prepared by the Committee and found that they matched extremely well.

The second Visioning Meeting sought further community input on the other questions from the written survey with respect to challenges facing the Town and how best to meet those challenges. At the second Visioning Meeting, those attending broke into small groups to identify challenges and propose solutions. Results of the small group discussions were then shared with the rest of the meeting. The Committee gathered the information from both the survey answers and the second Visioning Meeting and used it to form its recommendations regarding goals of the Plan and to form the foundation of the Future Land Use Plan.

The third Visioning Meeting in July 2007 was specifically designed to seek input from the Town's large seasonal population. The Committee gathered the information from the third Visioning Meeting and used it to refine further the goals of the Plan.

The Committee sought further input from the greater Castine community in March 2008 through a joint Committee/MMA survey of MMA faculty and staff on a variety of questions including the reasons why they do or do not live in Castine. The results of the survey were tabulated and confirmed information gathered through the Visioning process that the lack of affordable housing is one of the major challenges facing the Town.

The Committee further sought public participation by arranging a series of meetings with specific groups of stakeholders in the Town. Accordingly, the Committee met with members of the Historic Preservation Commission (November 2007), parents of school-

Public Participation Summary

aged children (January 2008), MMA administration and Board of Trustees (April 2008), Merchant's Association representatives (August 2008) and the Select Board (September 2009). The Committee used information from these meetings to refine further the goals of the Plan.

As drafts of portions of the Plan were prepared, they were posted on the Town's website and were printed by the Penobscot Bay Press in the *Castine Patriot*. In addition, specific sections of the Plan were reviewed with stakeholders such as the Principal of the Adams School, the Fire Chief, the Harbor Master and conservation land trusts. The Committee used information gathered from these discussions to refine further those sections of the Plan.

The Committee specifically sought input with respect to the Future Land Use Plan by arranging a public hearing with the Castine community (December 2009) and with representatives of MMA (February 2010). Comments received from those meetings helped to guide the Committee in finalizing the Plan, including the Future Land Use Plan.

Finally, the Committee met with the Select Board (February 2010) and received approval to file the Plan with the State Planning Office.

EVALUATION MEASURES

At least every five years, the Town should evaluate the following: the degree to which Future Land Use Plan strategies have been implemented, the percentage of which municipal growth-related capital investments have been made in growth areas, the location and amount of new development in relation to the Town's growth areas, rural areas and critical resource areas and the amount of critical resource area that has been protected through acquisition, easement or other protective measures.

This evaluation should be accomplished by the Town Manager preparing a report to the Select Board analyzing these items and the Select Board discussing the report at a public meeting.

GLOSSARY OF LOCAL TERMS

BAC: Bagaduce Ambulance Corps

CCHS: Castine Community Health Services

CIP: Capital Investment Plan

Committee or CCPC: Castine Comprehensive Plan Committee

MMA: Maine Maritime Academy

MCHT: Maine Coast Heritage Trust

Off-Neck: The land area of Castine north of the British Canal and currently composed of the Rural District under the Zoning Ordinance.

OBDs: Overboard discharges

On-Neck: The land area of Castine south of the British Canal and currently composed of the Village I, Village II, Village III, Commercial and Institutional Development Districts under the Zoning Ordinance.

TEDEC: Tidal Energy Demonstration and Evaluation Center, created by MMA to test the potential of various devices that may have merit in commercial development of energy from tidal currents.

The Castine Road: Route 166

The Conservation Trust: The Conservation Trust of Brooksville, Castine and Penobscot

The Shore Road: Route 166A

The Square: The portion of the land area of Off-Neck Castine within the perimeter of Routes 166 and 166A.

The Village: The central area of On-Neck Castine bordered by Battle Avenue between State Street and Tarratine Street, State Street to Court Street, Court Street to Dyer Street, Dyer Street to Water Street, Water Street to Perkins Street, Perkins Street to Tarratine Street and Tarratine Street to Battle Avenue.

Witherle Woods: A large part of the forested headland and shoreline stretching around the northwest end of the Castine peninsula from Dyce's Head Lighthouse to Wadsworth Cove.

Glossary

1995 Plan: The 1995 Castine Comprehensive Plan, which is being updated by the 2010 Plan.

GLOSSARY OF GOVERNMENT ENTITIES

MDEP: Maine Department of Environmental Protection

MDIFW: Maine Department of Inland Fisheries and Wildlife

MDMR: Maine Department of Marine Resources

MDOT: Maine Department of Transportation

MHPC: Maine Historic Preservation Commission

MSHA: Maine State Housing Authority

NRPA: Natural Resources Protection Act

SPO: State Planning Office

COMPREHENSIVE PLAN SUMMARY

Castine is a special place. It is also a fragile community, subject to forces that have and will continue to bring change. The Committee has surveyed the status of the Town in the Inventory and Analysis sections of the Plan and drawn conclusions and made recommendations in the Goal sections of the Plan. The Town will vote on the Plan, which is meant to guide the Town during the next ten-year planning period.

Following is a summary of where we are now and where the Committee believes the Town is heading. The summary follows the order of the Inventory and Analysis sections of the Plan.

Population

According to the U.S. Census and other sources, the Town's total population increased by 17 percent from 1,161 in 1990 to an estimated total of 1,353 (including MMA students) in 2000. The Committee believes these numbers are misleading. The year-round household population (which excludes those living in MMA student housing) increased by about 10 percent to 804 between 1990 and 2000 (the last census date). Since this figure includes MMA students who live off-campus in Castine, the number of non-student residents of the Town has actually decreased. Trends in the last few years suggest this decrease in year-round residents will continue.

Economy

One major challenge facing Castine's economy in the future is developing and keeping a mix of year-round businesses.

Although Census data suggest a 41 percent increase in the labor force between 1990 and 2000, the Committee believes this is misleading. The Census is taken in early April, and thus includes MMA students who are employed in the sense that they have part-time employment during the school year or have co-op employment during the summer and, accordingly, are counted as part of the labor force. It is the Committee's view that without this factor, the labor force in Castine has probably fallen below the 19 percent average increase for Hancock County as a whole.

Since 1995 the number of active business establishments in the Town's small commercial district has declined as a result of commercial establishments closing or being converted to residential use. It is extremely unlikely that this process can be reversed.

Activity among those businesses still surviving declined, even before the national economic downturn of late 2008, as measured by annual sales. If, as the Committee expects, these trends continue, there will be significant consequences for the Town's future as a year-round thriving community.

Comprehensive Plan Summary

Housing

The Committee is persuaded that the dwindling amount of affordable housing is one of the critical issues facing Castine. The lack of housing that is affordable by people of all income levels affects the overall health of the Town's economy. The high cost of housing affects the availability of volunteers necessary to support the Town's fire and ambulance services, hampers MMA's ability to hire and retain faculty and staff, diminishes the number of school-age children necessary to maintain the Adams School and decreases the age diversity of the Town.

Between 2000 and 2005, median household incomes increased by 3.3 percent, but the median sales price of a home increased by 33 percent. In 2005, the median value of an owner-occupied year-round home in Castine was more than double the Hancock County median.

Transportation

Castine has had a steady increase in its average annual daily traffic (AADT). Between 1979 and 2003, the last year for which data are available, traffic more than doubled on some roads. In fact, it increased more than three-fold on one segment of Route 166A. While data for other segments are not available for earlier years, there are other segments for which AADT now exceeds 1,000. Traffic is likely to continue to increase.

While it is in session, the major concentrated source of vehicular and pedestrian traffic is MMA, surrounding the campus and its satellite facilities such as the waterfront complex and playing fields. When MMA is not in session in the summer, the overall harbor area is a major generator of traffic. Peak traffic generally occurs during daytime hours.

Parking remains a problem in the Village. Many Town roads are in very poor condition and sidewalk conditions have continued to deteriorate.

Public Facilities

The Town continues to face deficiencies in infrastructure, especially in roads and storm drainage, sewer and water systems. Emerson Hall needs a Capital Improvement Plan for renovation and restoration. The Town needs improved water distribution to the fire hydrants On-Neck and an additional dry hydrant Off-Neck.

The School Committee needs to continue to monitor the impact of any further school consolidation efforts by the State.

Town Hall staff is adequate for the needs of the Town. The role of the Town Manager as Code Enforcement Officer needs to be monitored to prevent overload for either of those roles.

The Adams School, the Post Office and the Castine Community Health Services are core facilities necessary to realizing the vision of a year-round thriving community.

Comprehensive Plan Summary

Recreation

Town facilities, along with those of MMA, land protected by conservation easement or direct ownership by conservation land trusts, and Recreation Committee activities, meet minimum State standards. The Recreation Committee relies on funding from the Town budget, user fees and private donations.

For many of the recreational facilities, the Town relies on the facilities at MMA. Although these facilities are first and foremost for the benefit of enrolled students, there has been a tradition of making them available for both the year-round and seasonal residents of Castine. A continued partnership between the Town and MMA will optimize the availability of these resources. Nevertheless, owing to scheduling and vacation periods, there is a lack of MMA students needed to serve as lifeguards and recreational facility attendants for Adams School children and the community.

There are no public showers or laundry facilities in Town.

As with all publicly funded programs, there will be close scrutiny applied to the Town's recreation activities in the future. On-going maintenance is nonetheless essential if the present level of activity is to continue to meet the existing minimum State standards.

The Town's many civic, cultural, educational, charitable and religious organizations offer a wide variety of programs to the public throughout the year. The vast majority of the programs are free of charge.

Marine Resources

The Committee agrees with the Castine Merchants Association and the Castine Harbor Committee that the harbor is a valuable and underutilized resource. Development of this resource is critical for the economic growth of Castine and will require major expansion of the facilities including docks, wharfs, floats, guest moorings and launch services.

Castine's harbor is used primarily for recreation and by MMA. There is not presently a waiting list for moorings, but the number of moorings in the harbor has increased. The mooring field is not adequately organized and moorings are too tightly spaced. The 1995 Plan stated that Castine harbor appeared to meet the needs of both commercial and recreational users. It predicted that traffic would likely increase and a specific overall harbor plan would be necessary. This was an accurate prediction and the time has come to create a harbor plan.

There are parking problems at the Town dock parking lot.

Commercial activity consists of a limited number of harvesters of lobsters, sea grass and marine worms. Shell fishing has been curtailed in recent years due to red tide and other forms of pollution.

Comprehensive Plan Summary

MMA, through a 501(c) 3 nonprofit organization, has created TEDEC (Tidal Energy Demonstration and Evaluation Center), to test the potential of various devices that may have merit in commercial development of energy from tidal currents.

TEDEC was originally a consortium of MMA and commercial organizations and as such could have impacted the already serious parking congestion at the waterfront. In its present form there will be very little impact, but the Town should monitor this project to ensure that any programs developed by TEDEC are positive for all stakeholders.

Water Resources

Although a low rate of residential growth is projected for Castine, the municipal water system will limit future development in its service area. As of 2008, the system was operating near capacity, with a balance between MMA usage in the winter and seasonal residents in the summer months. Any disruption of this balance could result in a water shortage.

The status of the water supply Off-Neck is not known. More assessment is needed before it can be determined if water supply problems are likely to emerge in that area.

The Town has upgraded the wastewater treatment plant to handle additional capacity. It has also worked to remove or improve overboard discharges (OBDs) since the 1995 Plan was prepared. As of 2008, Castine had reduced the number of OBDs to three, but there were still five in Brooksville and four in Penobscot. Discharges from these adjoining towns affect the water quality of the harbor, rivers and bay surrounding Castine.

There are two different types of water pollution: point source and non-point source. Point source pollution is that which comes from a specific source, such as a pipe, and can easily be identified, measured, licensed or removed. Non-point source pollution is much broader and more difficult to identify. It ranges from leaking gas tanks, erosion, and storm water runoff as well as agricultural, lawn and forestry runoff.

There are no DEP records of any non-point sources threatening surface water. Non-point sources are more likely to occur adjacent to agricultural, commercial and industrial operations or where there is a large area of impervious surface. Since such areas in Castine are relatively limited, the Town is not likely to have the problems faced in more developed communities. There is, however, a need for better policing of oil spills and other discharges into the harbor.

Natural Resources

Castine has a diversity of natural resources, particularly along its shore and on its islands. These include ecologically valuable waterfowl and wading bird areas and three officially identified bald eagle nesting sites. The Town also hosts many bird and marine species whose populations are in decline nationally.

Comprehensive Plan Summary

Since 1995, the Town has taken several steps toward protecting its natural and scenic resources. The Town has instituted several land use ordinance measures that minimize the impact of development on environmentally sensitive land. In addition, land protected by direct ownership or easement by conservation land trusts has increased by 82.9 percent since 1995, providing public access to these resources. Because of these existing efforts, further protection and conservation measures are not nearly as great a concern now as they were in 1995.

Agriculture and Forest Resources

Ensuring preservation of trees is important to maintaining the overall rural character of Castine. These trees have proven vulnerable to damage from storms, disease and lack of proper pruning. In particular, sources of funding for the care of over 300 elm trees in the Village need to be secured. There is very limited commercial forest activity in Town. Only 237 acres were reported harvested in the most recent ten-year period. Farming is even more limited; 136 acres were held under the farmland taxation category in 2008.

Historic and Archaeological Resources

Since 1995 more properties of historic and pre-historic interest have been identified. Castine has seven listings on the National Register of Historic Places. Castine also has a number of historic and pre-historic archaeological sites. The Historic Preservation Ordinance protects buildings and sites within the historic district.

The Historic Preservation Committee believes that there are threats to the historic resources of the Town by demolition or changes to the historic architectural identity of important properties. The chronic shortage of funds makes the maintenance of public sites more difficult. For example, the Town's cemeteries should have restoration work. According to the Historic Preservation Commission, another potential threat is from new development that could alter an historic streetscape or an unmapped archaeological site. Continuing efforts have been made by the Historic Preservation Commission to expand the historic district, but in November 2008, Castine voters again rejected a referendum proposal to expand the district.

Land Use

Castine has managed to preserve its balance of development between an attractive village and a relatively undeveloped rural area. Since 1995, 291.3 additional acres have been protected by conservation land trust ownership or easements, which is indicative of the commitment made by individuals and groups to preserve key natural areas in the Town. This increase, however, has resulted in a reduction in taxable lands and the revenue they might produce in the future.

While a slow rate of growth is projected to continue, the Town faces challenges in maintaining its current balance. It will be challenging to ensure that the Town's zoning

Comprehensive Plan Summary

allows the construction of housing that is affordable by those of all income levels, that reflects the Town's needs and that is compatible with its infrastructure.

Because of limited capacity of the On-Neck municipal water and sewer systems, Off-Neck would be the most likely area for more development in the future. The Town subdivision ordinance already includes standards for the use of cluster developments. The use of clusters rather than conventional subdivision development can decrease the cost of development and therefore lower the cost of housing within a cluster development.

The second challenge is the need for senior housing that is located On-Neck and close to Castine Community Health Services and Town services.

The third challenge has to do with commercial development. The ability to attract businesses to Castine is limited by the small size of the commercial district in the Village and by the fact that commercial activities, with only a few exceptions, are prohibited in the rural district. In recent years there has been no new commercial development; on the contrary, some commercial properties have been converted to residential and other non-commercial uses. In order to attract businesses, the Town will need to increase the acreage that is available for commercial activity.

Fiscal Capacity

Between 1995 and 2008, the Town's total valuation increased at an inflation adjusted rate of 134.4 percent, while the inflation adjusted total tax assessments increased at a 44.1 percent rate. Nearly all tax revenues come from land and buildings. There is very little reported taxable personal property such as machinery and equipment.

Castine has used its valuation growth to fund a significantly higher level of services than comparable towns and has kept its tax rate relatively stable by limiting its investment in infrastructure.

With the aging of the year-round population, the lack of affordable housing and the resulting trend toward a reduction in school enrollment, per pupil school costs are likely to continue to increase. At the same time, the Town is also planning a coordinated improvement program of its roads and water, sewer and drainage systems. A financial plan to support the program has not yet been developed, but it will require higher taxes, reduced services, new sources of income or a combination of all of the above.

+++++

In this Comprehensive Plan update, the Committee has worked to consider the needs of the Town as a whole, including the Town's relationship with and the needs of MMA. The Committee has attempted to prepare an updated Plan that will help achieve the vision of the Town as **a year-round thriving community that values our heritage, village character and natural beauty**, which will make it attractive to new families, year-round and seasonal residents, commercial businesses and MMA students, faculty and staff into the future.

A. POPULATION INVENTORY AND ANALYSIS

1. Purpose

In order to understand Castine's current and future needs it is important to review population trends. This section will:

- A. review population trends since 1990; and
- B. project future population growth.

2. Key Findings and Issues Taken Verbatim from the 1995 Plan

There are three basic components to Castine's population: year-round residents, Maine Maritime Academy (MMA) students, and seasonal residents and visitors. While the U.S. Census data show that Castine's total population has decreased, there was a minor increase in the number of year-round residents during the 1980's. The number of second home residents increased by an estimated 65 percent between 1970 and 1990. A very slow growth is projected for year-round residents, while an increasing off-campus student population will continue to affect the town.

3. Key Findings and Issues

According to the U.S. Census and other sources, the Town's total population increased by 17 percent between 1990 and 2005 to an estimated total of 1,353. While no specific household population figures are available for 2005, the year-round household population (which excludes those living in Maine Maritime Academy (MMA) student housing) increased by about 10 percent between 1990 and 2000 to 804. Since this figure includes MMA students who live off-campus in Castine, the number of non-student residents has actually decreased rather than increased. Trends indicate that this decrease will continue.

4. Trends Since 1990

As seen in Table A.1, the population of the various age groups changed at different rates between 1990 and 2005. There was a 20 percent decrease in those aged 5-17. The fastest rate of increase (37 percent) was for those between 45 and 64, from 178 to 243. When added to those aged 65 and over, the combined group (aged 45 and over) increased 27 percent between 1990 and 2005, from 346 to 428. The largest numerical increase occurred in those aged 18-44, from 684 to 807. As stated above, growth in this age category was generated by the increases in the MMA student population.

The result was that although Hancock County's median age increased from 35.8 years to 40.7 years between 1990 and 2000, Castine's median age appears to have decreased from 24.6 years to 23.8 years in the same period (more recent data are not yet available). Thus, if one counts MMA students, Castine has the *lowest* median age in Hancock

Population

County. Without MMA students, Castine may well have the *highest* median age. Details on the MMA population are discussed below.

Table A.1 shows the decline in K-12 school-age population as of 2005, which is indicative of the challenges young families face living in Castine. This topic will be discussed in greater detail in Chapter C – Housing and in Chapter E – Public Facilities and Services.

Table A.1 Change in Age Breakdown, Year-round Population, 1990-2005						
Age Group	1990 Number	1990 Percent	2005 Number	2005 Percent	Numeric Change 1990-2005	Percent Change 1990-2005
0-4	26	2.2	34	2.5	8	31
5-17	105	9.0	84	6.2	-21	-20
18-44	684	59.0	807	59.6	123	18
45-64	178	15.3	243	18.0	65	37
65 and over	168	14.5	185	13.7	17	10
Total	1,161	100	1,353	100	192	17
Source: U.S. Census and MSHA (for 2005)						

The average number of persons per household in Castine decreased from 2.24 in 1990 to 2.16 in 2000. During this same period, household sizes in Hancock County decreased from 2.48 to 2.31. It would seem that Castine has a smaller household size than Hancock County as a whole. Since 2000, however, the number of MMA students living off-campus in Castine has likely increased this figure. Household sizes are important in determining how many homes will be needed for a given level of population. A smaller household size means that more homes will be needed for the same number of people.

There have been changes in other population statistics as well. In 2000 Castine had the second highest median household income (after Dedham) in Hancock County. In 1990 the Town had a median household income of \$35,104, which was 139 percent of the Hancock County median household income of \$25,247. By 2000, Castine's median household income had increased to \$46,250, but this had fallen to about 129 percent of the Hancock County median income of \$35,811.

Median household income is calculated by locating the mid-point between the richest and poorest households (excluding MMA students). Calculated this way, Castine's median household income is \$46,250, or about 30 percent *more* than Ellsworth's (\$35,936).

Median household income should not be confused with *per capita* income. The latter is determined by dividing the total income by the total population (including MMA students). The result in the year 2000 yielded per capita income of \$20,078 for Castine, which is barely 3 percent above the State's average and 5 percent *less* than Ellsworth's (\$21,049).

Population

Unfortunately, eligibility for Federal and State assistance through grants is measured not on per capita income, but on median household income.

Poverty in the Town has increased. Castine had a 9.6 percent poverty rate in 1990, compared to 10 percent for Hancock County. By 2000, the Town poverty rate was 12 percent, compared to 7.1 percent for Hancock County. The poverty rate data are for the household population only, and do not include the population in MMA student housing.

Since 1990 there has been little change in the ethnic proportions in Castine. Like the State and Hancock County, Castine was 98 percent Caucasian in 1990, compared to 97.1 percent in 2000. The racial breakdown in 2000 included 0.7 percent each for Asians, African-Americans and multi-racial persons.

5. Seasonal Population

It is very difficult to estimate seasonal population numbers. There are several sources of population that affect a town's seasonal fluctuations. First, there are people who reside in seasonal dwellings and their houseguests. Second, there are people who rent houses for a week or more, who take rooms at the three inns in Town, or who are occupants of MMA housing for short-term events and similar lodgings. Third, there are day visitors. As of the summer of 2008, there were 47 inn rooms available, down from 63 rooms owing to the purchase of one inn as a private residence.

MMA housing is occupied for periods of time during the summer conference season, from the last week in May through the second week in August. Within that time period, there are usually three weeks when up to 300 conference attendees are staying in MMA housing. For the rest of the summer, there are between five and 100 conference attendees staying in MMA housing.

To summarize, Castine is different from most coastal Maine communities, and its seasonal population is affected by many factors. The seasonal influx is partly balanced by the departure of MMA students during the summer, but this departure is partially offset by conference attendees staying in MMA housing. The combination of factors makes it very difficult to estimate a peak population.

6. Projected Population

There is no reliable way to project population for a small town such as Castine. However, some general statistical models can be used. The State Planning Office (SPO) has developed year-round population projections for all towns in the State through 2020. The figures for Hancock County and Castine are shown on Table A.2. As seen below, Hancock County as a whole has considerable growth potential. This is consistent with recent trends of a high in-migration rate.

Castine's population is projected to remain virtually unchanged between 2000 and 2020. However, these figures assume no change in MMA's enrollment, which is unlikely.

Population

Table A.2 Projected Population through 2020			
	2000	2010	2020
MMA Student Housing Population	539	539	539
Household Population Only	804	827	815
Castine Population	1,343	1,366	1,354
Hancock County	51,791	56,523	59,730
Source: SPO web site. Refer to text for discussion of limitations of data for both household and MMA student housing populations.			

Table A.3 illustrates the population trend of the Town when the growth of MMA is included. Note that the overall population grows while the household population declines.

Table A.3 Castine Population Components				
Population Components	1980	1990	2000	2005
Castine Household Population	696	711	702	677
MMA Students Living in Town	5	20	102	137
MMA Students Living in MMA Student Housing	603	430	549	609
Total Castine Population	1,304	1,161	1,353	1,423
Source: Population data are based on U.S. Census data and estimated numbers of MMA students. Castine Household Population is based on U.S. Census data less the estimated number of MMA students living in homes and apartments in Castine (MMA Students Living in Town).				

Population

A. POPULATION GOAL

Castine wishes to be a community with a year-round population composed of all age groups. It also wishes to sustain its seasonal population. The Plan recommends that these goals be accomplished by the following specific measures:

1. Undertake measures to promote a balanced, year-round economy so that families of working age have access to jobs (see B. Economy Goal);
2. Support measures to increase the availability of housing that is affordable by younger families (see C. Housing Goal); and
3. Undertake measures to maintain the Town's quality of life so that it remains attractive to second home owners and vacationers (this is addressed throughout the Plan).

Implementation Strategy: These are addressed through other goals in the Plan.
--

Responsibility: As indicated elsewhere in the Plan.
--

Time Frame: As indicated elsewhere in the Plan.
--

4. The Select Board and Town Manager bring to the attention of the appropriate State and Federal authorities the misleading nature of the Census data as indicated in Chapter A-Population Inventory and Analysis.

Implementation Strategy: Select Board and Town Manager contact State and Federal authorities.
--

Responsibility: Select Board and Town Manager
--

Time Frame: 2010-2012

B. ECONOMY INVENTORY AND ANALYSIS

1. Purpose

An understanding of the Town's economic base is important in planning for its future. This section will:

- A. summarize recent economic trends; and
- B. identify current economic issues.

2. Key Findings and Issues Taken Verbatim from the 1995 Plan

Castine has a low unemployment rate and many professionally employed residents. The major year-round employers in town are MMA and Adams School. High housing costs mean that many people commute to jobs in Castine since they cannot afford to live in town. The limited number of businesses in town makes shopping difficult for the elderly and others with limited mobility.

3. Key Findings and Issues

Most of the trends identified in the 1995 Plan have continued, along with some new developments. The major challenge facing Castine's economy in the future is developing and keeping a mix of year-round businesses.

Although Census data suggest a 41 percent increase in the labor force between 1990 and 2000, the Committee believes this is misleading. The Census is taken in early April, and thus includes MMA students who are employed in the sense that they have part-time employment during the school year or have co-op employment during the summer, and, accordingly, are counted as part of the labor force. It is the Committee's view that without this factor, the labor force in Castine has probably fallen below the 19 percent average increase for Hancock County as a whole. If the trend continues, there will be significant consequences for the Town's future as a thriving year-round community.

4. Trends Since 1995

Since 1995 MMA has become the major year-round employer in Castine employing some 260 faculty, staff and contract workers, more than 80 percent of whom do not live in Castine. A survey conducted jointly by MMA and the Committee in 2008 revealed that affordability was the major reason given for MMA employees not living in Castine, with 132 responses falling into that category. The perceived attitude of the Town toward MMA was given as a reason by 73 respondents, with 71 citing the lack of services in the Town and 60 mentioning lack of social and recreational facilities. (Several respondents gave more than one reason, in which case each was recorded in the final results.)

Economy

Table B.1 accounts for all employed Castine residents, not all of whom work in Castine itself. The 2000 Census data indicate that out of the 676 Castine residents reported in the labor force, work destination data were available for 663. After the 456 who worked in Castine itself, other identified work destinations included Bucksport, Bar Harbor, Bangor and Waterville.

According to the 2000 Census, a total of 822 people (residents, non-residents and MMA students) worked in Castine. Apart from 456 Castine residents, the most common residences for workers outside the Town were Bucksport (75), Penobscot (58), Blue Hill (53) and Orland (27). The Town attracts a substantial number of commuters. In fact, probably owing to the presence of MMA, more people (366) commute into Castine than commute out (207). The average commuting time for Castine residents in 2000 was 13 minutes. This is far less than the 2000 Hancock County mean commuting time of 22.4 minutes.

Table B.1 Class of Workers, Employed Persons 16 years and older, 2000				
	Castine		Hancock County	
	Number	Percent	Number	Percent
Private Wage/Salary	432	63.9	17,470	69.8
Fed/State/Local Gov't	186	27.5	3,511	14.0
Self-employed	56	8.3	3,975	15.9
Unpaid Family Member	2	0.3	78	0.3
Total	676	100	25,034	100
Source: U.S. Census, 2000, Table DP-3				
Class of Workers, Employed Persons 16 years and older, 1990				
	Castine		Hancock County	
	Number	Percent	Number	Percent
Private Wage/Salary	265	55.4	14,604	69.5
Fed/State/Local Gov't	158	33.1	2,998	14.3
Self-employed	55	11.5	3,325	15.8
Unpaid Family Member	0	0.0	73	0.4
Total	478	100	21,000	100
Source: U.S. Census, CPH-L-83, Table 2				

Table B.2 shows the proportion of Castine employment by industry sector in the year 2000. Again, the impact of MMA is clear, with over 60 percent of Castine's workers employed in either educational, health and social services or arts, entertainment, accommodation and food services, as opposed to 30 percent for Hancock County as a whole. The Committee believes these proportions have intensified since 2000.

Table B.2 Castine & Hancock County: Employment by Industry Sector, 2000				
	Castine		Hancock County	
Category	Numbers	Percent	Numbers	Percent
Agriculture, Forestry & Fisheries	15	2.2	1,315	5.3
Construction	25	3.7	2,524	10.1
Manufacturing	17	2.5	2,369	9.5
Wholesale Trade	7	1.0	575	2.3
Retail Trade	38	5.6	3,057	12.2
Transportation, Warehousing and Utilities	28	4.1	883	3.5
Information	31	4.6	644	2.6
Finance, Insurance & Real Estate	28	4.1	1,191	4.8
Professional, scientific, management, administrative and waste management services	38	5.6	2,005	8.0
Educational, health and social services	313	46.3	5,544	22.1
Arts, entertainment, recreation, accommodation and food services	99	14.6	2,252	9.0
Other services (except public administration)	14	2.1	1,672	6.7
Public Administration	23	3.4	1,003	4.0
Total	676	100	25,034	100
Source: 2000 U.S. Census: Table DP.3				

Table B.3 lists some of the businesses in Castine, as compiled by the Committee as of 2010.

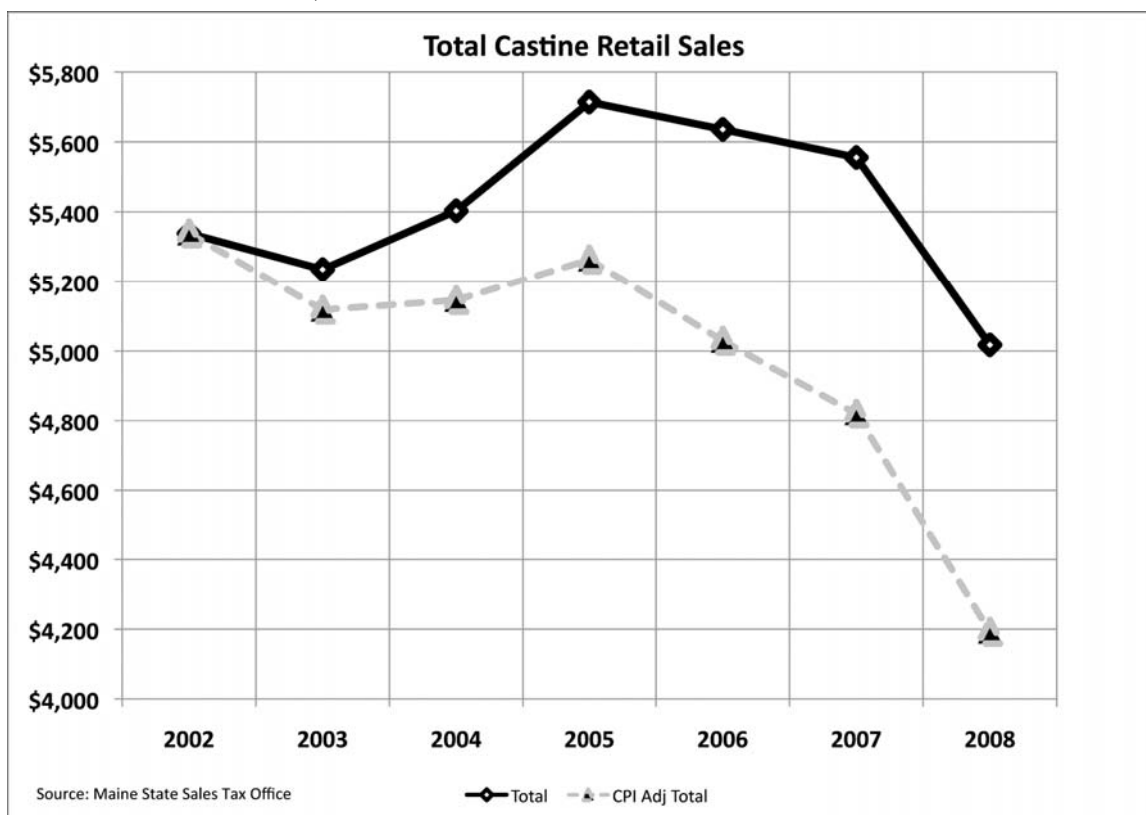
Table B.3 Town Businesses, 2010	
Year-Round	Seasonal
1 Grocery Store	1 Take-out Stand
5 Retail/Gift Shops	1 Kayak Tours
1 Lunch/ Ice Cream Parlor	4 Restaurants
1 Health Clinic	3 Inns
2 Contractors	
4 Real Estate Agencies	
2 Banks	
1 Boat Yard/Marina	
2 Galleries	
Several Home Occupations	
Source: Data compiled by the Castine Comprehensive Plan Committee are current as of 2010; businesses change constantly and it is possible that some operations were overlooked.	

5. Current Economic Issues

Since 1995 the number of active business establishments in the Town's relatively small commercial district has declined, often the result of commercial establishments closing or being converted to residential uses. It is extremely unlikely that this process can be reversed.

Activity among those businesses still surviving declined, even before the national economic downturn of late 2008, as measured by annual sales receipts. See Table B.4.

Table B.4 Retail Sales, 2002-2008



Source: Maine State Sales Tax Office

If these trends continue, they will have significant consequences for the Town's future as a year-round thriving community.

Although the Town lies within the service area of the Eastern Maine Development Corporation, it has not actively participated in regional economic development plans. It does not have, in contrast to neighboring municipalities, any organized economic development activity, nor does the Town budget for economic development.

B. ECONOMY GOAL

Castine seeks to promote an economy that offers its residents a variety of well-paying year-round jobs both within the Town and within easy commuting distance. It also seeks to preserve its important seasonal sources of employment, home occupations and local entrepreneurial activities. The Plan recommends that these goals be accomplished by the following specific measures:

1. **Assistance to Existing Businesses:** The Plan supports measures to help businesses retain and create jobs. Specific steps include, but are not limited to, seeking State grant and loan funds for necessary public infrastructure improvements, interim financing and job training.

Implementation Strategy: The Town contacts area economic development groups to ascertain which grant programs would meet the Town's needs and recommends to the Select Board which funds should be sought. Joint grant applications with adjoining towns as well as with MMA shall be considered whenever deemed feasible.

Responsibility: Select Board

Time Frame: Ongoing

2. **Business Development:** The Plan recommends that the Town encourage the development of businesses serving the needs of year-round and seasonal residents, tourists and the MMA community.

Implementation Strategy: The Town expands use of the waterfront and other marine resources.
--

Responsibility: This is addressed throughout the plan.

Timeframe: Immediate and ongoing.
--

3. **Promote Off-Neck Commercial Growth:** The Plan recommends that Castine promote the attraction of businesses to the Town by studying the Square for areas of potential commercial development.

Implementation Strategy: This would be accomplished by the Select Board naming a committee to study the Square for areas of potential commercial development. This would ultimately require changes to the zoning ordinance by a Town Meeting to create commercial districts in an area that currently is zoned entirely rural.
--

Responsibility: Select Board and its designated committee
--

Time Frame: 2010-2012

4. **Home Occupations:** The Plan supports continuing to allow home occupations in all parts of Town unless prohibited by State-mandated shoreland zoning standards.

Implementation Strategy: This is a continuation of current policy.

5. **Regional Economic Development:** The Plan recommends that Castine increase its participation in regional efforts to diversify the Hancock County economy. This will include supporting endeavors of State and regional organizations that promote this goal.

Implementation Strategy: Select Board recommends this to the Town during the budget approval process.
--

Responsibility: Select Board

Time Frame: 2010-2012

C. HOUSING INVENTORY AND ANALYSIS

1. **Purpose**

It is important for a comprehensive plan to have an analysis of the housing market and local and regional housing needs. This section will:

- A. review housing trends since 1990;
- B. discuss housing affordability;
- C. identify major housing issues; and
- D. project future housing construction trends.

2. **Key Findings and Issues Taken Verbatim From the 1995 Plan**

While the number of second homes in Castine increased by more than 50 percent during the 1970s, there was only a fifteen percent increase in the 1980s. The number of year-round homes dropped by about six percent between 1970 and 1980 and increased by about thirteen percent during the 1980s. The decrease during the 1970s was due to year-round homes being used only on a seasonal basis.

While housing prices in Castine are well above the county average, Castine does have some sources of affordable housing. This fact, combined with the slow rate of new home building expected for the rest of the decade, means that no major town sponsored program to promote affordable housing is presently needed.

3. **Key Findings and Issues**

The above excerpt illustrates how much the Town has changed since 1995.

The Committee is persuaded that the dwindling amount of affordable housing is one of the critical issues facing Castine. The lack of housing that is affordable by people of all income levels affects the overall health of the Town's economy. The high cost of housing affects the availability of volunteers necessary to support the Town's fire and ambulance services, hampers MMA's ability to hire and retain faculty and staff, diminishes the number of school-age children necessary to maintain the Adams School and decreases the age diversity of the Town.

Between 2000 and 2005, median household incomes increased by 3.3 percent, but the median sales price of a home increased by 33 percent. In 2005, the median value of an owner-occupied year-round home in Castine was more than double the Hancock County median.

4. Trends Since 1990

Between 1990 and 2000 the total number of dwelling units (year-round and seasonal) increased by 18 percent in Castine (see Table C.1). In 2000, there were 649 dwelling units in Castine, as opposed to 552 in 1990. Between 1980 and 1990, the number of seasonal homes in Castine increased by only 5 percent, while the number of year-round homes increased by 13 percent. However, Table C.1 shows that between 1990 and 2000 the number of seasonal homes increased at a rate of 40 percent, while the number of year-round homes increased at a rate of only 6.5 percent.

As of 2000, nearly 40 percent of the homes in Town were seasonally occupied and 60 percent were year-round, as compared to about 33 percent seasonal home and 67 percent year-round homes in 1990. If the rate of increase continues, more than half of the Town's total housing will be seasonal by 2020.

Table C.1 Change in Castine Housing Units, 1990-2000				
Type	1990	2000	Change	Percent Change
Year-round use	371	395	24	6.5
Seasonal use	181	254	73	40.3
Total	552	649	97	17.6
Source: U.S. Census				

Table C.2 shows the breakdown among various housing types. Between 1990 and 2000 there was an approximately 26 percent increase in the number of single-family homes and a 50 percent increase in the number of duplexes and multi-family units. The increase in multi-family units was primarily due to new buildings created to house increased enrollment of MMA students. The U.S. Census data show that there was a 60 percent decrease in the number of mobile homes between 1990 and 2000; however, Town records indicate 33 mobile homes as of 2000.

Table C.2 Change in Castine Housing Types, 1990-2000					
Type	1990		2000		Percent Change
	Number	Percent	Number	Percent	
Single family	440	79.7	555	85.5	26.1
Duplex/Multi-family	44	8.0	66	10.2	50.0
Mobile Homes	68	12.3	27	4.2	-60.3
Boat/RV/Van	0	0.0	1	0.1	-
Total	552	100.0	649	100.0	17.6
Source: U.S. Census. (The Committee believes that the 1990 U.S. Census mobile home data are erroneous.)					

The breakdown between renter-occupied and owner-occupied year-round housing is shown in Table C.3. As of 2000 about 70 percent of year-round homes were owner-occupied and 30 percent were renter-occupied. This was a higher percentage of year-

Housing

round renter-occupied units in Castine than in Hancock County as a whole. The number of rental units in Castine increased by only 1 percent between 1990 and 2000, which is far less than the rate of increase in Hancock County as a whole. The increased enrollment at MMA since 2000 has resulted in increased demand for rental units in Castine in the form of both apartments and homes.

Table C.3 Estimated Number of Occupied Year-Round Housing Units (does not include seasonal and vacant units) in 1990 and 2000 for Castine and Hancock County					
	1990		2000		1990-2000
Castine	Number	Percent of Total	Number	Percent of Total	Percent Change
Renter-Occupied	97	29.7	109	29.3	1.0
Owner-Occupied	230	70.3	263	70.7	12.5
Total Occupied Units	327	100.0	372	100.0	12.1
Hancock County					
Renter-Occupied	4,466	24.3	5,414	24.3	16.0
Owner-Occupied	13,876	75.7	16,550	75.7	16.2
Total Occupied Units	18,342	100.0	21,864	100.0	16.1
Source: U.S. Census					

Data gathered from Maine State Housing Authority (MSHA) records show that there were 43 housing units added between 2000 and 2005. Although these data are not entirely comparable to the U.S. Census, they do show that the Town's overall available housing continues to increase. The Committee's compilation of data shows that as of 2007, there were 347 year-round dwellings and 237 seasonal units, for a total of 584 units. This is less than the 649 units reported by the 2000 U.S. Census. The Committee believes the U.S. Census numbers are incorrect.

The breakdown of contract rents is shown in Table C.4. As of 2000, the median monthly year-round rent in Castine was \$556, which was 108% of the \$514 median for Hancock County. In 2007, according to the Committee, the average monthly year-round rent in Castine was about \$750 plus utilities. These data do not include short-term summer rentals or multi-student rentals. Rents have been increasing throughout Hancock County. There is further discussion of rents in Section 5 below.

Table C.4 Contract Rent of Year-Round Renter-Occupied Units for Castine and Hancock County, 2000				
	Castine		Hancock County	
Monthly Rent	Number	Percent	Number	Percent
Less than \$200	0	0.0	412	8.2
\$200 to \$299	0	0.0	320	6.4
\$300 to \$499	27	26.7	1286	25.7
\$500 to \$749	43	42.6	1753	35.1
\$750 to \$999	14	13.9	447	8.9
\$1,000 or more	8	7.9	104	2.1
No cash rent	9	8.9	676	13.5
Total Specified	101	100.0	4,998	100.0
Median Rent	\$556	-----	\$514	-----
Source: U.S. Census 2000, DPH-4				

According to the U.S. Census, the median assessed value of an owner-occupied home in Castine was \$229,000 in 2000, more than double the Hancock County median value of \$108,600. In 1990 the median values for Castine and Hancock County were \$187,500 and \$85,200, respectively.

5. Affordable Housing

Under the State's comprehensive planning process, towns must assess their affordable housing needs. This involves comparing housing prices to household incomes and determining if there are sufficient opportunities for home purchases and rentals. The MSHA collects data on housing prices.

MSHA uses an affordable housing index to compare median household incomes to median sales prices. An index of 1.00 or more indicates that incomes are sufficient to purchase a median-priced home. The index is based on what financial lending institutions will normally loan for a mortgage assuming a certain percentage of income for principal, interest, taxes and insurance; it does not reflect other debt (such as car loans and credit cards) that potential homebuyers may carry. A high debt ratio may affect the ability to obtain a mortgage.

MSHA data show that the affordable housing index in Castine between 2000 and 2005, for those earning the median income, has fluctuated between 0.41 and 0.59 (see Table C.5). These data show that it is difficult for families of even median incomes to purchase a home in Castine.

Housing

Table C.5 Change in Housing Affordability Index in Castine, 2001-2005					
Year	Index	Median Home Sale Price	Median Income	Income Needed to Afford Median-priced Home	Price Affordable to Purchaser of Median Income
2001	0.59	\$245,000	\$51,388	\$86,616	\$145,355
2002	0.41	\$350,000	\$49,030	\$119,357	\$143,774
2003	0.50	\$322,500	\$50,333	\$101,139	\$160,497
2004	0.44	\$366,725	\$51,029	\$116,837	\$160,169
2005	0.53	\$325,000	\$53,088	\$101,020	\$170,795
Source: MSHA					

Between 2000 and 2005 the median home sales price in Castine increased at a much faster rate than the median income. The median household income increased from \$51,388 in 2001 to \$53,088 in 2005, an increase of 3.3 percent. During the same period, the median home sales price increased by 33 percent (from \$245,000 to \$325,000). The Committee believes this trend has continued since 2005.

For those earning less than the median income, the affordable housing index is even lower. For example, in 2005 there were 150 households earning 80 percent or less of the median income (at or below \$42,470). About 71 of these households were renters and the rest were homeowners. According to the MSHA, 30 of these 150 households were potential homeowners. Accordingly, Castine has a homeownership gap of a least 30 units to accommodate current residents. This gap does not reflect future housing needs. State goals for comprehensive planning urge that ten percent of all new housing be affordable. Castine is falling far short of this goal.

There are limited data on rental affordability in Castine. A rental unit is considered affordable if it costs no more than 30 percent of a household's income (including utilities). As mentioned above, average monthly rent in Castine in 2007 was \$750 (excluding utilities). To afford the monthly rent, an annual income of \$30,000 would be required; additional income would be needed to pay for utilities. While data on those earning \$30,000 are not available, there were 47 households earning \$26,544 or less in Castine in 2005. The average monthly rent would not be affordable for these households. The instability of fuel prices since 2005 could well add to the burden.

MSHA data indicate that 41 subsidized rental units are needed for families earning 50 percent or less of the median income. There are, however, only four Section Eight units (a Federally originated program that provides housing vouchers to low income households) available for families in Castine. MSHA data also indicate that five subsidized units are needed for seniors, however, none are available. This means that the Town has a housing rental gap of at least 42 units (37 for families and five for seniors).

6. Local Regulations that Affect the Development of Affordable Housing

The zoning ordinance passed in 2000 allows multi-family housing in certain zones. It also allows for the conversion of current single-family dwellings into multi-family units provided that certain conditions are met. Accessory apartments are allowed without any change in lot size from that required for a single-family home. While these measures promote the construction of rental housing, there is no specific assurance that the units created will offer rents that are affordable to persons earning 80 percent or less of the median household income.

Castine's subdivision ordinance already includes the ability for a subdivision to be developed using the cluster approach. The use of clusters rather than conventional subdivision development can decrease the cost of development and therefore lower the cost of housing within a cluster development.

Mobile homes and mobile home parks are another form of housing that is affordable. Under the zoning ordinance they are allowed Off-Neck, but are not allowed On-Neck.

7. Dwelling Unit Projections

It is possible to estimate the number of year-round homes that will be built by dividing the projected household population by the projected household size. Chapter A - Population projects a year-round household population of 815 for Castine by 2020. If this figure were divided by the household size of 2, there would be a total of 377 year-round occupied dwelling units in Town by 2020 (see Table C.6). This would represent a five unit increase since 2000.

While the number of year-round homes is projected to remain stable, there are factors that may increase the number of homes in the Town. First, household sizes are likely to decrease as the population ages. Second, some homes may be vacant for at least part of the year; the projections are for occupied units only. The projections do not reflect an anticipated increase in seasonal homes, which has become a significant component in Castine housing. Between 1990 and 2000, seasonal homes increased at a rate of 40 percent. Even if this rate were halved (20 percent for each ten-year period), there could be a total of 366 seasonal homes by 2020. Using this projection, the Town's housing would be split almost evenly between year-round and seasonal homes by 2020.

Housing

Table C.6 Projected Dwelling Units in Castine		
	2000	2020
Projected Population Residing in Households	804	815
Projected Household Size	2.16	2.16
Projected Occupied Dwelling Units	372	377
Projected Other Units	277	366
Total units year-round and other	649	743
Source: Analysis by the Hancock County Planning Commission. Data for 2000 are actual numbers from the U.S. Census. Other Units include seasonal and vacant year-round units.		

C. HOUSING GOAL

Castine seeks to have a diversity of housing in order for people of all income levels to live in the Town. The Plan recommends that this goal be accomplished by the following specific measures:

1. **Joint Castine/MMA Housing Committee:** The Plan recommends that the Select Board works with MMA to appoint a joint Castine/MMA Housing Committee that contacts various housing agencies to determine which grants or other sources of funding are best suited to the Town and reports back to the Select Board.

Implementation Strategy: Upon receipt of the report of the Castine/MMA Housing Committee, the Select Board determines which grants should be sought and if tax increment financing (TIFs) or other locally generated sources of matching funds should be pursued.
--

Responsibility: Select Board and Castine/MMA Housing Committee

Time Frame: 2010-2012

2. **Support the Development of Affordable Housing:** The Plan recommends support for the development of affordable housing by the following:
 - a. Continue to allow accessory (sometimes called in-law) and duplex apartment units in all districts where allowed by State law without an increase in density requirements over those required for single family homes.
 - b. Continue to allow multi-family units where currently allowed. Multi-family units should be required to provide adequate off-street parking, meet State life and safety codes and be buffered from surrounding properties.
 - c. Continue to allow cluster development.
 - d. Continue to allow mobile homes and mobile home parks Off-Neck.

Implementation Strategy: This is a continuation of current policy.

3. **Zoning Ordinance Standards:** The Plan recommends support for the development of affordable housing by the following:
 - a. Increase the appeal of subdivisions by strengthening subdivision development standards.
 - b. Increase the appeal of mobile home parks and ensure preservation of open space and a rural appearance by strengthening mobile home park standards.

Implementation Strategy: This would be addressed through the ordinance review process.

Responsibility: Planning Board

Time Frame: 2010-2012

Housing

4. **Support the Development of On-Neck Senior Housing:** To address the needs of the increasing number of seniors in Town, the Plan recommends providing senior housing that is located close to Castine Community Health Services and other Town services.

Implementation Strategy: This would be accomplished by the Town approving such type of housing at a Town Meeting pursuant to Article 2 of the zoning ordinance upon presentation to the Town of a development proposal.
--

Responsibility: Town Meeting

Time Frame: TBD

5. **Regional Housing Ventures:** Given the regional nature of housing needs in Hancock County, the Plan recommends that the Town participate in relevant regional endeavors to create housing that is affordable to those of all income levels.

Implementation Strategy: Castine/MMA Housing Committee participates in various regional forums that examine housing options and reports to the Select Board.

Responsibility: Select Board and Castine/MMA Housing Committee

Time Frame: 2010-2012

D. TRANSPORTATION INVENTORY AND ANALYSIS

1. Purpose

This section will:

- A. identify and profile Castine's roadway and transportation systems in terms of extent, capacity and use;
- B. assess the adequacy of those systems in handling current use demands; and
- C. predict whether transportation improvements will be needed to accommodate adequately the demands generated by projected increases in development within Castine and Hancock County.

2. Key Findings and Issues Taken Verbatim from the 1995 Plan

Castine faces parking problems in the downtown area. Most of the sidewalks are in poor repair and many village streets need rebuilding. While the state roads serving Castine are in good repair, speeding on these roads is a problem.

3. Key Findings and Issues

Traffic flows on some State roads in Town have more than doubled between 1979 and 2003. These flows are likely to continue to increase. Parking remains a problem in the Village and sidewalk conditions have continued to deteriorate. Many Town roads are in very poor condition.

4. State, Municipal and Private Road System

A. Road Mileage and Classification

The Maine Department of Transportation (MDOT) has classified all public roads in the State. The classification system is based on the principle that the roads that serve primarily regional or statewide needs should be the State's responsibility and roads that serve primarily local needs should be a local responsibility. The State's classification system includes the following:

Arterials: Arterial roads are comprised of a system of connected highways throughout the State that serve arterial or through traffic. There are no arterials in Castine. The nearest one is Route 1.

Collectors: Collectors serve as collectors and feeder routes connecting local service roads to the State arterial system. The State is responsible for maintaining Castine's 9.53 miles of collectors, which include Routes 166, 166A and 199. The Town is responsible for winter maintenance of Routes 166 and 199; the State is responsible for winter maintenance of Route 166A.

Transportation

Local Roads: Local roads include all other public roads not included in the State classification system. The Town currently maintains local roads, and based on the State system, roads that serve primarily as local service roads, which provide access to adjacent land. MDOT classifies all 7.66 miles of Castine's Town roads as local. About 20 years ago the State shifted responsibility for local roads to the Town.

Private Roads: Private roads are defined as roads that serve three or more dwellings. Roads serving two or fewer dwellings are defined as driveways. According to a Town inventory, there are approximately three miles of privately owned roads in Castine.

B. Traffic Flow

Castine has had a steady increase in its average annual daily traffic (AADT). Between 1979 and 2003, the last year for which data are available, traffic more than doubled on some roads (see Table D.1). In fact, it increased more than three-fold on one segment of Route 166A. While data for other segments are not available for earlier years, there are other segments whose AADT now exceeds 1,000.

The major concentrated source of vehicular and pedestrian traffic is MMA, both to and from the campus and its satellite facilities such as the waterfront complex and playing fields. The overall harbor area is another generator of traffic particularly in the months when most boating takes place. Peak traffic generally occurs during daytime hours unless there is a special event that takes place in the evening.

Table D.1 Average Annual Daily Traffic				
Location	1979	1988	2001	2003
Rte. 166 (North of Rte. 166A & 166 northern intersection)	654	1,240	1,420	1,420
Rte. 166A (South of Rte.166 & 166A intersection)	523	850	1,120	---
Rte. 166 (South of Rte. 166A & 166 intersection)	218	470	690	720
Rte. 166 (North of Rte. 199 intersection)	213	---	---	---
Rte. 199 (East of Rte. 199 intersection)	378	---	820	860
Rte 166A (North of Rte.166 and Rte. 166A southern intersection)	684	---	1,230	1,220
Rte. 166 (South of Rte. 166 and Rte. 166A southern intersection)	1,201	---	---	---

Transportation

Main St. (Northwest of Court St.)	---	----	---	1,740
Court St. (Northeast of Main St.)	--	--	---	1,060
Water St. (Northeast of Main St.)	--	--	---	810
Battle Ave. (Northeast of Wadsworth Cove Rd.)	--	--	---	1,490
Source: MDOT				

C. High Crash Locations

One indicator of road capacity is the number of high crash locations (HCL). MDOT uses two criteria to define HCLs; both criteria must be met in order to be classified as an HCL:

1. A critical rate factor (CRF) of 1.00 or more for a three-year period. A CRF compares the actual accident rate to the rate for similar intersections in the State. A CRF of less than 1.00 indicates a rate of less than average; and
2. A minimum of eight accidents over a three-year period.

The HCLs for Castine are two segments of Route 166A and one segment of Route 166. The Committee noted several safety issues with these two roads. First, the northern Route 166/166A intersection is poorly designed. Second, there are areas where the incorrect banking of these roads may increase the number of accidents or vehicles sliding off the road. Third, recent changes in the design of intersections (such as the northern Route 166/166A intersection) may have caused more accidents.

Overall, speeding is a serious problem resulting in several serious accidents, including a fatality, in the past few years.

D. Local Road Issues

The Town roads are in poor condition. **See Map 1.** Many have been neglected for so long that major reconstruction is needed. The Town is coordinating the rebuilding of roads On-Neck with the improvement of the storm drainage, water and sewer systems. In 2009, an engineering firm prepared a Master Plan for Long Term Infrastructure Improvements for the Town, which was adopted by the Select Board (see Chapter E – Public Facilities and Services). Implementation of the infrastructure improvement plan, which is expected to be accomplished in phases, will require significant expenditures above the average annual road budget.

Transportation

The State is responsible for maintaining Route 166 other than winter snow plowing and sanding. The section between the northern and southern intersections with Route 166A is in very poor condition and needs major reconstruction.

E. Private Roads

Private roads are generally short in length. The municipal subdivision road standards apply to all subdivision roads. They require that roads be built to standards that closely follow those in the State model subdivision guidelines. As discussed in Chapter L - Land Use, only one four-lot subdivision was created between 1995 and 2006. A three-lot subdivision was approved in 2008. Subdivision roads are not an issue for the Town. The Town does not foresee accepting any private roads as Town roads.

F. Transportation Facilities, Noise and Light

The only transportation facilities are marine-related. As a relatively rural town, there are no noise-related transportation problems apart from complaints about loud motorcycle operation in the warmer months. Complaints about noise from the MMA training vessel are addressed by MMA.

Light pollution is an increasing problem and safety hazard, which can be addressed by adopting stricter lighting standards in the zoning ordinance, including requiring Dark Skies compliant lighting for both residential and non-residential uses.

G. Impacts of Transportation Activities on Natural and Historic Resources

Village street trees are addressed in Chapter J - Agricultural and Forest Resources. Historic resources are addressed in Chapter K – Historic and Archaeological Resources. Scenic resources are discussed in Chapter I - Natural Resources. There are no direct threats posed by transportation activities on these resources beyond general vehicle emissions.

H. Emergency Evacuation Routes

The emergency evacuation route is Route 166 north to Route 175 then north to U.S. Route 1. Because of its location at the end of a peninsula, there are no other options for evacuation routes. Accordingly, no improvements to this route are feasible.

5. Railways

Castine has never had rail service. The nearest freight rail service is in Bucksport.

6. Airports

Castine is served by the Bangor International Airport, which has regularly scheduled passenger air service to various locations on the east coast. There is also limited passenger service from Hancock County Airport in Trenton.

7. Adequacy of Existing Measures to Manage Traffic Related Impacts of Development

The Castine zoning ordinance site plan review standards include transportation impact review criteria and detailed off-street parking requirements for new development or a change of use. It is important that these requirements be uniformly applied. The subdivision ordinance also includes transportation performance standards and design guidelines.

One weakness of current measures is that the parking standards for residential uses reflect family uses rather than the parking demands of unrelated adults who may live in the same dwelling unit. For example, four single people sharing a dwelling may each have a vehicle; this normally results in more on-street parking than that necessary for a family household. While two parking spaces are required for each residential dwelling unit, there were no parking standards for residential units in the Commercial District until 2007. In 2007, the Town amended the zoning ordinance to require one off-street parking space for each residential dwelling unit created in the Commercial District after March 31, 2007.

8. Public Transportation

Castine does not have daily bus service. Limited service is provided by the Washington/ Hancock Community Agency for income-eligible clients referred to it by the Maine Department of Human Services. Downeast Transportation, Inc. provides service from Blue Hill to Bucksport, Ellsworth and Bangor, but not to or from Castine. Bagaduce Area Health Resources is a volunteer-run organization that provides transportation services to individuals unable to drive to medical appointments and to other basic needs.

9. Parking

There is a parking problem On-Neck, particularly in the downtown area. Most On-Neck streets are not wide enough to permit parking on both sides and still allow for two-way traffic. This congestion worsens in winter when snow-plowing narrows the width of streets creating a potential safety hazard if emergency vehicles do not have sufficient room to maneuver. During the summer, public parking space in the Town dock parking lot is inadequate. The Town strictly enforces a three-hour limit in the Town dock parking lot; cars needing longer parking time must park elsewhere. Overnight parking is only allowed in the center island spaces of the Town dock parking lot between November 1 and April 30.

There is an increasing amount of on-street parking in the vicinity of MMA. Parking is a particular problem at the Town dock parking lot and the surrounding streets near the MMA waterfront on Tuesdays and Thursdays during the school year. MMA has expanded student enrollment beyond the student housing capacity. Approximately 300 students must find housing in Castine and surrounding communities and use personal vehicles to commute to campus. This has exacerbated parking problems in Castine.

Parking violations are enforced with a Town-paid parking enforcement officer.

Transportation

For all of these reasons, in addition to those discussed in Section 7 above, off-street parking requirements should be uniformly applied, periodically reviewed and modified as necessary.

10. Sidewalks and Curbing

Overall, the condition of sidewalks in Castine is poor and many are unsafe. Pavements are frequently so uneven that baby strollers and wheelchairs cannot use them. The sidewalks are not plowed in the winter and the Town does not own a sidewalk plow. This means that frequently people must walk in the street. There are no sidewalks at all connecting portions of the MMA campus to the harbor area. Castine does not have a comprehensive sidewalk plan. This issue may have to be revisited in the future. Surfacing sidewalks with less costly materials could reduce costs.

At a Special Town Meeting in 2005, the Town approved requiring granite for all future new or replacement curbing. Utilizing less costly materials could reduce costs. This would require approval of the Town's voters to revise the 2005 decision.

There is no room in the Village for any off-road bicycle and pedestrian connections. There are hiking trails on the various parcels of conservation land (see Chapter F - Recreation).

11. Regional Issues

Castine faces several regional transportation issues and opportunities. First, any van pooling or other ride share programs should be addressed on a regional basis. As discussed above, there may be the possibility of adding service from the immediate Bucksport area.

Second, Castine residents and businesses use the public road network that serves most of Hancock County. It is important that regional transportation issues such as inadequate maintenance or traffic congestion bottlenecks be addressed on a countywide basis. The Bagaduce Ambulance Corps has reported that poor winter road maintenance makes transportation of patients to Blue Hill Memorial Hospital difficult and sometimes hazardous.

Third, traffic flows are increasing across Hancock County and most of Maine. Castine needs to participate in long-range planning efforts not only to anticipate highway needs, but other modes of transportation as well. These include public transportation, bicycles and water-borne craft. The Town benefits from the presence of bicycle tourism and could work with MDOT to improve bicycle shoulders on State highways in the greater Castine area.

12. Future Needs

The Town faces several transportation-related challenges over the next ten-year planning period. First, the aging of the Town's population means that there will be increased reliance on public transportation or programs that provide transportation for seniors. This may be particularly important in view of increasing fuel prices and the possibility of energy shortages.

Second, the increase in seasonal home construction in Castine, continued expansion by MMA and projected population growth rates for Hancock County mean that traffic flows are likely to increase

Transportation

as well. Increased traffic flow means that there could be more accidents at the HCLs and at other locations in Town. It is important to ensure that new land development or a change of use meets sound traffic impact standards and off-street parking requirements.

Third, parking, bicycle and pedestrian facilities are likely to face increased demand. It will be important to ensure to that there is adequate public parking. To encourage bicycle use, the Town may also want to provide safe bicycle shoulders on major roads and bicycle racks in the Village. To provide safe walking opportunities, it is important to develop a sidewalk plan.

The Town may also want to explore other options to lessen vehicular congestion in the Village. These could include, but not be limited to, use of shuttle vans and golf carts. Any such exploration should be done in conjunction with MMA.

D. TRANSPORTATION GOAL

Castine seeks to have a transportation system that facilitates the cost-effective, safe and efficient movement of people, goods and services within and through the Town and that is designed to accommodate higher rates of vehicles and alternative modes of transportation while minimizing the adverse effects of development on traffic and parking. The Plan recommends that these goals be accomplished by the following specific measures:

- 1. Access Management:** Castine wishes to promote access management policies that ensure the safety and retain the capacity of its State highways and Town roads.
 - a. **Definition of a driveway and entrance:** The Plan recommends that the Town's land use ordinances define a driveway as an access point generating up to 20 vehicle trips a day (the equivalent of two houses). Any access point in excess of this amount would be defined as an entrance or street.
 - b. **Road connectivity:** The Plan recommends that the Town undertake measures to increase road connectivity in future development through the following steps:
 - i. Review, and amend if necessary, the land use ordinance standards to require that development proposals for new or expanded uses provide for a street connection to adjacent streets unless the proposed interconnection is not feasible because of environmental impacts or topographical constraints; and
 - ii. implement design standards for interconnecting streets that minimize vehicle speed through measures such as traffic calming and promote pedestrian passage through the provision of crossing areas.
 - c. **Management of access points:** The Plan recommends that the Town review, and amend if necessary, its land use ordinances to limit the number of new entrances onto all existing public roads through the following measures:
 - i. adopt the current MDOT access standards for all public roads in Town to limit most new uses to one two-way or two one-way entrances, with exceptions to be made in cases where significant truck or RV traffic is expected or where there is no development abutting a site;
 - ii. allow the phase-in of shared entrances as may be necessary to accommodate traffic in areas of intense development; and
 - iii. include provisions to require the removal of one entrance in a development initially approved for two entrances when the abutting parcel

Transportation

is developed and it is possible for two developments to share the same entrance.

Implementation Strategy: This would be addressed through the ordinance review process.

Responsibility: Planning Board

Timeframe: 2010-2012

2. Sight Distance: The Plan recommends that the Town continue to require that property owners secure a MDOT sight distance permit prior to obtaining local permits for entrances along Routes 166 and 166A. All other public ways will continue to meet MDOT basic safety standards.

Implementation Strategy: This is a continuation of current policy.

3. Design and Aesthetic Standards: In order to promote tourism and other economic development measures and encourage sound transportation policies, the Plan recommends that land use ordinances continue to ensure that new, replaced and expanded signs meet standards in terms of size and lighting. In addition, land use ordinance standards should continue to ensure that emphasis is placed on preservation of natural features, screening of buildings and parking areas and limiting the extent of impervious surface that is visible from the road.

Implementation Strategy: This is a continuation of current policy.

4. Pedestrian Facilities: The Plan supports the promotion of safe separation of vehicle and pedestrian traffic and encourages more walking opportunities through the development of a Castine sidewalk plan that will examine and recommend the locations and construction materials for sidewalks.

Implementation Strategy: Select Board establishes Sidewalk Plan Committee.

Responsibility: Select Board

Time Frame: 2010-2012

5. Bicycle Facilities: The Plan supports the provision of safe bicycle shoulders along Town roads and State highways serving Castine.

Transportation

Implementation Strategy: The Select Board contacts MDOT and requests that relevant State road improvements be included in the Biennial Transportation Improvement Plan. Local improvements are included in the municipal Capital Investment Plan.
--

Responsibility: Select Board

Time Frame: 2010-2012

6. Town Road Policy: The Plan recommends that Town policy recognize that Town roads are a crucial factor in shaping future growth and determining municipal service costs. Recommended road policy steps include:

- a. develop construction and design standards for all roads in Town that address matters such as width, paved shoulders, emergency vehicle access, drainage and road base to ensure that substandard roads are not built or substandard repairs are not made. The Plan recommends that Town ordinances require that all new or expanded subdivision roads be required to meet these standards. It also recommends that any reconstruction of existing Town roads be done in a manner that meets these standards whenever practical;
- b. restrict the acceptance of any new roads as Town roads.

Implementation Strategy: 6a Develop long-term road reconstruction and maintenance plans; this would be addressed through the ordinance review process; 6b Develop policy.
--

Responsibility: 6a Select Board and Planning Board; 6b Select Board
--

Time Frame: 2010-2012

7. Parking: The Plan recommends that adequate and safe parking be provided by the following specific measures:

- a. Land use ordinance standards should be reviewed, and if necessary amended, to ensure that off-street parking requirements meet the demand from a proposed new development or change of use.
- b. Parking standards should require that the parking areas be landscaped when possible to minimize their visual impact and that storm water run-off impacts are managed in accordance with DEP standards.
- c. Parking should be located, wherever possible, at the side or rear of the building.
- d. Parking that supports local businesses should be available for short-term use only.

Implementation Strategy: This would be addressed through the ordinance review process. The Planning Board continues to ensure that applicants comply with the ordinance requirements.
--

Responsibility: Planning Board

Time Frame: 2010-2012

8. Managing Off-Site Traffic Impacts of Development: The Plan recommends that the current provisions in the land use ordinances continue to give the Planning Board the authority to require developers to prepare a traffic assessment that considers the off-site impacts of their development. This assessment shall be used to determine if the developer needs to pay a proportionate share of the cost of any off-site transportation and/or parking improvements that are necessary to mitigate the impacts of the development.

Implementation Strategy: This is a continuation of current policy.

9. High Vehicle Crash Locations: The State has identified several high crash locations in Castine. One location has recently resulted in the loss of life. While road design and weather conditions play a factor in vehicle crashes, speeding remains the primary problem. The Plan recommends that the Town request more effective patrol car coverage from the Hancock County Sheriff's Office along with other methods to reduce speeding. Road design issues will be addressed with future paving and road projects.

Implementation Strategy: The Select Board requests more effective coverage from the Sheriff's Office.
--

Responsibility: Select Board

Time Frame: 2010-2012

10. Lighting/Light Pollution: In recent years there has been heightened awareness of the adverse effects of light pollution. The Plan recommends that the Planning Board strengthen existing lighting standards to ensure that light pollution is minimized by requiring Dark Skies compliant lighting for both residential and non-residential uses.

Implementation Strategy: This would be addressed through the ordinance review process.

Responsibility: Planning Board

Time Frame: 2010-2012

E. PUBLIC FACILITIES AND SERVICES INVENTORY AND ANALYSIS

1. Purpose

A thorough understanding of the Town's public facilities and services is necessary to determine any current constraints to growth-related problems that the Town is likely to face in the future. A comprehensive plan should also identify likely future capital improvement needs. This section will:

- A. identify and describe Castine's public facilities and services; and
- B. assess the adequacy of these services to handle current and projected demands.

2. Key Findings and Issues Taken Verbatim from the 1995 Plan

Castine faces several serious deficiencies in its public facilities and services. Until these shortfalls are addressed, it will be difficult for the town to accommodate future growth in its institutional, seasonal, and year-round population especially in the Village area. The problems in the water, sewer, street, fire fighting, and other services are further aggravated by the time demands placed on town government officials. This situation could be improved by increasing the Board of Selectmen to five persons. Since MMA is a major user of many town services, it is important that there be regular communication between town government officials and the Academy.

Taxpayers face major expenses to upgrade these deficiencies. While the water and sewer improvements would be paid by the users, these rate increases may make those users who are also voters less inclined to support increases in their taxes as well. The many competing demands on the tax base mean that careful planning is essential. For example, the needed sidewalk and street repairs should be coordinated with the sewer and water system improvements. It is important to have a detailed list of needed capital improvements from all departments that can be incorporated into a Capital Investment Plan.

3. Key Findings and Issues

The Town continues to face deficiencies in infrastructure, especially in its roads and the sewer, water and storm drainage systems. The recycling contract will eventually need to be renegotiated and the current system may change as a result. Emerson Hall needs a Capital Improvement Plan for renovation and restoration. The Town needs improved water distribution to the fire hydrants On-Neck and an additional dry hydrant Off-Neck. Without increased numbers of volunteers for the fire department and the ambulance corps, both may require part-time paid employees. The school, post office, library, health center, town hall, fire department and ambulance corps should be supported as necessary core facilities and services for the Castine community.

4. Town Government

A. Current Conditions

A three-member Select Board, whose legislative power is derived from the resident voters at the Town Meeting in March, governs the Town. The Select Board employs a Town Manager to act as chief executive and administrator of the Town.

Staff presently consists of a full-time Town Manager (who also serves as Code Enforcement Officer and Assistant Local Plumbing Inspector), a full-time Town Clerk and a full-time Finance Officer. There is also a part-time Local Plumbing Inspector.

The Select board appoints a public health officer who addresses public health issues as the need arises.

Town office functions are conducted at Emerson Hall on Court Street. This 12,365 square foot building was built in 1901. On the first floor there is a meeting room (900 square feet), Clerk's office (290 square feet), Finance Officer's office (200 square feet), Town Manager's office (385 square feet) and kitchen (300 square feet). Other rooms include rest rooms and storage areas. On the second floor is an auditorium (2,085 square feet) with a 610 square foot stage and 790 square feet of storage area. The 4,145 square foot basement is used primarily for storage and mechanical purposes.

Emerson Hall is an historic building. A series of upgrades have been completed on the building with several more phases to follow. Installing an exterior foundation drain, an accessible front entrance, new sidewalks and granite curbing are the recent outside improvements. In addition, upgraded rest rooms, basement work, a new boiler, an upgraded chimney, new radiators on the second floor, a passenger elevator serving three floors and 400 amp electrical system were completed in 2007-2008.

B. Future Needs

The Town Hall staff is adequate for the current needs of the Town. The amount of time devoted by the Town Manager to Code Enforcement responsibilities could increase for a variety of reasons including possible land use ordinance changes, an increase in large scale development or subdivision development or an increase in the size of the historic district.

The Town needs to develop a Capital Improvement Plan for the continued renovation and restoration of Emerson Hall.

5. Solid Waste Disposal, Recycling and Septic Tank Waste

A. Current Conditions

Public Facilities and Services

Solid waste services are handled at the transfer station, which is a 63 acre site on The Shore Road. The facility has a 40 yard roll-off container for household solid waste, which is hauled to the PERC incinerator.

Construction and demolition debris known as “bulkie waste” is placed in two 40 yard containers, which are hauled to either the Waste Management of Maine or Pine Tree waste sites. The Town has had an average of 400-500 tons of bulkie waste each year from 1999 through 2009.

The transfer station has separate containers for various recycled materials. The State continually reviews its overall solid waste management policy. One possible outcome of this review may be a greater incentive for towns to recycle. According to the SPO, since 2004 Castine has had a recycling rate in excess of 22 percent, which is below the State target rate of 50 percent, but above the Hancock County average of 17 percent. Castine’s peak recycling rates since the 1995 Plan occurred in 1995 (35 percent) and 2007 (29 percent). Boxboard (i.e., cereal, cracker and similar boxes) recycling ended after 2001 when the Town lost its boxboard recycler; this likely has contributed to a decline in the Town’s recycling rate. Transporting materials to recyclers is paid for by taxpayers since there is little compensation paid for recycled materials.

Property owners not connected to the Town sewer system maintain their own in-ground sewage disposal systems. Maintenance includes periodic septic tank pumping by companies that dispose of the septic waste at State licensed waste disposal facilities.

B. Future Needs

The current facility presently meets all DEP operating standards and the Town’s needs. The Select Board annually reviews the Town’s overall approach to solid waste management and recycling, including considering a combination of increasing fees and cutting costs. The Select Board seeks to have the transfer station be as self-sufficient as possible without having fees rise to a level that would encourage backyard dump piles or other non-environmentally sound disposal practices.

6. Fire Protection

A. Current Conditions

The Castine Fire Department is a volunteer organization of approximately 38 members, who are paid expenses for responding to calls. Additional stipends are paid to the Fire Chief and the Assistant Fire Chief. The volunteers consist of local residents and MMA students who join the ranks each year.

The aging of the population and the increased requirements for more extensive fire fighting training has reduced the pool of volunteers. About ten volunteers are available during the day between April and September compared to 15-20 the rest of the year. Fewer MMA students are available during MMA training cruises and vacations and the summer months.

Public Facilities and Services

In the opinion of the department, paid personnel are not needed. The major personnel-related issue facing the department is the time involved in training. Volunteers must spend considerable time maintaining their certifications.

Castine has mutual aid arrangements with the other fire departments in Hancock County. These arrangements appear adequate.

The Castine Fire House is located at 13 Court Street. It is constructed of cinder blocks with a second story of wood. It was built in 1960 and originally designed to house two vehicles. There is an Operations Room/Office as well as a training center on the second floor.

The fire department presently owns four vehicles stored in three heated bays and a fire boat stored outside (see Table E.1). Three of these trucks have nine or more years of service left. The 1987 truck should last until 2014, but the fire boat is at the end of its useful life.

Table E.1 Fire Department Vehicles and Fire Boat, 2009			
Type	Model Year	Condition	Remaining Years of Service
E-6 HME/Central States	2003	Good	17
R-1 GMC	2001	Good	14
E-5 Freightliner/Central States	1995	Good	9
T-1 Freightliner Tank Truck	1987	Good (Truck) Fair (Tank)	5
MR-1 Well Craft (fire boat)	1979	Poor	0
Source: Castine Fire Department			

Equipment includes turnout gear such as coats, boots and helmets. The Department also owns other equipment such as SCBA air tanks, Indian tanks, compressors, generators, lighting, Jaws of Life, hoses and pumps. Other equipment includes forest fire fighting apparatus, a thermal camera, oxygen detector and various hand tools. All of the equipment and safety gear must be maintained and serviced periodically pursuant to NFPA and OSHA standards.

Calls for service are shown in Table E.2. There is no discernable pattern in calls. The average response time to a call is ten minutes. The time required to reach the most remote part of Town from the Fire House is 14 minutes. Road access for fire fighting equipment is generally adequate. However, the Town has had to restrict parking on some streets to allow passage of vehicles at all times. Some private driveways are too narrow and equipment cannot reach portions of Witherle Woods and the Square.

Table E.2 Fire Department Calls for Service, 1998-2008

Year	Total Calls	Fire	Rescue	Hazardous Condition	Mutual Aid	Other	False Alarm
1998	53	13	14	0	8	3	15
1999	62	15	5	3	14	0	25
2000	68	7	12	9	1	1	38
2001	64	11	12	10	0	7	24
2002	52	16	22	8	0	2	4
2003	41	13	8	12	0	0	8
2004	36	6	7	9	0	0	14
2005	37	4	10	11	0	0	12
2006	49	10	13	15	0	0	11
2007	51	13	12	17	0	0	9
2008	25	2	9	7	0	0	7
Source: Castine Fire Department							

Deteriorating and undersized water mains result in inadequate water supply (both volume and pressure) for fire fighting purposes On-Neck. See Section 12 below for a discussion of the condition of water mains and proposed improvements.

The one dry hydrant, located at Dunc's Meadow on Route 166, is inadequate for fire protection Off-Neck.

B. Future Needs

Fire protection would improve with a better water distribution system On-Neck. The fire station needs an updated electrical system as well as sprinkler and fire detection systems. A dry hydrant is needed Off-Neck on Route 166A.

7. Police Services

A. Current Conditions

Castine presently relies on the State Police and Hancock County Sheriff's Office for police services. However, the State Police and County Sheriff have limited resources themselves. Because of the Town's location at the end of a peninsula, response times by both organizations tend to be slow. In 2008, MMA expanded its security operations, but residents remain concerned about vehicular speeding and erratic driving.

B. Future Needs

The lack of police services is becoming more apparent. The concerns are focused on speeding, reckless driving and home security.

8. Ambulance

A. Current Conditions

Ambulance service in Castine is provided by the Bagaduce Ambulance Corps. The Corps is funded through insurance reimbursements, user fees, donations and bequests. The Town pays Hancock County approximately \$2,100 per year for the 911 fees charged by the Regional Communications Center. The ambulance is stored in a garage on Court Street behind Castine Community Health Services; Emerson Hall is used for training sessions and meetings.

A part-time service chief who works 20 to 30 hours a month augments the all volunteer Corps. As of August 2009, there were 15 EMTs (Emergency Medical Technicians) and 25 drivers. Two EMTs and one driver are needed for every ambulance run.

The Corps is often out of service one to three days a month due to the scarcity of EMTs and drivers. Increased training requirements affect retention and recruitment. The basic EMT training requires 133 hours plus continuing education. Drivers are required to complete 16 hours of Emergency Vehicle training.

The response time for a call meets State standards. Calls for service from 1998 through 2008 are shown in Table E.3. There is no discernable pattern of increases or decreases in the number of calls.

Table E.3 Ambulance Calls for Service	
Year	Number of Calls
1998	84
1999	99
2000	100
2001	80
2002	68
2003	65
2004	67
2005	82
2006	66
2007	92
2008	75
Source: Bagaduce Ambulance Corps	

B. Future Needs

The current ambulance should be able to provide service through the year 2012. All major equipment is relatively new and in good condition.

The greatest challenge facing the Corps is recruiting volunteers. With an aging population, the need for ambulance service will likely increase, while the pool of potential volunteers decreases. Without increased numbers of volunteers, the Corps may require part-time paid employees in the future.

9. Education

A. Current Conditions

The Adams School provides K-8 education. The facility has six classrooms and had an enrollment of 57 students for the 2008-2009 school year. There is a staff of 20 (full-time and part-time). Because of the small number of students, a minor increase or decrease in the size of one class can have an impact on staffing needs. A full-time kindergarten teacher position was added for the 2009-2010 school year. The school presently meets all State accreditation standards.

In 2008, the State legislature passed a revised consolidation bill that allowed for Alternative Organizational Structures (AOS) for school departments. Although Castine voted for the AOS, the plan failed for the four towns (Blue Hill, Brooksville, Castine and Penobscot) then in Union 93, because the more heavily populated towns voted against it. Under the current arrangement the Town pays a disproportionate amount for central office services. The addition of the town of Surry in 2009 to the Union 93 towns served by the Superintendent's office should result in some cost savings in future years.

Table E.4 shows actual and projected school enrollment for Castine students of elementary and high school age. The numbers are actual through the 2008-2009 school year and projected for later school years. According to the school principal, enrollment has met or exceeded projections each year for the past three years. The small population of students makes the projections less useful than might be the case with a larger number of students.

Public Facilities and Services

Table E.4 Adams School Actual and Projected Enrollment																
Year	K	1	2	3	4	5	6	7	8	Total Elem.	9	10	11	12	Total Secondary	Total K-12
1997-1998	10	7	7	8	8	7	7	1	7	62	9	0	0	0	9	71
1998-1999	2	7	5	6	8	7	6	5	2	48	7	6	0	19	32	80
1999-2000	9	4	6	5	6	7	6	6	5	54	2	7	6	15	30	84
2000-2001	5	9	4	6	6	5	8	7	5	55	5	2	7	6	20	75
2001-2002	12	4	10	6	9	5	5	8	7	66	5	5	2	7	19	85
2002-2003	10	5	11	4	10	6	8	5	8	67	7	5	5	2	19	86
2003-2004	9	5	11	4	10	6	8	5	8	66	8	5	5	6	24	90
2004-2005	6	9	5	10	5	10	7	6	5	63	9	8	5	4	26	89
2005-2006	6	6	8	5	11	5	9	5	8	63	5	4	5	2	16	79
2006-2007	3	8	7	8	3	11	4	7	4	55	9	7	8	6	30	85
2007-2008	3	3	8	7	8	4	11	4	7	55	4	9	7	8	28	83
2008-2009	8	2	4	7	8	8	5	11	4	57	7	4	9	7	27	84
2009-2010	4	9	2	3	8	7	8	4	11	56	4	7	4	9	24	80
2010-2011	1	4	9	2	3	8	7	8	4	46	11	4	7	4	26	72
2011-2012	6	1	4	9	2	3	8	7	8	48	4	11	4	7	26	74
Source: Adams School. Adams School enrollment does not include home-schooled children who live in Castine.																

B. Future Needs

Adams School is an integral part of the Castine community. However, there are concerns about the high per pupil cost, small class size, maintenance of an older building and the costs of transporting and educating our high school students out of Town. The most pressing school issue is how to maintain the school in the Town with sufficient enrollment and sustained community support.

10. Public Works

A. Current Conditions

The Town Manager is responsible for the supervision of a three-person public works staff. The staff conducts all routine maintenance such as mowing, snow plowing, minor repair of roads, sidewalks and storm drains as well as emergency response. Major construction and repair projects as well as some snow plowing are done on a contractual basis. As shown in Table E.5, the current equipment is adequate for Town needs.

Table E.5 Status of Public Works Equipment, 2009				
Make	Year	Mileage	Condition	Remaining Years of Service
Chevrolet S-10	1997	78 K	Fair	2-3
Chevrolet S-10	1998	50 K	Fair	3-4
Chevrolet 1 ton	2002	96 K	Fair	3-5
Freightliner Dump/Plow Truck	2005	15 K	Good	8-10
John Deere 310 Backhoe	2002	2,800 Hours	Good	9
Toro Mower	2001	N/A	Good	3
Source: Castine Town Office				

B. Future Needs

The Town believes the number of public works staff is adequate for Town needs. There are several pieces of equipment that will need replacement by 2012. The Town does not foresee the need for any additional pieces of equipment.

11. Roads, Storm Drainage and Sidewalks

A. Current Conditions

On-Neck Castine has 39,000 linear feet (7.6. miles) of roads with 7,700 linear feet (1.5 miles) of piped drainage. Only 25 percent of those roads are in good to very good condition. One third of the roads are in poor condition with severe pavement cracking, deformation and rutting. Ten percent of the roads are in very poor condition with deterioration to the point of structural failure. **See Map I.**

Castine's drainage system consists of a series of ditches, culverts, catch-basins and streams. One third of the drainage system is undersized to convey run-off from a 25 year storm. Most components serve localized areas and are not integrated as a system. Many drains discharge over private property with poorly defined easements. Good drainage is critical to road performance; poor drainage and insufficient gravel base is a major cause of road failure. **See Map III.**

Other than a few areas in the Village, most of Castine does not have sidewalks. The sidewalks in the commercial district are in need of repair and are sporadically cleared of snow by some of the merchants. The Town does not remove snow from its sidewalks.

B. Future Needs

In the fall of 2009, Olver Associates, Environmental Engineers, completed a Master Plan for Long Term Infrastructure Improvements for On-Neck Castine (Master Plan). The total cost of the recommended improvement projects in 2009 dollars is estimated to be over \$14,000,000. The Master Plan concludes that the most important goal should be to decide on a plan for phased improvements over some time interval and begin to implement the plan.

The Select Board adopted the Master Plan in 2009 and is using it to help guide future road repair and reconstruction, which will be integrated with upgrades to the water, sewer and storm drainage systems. The Select Board approved the first of five phases of this project at an estimated cost of \$2,555,000, of which \$1,645,000 is for road and drainage improvements. The Town approved the proposal at the 2010 Town Meeting. See Sections 12 and 13 below.

12. Water Department

A. Current Conditions

The water system was initially built in 1895 and currently has 32,700 linear feet (6.2 miles) of pipe. Sixty percent of the water system has pipes less than eight inches in diameter; 15 percent of the water system has either two inch or four inch pipes. Fire flows are between 250 to 500 gallons per minute (GPM). Ideally, fire flows should be 1,500 GPM in residential areas and 2,000-3,000 GPM in developed commercial and institutional areas. **See Map IV.**

As of 2009, the water system had an average daily flow of 80,000 gallons per day (gpd). There is some seasonal variation: flows average 78,000 gpd in winter compared to 110,000 gpd in the summer. The maximum safe yield is 140,000 gpd.

As of 2009, the system had approximately 306 residential service connections, 33 commercial and non-profit service connections, nine municipal connections and 35 service connections at MMA. About half of the total flow is attributable to MMA, a 28

percent increase over the 39 percent usage by MMA reported in the 1995 Plan. There are 30 fire hydrants connected to the system.

The 1995 Plan reported that water supply was barely adequate for the summer months. There have been some improvements to the system since that time. Five drilled bedrock wells and four sand wells serve the system with six ponds and a surface water filtration system as back-up. There are two reservoirs: a primary reservoir located in Witherle Woods with a 605,000 gallon capacity and a stand-by reservoir located on Spring Street with a 300,000 gallon capacity.

The water system has recently been upgraded to meet Federal arsenic standards. Since the Federal standards are subject to change, future upgrades could become necessary.

The condition of the water mains is shown in Table E.6. While some have been replaced in recent years, substantial segments are made of cast iron and are at least 100 years old. This means that further improvements are needed to the system.

Table E.6 Summary of Water Department Pipe Conditions, 2009			
Linear Feet	Type	Age (years)	Condition
2" – 2,230 ft.	Cast Iron	> 100	Poor
3" – 3,530 ft.	Polyethylene	< 10	Good
4" – 3,040 ft.	Cast Iron	> 100	Poor
6" – 21,285 ft.	Cast Iron	> 100	Poor
8" – 7,300 ft.	Cast Iron	> 100	Poor
8" – 2,030 ft.	Ductile Iron	< 10	Good
12" – 1,300 ft.	Ductile Iron	< 5	New
Source: Castine Water Department			

B. Future Needs

As mentioned above, most of the water mains are old and inadequately sized for proper gpd flow and fire fighting. The standby reservoir needs roof repairs.

The Master Plan discussed in Section 11 above recommends upgrades to the water system in conjunction with road repair and reconstruction projects. Phase 1 of the proposed project approved by the Select Board includes \$511,000 for water system improvements. The Town approved the proposal at the 2010 Town Meeting.

13. Sewer Department

A. Current Conditions

The sewer system was originally built around 1890. Initially, untreated wastewater was discharged directly into the Bagaduce River. In 1973, the Town built a wastewater treatment plant and expanded the system. Improvements are summarized in Table E.7.

Public Facilities and Services

The sewage system includes 27,400 linear feet (5.2 miles) of pipes. Twenty percent of the pipes are six inch clay pipes, which are over 100 years old and are in very poor condition with excessive leakage. **See Map II.**

Excessive volumes of infiltration, continued deterioration of pipes and tree root intrusion into the clay sewer mains continue to be issues. The Town upgraded the wastewater treatment plant in 2008 pursuant to a consent agreement with the Maine DEP.

Table E.7 Summary of Sewer System Improvements, 2009		
Year	Type	Location
1973	Interceptor Mains	Water St.
1973	Interceptor Mains	Sea St.
1973	Interceptor Mains	Perkins St.
1973	Pump Stations	# 1
1973	Pump Stations	# 2
1973	Pump Stations	# 3
1973	Delivery Main	Court St.
1973	Wastewater Treatment Plant	Court St.
1983	Sewer Main (Renovate)	State St.
1994	Sewer Main (Renovate)	Battle Ave. (Perkins St. to LaTour St.)
1994	Sewer Main (Renovate)	Pleasant St.
1994	Sewer Main (Renovate)	Tarratine St.
1995	Sewer Main (Renovate)	Perkins St. (Battle Ave. to Tarratine St.)
1995	Sewer Main (Renovate)	School St.
1996	Sewer Main (Renovate)	LaTour St.
1996	Sewer Main (Renovate)	Madockawando Road
1997	Sewer Main (Renovate)	Battle Ave. (east)
2005	Sewer Main (Renovate)	Green St.
2005	Sewer Main (Renovate)	Dresser Lane
2008	Wastewater Treatment Plant Upgrade	Completed December 2008
Source: Castine Sewer Department		

There are 370 residential service connections and nine commercial/public service connections. The average daily flow is 100,000 gallons per day (gpd), with 125,000 gpd in the winter and 75,000 gpd in the summer. The four connections at MMA account for approximately 50 percent of total sewer flow.

The upgraded wastewater treatment plant has a design flow of 250,000 gpd and will be able to accept a peak flow of 1,000,000 gpd. The record flow is estimated at 700,000 gpd. The flow meter at the wastewater treatment plant does not register flows over 450,000, so flows over that amount are estimated. A peak flow was once observed at over 1,000,000 gpd.

The high flows are due to ground water and storm water leaking into the pipes. The original clay pipes were designed to be loose fitting to allow infiltration. At that time

infiltration was thought desirable since it helped wash out any undesirable build-up from the pipes. Under current technology, excessive infiltration overloads the sewage treatment system and results in the discharge of inadequately treated wastewater.

Table E. 8 shows the age and condition of the pipes in the sewer system. The collection system has more than 4,100 feet of 110+ year-old clay pipes. These pipes are believed to be the main source of ground water infiltration; tree roots obstruct many and all require replacement. The remaining pipes are from 10 to 40 years old and are in generally good condition.

Table E.8 Summary of Sewer Department Pipe Conditions, 2009			
Linear Feet	Type	Age (years)	Condition
4,130	6" & 10" Clay	> 110	Poor
6,090	8" AC	< 40	Good
3,370	10" AC	< 40	Good
130	6" PVC	< 20	Good
11,610	8" PVC	< 20	Good
1,000	10" PVC	< 20	Good
280	12" PVC (outfall)	< 5	New
520	12" RCP (outfall)	< 40	Good
1,000	4" PVC force main	< 40	Good
2,500	6" PVC force main	< 40	Good
Source: Castine Sewer Department			

B. Future Needs

The 4,100+ feet of clay sewer mains require replacement. Other infiltration problems in the collection system must also be addressed since they put an unnecessary load on the wastewater treatment plant thereby shortening its useful life.

Another issue the Sewer Department must deal with is meeting the ever-changing Federal and State standards in order to maintain its discharge license. New licensing standards require that the discharge pipe that conveys effluent from the wastewater treatment plant to the Bagaduce River will have to be extended, at an estimated cost of \$300,000, as part of the license renewal process in 2010.

The Master Plan discussed in Section 11 above recommends upgrades to the sewer system in conjunction with road repair and reconstruction projects. Phase 1 of the proposed project approved by the Select Board includes \$399,000 for sewer system improvements, of which \$300,000 is for the discharge pipe discussed above. The Town approved the proposal at the 2010 Town Meeting.

14. Castine Cemetery

A. Current Conditions

The Castine Cemetery sits on a 13 acre site at the north end of Court Street. The Select Board appoints a seven member Cemetery Association Board. In 2008, cemetery expenditures financed by tax revenues were approximately \$20,000 (primarily for maintenance and equipment) compared to \$13,500 in 2007.

A detailed diagram including each plot and owner is available from the Cemetery Association Board, including the locations of early settlers buried there.

B. Future Needs

The cemetery roads, some of the older tombstones and the grounds are in disrepair and should have more regular maintenance.

15. Energy Facilities

A. Current Conditions

The only distributed energy in Castine is electricity supplied by Central Maine Power Company. The majority of homes are heated with oil; others are heated with propane, electricity or wood.

B. Future Needs

Castine should coordinate with MMA to arrange negotiated and pooled purchase plans. The Town and MMA should also consider all alternative energy sources, including tidal generated energy and wind power.

16. Communications

A. Current Conditions

Since the 1995 Plan, some Town residents have access to DSL while others have access to cable for telecommunications. Cell phone service is available, but spotty in Town and in many locations on the Blue Hill Peninsula.

One daily and two weekly newspapers, cable television, radio and several mail and package services are available to Town residents.

In the mid 1990s, the Federal government decided to remove the Post Office from the center of Town because of space constraints. Town residents launched an initiative, which culminated in the USPS agreeing to enlarge and remodel the Post Office on its original site. In 2008, the Post Office celebrated its 175th year at its location on Main Street. According to the Post Master, it remains the oldest Post Office at the same location in the entire United States.

B. Future Needs

In order to encourage future economic development, cell phone service needs to be improved.

The Town needs to monitor USPS future plans for service to the Town.

17. Health Care

A. Current Conditions

The Town's primary health care needs continue to be met by Castine Community Health Services (CCHS). The staff is accessible to residents during weekly working hours. After regular business hours, the emergency room at the Blue Hill Memorial Hospital (BHHM) is the closest healthcare facility. Although the Castine Community Hospital Corporation owns the building utilized by CCHS, healthcare is delivered under the auspices of BHHM, which in turn is part of the Eastern Maine Health Care System.

In 2005, BHHM proposed moving Castine's health care service to Blue Hill. After a vigorous response by Town residents, the hospital agreed to keep CCHS in Castine, at least for the time being.

The community remains concerned about the future of both CCHS and BHHM.

B. Future Needs

The health care system throughout Maine and the nation is in flux. The Town needs to be vigilant in advocating for the retention of health care services in Castine. The loss of CCHS or BHHM would have a detrimental effect on the Castine community's quality of life.

18. Library

A. Current Conditions

Castine's Witherle Memorial Library history began with a social library formed in 1801. In 1855, Castine was the first community in Maine to establish a public library supported by public funds. The Town employs the library staff; the library also serves as the Adams School library.

In 2007, a Castine resident left a \$4,000,000 bequest to the Town for the benefit of the library's endowment fund.

Today the library has nearly 13,000 volumes, which circulate 22,000 times a year to almost 1,200 registered borrowers. The library is now fully automated for circulation and its collections are part of the State intra-library loan system.

Public Facilities and Services

In addition to the Witherle Memorial Library, the public has access to Nutting Memorial Library at MMA.

B. Future Needs

The Witherle Memorial Library Board of Trustees is planning an expansion, which would include converting a portion of the lower level space to a children's library.

E. PUBLIC FACILITIES AND SERVICES GOAL

Castine seeks to provide its residents with quality public facilities and services in a manner that respects the limitations of its tax base, considers the potential for growth and explores possibilities for regionalization of Town services. The Plan recommends that this goal be accomplished by the following specific measures:

1. **Town Government and Buildings:** Castine continues to provide its residents with an efficient and customer service oriented town government. The Plan recommends that this be accomplished by developing a Capital Investment Plan (CIP) for the Town, including Town Hall.

Implementation Strategy: Select Board develops a CIP for the Town, including Town Hall.
--

Responsibility: Select Board

Time Frame: Ongoing

2. **Solid Waste Disposal and Recycling:** Castine seeks to have efficient and environmentally sound solid waste and recycling programs.

Implementation Strategy: This is a continuation of current policy.

3. **Fire Protection and Emergency Response Services:** The Plan supports the provision of adequate fire protection and emergency response services through the following specific steps:
 - a. including anticipated major fire equipment purchases in the Town's CIP;
 - b. undertaking measures to increase access to water Off-Neck for fire fighting purposes by installing a dry hydrant on Route 166A;
 - c. ensuring that the Town's ordinances require that all new subdivisions and other forms of larger scale development make adequate provision for access by fire fighting equipment; and
 - d. continuing mutual aid arrangements with other towns to achieve more efficient fire protection and emergency response services.

Implementation Strategy:

4. a & 4.b: would be accomplished by funding indicated in the CIP;
4.c: would be addressed through the ordinance review process;
4.d: would be accomplished by working with regional committees.

Responsibility: 4 a & b: Select Board and Fire Chief; 4.c: Planning Board; 4.d: Select Board

Time Frame: 4.a: Ongoing; 4.b, 4.c & 4.d: 2010-2012

4. **Police Services:** The Plan recommends improved effectiveness in the level of police services in Castine. These services should be reviewed periodically to ensure that they conform to Town needs.

Implementation Strategy: Select Board, in conjunction with MMA, reviews the adequacy of police protection services and implements any necessary adjustments in service.

Responsibility: Select Board

Time Frame: Ongoing

5. **Ambulance Service:** The Plan recommends that current service arrangements provided by the Bagaduce Ambulance Corps (BAC) continue and that the Select Board assists the BAC in recruiting volunteers.

Implementation Strategy: Select Board assists BAC in recruiting volunteers.

Responsibility: Select Board and BAC

Time Frame: Ongoing

6. **Education:** The Plan supports providing Castine students with high quality educational facilities and a curriculum that meets or exceeds State standards. The Plan recommends ensuring that any necessary school improvements are supported in the school budget process.

Implementation Strategy: School Committee continues to review school-related capital improvements.

Responsibility: School Committee

Time Frame: Ongoing

7. **Public Works:** The Plan supports annual evaluation of current public works arrangements with the goal of improving cost-effectiveness.

Implementation Strategy: Town Manager annually evaluates the current public works arrangements and reports to Select Board.

Responsibility: Select Board and Town Manager

Time Frame: Ongoing

8. **Roads, Storm Drainage and Sidewalks:** The Plan supports implementation of the Master Plan for Long Term Infrastructure Improvements adopted by the

Public Facilities and Services

Select Board in 2009 for the improvement of roads and drainage, water and sewer systems.

Implementation Strategy: Select Board recommends road and drainage capital improvement projects for approval at Town Meeting.
--

Responsibility: Select Board

Time Frame: Beginning in 2010 and then ongoing

9. **Water Department:** The Plan supports implementation of the Master Plan for Long Term Infrastructure Improvements adopted by the Select Board in 2009 for the improvement of roads and drainage, water and sewer systems.

Implementation Strategy: Select Board recommends water system capital improvement projects for approval at Town Meeting.

Responsibility: Select Board

Time Frame: Beginning in 2010 and then ongoing

10. **Sewer Department:** The Plan supports implementation of the Master Plan for Long Term Infrastructure Improvements adopted by the Select Board in 2009 for the improvement of roads and drainage, water and sewer systems.

Implementation Strategy: Select Board recommends sewer system capital improvement projects for approval at Town Meeting
--

Responsibility: Select Board

Time Frame: Beginning in 2010 and then ongoing

11. **Castine Cemetery:** The Plan recommends a higher level of repair and upkeep of the cemetery property.

Implementation Strategy: Select Board and Cemetery Association Board develop a plan for ongoing maintenance and repair.
--

Responsibility: Select Board and Cemetery Association Board
--

Time Frame: Ongoing

12. **Energy Facilities:** The Plan recommends working with MMA and regional efforts to negotiate pooled purchase plans and to pursue all alternative energy options as practical and available.

Implementation Strategy: Select Board works with MMA and regional efforts to negotiate pooled purchase plans and to explore alternative energy.
--

Responsibility: Select Board

Time Frame: Ongoing

13. **Communications:** The Plan recommends upgrading cellular telephone coverage.

Implementation Strategy: Select Board and Town Manager work with MMA to identify potential cell tower locations and contact cell phone service providers.
--

Responsibility: Select Board and Town Manager
--

Time Frame: 2010-2012

14. **Health Care:** The Plan recommends the retention of health care services in Castine as a high priority.

Implementation Strategy: Select Board works with the Castine Community Hospital Corporation, MMA and regional health care systems to ensure that health care services remain in Castine and to develop a contingency plan to respond to actions to remove health care services from Castine.

Responsibility: Select Board

Time Frame: Ongoing

15. **Library:** The Plan recommends continued Town support of the library.

Implementation Strategy: This is a continuation of current policy.

F. RECREATION INVENTORY AND ANALYSIS

1. Purpose

A town's recreational facilities are an essential contributor to the quality of life that the town enjoys. This section will:

- A. provide an inventory of the current recreational resources available to the Town whether they be from municipal, State, or private sources;
- B. provide a listing of the programs and services available to Town residents;
- C. assess the current and future adequacy of Castine's recreational resources; and
- D. assess threats to the recreation resources.

2. Key Findings and Issues Taken Verbatim From the 1995 Plan

Castine has a wide range of recreational facilities and programs. The town facilities are complemented by those of the Academy, most of which are available to residents for a reasonable fee when MMA is in session. There is a need for a ball field of adequate size and a skating rink. There are several conservation areas used for recreational purposes.

3. Key Findings and Issues

The Town facilities, along with those of MMA, land protected by conservation easements or direct ownership by conservation land trusts and the Recreation Committee activities, meet minimum State standards. The Recreation Committee relies on funding from the Town budget, user fees and private donations.

There are two issues pertaining to recreation facilities. First, owing to scheduling and vacation periods, there is a lack of MMA students needed to serve as lifeguards and recreational facility attendants for Adams School children and the community. Second, there are no showers, laundry facilities, nor a marine waste pump-out station for the numerous boaters frequenting Castine harbor.

4. Recreation Sites and Programs

Castine has a mixture of public (municipal and State), private and conservation land trust recreational facilities that are summarized in Table F.1. The municipal recreational activities are coordinated by the Recreation Committee, whose members are appointed by the Select Board. The Recreation Committee organizes various activities throughout the year and provides volunteer support for groups and institutions offering recreational activities.

Recreation

The Town's many civic, cultural, educational, charitable and religious organizations offer a wide variety of programs to the public throughout the year. The vast majority of the programs are free of charge.

Table F.1. Recreation Resources, 2007

Facility Name	Owner	Water Body	Acres	Pool	Play grnds	Ball Fields	Basketball Ct.	Tennis Ct	Parking Capacity	Other
Adams School	Municipal	n/a	0.85	-	1	-	-	-	-	
Castine Historical Society	Private	n/a	0.30	-	-	-	-	-	6	Meeting facilities
Castine Yacht Club	Private	Bagaduce River	0.20	-	-	-	-	-	-	Dock, sail boats
Castine Golf Club	Private	n/a	28.00	-	-	-	-	4	25	Golf
Eaton's Boat Yard	Private	Bagaduce River	1.00	-	-	-	-	-	-	Moorings, dock, fuel, showers, rest rooms
Emerson Hall	Municipal	n/a	0.50	-	-	-	-	-	-	Meeting facilities, theater
Fort George	State	n/a	7.00	-	-	-	-	-	16	Picnic area
Fort Griffith	Municipal	n/a	1.00	-	-	-	-	-	-	Picnic area
Fort Madison	Municipal	Bagaduce River	3.75	-	-	-	-	-	-	Picnic area, hist ctr
Maine Maritime Academy	State	Bagaduce River	38.50	1	-	4	1-3	4	8	Field house, gym, pool, weights, aerobics, meeting facility
Rene Henderson Natural Area	TCT*	n/a	90.00	-	-	-	-	-	-	Trails, ice pond skating area
Town Beach and Tidal Pond	Municipal	Wadsworth Cove	2.00	-	-	-	-	-	25	Beach, picnic area
Town Common	Municipal	n/a	1.60	-	-	-	-	-	-	Green
Town Dock	Municipal	Bagaduce River	1.00	-	-	-	-	-	53	Boat ramp, dock
Wilson Museum	Private	Bagaduce River	4.50	-	-	-	-	-	25	Meeting facilities
Witherle Woods	MCHT*	n/a	182.80	-	-	-	-	-	6	Trails

* TCT = The Conservation Trust of Brooksville, Castine and Penobscot, MCHT = Maine Coast Heritage Trust. See Chapter I (Natural Resources) and Chapter L (Land Use) for additional conservation lands.

Source: State of Maine, Dept. of Conservation, Bureau of Parks, and Town records.

A. Public Facilities

The largest area is Fort George (seven acres) located at the top of the hill on Battle Avenue. This historic site has a playing field large enough for softball and Little League baseball. The site is also used for social events and entertainment. It is owned by the State and maintained by the Town and is in fair condition.

Fort Madison (3.75 acres) overlooks the Bagaduce River and the entrance to Penobscot Bay. Located on Perkins Street, it has magnificent views of the Brooksville shore, Islesboro and even North Haven. It is used for picnics, weddings and outings. The remaining earthworks make an excellent play area for children, and the sea breezes provide good winds for kite flying. The site is well maintained.

Fort Griffith is a one acre site on Wadsworth Cove Road with views of Wadsworth Cove and the British Canal.

The Adams School playground (0.85 acres) is in the center of Town on School Street across from the Town Common. Swings and other play equipment including a climbing gym are available year-round. It is kept in good condition.

The Town Common (1.6 acres) is located on Court Street in front of the Adams School. It is used as an extension of the school playground and provides a site for Town Band concerts and for Town celebrations such as the Independence Day parade and concert. It is also the site of several historical markers and monuments. It is well maintained.

The Town Beach, located at the Backshore on Wadsworth Cove Road, includes an area of about two acres. The beach itself has 600 feet of water frontage with a breadth averaging 35 feet at high tide. In addition to being used for swimming, it is a good place from which to launch small boats, kayaks, canoes and wind surfers. People often gather there for cook-outs in the evening. Across Wadsworth Cove Road from the Town Beach is the tidal pond, which provides an additional recreation site. Both the beach and the pond are swim at your own risk facilities. The Town expects users of both facilities to pick up after themselves.

Emerson Hall is the only indoor facility owned by the Town. Although used primarily for Town government functions, it is available for special events such as Halloween parties, theater productions and concerts. It is also used for aerobic exercise sessions and as an extension of Adams School facilities.

The Town Dock is a one acre site that provides facilities for kayaks, small boats, schooners and small cruise ships visiting the Town. Restroom facilities, public boat ramp and 53 parking spaces are available for boaters and visitors to the Town. However, there is no marine wastewater pump-out station available in Castine at any of the facilities.

MMA makes all of its indoor athletic facilities open to the public for a modest fee during most of the year. These include a 25-yard competition-size swimming pool, three basketball courts (convertible to four tennis courts and one basketball court), three racketball courts and one

Recreation

squash court. There are also two well-equipped weight training rooms and one aerobics room. They are regularly used by the Adams School physical education program. During the winter, Town residents use the racketball and tennis courts, as well as weight-training equipment. Swimming lessons, aerobic exercise classes, along with other activities are often offered to the public upon request and the availability of instructors.

MMA recreational facilities are often not available during MMA vacation periods because of a lack of students to work as life guards and recreational facility attendants. Since many of these facilities are regularly used by the Adams School athletic program, this can be an inconvenience.

MMA's waterfront is involved with both recreational and competitive sailing in conjunction with the Castine Yacht Club. MMA hosts twice-weekly races during the summer.

MMA's Delano Auditorium, as well as the lecture rooms in Leavitt Hall and the Bath Iron Works Center for Advanced Technology are available for lectures, meetings and movies at no charge on a space available basis.

B. Private Recreational Facilities

The Castine Golf Club, located on 71 acres of land, is privately-owned but open to the public. It has a nine-hole golf course and four clay tennis courts. Associated with the golf club, the Castine Yacht Club is situated on Water Street at the foot of Dyer Lane. Use of this facility is limited to members, guests or visiting yachtsmen. For a small fee, visitors may use the showers, Yacht Club mooring and overnight docking facilities.

In the summer, the Castine Yacht Club provides a week of free sailing lessons to children of local residents. A similar arrangement is made to provide golf and tennis instruction to children at the Golf Club. Non-members may rent both club houses for social events.

Eaton's Boatyard provides boat repair services, boat storage, showers, restrooms, fuel and docking and mooring facilities for residents and visitors.

The Wilson Museum is a complex of six buildings including the museum building, the Eleanor Doudiet House, blacksmith shop, hearse house, the John Perkins House and a recently acquired home used primarily for offices and lecture rooms open to the public.

The Castine Historical Society includes the Abbott School building and a recently acquired home used primarily for offices and lecture rooms open to the public.

C. Conservation Areas

In addition to numerous smaller parcels, two large areas are owned by conservation land trusts. Maine Coast Heritage Trust owns over 182 acres of the Witherle Woods, which are accessible by numerous trails and carriage paths. The Conservation Trust of Brooksville, Castine and Penobscot owns the 90 acre Rene Henderson Natural Area providing numerous trails for year-round use as well as a skating pond in the winter.

Recreation

Both areas are rich in natural vegetation and local wildlife for tourists and residents to enjoy on a year-round basis. Ownership by conservation land trusts ensures public access to this privately owned land. See Chapter I-Natural Resources and Chapter L-Land Use for a complete listing of conservation easements and direct ownership by conservation land trusts.

D. Recreational Programs and Activities

Organizations in Town include the Arts Association, Town Band, Women's Club, Men's Club, Historical Society, Garden Club, Embroiderers Guild, Grange, Dr. Mary Cushman Circle and Masons. The four churches also have many social and cultural activities.

All of the traditional outdoor summer recreational activities of golf, tennis, boating, swimming and nature walks are available to the public. Sledding and cross country skiing are common winter activities.

The Merchant's Association has developed and funded a self-guided tour of the Village. Beginning in the summer of 2008, the Merchant's Association has sponsored Celebrate Castine weekend with numerous events including a Saturday street fair on lower Main Street featuring live music, food and crafts.

Beginning in the summer of 2009, a group of Town citizens organized a farmer's market on the Town Common featuring a wide variety of fresh produce, bake goods, cheeses, meats and crafts.

5. Recreational Programs and Services Provided by the Recreation Committee

A seven-member Recreation Committee, appointed by the Board of Selectmen, sponsors or coordinates several activities. Limits on public funding require the Recreation Committee to charge user fees for some of the following activities:

- A. Pee Wee Basketball and Soccer
- B. Little League
- C. Co-sponsor of free sailing instruction week
- D. Special ski events
- E. Easter festivities
- F. July 4th festivities
- G. Halloween festivities
- H. Christmas tree lighting festivities

6. Current and Future Adequacy of Castine's Recreational Resources

The available facilities and programs are compared to recommended State standards for communities of comparable size in Table F.2. Castine meets many, but not all, of these standards. In some cases there are alternatives. For example, the Town does not offer formal programs for swimming, but it does offer programs for tennis and sailing through the Golf Club and Yacht Club for which scholarship aid is available. The Town lacks facilities for ice skating.

Recreation

Table F.2 State Guidelines for Recreation and Park Services/Facilities			
Population Criteria	Castine	1500-2000	2000-2500
I. Administration			
A. Recreation and Park Committee or Board	X	X	X
II. Leadership			
A. Summer Program			
1. Swimming Instructors		X	X
2. Summer Recreation Director		X	X
B. Winter Program			
1. One Skating Rink Supervisor for each area		X	X
III. Program			
A. Swimming Instruction		X	X
B. Supervised Playground		X	X
C. Senior Citizen Club		X	X
D. Teen Program			X
E. Skiing Instruction		X	X
F. Ice Skating		X	X
G. Community-wide Special Events	X	X	X
H. Arts and Crafts	X	X	X
I. Evening Adult Education		X	X
J. Organized Dance Group			X
IV. Facilities (to include School Area)			
A. Outdoor Facilities			
1. Neighborhood Playground, 2-10 acres: Playground, basketball court, playfield.	X	X	X
2. Community Recreation Area, 12-25 acres: ball fields, tennis courts, swimming facility, ice skating		X	X
3. Softball and/or Little League Diamond (.75 per 1000 population)	X	X	X
4. Basketball Court (0.50 per 1000 population)	X	X	X
5. Tennis Court (0.67 per 1000 population)	X	X	X
6. Multi-purpose field: football, soccer, field hockey (.50 per 1000 population)	X	X	X
7. Swimming Area to serve 3% of town Population (15 sq. ft. per user)	X	X	X
8. Ice Skating (5,000 sq. ft. per 1000 population)		X	X

Recreation

9. Playgrounds (0.50 per 1000 population)	X	X	X
10. Horseshoe Courts		X	X
11. Shuffleboard Courts		X	X
12. Picnic Areas with tables and grills (2 tables per 1000 population)	X	X	X
13. Outdoor Education or Nature Center	X	X	X
B. Indoor Facilities			
1. School Facilities Available for Public Use	X	X	X
2. Gym or Large Multi-purpose room (.20 per 1000 population)	X	X	X
3. Auditorium or Assembly Hall	X	X	X
4. Arts and Crafts Shop			X
5. Teen Center			X
6. Senior Citizen Center			X
7. Game Rooms			X
8. Public Library	X	X	X
Source: Recreation and Open Space Planning Workbook, Community Parks and Recreation Division, Office of Comprehensive Planning, May, 1991.			

7. Assessment of Threats to Recreation Facilities

As with all publicly-funded programs, there will be close scrutiny applied to the Town's recreation programs and activities in the future. On-going maintenance of existing recreational facilities is nonetheless essential if the present level of activity is to continue to meet the existing minimum State standards.

For reasons of cost, increasing and ever-changing State and Federal permitting requirements and the extremely high number of hours of preparation time borne by a small number of hard-working volunteers, the Town's annual July 4th fireworks display in Castine Harbor has been cancelled for 2010.

For many of the recreational facilities, the Town relies on the facilities at MMA. Although these facilities are first and foremost for the benefit of the enrolled students, there has been a tradition of making these facilities available for both the year-round and seasonal residents of Castine. A continued partnership between the Town and MMA will optimize the availability of these resources.

F. RECREATION GOALS

Castine wishes to provide its residents with a range of recreational opportunities that recognize the limitations of the municipal budget. The Plan recommends that this be accomplished by the following specific measures:

1. Current Recreation Arrangements: The Plan recommends that the Town continue with its current recreation arrangements. This involves relying in part on MMA for programs and facilities.

Implementation Strategy: This is a continuation of current policy.

2. Open Space Preservation: The Plan supports the preservation of open space by ensuring that an open space impact statement would be required for major residential and non-residential developments and if the impact statement determined that greater on-site open space proportionate to the size and use of the development was needed the Planning Board would require that it be provided.

Implementation Strategy: This would be accomplished through the ordinance process.

Responsibility: Planning Board

Time Frame: 2010-2012

3. Encourage Public Access: The Plan supports encouraging public access by making education materials available to property owners regarding the benefits and protections for allowing public recreational access on their property.

Implementation Strategy: Educational materials are made available in Town Hall and on the Town website.
--

Responsibility: Select Board

Time Frame: 2010 and then ongoing
--

G. MARINE RESOURCES INVENTORY AND ANALYSIS

1. Purpose

An understanding of marine resources is an essential element of a comprehensive plan for any coastal community in Maine. It is particularly important for Castine where many residents depend on the harbor and its facilities for recreation. This section will:

- A. describe Castine's marine resource areas, harbor and coastal water dependent uses in terms of access, uses and importance to the economy of Castine and the region;
- B. assess the adequacy of existing harbor facilities and public access points to handle current use demands
- C. assess the effectiveness of existing measures to protect and preserve marine resource areas and important coastal water-dependent uses;
- D. predict whether harbor improvements will be needed to accommodate adequately the use demands of the projected population; and
- E. predict whether the viability or productivity of marine resource areas, commercial fishing and other important water-dependant uses will be threatened by the impacts of growth and development.

2. Key Findings and Issues Taken Verbatim From the 1995 Plan

Although Castine is no longer a major maritime center, the town still has a large, attractive harbor and some marine life. Major sources of marine resource based employment include an active boatyard, the Maine Maritime Academy, and the businesses catering to the summer tourist trade.

While the town has a large harbor, the present mooring areas are near capacity. There are several public access points to the water, but parking adjacent to some of these sites is inadequate. Castine has a rich marine life but there are no residents who now make their living from fishing.

3. Key Findings and Issues

Castine's harbor is used primarily for recreation and MMA training purposes. Although there is not presently a waiting list for moorings, harbor facilities are generally adequate. There are parking congestion problems at the Town dock parking lot.

Commercial activity now consists of a limited number of harvesters of lobsters, sea grass and marine worms. Shell fishing has been curtailed in recent years owing to red tide and other forms of pollution.

Marine Resources

MMA, through a 501(c) 3 nonprofit organization, has created TEDEC (Tidal Energy Demonstration and Evaluation Center), to test the potential of various devices that may have merit in commercial development of energy from tidal currents.

TEDEC was originally a consortium of MMA and commercial organizations and as such could have impacted the already serious parking congestion at the waterfront. In its present form there will be very little impact, but the Town should monitor this project to ensure that any programs developed by TEDEC are positive for all stakeholders.

4. Castine's Marine Resources

A. Shellfish

Most of Castine's shore lands have populations of mussels, snails and sea urchins. There has been occasional commercial harvesting of sea urchins. The entire west shore and much of the east shore is closed to all shell fishing because of pollution. **See Map V.** It should be stressed that areas subject to closure change periodically, so this information is subject to change.

Ram Island, once a major clam bed, now offers little in shellfish. Other areas for shell fishing include scattered beds along the shoreline of the Bagaduce River and the flats around the Negro Islands. Scallops are still harvested in Castine waters, but in far fewer numbers than in 1976, the only good year in recent history. Lobster harvesting trends are discussed in Section 5 below.

B. Worms and Sea Grass

Marine bloodworms and sandworms are dug commercially in Castine's mud flats, particularly in Morse Cove, Wadsworth Cove and Hatch Cove. Most of the commercial harvesting occurs in Hatch Cove. There is an active market for worms as sport-fishing bait. Sea grass is also harvested in Hatch Cove.

C. Fish

The 2008 season indicated a steep decline in fish populations. However, species found in the greater Castine area include herring, striped bass, harbor pollack, mackerel, flounder, rock crab and occasionally bluefish. Dogfish (sand sharks) and the American eel are also frequently found. There are small brook trout in many of Castine's streams.

D. Other Marine Life

Harbor seals are a common sight sunning on the ledges in the Bagaduce, in Smith Cove and off Ram Island. Porpoises are spotted in the outer bay. The Bagaduce River is one of the few breeding areas for the horseshoe crab in this part of Maine.

5. Commercial Fishing

There are presently no Castine residents who depend on fishing for a livelihood.

The Maine Department of Marine Resources (MDMR) has recorded an increase in lobster traps fished by Castine residents. Although there has been an increase in trap tags issued over the past several years, there has been a decline in traps actually fished.

6. Public Access Points

A. Publicly Owned Access Points

Castine has several public access points. The Castine Municipal Piers are located at the foot of Main Street adjacent to the MMA pier and waterfront complex. There are approximately 240 feet of shore frontage and 0.65 acres of land with approximately 18,000 square feet of paved parking area. Two wooden piers project approximately 45 feet into the harbor with 240 feet of float space and 60 feet of dingy floats. Access to floats is provided by two ramps, one to each section of the floats. A preformed concrete launching ramp is located along the easterly property line of the municipal pier area. Presently the ramp is narrow and there are no floats along its sides.

The municipal beach is on the westerly side of Castine and consists of a strip of land 600 feet in length along the shore of Wadsworth Cove. This facility is a general recreation area used for picnics, swimming and boating. Canoes and kayaks can be launched from this site.

Dyce's Head Lighthouse, which was re-activated by the U. S. Coast Guard in 2008, is at the western tip of the Castine peninsula and consists of a three-acre parcel with approximately 400 feet of shore front on Penobscot Bay. This property has a public path to the shore, but it is not suitable for boat launching. It is used as a scenic overlook, fishing area and picnicing area.

Fort Madison on the southerly side of the peninsula consists of approximately 3.75 acres with an estimated 420 feet of shore frontage on Castine Harbor. It is used as a scenic overlook and picnic area.

The public also has access to Ram Island, the British Canal, Holbrook Island and Lower Negro Island.

B. Privately Owned Access Points

There are several privately owned businesses that provide varying degrees of public access to their customers.

Dennett's Wharf is a shore-front seasonal restaurant on Castine Harbor, east of the Acadia Pier. This facility has a large wooden pier and approximately 100 feet of

front float space.

Eaton's Boatyard, directly northeast of Dennett's Wharf, is a marina that offers fuel, water, showers, rest rooms, power, marine repairs and boat hauling. This facility has approximately 500 feet of front float space.

The Castine Yacht Club is on the harbor shore about 300 yards northeast of Eaton's Boatyard and consists of a 200-foot wooden pier with approximately 150 feet of front float space.

C. Adequacy of Access

On heavy marine traffic days the Town dock is barely adequate for boating and harbor activity.

7. Coastal Water-Dependent Uses

Castine has several existing water-dependent uses. **See Map VI.** Water-dependent uses are defined as those uses that would require direct access to coastal waters and cannot be located away from these waters. These would include fishing operations and piers.

Castine has several sites that, according to the SPO, have the potential for coastal water-dependent use. These are sites that meet the following criteria:

- A. they are generally sheltered year-round from excessive wind and seas;
- B. they have at least five feet of water within 150 feet of the shore at low water; and
- C. they have an average landside slope of 15 percent or less to 250 feet back from the high water mark.

Although Castine has several sites that meet these State criteria, they are located Off-Neck, are privately owned and have poor road access. The Town has no present plans to encourage their development.

Existing coastal water-dependent uses in Castine include:

- A. seasonal private and commercial fishing of lobsters, crabs, clams, mussels, sea urchins and scallops;
- B. seasonal commercial tour boats;
- C. marina, boat storage and repair, specifically, Eaton's Boatyard;
- D. institutional users, specifically MMA (Castine Harbor is the home port of MMA's training vessels);

Marine Resources

E. recreational users (Castine Harbor is the home port of over 200 recreational private boats, both sail and power, and is visited by several hundred private yachts, the size and number of which have increased in recent years); and

F. small commercial passenger vessels (in recent years, the Town has attracted overnight visits of commercial schooners and other passenger-carrying small cruise ships).

Coastal water-dependent business uses over the last century reflect the Town's gradual evolution from a working, commercial fishing port to a recreational, educational and scenic harbor; it is unlikely that this trend will change.

8. Harbor and Mooring Facilities and other Marine Resources

A. Harbor Facilities

Castine Harbor consists of a main channel approximately two miles long measured from the CH Bell buoy at the channel entrance to Trott's Ledge at Can buoy #3, located where the Bagaduce River enters the harbor. The channel width averages 500 yards. The narrowest part of the channel is 1,000 yards southwest of Can #3 where the red Nun buoy #2 marks the ledge Middle Ground and the channel is approximately 400 yards wide. Channel depth in Castine Harbor is significant, averaging 68 feet at low water and 77 feet at high water. Accordingly, dredging of the channel has never been necessary. Dredging near the Town docks has been done infrequently and is done in coordination with dredging by MMA near its docks.

Castine Harbor is used largely on a seasonal basis with only a few fishing vessels using the port during the winter. The majority of boat traffic over the summer months is from recreational craft. Other users include MMA's fleet, passenger schooners, occasional tour boats and private, low-volume fishermen.

The large size of Castine Harbor in comparison to other harbors in the Penobscot Bay region is the main reason Castine does not suffer from massive congestion on the water. The congestion is mainly at the access points. Access often is difficult during the summer when the Town dock and parking lot are filled to capacity by largely transient visitors. During the school year, MMA student use of the municipal parking area continues to be an issue that needs resolution.

Castine has a Waterfront Ordinance. Its purpose is to set standards for use of the mooring area, public landings, boat ramp, harbor channels and other related properties in Castine waters. It also deals with the safe operation of vessels within Castine Harbor and grants authority to the Harbor Master to enforce the ordinance.

The Committee agrees with the Merchants Association and the Harbor Committee that the harbor is a valuable and underutilized resource. Development of this resource

Marine Resources

is critical for the economic growth of Castine and will require major expansion of the facilities including docks, wharfs, floats, guest moorings and launch services.

The 1995 Plan stated that Castine Harbor appeared to meet the needs of both commercial and recreational users. It predicted that, in time, traffic would likely increase and a specific overall harbor plan would be necessary. This was an accurate prediction and the time has come to create a harbor plan. Given the projected increase in summer population and the likely increase in MMA enrollment and use of the harbor, the demands on the harbor are likely to continue to increase over the next ten-year planning period.

B. Mooring Facilities

The municipal harbor mooring area is west of channel buoy Nun #2 and covers an area approximately 1,000 yards in length from the municipal pier northeasterly along the shore of the Castine peninsula. Within this main mooring area there are approximately 200 seasonal moorings. Presently, there is not a waiting list for moorings. The Harbor Committee is in the process of developing a mooring plan that would promote more effective utilization of limited space in the prime mooring areas.

A secondary mooring field extends westerly from the end of MMA's waterfront facility, along the southerly shore of the Castine peninsula as far as Fort Madison. There are about 30 seasonal moorings in this area. There is limited room for additional moorings within easy reach of the public access points without encroaching into the navigation channels. There are other private seasonal moorings scattered along the shore of Castine extending easterly from Trott's Ledge along the shore of Castine within the waters of the Bagaduce River to Grindal's Eddy and northerly along the shore of Castine within the waters of the Penobscot River from Wadsworth Cove to Morse Cove.

C. Other Marine Resources

Hatch Cove is on the northeasterly side of the Castine peninsula and is 1,500 yards long and 400 yards wide. The entrance to the cove is approximately 1,000 yards northwest of Can #3. It is shallow and drains virtually empty into mud flats at low water. Depth at high water is five to 20 feet.

Wadsworth Cove is on the northwesterly side of the Castine peninsula. It is approximately 1,300 yards wide and 700 yards deep from the entrance. Water depth ranges from 12 feet at high water to less than one foot at low water. Wadsworth Cove is deeper than Hatch Cove and is also tidal. Approximately half the area of the cove drains dry at low water exposing a mix of boulders, gravel, sand and mud flats.

The British Canal is a man-made saltwater estuary beginning at the west end of Hatch Cove and running approximately 400 yards westerly. The canal is approximately 10 feet wide and five feet deep. The canal and the surrounding flood plain is a saltwater

Marine Resources

marsh directly affected by tidal action and fresh water runoff. At one time, the canal extended another 200 yards westerly to Wadsworth Cove. However, in the 1930s the west end of the canal was cut off to make a salt water pond. The pond fills and empties by tidal action.

Morse Cove is located at the northerly end of Castine approximately 3.5 miles northeast of Wadsworth Cove on the Penobscot River. It is approximately 1,000 yards in length and 500 yards in width. One half of Morse Cove is located in the town of Penobscot. Water depth is 13 feet at high water and drains to mud flats at low water.

9. Existing Ordinances and Protective Measures

Castine has several measures that help protect marine resources. First, it has erosion control measures in its land use ordinances. Second, the Town meets all current State DEP requirements for shoreland zoning. These ordinance provisions help protect marine water quality.

10. TEDEC

MMA, through a 501(c) 3 nonprofit organization, has created TEDEC (Tidal Energy Demonstration and Evaluation Center), to test the potential of various devices that may have merit in commercial development of energy from tidal currents.

TEDEC presently has agreements with the State to investigate the possibility of harnessing the power of tidal energy to run underwater turbines in Castine Harbor and at the narrows further up the Bagaduce River. Access to any equipment would likely be on MMA property, which abuts the municipal pier. Evaluation devices that may be placed in either site will be temporary.

TEDEC was originally a consortium of MMA and commercial organizations and as such could have impacted the already serious parking congestion at the waterfront. In its present form there will be very little impact, but the Town should monitor this project to ensure that any programs developed by TEDEC are positive for all stakeholders.

G. MARINE RESOURCES GOAL

For nearly four centuries Castine's harbor has acted as a magnet attracting people to the Town, not only because of the harvestable species of shellfish and other forms of marine life, but also because it is a deep-water haven for both commercial and recreational vessels. The days of Castine as a major commercial fishing port have passed, but it still has both commercial and recreational potential for the future. Castine wishes to take full advantage of this potential by developing the harbor as the source of renewed activity that will benefit the Town's economy, while maintaining its present status as a mooring site for its full-time and seasonal residents. The Plan recommends that these goals be accomplished by the following specific measures:

1. **Public Access:** The Plan supports measures to maintain and improve existing public access to shoreland along with development of additional public access points.

Implementation Strategy: Select Board seeks harbor improvement grants and funding; information regarding current use taxation programs is made available in Town Hall and on the Town website.

Responsibility: Select Board

Time Frame: 2010 and then ongoing
--

2. **Marine Water Quality:** The Plan recommends minimizing threats to marine water quality. Specific steps include:

- a. ensuring that Town land use ordinances sufficiently protect water quality in marine watersheds through standards that consider storm water runoff, extent of impervious surface and other non-point sources of pollution;
- b. ensuring strict enforcement of existing and proposed Town ordinances that affect marine water quality;
- c. ensuring strict enforcement of municipal, State and Federal regulations regarding overboard discharges from all vessels, including, but not limited to, commercial vessels, recreational vessels and MMA training vessels; and
- d. ensuring strict enforcement of regulations regarding overboard discharges from residences both in Castine and adjoining towns that share Castine's marine resources.

Marine Resources

Implementation Strategy: 2.a: would be accomplished through the ordinance review process; 2.b: Select Board reviews the code enforcement officer's duties and adjusts the hours as needed and Planning Board continues to ensure that applicants comply with the ordinance requirements; 2.c: Select Board and Harbor Committee implement regular monitoring procedures and provide marine pump-out facilities; 2.d: Select Board opens communication with authorities in adjoining towns that share our marine resources.

Responsibility: Select Board, Planning Board and Harbor Committee

Time Frame: Ongoing

3. Shellfish Restoration: The Plan recommends that Town officials contact the MDMR to determine what steps are necessary to open areas currently closed to shellfishing and to pursue shellfish seeding operations in newly opened areas. The Plan recommends that this be done in conjunction with adjoining towns that share Castine's marine resources and efforts to protect marine water quality.

Implementation Strategy: Select Board contacts the MDMR to assess the feasibility of re-opening closed areas and explore seeding activities.

Responsibility: Select Board

Time Frame: 2010-2012

4. Marine Development: The Plan encourages early and on going co-operation with any entities proposing marine development, including, but not limited to, tidal and wind energy, aquaculture and commercial waterfront development. The Plan recommends that the Select Board, Planning Board and Harbor Committee continue enforcing current regulations to protect our marine resources.

Implementation Strategy: This is a continuation of current policy.

5. Harbor and Waterfront Facilities: The Plan supports:

a. making the harbor and waterfront facilities more easily accessible to visiting yachtsmen, windjammers and cruise ships and to promote increased usage by them; and

b. increasing promotional advertising of Castine's waterfront facilities.

Implementation Strategy: 5.a: Harbor Committee continues with plans to develop a more efficient mooring plan, launch service, increase the number of available rental moorings and improve services (i.e., showers, restrooms and laundry facilities) for visiting boaters; 5.b: Select Board works with Merchants Association and proposes funding to increase promotion of Castine Harbor and improve marine related services.

Responsibility: Select Board, Harbor Committee and Merchants Association

Time Frame: Ongoing

6. Joint Castine/MMA Waterfront Development Committee: The Plan seeks to ensure effective development and planning that will expand and improve the recreational, commercial and institutional facilities of both Castine's and MMA's waterfront facilities. The Plan recommends that the Select Board, Harbor Committee and the Castine/MMA Waterfront Development Committee continue coordination of development strategies pertaining to the waterfront.

Implementation Strategy: This is a continuation of current policy.

H. WATER RESOURCES INVENTORY AND ANALYSIS

1. Purpose

The safety and cost of drinking water is an essential component of the health of the Town. This section will:

- A. present an overview of Castine's water resources;
- B. describe the characteristics, uses and quality of Castine's significant water resources;
- C. predict whether the quantity or quality of significant water resources will be threatened by the impacts of future growth and development; and
- D. assess the effectiveness of existing measures to protect and preserve significant water resources.

2. Key Findings and Issues Taken Verbatim From the 1995 Plan

As a small peninsula, Castine has no great ponds or other significant fresh water bodies. The primary water supply issue is the adequacy of the public water system serving the village area. Preserving marine water quality is another important issue. While this problem must be approached with other towns on Penobscot Bay, Castine faces particular problems due to overboard discharges adjacent to the brook at Wadsworth Cove.

3. Key Findings and Issues

There have been improvements to the municipal water supply system since the 1995 Plan was prepared, but the system is operating close to its capacity. The Town has also worked to remove the remaining overboard discharges, but the salt water quality is affected by upstream discharges from other towns.

4. Significant Water Resources

A. Ponds and Watersheds

Castine has very limited surface and freshwater resources. According to the 1995 Plan, there are about eight acres of surface water in the Town. These water bodies include various fire ponds, the Ice Pond off Route 166A, Dunc's Meadow off Route 166, the public water system ponds and inland wetlands. Castine's watersheds are relatively small. They all drain into the Penobscot Bay, either directly or via the Bagaduce River.

B. Freshwater Wetlands

Castine's two freshwater wetland areas are Dunc's Meadow and the headwaters of Bog Brook in the Square. **See Map VII.** Freshwater wetlands are defined as those areas commonly referred to as swamps, bogs or marshes that are inundated or saturated by surface or ground water. This inundation occurs at a frequency and for a period sufficient to support a prevalence of wetland vegetation typically adapted for life in saturated soils. Wetlands larger than 10 acres (designated wetlands) are subject to the shoreland zoning setback standards. Wetlands from 0.1 to 10 acres in size are subject to regulation by the Maine Department of Environmental Protection (DEP) under the Natural Resources Protection Act (NRPA).

C. Coastal Wetlands

Castine's coastal wetland areas are the British Canal area and the Bagaduce and Penobscot shorelines. **See Map VII.** NRPA defines coastal wetlands as tidal or sub-tidal land. They are identified by the presence of salt-tolerant wetland plants or the presence of a tidal debris line, and include mudflats, beaches and salt marsh. Coastal wetlands serve as nurseries and food sources for fish and shellfish, providing wintering areas for waterfowl and staging areas for migratory shorebirds. They protect coastlines from erosion and provide open space for recreation and fishing. All coastal wetlands are protected by NRPA, regardless of size, but it is also important to protect the upland areas draining into coastal areas.

D. Ground Water

Castine has two sources of ground water. One is a sand and gravel aquifer located on the eastern side of On-Neck. **See Map VIII.** The second source is from bedrock wells, which supply the rest of Town both On-Neck and Off-Neck.

Ground water is defined as subsurface water found in the saturated soils and water bearing bedrock of the earth's surface. Its upper level, which rises and falls seasonally, is called the water table. A bedrock aquifer is a rock formation that contains recoverable volumes of ground water. All ground water is important to a community as a source of drinking water. Aquifers are especially important and are especially vulnerable to pollution from surface and subsurface sites.

The Maine Geological Survey data published in 1981 indicated that wells in the sand and gravel aquifer had a combined yield of about 20 gallons per minute (GPM). Since 1981, more detailed water supply studies have been done. The 2007 studies indicate the five bedrock wells serving the municipal water system yield between 40 GPM and 70 GPM. The rest of the Town depends on individual bedrock wells for its water. There has been no comprehensive analysis conducted on the status of private wells On-Neck or Off-Neck.

5. Flood Hazard Areas

Flood hazard areas are mapped by the Federal government. The Town has a flood plain management ordinance, which sets development standards for land uses within flood-prone areas. By having a flood plain management ordinance that meets State and Federal guidelines, property owners in Castine are eligible for flood insurance. According to the SPO, there are no flood plain related problems. Castine's ordinance currently meets all State and Federal standards.

6. Public Water Systems

Data from the Maine Drinking Water Program indicate there are two public water systems in Castine: the Castine Water Department system On-Neck and the Hancock Village Mobile Home Park system Off-Neck. **See Map VIII.** Public water systems are defined as those that serve a given number of the general public even if they are not publicly owned. They may be as large as the Castine Water Department system or as small as one serving a restaurant. These systems are subject to various State regulations and reporting requirements.

The Town's public water supply source water protection area is defined as the area that contributes recharge water to a surface water intake or public water supply well. **See Map V.** Pursuant to State law, operators of these systems must be notified of land use applications that could affect the source water protection area. This allows the operators to participate in the municipal decision making process and helps reduce the risk of contamination to public water supplies.

The Hancock Village Mobile Home Park well is a bedrock well located on Simpson Road adjacent to its intersection with Route 166A. According to data provided by the Maine Drinking Water Program, the system meets basic water quality standards and has a low existing risk of acute contamination.

7. Water Quality

The DEP classifies all surface water in Maine. This classification system sets the standards allowed for discharges of pollutants and establishes water quality goals for the State. The system is used to direct the State in its management of surface waters and, when the standards are not achieved, directs the State to enhance the quality to meet the standards.

All salt waters adjacent to Castine are presently classified as SB. This is the second highest classification for salt waters in the State. It is applied to waters that are suitable for recreation, fishing, aquaculture, the propagation and harvesting of shellfish, industrial process and cooling water supply, hydroelectric power generation and navigation and as a habitat for fish and other marine and estuarine life. New discharges that would cause the Department of Marine Resources (DMR) to close shellfish areas are not permitted in Class SB waters.

Water Resources

The area on the Penobscot River between Morse Cove and Wadsworth Cove does not presently meet this water quality classification. The DEP believes this may be due to upstream overboard discharges (OBDs) and/or sewer overflows into the Penobscot River. There is no evidence from either DEP or local records of any water contamination in Castine's freshwater resources.

Castine's water quality is also monitored by the volunteer group Bagaduce Watershed Association. In addition to monitoring water quality throughout the watershed, it is also active in reporting on other watershed issues. These include proposals for tidal power and aquaculture. It coordinates with other water quality groups in Penobscot Bay.

The DEP has classified Castine's ground water as GW-A. This is the highest DEP classification for ground water. DEP standards mandate that these waters be of such quality that they can be used for public water supplies. They must also be free of radioactive matter or any matter that affects their taste or odor. There is no evidence of Castine's ground water failing to meet these standards.

One of the wells serving the public water system exceeded the arsenic level standard when the State enacted stricter standards in 2006. A treatment system was installed in 2007 that addressed this problem.

8. Existing and Potential Threats to Water Resources

There are two different types of water pollution: point source and non-point source. Point source pollution comes from a specific source, such as a pipe, and can easily be identified, measured, licensed or removed. Non-point source pollution is much broader and more difficult to identify. It ranges from leaking gas tanks, erosion and storm water runoff, as well as agricultural, lawn and forestry runoff.

Prior to 2008, the major point source pollution in Castine was the wastewater treatment plant. As discussed in Chapter E - Public Facilities and Services, the Town upgraded the plant in 2008 pursuant to a consent agreement with the Maine DEP. New licensing standards require that the discharge pipe that contains effluent from the treatment plant to the Bagaduce River will have to be extended as part of the license renewal process in 2010. Presently, the major point source pollution is from OBDs. The Town has worked to remove or improve OBDs since the 1995 Plan was prepared. As of 2008, Castine had reduced the number of OBDs to three, but there were still five in Brooksville and four in Penobscot. Discharges from these adjoining towns affect Castine's salt water quality.

There are no DEP records of any non-point sources threatening surface water. Non-point sources are more likely to occur adjacent to agricultural, commercial and industrial operations or where there is a large extent of impervious surface. Since such areas in Castine are relatively limited, the Town is not likely to have the problems faced in more developed communities. There is, however, a need for better policing of oil spills and other discharges into the harbor.

Water Resources

There is no marine wastewater pump-out facility in Castine. Given the continued increase in boating traffic, this could present a serious problem for the future unless steps are taken to remedy it. The nearest facility is currently located in Belfast.

Non-point sources are a potential threat to ground water. Since it takes much longer for ground water to cleanse itself than surface water, it is very important to avoid contaminating ground water. While it is very costly to restore a lake or stream, the cost of cleaning up ground water is usually prohibitive, if it can be redeemed at all. Stricter State standards enacted since 1995 have eliminated many old underground storage tanks (USTs) or required their replacement, thus reducing this threat. In addition, there has been concern that the use of pesticides On-Neck could contaminate the ground water supply. In 2008, the Town adopted a Source Water Protection Ordinance to address this issue.

According to the Source Water Assessment Program study prepared for the Castine Water Department, no significant land use threats were identified during a reconnaissance of the watershed surrounding the Battle Avenue ponds. The watershed is largely protected by a combination of Water Department ownership, conservation land trust protection and source water protection zoning. There is presently good water quality from this source. It is, however, important to monitor aquatic plant growth and natural material accumulation since these factors may alter water quality in the future.

9. Regional Considerations

The major regional water resource issue in Castine is the need for regional cooperation in protecting the Penobscot River and Bay and the Bagaduce River. OBDs from both marine and land-based systems in adjoining towns that threaten Castine's water resources are a serious concern.

10. Adequacy of Existing Protection Measures

Castine's zoning ordinance has a source water protection overlay district. In addition to prohibiting many uses that could threaten water quality it has strict groundwater assessment requirements for uses that are subject to site plan review. Both the site plan review standards and the subdivision ordinance deal extensively with water quality impacts. As discussed above, in 2008 the Town adopted a separate Source Water Protection Ordinance.

11. Adequacy of Supply

Although a low rate of residential growth is projected for Castine, the municipal water system will limit future development in its service area. As of 2008, the system was operating near capacity, with a balance between MMA usage in the winter and seasonal residents in the summer months. Any disruption of this balance could result in a water shortage.

The status of the water supply in Off-Neck is not known. More assessment is needed before it can be determined if water supply problems are likely to emerge in that area.

H. WATER RESOURCES GOAL

Castine desires to maintain the quality of its ground and surface water resources. The Plan recommends that these goals be accomplished by the following specific measures:

1. **Ground Water Protection:** Since there is a municipal water system On-Neck, but none Off-Neck, and the recharge area is limited, protection of ground water resources is a priority for the Town. The Plan recommends the following measures:
 - a. ensuring that minimum lot sizes Off-Neck are sufficiently large to allow adequate distances between septic systems and wells; and
 - b. ensuring that municipal site plan review and subdivision standards do not allow any development that disrupts the water quality or quantity of water available to users on adjoining properties. The Plan recommends that all applicants for major developments and major subdivisions be required to provide test wells so that the water supply conditions can be determined. If conditions are proven inadequate, the applicant will be required to provide an alternative source of water or else reduce the scale of the development to a level appropriate to water supply conditions.

Implementation Strategy: This would be addressed through the ordinance review process.

Responsibility: Planning Board and Utility Board

Time Frame: 2010-2012

2. **Non-Point Source Pollution and Storm Water Runoff Management:** The Plan recommends that all Town regulations include provisions requiring management of non-point source pollution, storm water runoff, drainage, erosion control and sedimentation. Such provisions could include, but are not limited to, minimizing storm water runoff, ensuring adequate drainage and buffering, and setting standards for the handling of deleterious matter and hazardous materials at agricultural, commercial and industrial operations. They may also involve setting stricter impervious surface standards for major developments in order to prevent vast areas of a lot from being covered.

Implementation Strategy: This would be addressed through the ordinance review process.

Responsibility: Planning Board

Time Frame: 2010-2012

3. Flood Plain Management: The Plan recommends that the Town retain its current flood plain management ordinance and update this ordinance when recommended to do so by the State Planning Office Flood Plain Management staff.

Implementation Strategy: This is a continuation of current policy.

4. Wetlands Protection: The Plan recommends that the Town retain its current wetlands protection measures.

Implementation Strategy: This is a continuation of current policy.

5. Public Water System Protection: The Plan recommends that public water systems be protected by continuing to require that subdivision and site plan review applicants identify any public water supply source water protection area in their submission materials to the Planning Board and notify the operators of these systems of their plans for the property.

Implementation Strategy: This is a continuation of current policy.

I. NATURAL RESOURCES INVENTORY AND ANALYSIS

1. Purpose

A comprehensive plan should provide an overview of the Town's natural resources. These resources are important to the Town in two ways. First, they provide critical wildlife and fisheries habitats. Second, development in environmentally fragile areas can affect these resources. This section will:

- A. describe Castine's critical natural resources in terms of their extent, characteristics and significance; and
- B. assess the effectiveness of existing measures to protect and preserve critical natural resources.

2. Key Findings and Issues Taken Verbatim from the 1995 Plan

Castine has taken many steps toward protecting its natural resources. The Castine Land Conservation Trust has acquired easements on many parcels. In other cases, key properties are owned by the town or state. Additional protection measures are needed for portions of the Witherle Woods, the Indian Trail and the Square to assure these areas remain open to the public.

Castine's coastal environment has a variety of wildlife including such rare species as loons, bald eagles, and ospreys. Its coastline includes a Class A wildlife area, one of national and state significance. Among its other resources is Wadsworth Cove, which the state considers one of the finest examples of a semi-enclosed cove in Penobscot Bay. Castine also has many scenic views.

3. Key Findings and Issues

Castine has a diversity of natural resources, particularly along its shore and on its islands. These include ecologically valuable waterfowl and wading bird areas and three officially identified bald eagle nesting sites. The Town also hosts many bird and marine species whose populations are in decline nationally.

Since 1995, several steps toward protecting the Town's natural and scenic resources have been taken. The Town has instituted several land use ordinance measures that minimize the impact of development on environmentally sensitive land. In addition, land protected by direct ownership or easement by conservation land trusts has increased by 82.9 percent since 1995 providing public access to these treasured natural and scenic resources. Because of these existing efforts to protect and preserve Castine's natural and scenic resources, further protection and conservation measures are not nearly as great a concern now as they were in 1995.

4. Natural Resources Inventory

Castine's major natural resources are discussed below.

A. Topography

Slope is the level of rise or fall in feet for a given horizontal distance expressed as a percentage. For example, a ten percent slope means that for each 100 feet in distance, the rise or fall in height is ten feet.

Elevations range from sea level to 220 feet just west of Fort George. **See Map IX.** While steep slopes are common On-Neck, the majority of land Off-Neck is relatively level, with a slope of only zero to eight percent. Slopes of eight to 15 percent are seen on the southern end of the peninsula. Slopes of 15 to 25 percent are common on the northern side of the peninsula and along much of the coastline of the Bagaduce River and Hatch Cove. Slopes greater than 25 percent are located primarily on the western side of the peninsula.

In general, slopes of zero to eight percent are rated good to fair for development while those between eight and 15 percent are fair for these uses and those greater than 15 percent are rated poor for development. Areas with steep slopes are more difficult to develop. Construction in such areas may cause erosion. Water supply problems can be more prevalent and emergency vehicle access on steep driveways and roads is difficult.

B. Surficial Geology

The last Ice Age left surficial deposits, the parent material of soils, on the area's bedrock. There are five distinct surficial deposits along this part of the Maine coast: till, ice contact deposits, alluvial deposits, organic accumulations and marine sediment. Till deposits, composed of boulders, sand, silt and clay are the dominant cover material found in Castine.

The deposits in swamps, bogs and salt marshes are a mixture of decayed organic matter and silt. Such areas, unsuitable for agriculture, often serve as important wildlife habitat. Marine sediment is composed of sand, silt and clay. Marine sediment, super-imposed on the bedrock and glacial deposits, can be found throughout the region in areas less than 300 feet above sea level. Characteristically, these areas are poorly drained.

C. Bedrock Geology

The bedrock underlying most of Castine consists of metamorphosed volcanic rock, with the exception of several small areas of metamorphosed sedimentary rocks located in the southern portion of Town. Castine is one of the few places in New England that has proven reserves of copper ore. The reserves

Natural Resources

have been estimated between 50 to 1,000 tons and occur in the form of massive sulfides such as pyrite and chalcopyrite. Glaciers sculpted the bedrock into irregular knobs and depressions and in many areas the bedrock is exposed at the surface.

D. Land Cover

There are six major cover types in Castine: softwoods, hardwoods, mixed woods, agricultural lands, old fields and scrub areas.

A softwood forest is defined as forested lands with softwoods comprising 75 percent of the overstory. They include pines, cedars, spruce and firs. Witherle Woods, the largest undeveloped softwood area of Town where red spruce predominated, was hit by a microburst in 2007. Close to 130 acres of Witherle Woods received some level of forestry work following the destruction of the 2007 microburst. The other softwood areas are the eastern and southern portions of the center of the Square and Wilson Point on the Penobscot River.

A hardwood forest is defined as forested land with hardwoods comprising 75 percent of the overstory. Hardwoods include oak, maple, hickory, elm, ash and beech. There are some hardwoods in Witherle Woods. The area along the Bagaduce River and Hatch Cove consists of hardwoods, agricultural land and old fields.

A mixed wood forest is defined as forested lands with neither hardwoods nor softwoods comprising over 75 percent of the overstory. Small areas of mixed wood forests can be found on the peninsula. Within the northern and western portions of the Square there is mixed wood forest. The banks of the Penobscot River consist of equal portions of softwoods and hardwoods.

Old fields are agricultural land that has reverted to natural vegetation. They are scattered over much of the area north of the British Canal.

E. Wildlife Habitats

Wildlife inhabits most areas of Castine, including the Village. The kinds of wildlife supported include:

1. Big Game. White tail deer are common in Castine. According to the Beginning with Habitat Program established by the Maine Department of Inland Fisheries and Wildlife (MDIFW), there is a deer wintering area on Bog Brook. Black bear and moose have been spotted throughout the Town.

Natural Resources

2. Small Game. Small game species found in Castine include ruffed grouse, pheasant, snowshoe hare, red and gray squirrel, fisher, red fox, bobcat, lynx and various species of rabbit. Silver foxes were once raised commercially in Castine and an occasional one has been seen running wild.

3. Furbearers. Dunc's Meadow serves as prime habitat for beavers. The Square's swampy interior provides habitats for beaver, muskrat, otter, raccoon and mink.

4. Migrating Game Birds. Woodcock and jacksnipe are fairly common. Areas of the Bagaduce River are important way stops for migrating game birds.

5. Waterfowl. The dabbling ducks in the area include black ducks, wood ducks and green and blue winged teals. The diving ducks include ring-necked ducks, greater scaups, golden eyes and buffleheads. Common eiders, white winged scooters, old squaws, surf scooters and common scooters are also found. Common loons fish both the Bagaduce and Penobscot Rivers.

Large segments of the Castine coastline, including Wadsworth Cove and Hatch Cove, are coastal waterfowl and wading bird habitats. These are important breeding, wading and staging areas. As such, they are subject to State regulation under the Natural Resources Protection Act (NRPA). This act sets standards to protect key natural features such as certain wildlife habitats, wetlands and other water bodies from adverse impacts of development. The U.S. Fish and Wildlife Service lists many of the waterfowl species as Priority Trust Species (see Table I.1 below). In addition, a large population of black ducks and numbers of migrating waterfowl find refuge in the Bagaduce and Penobscot Rivers.

The MDIFW rates the marsh in the center of the Square as a high value waterfowl and wading bird habitat. This designation includes nesting and feeding areas. This habitat is not threatened by development because the Town has protected it in the zoning ordinance with four resource protection zones.

6. Non-Game Birds. Most of the small birds common to Maine can be found in Castine. The larger sea birds, gulls, cormorants and great blue heron are present, as are many smaller sea and littoral birds such as terns, guillemots and yellow legs. Various owls, including the Barred Owl and the Great Horned Owl, have been seen in the Town. Many of these birds are Priority Trust Species.

Natural Resources

7. Non-Game Mammals. Woodchuck, weasel, porcupine and skunk are firmly established throughout Castine. The MDIFW has identified seal haul-out sites on Holbrook and Ram Islands and along the Bagaduce River. Coyotes have become more common and are seen fairly often Off-Neck.

8. Rare and Endangered Wildlife. Bald eagles and ospreys are often seen in Castine. According to the Beginning with Habitat Program, there are three bald eagle nesting areas in Town; two of these are on Ram Island and one is on Holbrook Island. Eagle nests are particularly sensitive to disruption during the nesting season, which lasts from the beginning of February through August. Bald eagles were removed from the Maine Endangered Species list in 2009.

F. Fisheries Habitats

The smaller examples of marine life are found along the shores of the Penobscot River, the Bagaduce River, Smith Cove, Hatch Cove and the Wadsworth Cove-British Canal area. Larger fish, crustaceans and mammals thrive in Castine's deeper waters. Many of the fish found in Castine are Priority Trust Species (see Table I.1 below).

G. Plant Habitats

Castine's major plant habitats are:

1. On-Neck. Over 300 American elm trees, some of which are over two hundred years old, grace the streets of Castine. However, in recent years, approximately 15 percent of them have been lost, either to the microburst of 2007 or to Dutch elm disease.

2. The Islands. Ram Island consists of two islands connected by a sand bar with typical island plants. Holbrook Island, owned and maintained by the State as a park, is a magnificent island that was once a private farmstead. It has open fields and wooded areas with a mixture of many domestic and native plants.

3. Wadsworth Cove-British Canal. This whole area, including roadsides, supports many wild flowers.

4. Hatch Cove. The cove is a superb example of a salt-water wetland. Abundant edible beach plants grow here as well as typical grasses and sedges.

5. Witherle Woods. Witherle Woods is the common name for a large part of the forested headland and shoreline stretching around the

Natural Resources

northwest end of the peninsula from Dyce's Head Lighthouse to Wadsworth Cove. As noted above, Witherle Woods was an area of Town particularly hard hit by the 2007 microburst.

6. Center of the Square. The swamp and wetlands at the center of the Square are habitats for unique plants adapted to the soil conditions of such places and are some of Castine's least spoiled natural areas. Most of this area is protected by resource protection zones.

H. Priority Trust Species

As mentioned above, Castine is host for many Priority Trust Species identified by the U.S. Fish and Wildlife Service. These species include all migratory birds, anadromous/catadromous (sea-run) and certain coastal fishes, and Federally listed endangered and threatened species. The Priority Trust Species that regularly occur in the Gulf of Maine watershed are considered a priority for protection because they meet one or more of the following criteria:

1. a species listed on the national endangered, threatened or candidate species list;
2. a species identified as threatened or endangered by at least two States in the Gulf of Maine watershed;
3. a species showing significant or persistent declining population trends;
4. a species of special interest; or
5. a species of concern identified by the U.S. Shorebird Conservation Plan, Colonial Waterbird Plan or Partners in Flight.

The Priority Trust Species found in Castine are shown in Table I.1. This diversity of species is indicative of the many habitats found in Castine.

Table I.1 Priority Trust Species found in Castine			
Birds	Birds (Cont.)	Birds (Cont.)	Fisheries
American bittern	Common tern	Razorbill	Alewife
American black duck	Eastern meadowlark	Red knot	American eel
American oystercatcher	Field sparrow	Sanderling	American shad
American woodcock	Hudsonian godwit	Scaup (greater & lesser)	Atlantic Salmon
Bald eagle	Least sandpiper	Sedge wren	Atlantic sturgeon
Baltimore oriole	Little blue heron	Semipalmated sandpiper	Blueback herring
Bay-breasted warbler	Little gull	Short-billed dowitcher	Bluefish
Black scoter	Marsh wren	Short-eared owl	Horseshoe crab

Natural Resources

Black-bellied plover	Nelson's sharp-tailed sparrow	Snowy Egret	Shortnose sturgeon
Blackburnian warbler	Northern flicker	Solitary sandpiper	Winter flounder
Blackpoll warbler	Northern goshawk	Surf Scoter	
Buff-breasted sandpiper	Northern harrier	Whimbrel	
Chestnut-sided warbler	Olive-sided flycatcher	Whip-poor-will	
Common loon	Osprey	White-winged scoter	
Common snipe	Purple sandpiper	Wood duck	
Source: Beginning with Habitat Program, MDIFW 2007			

5. Assessment of Threats to Castine's Natural and Scenic Resources

Castine's natural resources face potential threats from natural processes. Natural processes include erosion and storm damage such as the 2007 microburst. Threats to the Town's forests and street trees are discussed in detail in Chapter J - Agricultural and Forest Resources.

Land development can also accelerate erosion if natural drainage patterns are disrupted. However, Castine has taken several steps to minimize the threat of erosion from development by including erosion minimizing standards in its land use ordinances. In addition, the Town has adopted State-mandated shoreland zoning standards and has zoned eight sensitive areas resource protection. Resource protection zoning prohibits development in the designated area. The most fragile areas of Castine's 15 miles of shoreline are zoned resource protection. The land use ordinance standards further require adequate provision be made to avoid unreasonable adverse impact on natural features and the land use ordinances include standards to identify and protect major natural features.

Protected scenic resources include Dyce's Head Lighthouse and the Keeper's House and the surrounding acreage owned by the Town. The conservation land trust field at the corner of Battle Avenue and Tarratine Street offers wide panoramic views of the Town, the harbor and the islands of the bay.

The Conservation Trust of Brooksville, Castine and Penobscot and the Maine Coast Heritage Trust continue to play a significant role in protecting natural and scenic resources in Castine. In 1995, 351.3 acres were either directly owned or protected by easements held by the two trusts. By 2009, 642.6 acres were protected by the two conservation land trusts from development, representing an 82.9 percent increase since 1995 (see Table I.2). In addition, conservation land trust protected areas provide public access to these treasured natural and scenic resources.

Natural Resources

Table I.2 Summary of Conservation Land, 1995-2009		
Land Protected by The Conservation Trust of Brooksville, Castine and Penobscot		
Land Owned by The Conservation Trust	1995 Acreage	2009 Acreage
Dunc's Meadow	0	31.6
Hatch Cove Preserve	0	32.0
Lower Negro Island	0	2.2
Ram Island	5.0	5.0
Rene Henderson Natural Area	90.0	90.0
Robert Russell Beach Lot	0.1	0.1
Schumacher (Neck Hill)	7.0	7.0
Six Mile Square Lot	11.0	11.0
Total	113.1	178.9
Land Subject to Easements Held by The Conservation Trust		
Brownell Property	0	10.2
Greenbie Property (Town of Castine)	43.0	68.0
Mayo Point (Erhard)	6.7	6.7
Meadow Farm (Wiswall)	14.5	14.5
Turner Point (Turner Point Trust) 55 acres and Turner Point (Rutine Trust) 30 acres	35.0	85.0
Total	99.2	184.4
Land Protected by Maine Coast Heritage Trust (MCHT)		
Land Owned by MCHT		
Witherle Woods (Hatch, Foote, Perkins, Dyce's Head)	134.5	182.8
Starr and Virginia Lampson Preserve	0	21.0
Castine Field, Battle Avenue and Tarratine Street	4.5	4.5
Total	139.0	208.3
Land Subject to Easements Held by MCHT		
Castine Golf Course	0	71.0
Total	0	71.0
Total Protected Acres	351.3	642.6
Source: Town of Castine and Land Trusts		

6. Assessment of Existing Efforts to Protect and Preserve Castine's Natural and Scenic Resources

As discussed above, Castine has taken many steps to ensure that its natural and scenic resources are protected. Land use regulations, including performance standards for development, the adoption of shoreland zoning requirements and the creation of eight resource protection zones significantly protect the Town's natural resources. In addition, land protected by conservation land trusts has increased by a dramatic 82.9 percent since 1995. Because of these existing efforts to protect and preserve Castine's natural and scenic resources, further protection and conservation measures are not nearly as great a concern now as they were in 1995.

I. NATURAL RESOURCES GOAL

In recognition of their importance to the overall quality of life, the protection of open space, the preservation of hunting and fishing opportunities, significant wildlife and fisheries and endangered species habitat, the Plan supports the protection and enhancement of Castine's natural resources. The Plan recommends that this be accomplished by the following specific measures:

1. Continue current resource protection zoning of four large, non-fragmented areas of natural wildlife habitat Off-Neck.

Implementation Strategy: This is a continuation of current policy.

2. Continue current resource protection zoning of the most fragile areas along the nearly 15 miles of Castine's shoreline.

Implementation Strategy: This is a continuation of current policy.

3. Continue current land use ordinance requirements that applicants seeking approval to develop properties must identify key natural features identified in the Plan. Continue requiring that applications include proposed measures to mitigate any adverse impacts of development on these features.

Implementation Strategy: This is a continuation of current policy.

4. Make information available for those living in or near critical natural resource areas about applicable local, state or federal regulations.

Implementation Strategy: Information is made available in Town Hall and on the Town website.

Responsibility: Select Board

Time Frame: 2010 and then ongoing
--

5. Participate with neighboring towns and regional efforts regarding shared critical natural resources.

Implementation Strategy: Select Board contacts neighboring towns and regional committees.
--

Responsibility: Select Board

Time Frame: 2010 and then ongoing
--

6. Ensure that land use ordinances include Maine Beginning with Habitat program information and maps as part of the review process.

Natural Resources

Implementation Strategy: This would be accomplished through the ordinance review process.
--

Responsibility: Planning Board

Time Frame: 2010-2012

J. AGRICULTURAL AND FOREST RESOURCES INVENTORY AND ANALYSIS

1. Purpose

This section will:

- A. describe the extent of Castine's farms and forest lands;
- B. predict whether the viability of these resources will be threatened by the impacts of growth and development; and
- C. assess the effectiveness of existing measures to protect and preserve important farm and forest resources.

2. Key Findings and Issues Taken Verbatim from the 1995 Plan

Castine has no working farms. While it has some forested land, the town is not a major center of timber harvesting activity when compared to many Maine towns. Therefore, the main value of Castine's forested lands is for its small woodlots and the aesthetic values that these woods offer. Due to changes in the state Tree Growth law, which ease the tax burden on land held as forest, less land may be held under that classification in Castine in the future. This may increase pressure to develop such land.

3. Key Findings and Issues

Ensuring preservation of trees is important to maintaining the overall rural character of Castine. These trees have proven vulnerable to damage from storms, disease and lack of proper pruning. Sources of funding for the care of the Town's over 300 elm trees need to be secured. There is very limited commercial forest activity in Town. There were only 237 acres reported harvested in the most recent ten-year period. Farming is even more limited; 136 acres were held under the farmland taxation category in 2008.

4. Agricultural Resources

According to data from the Natural Resources Conservation Service, Castine has 651 acres of prime agricultural soils and 1,070 acres of farmland soils of statewide importance. The term prime agricultural soils refers to those soils that have the potential to have the highest agricultural yields, even if they are not necessarily farmed. Much of the previously farmed land is now developed. The soils of statewide importance category refers to soils that have a more modest potential yield. Agricultural soils account for about 34 percent of the Town's total land area of 4,998 acres.

Agricultural and Forest Resources

Another way to estimate current amounts of agricultural land is through the acreage of land held under the Farm and Open Space Act. This act allows farmland owners property tax breaks for parcels over five contiguous acres if they meet certain conditions such as a minimum farm-derived income. Normally, qualifying farmers with a long-term commitment to farming would participate in this program. A review of State records indicates that there were only three qualifying farmers in Castine with a combined total of 136 acres held in this farmland classification in most recent years (see Table J.1).

Table J.1 Farm and Open Space Taxation Parcels, 1996-2008				
	Farmland		Open Space Land	
Year	Number of Parcels	Acres	Number of Parcels	Acres
1996	0	0	3	12
1997	0	0	3	12
1998	0	0	6	49
1999	0	0	6	49
2000	0	0	-	-
2001	0	0	7	74
2002	2	91	8	75
2003	2	91	13	253
2004	2	91	13	253
2005	2	91	11	202
2006	2	91	11	202
2007	3	136	11	202
2008	3	136	11	202
Source: Municipal Valuation Return Statistical Summary, Maine Bureau of Taxation Property Tax Division, Part IV (1996-2008). Data relating to open space are not available for the year 2000.				

5. Forest Resources

One source of information on Castine's forest resources is data on land held under the Tree Growth Taxation Act. This classification is similar to the Farm and Open Space Act in that owners of forested parcels meeting certain conditions may have their property assessed as forest land rather than for its potential development value.

Recent trends in acreage assessed as tree growth are shown in Table J.2.

Agricultural and Forest Resources

Table J.2 Tree Growth Parcels, 1996-2008					
Year	Number of Parcels	Softwood Acres	Mixed-wood Acres	Hardwood Acres	Total
1996	14	338	289	40	667
1997	14	338	289	40	667
1998	14	338	248	112	698
1999	13	227	112	126	465
2000	14	281	99	148	528
2001	15	312	115	144	571
2002	17	288	171	147	607
2003	16	289	155	147	591
2004	19	289	171	148	608
2005	17	165	144	111	420
2006	19	184	158	114	456
2007	20	308	169	131	608
2008	17	302	160	106	568
Source: Municipal Valuation Return Statistical Summary, Maine Bureau of Taxation Property Tax Division, Part III (1996-2008)					

Table J.3 summarizes the various forms of land protected by State preferential taxation programs.

Table J.3 Summary of Land Protection Under Farm, Open Space and Tree Growth Taxation, 1996-2008				
Year	Farmland	Open Space	Tree Growth	Total
1996	0	12	667	679
1997	0	12	667	679
1998	0	12	698	710
1999	0	49	465	514
2000	0	-	528	-
2001	0	74	571	645
2002	91	75	607	773
2003	91	253	591	935
2004	91	253	608	952
2005	91	202	420	713
2006	91	202	456	749
2007	136	202	608	946
2008	136	202	568	906
Source: Tables J.1 & J.2. Data relating to open space are not available for the year 2000.				

Agricultural and Forest Resources

Timber harvesting trends are shown in Table J.4. These data represent timber harvests that are subject to State reporting. As seen below, there have been relatively few harvests over all. The 237 acres harvested between 1994 and 2006 represent just under five percent of the total land area of 4,998 acres, which indicates that commercial forestry plays a minor role in Castine's economy. Following the microburst of September 2007, close to 130 acres received some level of forestry work in 2007 through 2008. More specific timber harvesting data for that period are not available.

Table J.4 Timber Harvesting Trends, 1994-2008						
Year	Partial Harvest Acres	Shelter-wood Harvest Acres	Clear-cut Harvest Acres	Total Harvest Acres	Change of Land Use, Acres	Number of Timber Harvests
1994-1997	160	0	11	171	18	6
1998-1999	32	0	0	32	0	4
2000-2001	11	0	0	11	4	5
2002-2003	15	0	0	15	0	5
2004-2006	8	0	0	8	1	6
2007-2008	--	--	--	--	0	--
Totals	226	0	11	237	23	26
Source: Maine Forest Service year-end landowner reports.						

6. An Analysis of Threats to Farm and Forest Land

Given the low rate of projected development and the amount of land protected by conservation land trust ownership or easements, there are no immediate threats to farm and forest land in Castine. Over the long run, open space could be lost to second growth forests or development. Land with water views is in high demand as home sites.

The Town's trees, however, face several threats. These include the ongoing battle with Dutch elm disease and other pests such as spruce bark beetle and fir wooly adelgid. Storms in recent years revealed the vulnerability of the Town's trees to wind damage. This was particularly evident during the September 2007 microburst, which caused the loss of, or severe damage to, many trees in the Village and large areas of Witherle Woods.

7. Adequacy of Existing Measures to Protect Farm and Forest Land

Although the tree growth tax classification offers theoretical protection, there is no guarantee that land will not be withdrawn from this classification and sold for development. This has already happened in Castine. The tax penalties for withdrawing land are frequently outweighed by the profits realized from land development.

While there are no direct measures in the Town's land use ordinances to protect farm and forest land, there are several measures that facilitate their protection. Town ordinances include shoreland zoning standards for timber harvesting and have provisions for the retention of natural beauty and the preservation of open space. These ordinances are supplemented by a significant amount of land that is protected by conservation land trust ownership or easements (see Chapter I – Natural Resources, Table I.1).

The Town also has an Elm Tree Ordinance to protect elm and significant streetscape trees. The health of the trees is monitored by the Town's Tree Committee and such trees may not be cut down without the written approval of the Tree Committee. Elm trees not located in the public tree area are the responsibility of the property owner and the costs associated with maintenance and, if necessary, removal and disposal are borne by the property owner and not the Town.

The Town has an active elm tree care program with taxpayer funds allocated in each year's budget to pruning and treating the over 300 elm trees On-Neck. The amount needed for treatment, pruning and removal of dead or diseased elm trees has increased dramatically in recent years. With large infrastructure projects competing for taxpayer funding, the Town may need to seek a combination of taxpayer and private funding for the care of the elm trees in the future.

There are over 60 elm trees located on property owned by MMA. Historically, MMA has paid for pruning, treatment against Dutch elm disease and removal of dead or diseased elm trees on its property. In order to achieve cost savings, the Town and MMA have agreed to coordinate pruning, treatments against Dutch elm disease and removal of dead or diseased elm trees located on their respective properties.

In 2007 a subcommittee of the Castine Garden Club noted several other needs. Its suggestions included conducting an inventory of all public trees and developing a long-term community tree plan. It also called for strategies that raised awareness of tree issues and needs. In 2008, the Town received a Project Canopy Grant of \$8,000 from the State to complete an inventory of the elm trees in the Village, which was completed with the assistance of a licensed arborist. The Town applied for a similar Project Canopy Grant to cover maintenance and re-planting of the Town's elm trees, but was advised that the State was out of funds for that year. The Town re-applied and received \$8,000 in 2009. The funds are being used for pruning and other maintenance projects.

J. AGRICULTURAL AND FOREST RESOURCES GOAL

Castine has only a limited amount of acreage held under the State's Farm and Open Space Act. The Town does have more acreage protected under the Tree Growth Taxation Act, which allows owners of forested parcels meeting certain conditions to have their property assessed as forest land rather than for its potential development value. Although there are no direct measures in the Castine land use ordinances that protect farm and forest land, given the low rate of projected development and the significant amount of land protected by direct ownership or easement by conservation land trusts, there is no immediate threat to farm and forest land in Castine. The Plan supports consultation with the Maine Forest Service District Forester and Soil and Water Conservation District staff to ensure the continued protection of farm and forest land. In recognition of the importance of the Town's tree lined streets to the natural beauty of the Village, the Plan supports the protection of Castine's over 300 elm trees. These trees have proven vulnerable to damage from storms, disease and lack of proper pruning. The Plan supports protection of the elm trees and other significant streetscape trees.

The Plan recommends that these goals be accomplished by the following specific measures:

1. secure additional sources of funding for the care of the Town's street trees.

Implementation Strategy: This would be addressed by the Tree Committee continuing to seek Project Canopy grants from the State and the Select Board continuing to recommend taxpayer support for the trees in the Town budget and continuing to encourage private donations to fund tree care. In addition, the Select Board should continue to work with MMA to ensure that elm trees on MMA property are monitored for disease.
--

Responsibility: Tree Committee and Select Board
--

Time Frame: Ongoing

2. ensuring that the land use ordinances include:

- a. right to farm and manage forest provisions that exempt farm and forest activities in rural areas from certain noise and other nuisance standards provided that these exemptions are necessary for farm and forest operations;

- b. liquidation harvesting provisions that meet the requirements of Title 30A MRSA §4404 (20); and

- c. provisions ensuring that farm and forested-related uses such as food stands and small-scale saw mills are permitted in areas designated as rural.

Implementation Strategy: This would be addressed through the ordinance review process.

Responsibility: Planning Board

Time Frame: 2010-2012

K. HISTORIC AND ARCHAEOLOGICAL RESOURCES INVENTORY AND ANALYSIS

1. Purpose

A Comprehensive Plan should identify a town's historic and archaeological resources. These resources are important not only for their role in Castine's history, but also for their present-day value. The many historic buildings and sites help make Castine a popular tourist destination and retirement community. This section will:

- A. outline the history of the Town;
- B. identify and profile the historic and archaeological resources of the Town in terms of their type and significance;
- C. assess current and future threats to the existence and integrity of those resources; and
- D. assess the effectiveness of existing measures to protect and preserve those resources.

2. Key Findings and Issues Taken Verbatim from the 1995 Plan

Castine has a rich variety of historical sites and buildings. Town interest in these resources has been strong enough to have led to the creation of two National Register Historic Districts and the listing of several other properties on the National Register of Historic Places. In 1994 Castine adopted an Historic Preservation Ordinance, established an historic preservation commission, and set up its first historic district.

3. Key Findings and Issues

Since 1995 more properties of historic and pre-historic interest have been identified. Castine has seven listings on the National Register of Historic Places. Castine also has a number of historic and pre-historic archaeological sites. The Historic Preservation Ordinance protects buildings and sites within the historic district. In November 2008, Castine voters again rejected a referendum proposal to expand the historic district.

4. Town History

Castine's geographic location on Penobscot Bay, at the mouths of the Penobscot and Bagaduce Rivers was the primary factor in the settlement and development of the Town. Recent excavations in the Castine area show archaeological evidence as far back as 1000 B.C. Relics and shell heaps believed to be from the people of the Abnaki Indian Nation have been found in Castine and show that the peninsula was a frequent camping ground for this nomadic tribe.

Historic and Archaeological Resources

The first permanent European settlement was established by the French in the early 1630s, known at various times as Majabigwaduce, Pentagoët, Penobscot and Castine. The combination of its geographic location and a large, safe, deep-water harbor ensured the continued development of the Town. Here the governments of the Netherlands, France and England vied for control of the northeastern portion of the North American continent with its rich reserves of fish, fur and lumber. The excellent fisheries at Castine were documented as early as 1670, but fur trading was the staple of the area's economy during the early settlement period.

When the British finally gained control of the American colonies, land grants were made available to loyal subjects and the population of the area began to increase rapidly. The Castine peninsula was strategic because of its location near the vast forests of Maine. During the Revolutionary War, in an attempt to take control of Castine from the British, the Americans suffered one of their greatest naval defeats during the Penobscot Expedition.

From the end of the Revolution until the eve of the Civil War, the population of Castine continued to grow, based on fishing, farming and shipbuilding. The income produced resulted in the construction of many of the Town's fine dwellings, however, the 1850s were the last prosperous decade in Castine's 19th century history. The removal of the county seat to Ellsworth in 1838, followed by the closure of the Customs House and the removal of the fishing bounty paid by the Federal government, combined with the Panic of 1857 and the Civil War, converged to undermine the Town's economy.

The rediscovery of Castine as a resort town in the late 1800s and early 1900s likely saved the Town from serious economic crisis. From 1940 until the late 1980s the population increased because of the establishment of MMA and the desire of many retirees to live in the relative peace and beauty of Castine. See Chapter A-Population for a detailed discussion of the Town's population.

5. Identified Pre-Historic, Historic and Archaeological Sites

Several archaeological sensitive zones have been identified in Castine. **See Map X.** A total of 15 pre-historic archaeological sites are now known and are located along Castine's coastal zone and islands. This compares to 14 reported in the 1995 Plan. These pre-historic sites are primarily shell middens, which are the remains of Native American campsites.

There are seven Castine listings on the National Register of Historic Places:

- A. Fort George on Wadsworth Cove Road;
- B. John Perkins House on Perkins Street;
- C. Cate-Adams House on Court and Pleasant Streets;
- D. Castine Historic District;
- E. Schooner Bowdoin;
- F. Off-Neck Historic District; and
- G. Pentagoët Archeological District.

Historic and Archaeological Resources

In addition to the seven listings on the National Register of Historic Places, there are many other properties of historic interest. These include, but are not limited to:

- A. Dyce's Head Lighthouse (in operation 1828-1933; restored to operation by the U. S. Coast Guard in 2008), the oldest lighthouse in the upper Penobscot Bay area.
- B. At least ten private cemeteries.
- C. The U.S. Post Office building, the oldest building still in continuous use as a post office in the United States.
- D. The Unitarian-Universalist Church, built as a Meeting House in the 1790s, is the oldest building in continuous use as a church east of the Penobscot River.
- E. The Old Salt Building, at the Sea Street end of the Brick Block.
- F. The Brick Block (1786).
- G. Emerson Hall, a gift to the people of Castine based on an annuity from Charles Emerson (1901).
- H. The Abbott and Adams school buildings.

Since 1995, surveys have identified more properties that are part of Castine's architectural history.

Castine also has many historic archaeological sites. Those recognized by the MHPC are shown in Table K.1. This list has increased dramatically since the 1995 Plan when only five sites in Castine were listed by the MHPC.

Table K.1 Historic Archaeological Sites, 2006		
ME084-001	Norumbega Fort	French fort
ME084-002	Penobscot Trading Post	English trading post
ME084-003	Fort Pentagoet	French settlement
ME084-004	Fort George	British military fort
ME084-005	Fort Castine/Madison	American military fort
ME084-006	Unnamed vessel	Unidentified wreck
ME084-007	Wescott's Battery	American battery
ME084-008	St. Castin's Habitation	French trading post
ME084-009	Wood's Point	English domestic
ME084-010	John Perkins House	American domestic
ME084-011	"Juliet"	American wreck, schooner
ME084-012	"St. Helena"	British wreck, transport
ME084-013	Lovell's Redoubt	American military, redoubt
ME084-014	Blockhouse # 1	British and American military, blockhouse
ME084-015	Furieuse Battery No.1	British battery
ME084-016	Furieuse Battery No.2	British military battery
ME084-017	Sherbrooke Battery	British battery
ME084-018	Gosselin Battery	British battery
ME084-019	Griffith Battery	British battery

Historic and Archaeological Resources

ME084-020	Seaman's Redoubt	British fort
ME084-021	Penobscot Battery	British battery
ME084-022	Half Moon Battery	British military battery
ME084-023	Old Breastwork	British & American military battery, breastwork
ME084-024	Furieuse Battery Barracks	British military barracks
ME084-025	Northeast Point Musketry	Breastwork British military
ME084-026	Bridge Musquetry	Redoubt British military redoubt
ME084-027	Bridge Guard House	British military guard house
ME084-028	Blockhouse # 2	British Blockhouse
ME084-029	British Canal	British military canal
ME084-030	Rope Walk Barracks	British rope walk and military barracks
ME084-031	Anti-Shipping Battery	British military battery
ME084-032	Isthmus Abatis Line	British military abatis line
ME084-033	Artillery Road	British military road
ME084-034	Bakeman Iberian Pots	European wreck, artifact found
ME084-035	Moore's Hill	British military landmark
ME084-038	Lovell's East Battery	Anglo-American battery
ME084-042	Moses Perkins Homestead	Anglo-American farmstead
ME084-043	Wardwell Gravel Pit	American gravel pit/mine
ME084-044	Wardwell Sand Pit	Anglo-American quarry, sand pit
ME084-045	Witherle Gravel Pit	Anglo-American gravel pit
ME084-046	British Fleche	British redoubt or fleche
ME084-047	Witherle Woods Charcoal Clamp	American charcoal clamp
ME084-048	Witherle Woods "Gun" Platform	Anglo-American unidentified structure
ME084-049	Witherle Woods Bomb Cluster	British battlefield bombardment
ME084-050	Witherle's Observation Tower	American resort feature
ME084-051	Castine Water Co. Reservoir	American reservoir
ME084-052	Witherle Park	American resort
ME084-053	Trask Rock	American military landmark
ME084-055	Hosmer Ledge Pot Find	European artifact find
Source: Maine Historic Preservation Commission, April, 2006		

6. Adequacy of Existing Protection Efforts

The Historic Preservation Ordinance protects Castine's historic resources within the historic district. Pursuant to the Historic Preservation Ordinance, the Historic Preservation Commission reviews alterations, relocation and demolition of properties under its jurisdiction. The Commission also reviews new construction and improvement projects in the historic district.

7. Threats and Planning Implications

The Historic Preservation Commission believes there are threats to the historic resources of the Town by demolition or changes to the historic architectural identity of important properties. The chronic shortage of funds makes the maintenance of public sites more difficult. For example, the Town's cemeteries should have restoration work. According to the Historic Preservation Commission, another potential threat is from new development that could alter an historic streetscape or an unmapped archaeological site. Continuing efforts have been made by the Historic Preservation Committee to expand the historic district, but in November 2008, Castine voters again rejected a referendum proposal to expand the historic district.

K. HISTORIC AND ARCHAEOLOGICAL RESOURCES GOAL

In recognition of their importance to the Town's historic character, Castine seeks to protect and enhance its historic and archaeological resources. The Plan recommends that this be accomplished by the following specific measures:

1. The Town continues to work with the Maine Historic Preservation Commission to identify potential structures and sites that are eligible for listing on the National Register of Historic Places and with interested property owners to have their properties voluntarily placed on the Register.

Implementation Strategy: The Town continues to work with the Maine Historic Preservation Commission.

Responsibility: Castine Historic Preservation Commission

Time Frame: Ongoing

2. The Historic Preservation Commission periodically updates the provisions of the Historic Preservation Ordinance.

Implementation Strategy: This would be addressed through the ordinance review process.

Responsibility: Castine Historic Preservation Commission

Time Frame: Ongoing

3. Continue current land use ordinance provisions requiring applicants to obtain written comments from the Maine Historic Preservation Commission with respect to historic or archaeological sites on the property prior to obtaining site plan or subdivision approval.

Implementation Strategy: This is a continuation of current policy.

L. LAND USE INVENTORY AND ANALYSIS

1. Purpose

This section will:

- A. identify the uses of land throughout Castine in terms of the amounts and location of land generally devoted to various land use classifications;
- B. identify changes in Castine's land use patterns and how they might reflect future land use patterns; and
- C. identify land areas suitable and unsuitable as the primary locations for growth and development.

2. Key Findings and Issues Taken Verbatim from the 1995 Plan

Castine is a predominantly rural town. While there is limited commercial development, there is no industrial development. Unlike many Maine towns, Castine's village remains a "pedestrian friendly" place and has avoided any major instances of development incompatible with its traditional character. The water and sewer problems presently limit the future growth potential of the Village.

Since there are few roads Off-Neck, most new development has taken place along Routes 166 and 166A. There is no immediate threat of residential strip development since there is a two-acre minimum lot size in this part of town and the overall rate of new home building has been slow. Castine thus has ample opportunity to preserve its rural character while still allowing development to take place.

3. Key Findings and Issues

Castine has managed to preserve its balance of development between an attractive village and a relatively undeveloped rural area. Since 1995, 291.3 additional acres have been protected by conservation land trust ownership or easements, which is indicative of the commitment made by individuals and groups to preserve key natural areas in Town. This increase, however, has resulted in a reduction in taxable lands and the revenue they might produce in the future.

While a slow rate of growth is projected to continue, the Town faces challenges in maintaining its current balance. As discussed in Chapter E – Public Facilities and Services, the infrastructure is aging and faces some serious deficiencies.

It will be challenging to ensure that the Town's zoning allows the construction of housing that is affordable by those of all income levels, that reflects the Town's needs and that is compatible with its infrastructure.

Land Use

There has been no new commercial development; on the contrary, some commercial properties have been converted to residential and other non-commercial uses. In order to attract businesses, the Town will need to increase the acreage that is available for commercial activity.

Parking continues to be a particular concern in the Village and may require review and amendment of zoning ordinance parking requirements.

Finally, there is a need to improve collaboration between the Town and MMA regarding the future needs of both entities.

4. Land Use Patterns

This section will discuss land use patterns in the various parts of Town. Specific problems or needs facing each part of Town will be identified.

A. On-Neck

The most densely populated portion of Castine is the Village area of On-Neck. Unlike many coastal Maine villages, it has retained most of its historic character. The proximity of the houses to each other, the lack of through highway traffic and commercial development make it a pedestrian friendly place even though sidewalks are non-existent or inadequate in many places

The infrastructure problems discussed in Chapter D – Transportation and Roads and Chapter E - Public Facilities and Services are a major challenge facing On-Neck. While some of the problems with the public water and sewer systems have been addressed, the limited capacity of these systems remain a serious constraint to growth. Parking is a particular concern.

Perhaps the primary challenge is the presence of a major state institution, MMA. Development by MMA affects the entire Town including water supplies, sewage disposal and parking.

B. Off-Neck

The entire Off-Neck area is zoned rural with a roughly two-acre (85,000 square-foot) minimum lot size. Since the interior of Off-Neck is not served by roads, the majority of the homes are along or immediately adjacent to Routes 166 and 166A. According to Town records, there are six completely undeveloped parcels greater than 40 acres in the Square. In addition, there are seven lots greater than 40 acres in the Square that have only one house on the property. The Town-owned Transfer Station lot is also greater than 40 acres. There are approximately 50 acres of wetlands. As discussed in Chapter I – Natural Resources, a large area of the interior of the Square has been protected from development by resource

protection zoning. While new homes have been built in recent years, Off-Neck has so far retained its rural character.

C. Shoreland and Islands

Castine has approximately 15 miles of mainland shoreline including the shoreline of the Bagaduce River (including Hatch Cove and Castine Harbor) and the shoreline of the Penobscot Bay (including Wadsworth Cove and Morse Cove). As discussed in Chapter I - Natural Resources, the Town has adopted State shoreland zoning standards requiring that coastal shorefront structures normally have a 75-foot setback from the water. Castine's zoning ordinance also establishes a 250-foot setback in the resource protection overlay district from east of Dyce's Head to Wadsworth Cove.

Castine has about 1.2 miles of island shoreland. The major islands are:

1. Ram Island, located across from Castine harbor between the Brooksville harbor and the eastern end of Holbrook Island, is owned by The Conservation Trust of Brooksville, Castine and Penobscot.
2. Holbrook Island, located close to Ram Island and across from Brooksville, is owned by the State.
3. Sheep Island, located in Smith Cove close to the Brooksville shore, is privately owned.
4. Upper Negro Island, located in the Bagaduce River, is privately-owned.
5. Lower Negro Island, located south of Upper Negro Island in the Bagaduce River, is owned by the Conservation Trust of Brooksville, Castine and Penobscot.

5. Land Use Changes Since 1995

Most development in Castine in recent years has been on lots not subject to subdivision review. Between 1995 and 2006, one subdivision of four lots was approved under the subdivision review process. A three lot subdivision was approved in 2008. This very low volume of subdivision activity contrasts with the number of building permits that have been issued. Between 2000 and the end of 2009, permits were issued for 77 dwelling units.

Overall, residential development increased from an estimated 552 units in 1995 to 664 units in 2009. This represents a 20.2 percent increase. Limited data are available on the increase of developed acreage. Between 1995 and 2009 total developed acreage increased by 112 acres. This estimate is based on the additional number of residential dwellings multiplied by the average minimum lot size requirement. There were 42 new

Land Use

dwellings Off-Neck where there is a two acre minimum lot size requirement, resulting in a total of at least 84 new residential acres. On-Neck, where vacant land is subject to one-quarter acre, one-half acre or two and one-half acre minimum lot size, 35 new units resulted in approximately 28 additional developed acres.

All new development has been residential. There has been no increase in commercial land acreage and some former commercial uses have been converted to residential and other non-commercial uses. These figures refer to stand-alone commercial operations such as stores and restaurants; they do not include home occupations. There has been no industrial development.

There has been little change in the other land use categories. See Table L.1 below. Public land refers to land owned by a governmental entity such as the State or Town. Semi-public refers to properties owned by non-profits such as churches or similar groups. Private recreation is privately-owned land open for recreational purposes such as the golf course.

Table L.1 Changes in Land Use Acreage, 1995-2009				
Category	1995 Acreage	2009 Acreage	Numeric Change	Percent Change
Residential Land	552.0	664.0	+112.0	+20.2
Commercial Land	22.0	20.0	-2.0	-9.1
Public Land (not including MMA)	298.0	298.0	0	0
MMA	32.0	38.5	+6.5	+20.3
Semi-Public Land	11.0	12.0	+1.0	+9.1
Private Recreation	71.0	71.0	0	0
Total Developed Land	986.0	1,103.5	+117.0	+11.9
Conservation Land	351.3	642.6	+291.3	+82.9
Undeveloped Land	3660.7	3251.9	-408.8	-11.2
Total Land Area	4,998.0	4,998.0	0	0
Source: Town of Castine and Comprehensive Plan Committee				

There has also been a dramatic increase in conservation land acreage as shown in Table L.2. The amount of conservation land increased from an estimated 351.3 acres in 1995 to 642.6 acres in 2009 representing an increase of 82.9 percent. This increase is indicative of the commitment made by individuals and groups to preserve key natural areas in Town.

Land Use

Table L.2 Summary of Conservation Land, 1995-2009		
Land Protected by The Conservation Trust of Brooksville, Castine and Penobscot		
Land Owned by The Conservation Trust	1995 Acreage	2009 Acreage
Dunc's Meadow	0	31.6
Hatch Cove Preserve	0	32.0
Lower Negro Island	0	2.2
Ram Island	5.0	5.0
Rene Henderson Natural Area	90.0	90.0
Robert Russell Beach Lot	0.1	0.1
Schumacher (Neck Hill)	7.0	7.0
Six Mile Square Lot	11.0	11.0
Total	113.1	178.9
Land Subject to Easements Held by The Conservation Trust		
Brownell Property	0	10.2
Greenbie Property (Town of Castine)	43.0	68.0
Mayo Point (Erhard)	6.7	6.7
Meadow Farm (Wiswall)	14.5	14.5
Turner Point (Turner Point Trust) 55 acres and Turner Point (Rutine Trust) 30 acres	35.0	85.0
Total	99.2	184.4
Land Protected by Maine Coast Heritage Trust (MCHT)		
Land Owned by MCHT		
Witherle Woods (Hatch, Foote, Perkins, Dyce's Head)	134.5	182.8
Starr and Virginia Lampson Preserve	0	21.0
Castine Field, Battle Avenue and Tarratine Street	4.5	4.5
Total	139.0	208.3
Land Subject to Easements Held by MCHT		
Castine Golf Course	0	71.0
Total	0	71.0
Total Protected Acres	351.3	642.6
Source: Town of Castine and Land Trusts		

6. Land with Development Constraints Due to Soil Condition

One factor that may affect future rates of development is the acreage of soils in Town with a limited potential for development. As seen in Table L.3 below, 41 percent of the mapped soils in Town have a very low potential for low density development. Most of such very low rated soils are located in four resource protection overlay districts in the Square. Another 12 percent of soils have a low potential for development and 17 percent have a medium potential. Only about 27 percent of soils have a high potential for development.

Low density development is defined as one unit per acre. These soil ratings are based on factors such as soil suitability for septic tank absorption fields, dwellings with basements and local roads and streets. The criteria reflect State standards. There are few areas in the State that do not have at least some soil limitations such as wetness or bedrock near the surface.

The soil data indicate the limited capacity of much of Castine for substantial levels of development. Poor soils, however, are not an automatic constraint to development. As the cost of land increases, it becomes more cost-effective to construct innovative waste water disposal systems that may overcome at least some soil limitations.

Table L.3 Soil Suitability for Low Density Development		
Soil Rating	Acreage	Percent of Total Land Area
Very Low Potential	2,028	41
Low Potential	598	12
Medium Potential	855	17
High Potential	1,334	27
Very High Potential	61	1
Not Rated	122	2
Total	4,998	100
Source: Natural Resource Conservation Service, as compiled by the Maine Office of GIS		

7. Existing Zoning and Land Use Issues

The estimated acreage for the current zoning districts is shown in Table L.4. See Map XI and Map XI-A.

Table L.4 Estimated Acreage of Individual Zoning and Resource Protection Overlay Districts, 2009	
District	Acreage
Rural	4,103
Village I	73
Village 2	285
Village 3	351

Land Use

Commercial	12
Institutional	25
Resource Protection	149
Total	4,998
Source: Town of Castine	

Castine faces several land use issues:

The first challenge is ensuring that the Town's zoning allows the construction of housing that is affordable by those of all income levels. Because of limited capacity of the On-Neck municipal water and sewer systems, Off-Neck would be the most likely area for development in the future. The Town subdivision ordinance already includes standards for the use of cluster developments. The use of clusters rather than conventional subdivision development can decrease the cost of development and therefore lower the cost of housing within a cluster development.

The second challenge is addressing the need for senior housing that is located On-Neck close to Castine Community Health Services and Town services (see Chapter C - Housing).

The third challenge has to do with commercial development. The ability to attract businesses to Castine is limited by the small size of the commercial district in the Village and by the fact that commercial activities, with only a few exceptions, are prohibited in the rural district. As seen in Table L.4 above, the rural district accounts for over four-fifths of all land area of the Town. By contrast, only 12 acres are zoned commercial and are located On-Neck. In recent years there has been no new commercial development; on the contrary, some commercial properties have been converted to residential and other non-commercial uses. In order to attract businesses, the Town will need to increase the acreage that is available for commercial activity.

Parking continues to be a challenge in the Village. Parking requirements in the zoning ordinance need to be uniformly applied, periodically reviewed and modified as necessary.

Another issue is planning for any expansion of MMA or other institutions. This would involve ensuring that the land use ordinances adequately manage the off-site impacts of any such expansion. The lack of parking and the limited capacity of the sewer and water distribution systems mean that On-Neck has a limited capacity to absorb more institutional growth. Accordingly, any future institutional expansions should be achieved through prior consultation and coordination with the Town.

Protection of environmentally vulnerable areas is addressed in the zoning ordinance. The Town is in compliance with State mandated shoreland zoning requirements. The current resource protection overlay districts offer protection to the most fragile areas of the shoreland. Many of the other areas are protected through conservation easements and direct ownership by conservation land trusts (see Table L.2).

8. Land Needed for Future Development

Estimating the acreage of land needed in the future is important in planning to ensure that enough land is zoned in a way that facilitates development. The future residential acreage can be estimated by multiplying the expected number of dwelling units by the average required lot size. Table C.6 in Chapter C – Housing projects that Castine will have approximately 743 dwelling units by 2020, compared to the Maine State Housing Authority’s estimate of 692 dwelling units in 2005, an increase of 51 units.

There is no set way to estimate future non-residential development needs, which would include land needed for commercial and institutional uses. Currently, there is little acreage zoned for commercial use in Castine (see Table L.4). Post-secondary schools such as MMA are allowed in the Institutional Development, Commercial and Rural Districts, but are not allowed in the Village I, Village II and Village III Districts. Although On-Neck expansion potential by MMA is limited, there appears to be sufficient acreage available Off-Neck to accommodate future expansion by MMA.

9. Regional Implications

The only town with a direct land boundary with Castine is Penobscot. There are no apparent land use conflicts with Penobscot since the abutting areas are lightly developed. However, given the potential expansion of MMA onto over 200 acres it currently owns in Penobscot, the two towns may want to discuss complementary institutional use zoning strategies.

L. LAND USE GOAL

Castine seeks to preserve its current land use pattern while allowing ample opportunity for future growth. The Town faces several land use issues, including: ensuring that the Town's zoning allows the construction of housing that is affordable by those of all income levels, addressing the need for senior housing that is located On-Neck and increasing the acreage that is available for commercial activity. The Plan recommends that this goal be accomplished by the following specific measures:

1. **Support the Development of Affordable Housing:** The Plan recommends support for the development of affordable housing by the following:
 - a. Continue to allow accessory (sometimes called in-law) and duplex apartment units in all districts where allowed by State law without an increase in density requirements over those required for single family homes.
 - b. Continue to allow multi-family units where currently allowed. Multi-family units should be required to provide adequate off-street parking, meet State life and safety codes and be buffered from surrounding properties.
 - c. Continue to allow cluster development.
 - d. Continue to allow mobile homes and mobile home parks Off-Neck.

Implementation Strategy: This is a continuation of current policy.

2. **Zoning Ordinance Standards:** The Plan recommends support for the development of affordable housing by the following:
 - a. Increase the appeal of subdivisions by strengthening subdivision development standards.
 - b. Increase the appeal of mobile home parks and ensure preservation of open space and a rural appearance by strengthening mobile home park standards.

Implementation Strategy: This would be addressed through the ordinance review process.

Responsibility: Planning Board

Time Frame: 2010-2012

3. **Support the Development of On-Neck Senior Housing:** To address the needs of the increasing number of seniors in Town, the Plan recommends providing senior housing that is located close to Castine Community Health Services and other Town services.

Land Use

Implementation Strategy: This would be accomplished by the Town approving such type of housing at a Town Meeting pursuant to Article 2 of the zoning ordinance upon presentation to the Town of a development proposal.
--

Responsibility: Town Meeting

Time Frame: TBD

4. **Promote Off-Neck Commercial Growth:** The Plan recommends that Castine promote the attraction of businesses to the Town by studying the Square for areas of potential commercial development.

Implementation Strategy: This would be accomplished by the Select Board naming a committee to study the Square for areas of potential commercial development. This would ultimately require changes to the zoning ordinance approved by a Town Meeting to create commercial districts in an area that currently is zoned entirely rural.

Responsibility: Select Board and its designated committee
--

Time Frame: 2010-2012

M. FISCAL CAPACITY INVENTORY AND ANALYSIS

1. Purpose

It is important for planning purposes to understand a municipality's tax base and its various fiscal challenges. A town's fiscal capacity affects its ability to pay for new services related to growth and development and growth trends in turn affect the tax base. This section will:

- A. discuss Castine's current fiscal conditions;
- B. assess recent expenditure and revenue trends; and
- C. discuss likely future fiscal trends and likely demands that will affect and be affected by those trends

2. Key Findings and Issues Taken Verbatim From the 1995 Plan

While Castine's state equalized valuation increased rapidly during the 1980s, it decreased slightly in the early 1990s. This is probably due to the overall real estate slump. Recent reductions in state and federal aid to towns mean that Castine is becoming increasingly reliant on property tax to fund local government. Further property tax increases are likely over the next few years to cover the many expenditures Castine faces.

3. Key Findings and Issues

Between 1995 and 2008 the Town's total valuation increased at an inflation adjusted rate of 134.4 percent while the inflation adjusted total tax assessments increased at a 44.1 percent rate. Nearly all tax revenues come from land and buildings. There is very little reported taxable personal property such as machinery and equipment.

Castine has used its valuation growth to fund a significantly higher level of services than comparable towns and has kept its tax rate relatively stable by limiting its investment in infrastructure.

The accumulated deferred work on roads and water, sewer and drainage systems will strain the fiscal capacity of the Town going forward and require higher taxes, reduced services, new sources of income or a combination of all the above.

4. Valuation and Tax Assessment

The Town's ability to raise taxes depends largely on the total value of all property in Town. The change in property valuation for Castine is shown in Table M.1

Table M.1 Trends in Valuation, 1995-2008	
Year	Amount
1995	\$109,700,000
1996	\$114,650,000
1997	\$114,950,000
1998	\$116,950,000
1999	\$119,350,000
2000	\$125,050,000
2001	\$133,150,000
2002	\$154,150,000
2003	\$169,700,000
2004	\$211,750,000
2005	\$267,400,000
2006	\$311,700,000
2007	\$331,000,000
2008	\$360,850,000
Percent increase, 1995 through 2008	228.9
Percent increase, adjusted for inflation	134.4
Source: Municipal Valuation Return Statistical Summary, Maine Revenue Services, Property Tax Division	

Tax commitment, which is the amount needed to fund the budget (shown in Table M.2), increased at a much slower rate than the valuation. Assessments increased by about 75.2 percent between 1995 and 2008. When adjusted for inflation, the actual increase was 44.1 percent.

Table M.2 Trends in Tax Commitment, 1993-2008	
Year	Tax Commitment
1995	\$1,325,102
1996	\$1,380,291
1997	\$1,395,953
1998	\$1,398,224
1999	\$1,418,704
2000	\$1,438,552
2001	\$1,468,873
2002	\$1,592,273
2003	\$1,886,639
2004	\$2,011,010
2005	\$2,020,578
2006	\$2,171,427
2007	\$2,312,018
2008	\$2,321,204
Percent change 1995 through 2008	75.2
Percent change adjusted for inflation	44.1
Source: Municipal Valuation Return Statistical Summary, Maine Revenue Services, Property Tax Division	

5. **Tax Base and Revenue Sources**

As shown in Table M.3, over 99 percent of Castine's property tax base comes from the value of land and buildings. The remaining tax base is from taxable personal property. Generally speaking, towns with more business operations will have a greater proportion of their tax base in personal property. With the exception of Orland, none of Castine's immediate neighbors have more than a fractional percent of their tax base in personal property.

Town assessment records indicate that approximately 578 acres or 12 percent of all property in the Town (excluding roads) is tax-exempt. On-Neck, the percentage of tax-exempt property is much higher, nearly 40 percent. The Town does not have any land involved in Tax Increment Financing (TIFs). As discussed in Chapter J-Agricultural and Forest Resources, a total of 749 acres is held in the open space, farm land and tree growth taxation category. This represents about 15 percent of the 4,998 acres of land in Castine.

Table M.3 Summary of Municipal Valuation by Type, Castine Area, 2007

Town	Land & Buildings	Production Machinery & Equipment	Business Equipment	All Other Personal Property	Total Personal Property	Total Real & Personal Property
Castine	\$349,057,600	\$0	\$0	\$1,248,100	\$1,248,100	\$350,305,700
	99.6%	0.0%	0.0%	0.4%	0.4%	100.0%
Blue Hill	\$396,154,460	\$2,456,140	\$1,085,000	\$525,175	\$4,066,315	\$400,220,775
	99.0%	0.6%	0.3%	0.1%	1.0%	100.0%
Brooksville	\$476,197,600	\$0	\$0	\$253,500	\$253,500	\$476,451,100
	99.9%	0.0%	0.0%	0.1%	0.1%	100.0%
Orland	\$179,609,395	\$0	\$2,025,610	\$0	\$2,025,610	\$181,635,005
	98.9%	0.0%	1.1%	0.0%	1.1%	100.0%
Penobscot	\$104,082,604	\$0	\$0	\$0	\$167,800	\$104,250,404
	99.8%	0.0%	0.0%	0.0%	0.2%	100.0%
Hancock County	\$8,055,148,633	\$95,349,122	\$174,406,419	\$58,791,681	\$328,547,222	\$8,383,695,855
	96.1%	1.1%	2.1%	0.7%	3.9%	100.0%

Source: Municipal Valuation Returns, Statistical Summary. Amounts under 0.1 percent will not show in the percentage row due to rounding.

Revenue sources in 2007-2008 for the municipal budget are shown in Table M.4. About 84 percent of municipal revenue that year was from property taxes. The next largest source of revenue (6 percent) came from vehicle and boat excise taxes. Fees for service and State revenue sharing accounted for about 4 percent and 2 percent, respectively. Overall, the Town is very dependent on property taxes to fund local government operations including the Adams school.

Fiscal Capacity

Table M.4 Revenue Sources, 2007-2008		
Source	Amount	Percent of Total
Property Taxes	\$2,424,257	84.1
Excise Taxes	\$133,045	4.6
Homestead Reimbursement	\$9,188	0.3
Local Road Assistance	\$15,030	0.5
State Revenue Sharing	\$50,577	1.8
Other State Reimbursements	\$12,036	0.4
Licenses and Permits	\$20,939	0.7
Fees for Service	\$137,741	4.8
Maine Maritime Academy	\$18,604	0.6
Investment Income	\$46,258	1.6
Interest & liens on taxes	\$8,481	0.3
Rental Income	\$1,300	0.0
Library Income	\$2,500	0.1
User billings	\$0	0.0
Other Income	\$4,019	0.2
Total	\$2,883,975	100
Source: Town records		

Table M.4 does not show State school subsidies. These are shown in Table M.5. As seen below, school expenditures increased from \$739,471 in 1994-1995 to \$1,133,993 in 2007-2008 (these figures are not adjusted for inflation). As a percentage of total school costs, State subsidies averaged about two percent for most years. In 2005-2006 and 2006-2007, however, they accounted for about ten percent and seven percent respectively, although the increase in State subsidies for 2007-2008 was less than 1 percent. The majority (between 90 and 98 percent, depending on the year) of school costs are a municipal responsibility.

Fiscal Capacity

Table M.5 State School Subsidies, Castine				
Year	State Subsidy Received	Total Education Appropriation	State Percent of Total	Annual Percent Increase of Total
1994-1995	\$ 14,503	\$ 739,471	2.0	
1995-1996	\$ 14,000	\$ 746,293	1.9	0.9
1996-1997	\$ 15,303	\$ 805,315	1.9	7.9
1997-1998	\$ 16,162	\$ 781,684	2.1	-2.9
1998-1999	\$ 16,266	\$ 807,760	2.0	3.3
1999-2000	\$ 14,977	\$ 794,097	1.9	-1.7
2000-2001	\$ 16,552	\$ 828,741	2.0	4.4
2001-2002	\$ 18,053	\$ 868,492	2.1	4.8
2002-2003	\$ 21,174	\$ 927,417	2.3	6.8
2003-2004	\$ 18,000	\$ 993,139	1.8	7.1
2004- 2005	\$ 22,365	\$ 1,013,718	2.2	2.1
2005- 2006	\$100,064	\$ 1,051,668	9.5	3.7
2006-2007	\$ 75,206	\$ 1,124,064	6.7	6.9
2007-2008	\$ 67,450	\$ 1,133,993	5.9	0.9
Source: Analysis of Town Reports by the Comprehensive Plan Committee.				

6. Municipal Expenditure Trends

Expenditure trends on specific items are summarized in Table M.6, which shows total appropriations. Total municipal expenditures increased from about \$1.5 million in 1993 to \$2.5 million in 2007-2008. This is an unadjusted for inflation increase of about 72 percent and an inflation adjusted rate of 45 percent. The largest inflation adjusted percentage increases were in road projects (66 percent), county tax (118 percent), public works administration (110 percent), library (155 percent) and debt service (198 percent).

Table M.6 Summary of Selected Expenditures				
Item	Amount 1995-1996	Amount 2007-2008	Percent Change	Inflation Adjusted Percent Change
General Government	\$250,232	\$293,579	17.3	10.9
Fire Department	\$33,305	\$66,198	98.8	62.0
Transfer Station	\$65,346	\$139,460	113.4	71.2
Pub. Works Administration	\$50,963	\$139,918	174.5	109.6
Pub. Works Maintenance	\$51,559	\$74,695	44.9	28.2
Unclassified	\$35,069	\$71,416	103.6	65.1
Debt Service	\$39,691	\$164,572	314.6	197.5
Reserve Accounts	\$35,000	\$31,800	-9.1	-5.7
Contingency	\$15,000	\$15,000	0.0	0.0
County Tax	\$49,694	\$143,117	188.0	118.0
Bicentennial Committee	\$5,000	\$0	-100	-100
Road Projects	\$48,836	\$100,000	104.8	65.8
Library	\$32,945	\$114,081	246.3	154.6
Educational Appropriation	\$732,293	\$1,133,993	54.9	34.4
Total	\$1,444,933	\$2,487,829	72.2	45.3
Source: Town records				

Spending limitations required by P.L. 2005, Chapter 2 (effective June 29, 2005) known as LD 1 are shown in Table M.7. Since its enactment, the Town has voted to exceed the LD 1 spending limitations for a variety of reasons including desired Town services and necessary capital investments and improvements.

Table M.7 Summary of LD 1 Spending Limits					
	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011
Town Budget LD 1 Limit	\$970,925	\$1,021,067	\$1,135,049	\$1,092,687	\$1,134,845
Approved Amount	\$1,753,874	\$1,702,253	\$1,707,602	\$1,712,582	\$2,818,095
Source: Town records					

7. Service Levels

Table M.8 shows how Castine's municipal budget compares with that of other similar towns. Historically, the Town has let its service levels grow to a level that limits its ability to maintain its infrastructure.

Table M.8 Summary of Municipal and School Budgets, 2008-2009					
Town	School Budget	Town Budget	Total Budget	Town Budget as Percent of Total	Town Budget per Person
Castine	\$1,171,061	\$1,707,602	\$2,878,663	59.3 %	\$1,271
Blue Hill	\$3,579,511	\$722,836	\$4,302,347	16.8 %	\$302
Brooklin	\$1,803,856	\$834,242	\$2,638,098	31.6 %	\$991
Brooksville	\$1,690,997	\$697,596	\$2,388,593	29.2 %	\$766
Penobscot	\$1,485,461	\$500,000	\$1,985,461	25.2 %	\$372
Sedgwick	\$1,696,549	\$733,658	\$2,430,207	30.2 %	\$666
Source: Analysis by the Castine Comprehensive Plan Committee of annual town reports for the towns listed.					

8. Future Needs

Castine faces a backlog of deferred expenditures needed to address the deficiencies discussed in Chapter E-Public Facilities and Services. Given the aging of the year-round population and the trend toward a reduction in school enrollment, per pupil school costs are likely to continue to increase. This means that there is little prospect, if any, of significant cuts in expenditures without increased taxes, reductions in services, new sources of income or a combination of the above. The Town, however, is undertaking a coordinated improvement program of its roads in conjunction with water, sewer and drainage system improvements. This ensures that investments are made in the most efficient manner possible.

M. FISCAL CAPACITY GOAL

Castine seeks to promote fiscally sound development and policies that encourage long-term fiscal planning. The Plan recommends that this be accomplished by the following specific measures:

1. **Alternative Funding Sources:** In the interest of minimizing demands on the property tax base, the Plan recommends that the Town undertake the following measures to develop and/or expand other funding sources:
 - a. aggressively seek grant funds for projects and maintain capital reserve accounts so that matching local sources of funds may be accumulated well before the grant application deadline;
 - b. retain the Select Board's authority to enact building permit fees based on a sliding scale that is related to the value of construction and to charge user fees for certain Town services if proven equitable for all parties involved; and
 - c. continuously review services to ascertain their value relative to other possible uses of Town funds including capital projects.

Implementation Strategy: 1a. This is a continuation of current policy; 1b. Select Board reviews current policies and determines if any additional user fees are appropriate; 1c. Select Board reviews services annually as part of its budget preparation.

Responsibility: Select Board

Time Frame: 2010-2012

2. **Fiscal Planning:** The Plan recommends the following measures to promote long-term fiscal planning in order to mitigate the rate of future property tax increases:
 - a. exploring the sharing of services with adjoining towns; and
 - b. implementing a ten year Capital Improvement Plan (CIP) that will be revised annually. The CIP is an advisory document that summarizes planned major capital expenditures in Castine. The final decision on all expenditures will remain with the voters at Town Meeting.

Implementation Strategy: 2a. This is a continuation of current policy; 2b. Select Board and Town Manager update the CIP on an annual basis.
--

Responsibility: Select Board and Town Manager
--

Time Frame: Ongoing

3. **Impact Fees:** The Plan recommends that the Town develop and implement an impact fee policy.

Fiscal Capacity

Implementation Strategy: The Town develops and implements an appropriate impact fee policy.
--

Responsibility: Select Board

Time Frame: 2010-2012

4. **PILOT:** The Plan recommends that the Town vigorously design and implement a comprehensive Payment in Lieu of Taxes (PILOT) policy and communicate with the large number of tax-exempt entities in Town.

Implementation Strategy: The Town develops PILOT goals and communicates with all tax-exempt entities in Town.
--

Responsibility: Select Board

Time Frame: Ongoing

Capital Investment Plan

N. CAPITAL INVESTMENT PLAN GOAL

Capital expenses are defined as items with a useful life of at least five years that cost at least \$10,000 and include both recurring expenditures such as road repairs and one-time expenditures such as major renovations. They are distinct from operational expenditures such as fuel, minor repairs to buildings and salaries. The Plan recommends that the Town undertake the major capital expenditures summarized in Tables N.1 and N.2. The Select Board will make final recommendations on funding each year at Town Meeting, which are then subject to approval by vote of the Town.

Capital expenditures may be funded from a number of sources: a single appropriation from property taxes in a Town Meeting warrant article; a transfer from surplus or reserve funds; State grants, which usually require a local match; borrowing through bonds or loans; State highway local road assistance (MDOT Urban/Rural Initiatives Program funds); vehicle or boat excise taxes; fees; Payments in Lieu of Taxes (PILOT) or a combination of these sources.

All recommended expenditures are shown in 2010 dollars and are subject to inflation. The need for these expenditures is explained in the Inventory and Analysis sections of the Plan. The items are presented according to the year in which they are expected to take place. They do not necessarily reflect the priority of a given item.

Table N.1 Anticipated Capital Expenditures, 2010-2014		
ITEM	COST	ANTICIPATED YEAR/METHOD OF FINANCING
Road and Infrastructure Improvements	See Table N.2 below	Annually (1,2,3,4,5,7,8)
Public Works Vehicles and Equipment	\$85,000	2011-12 (1,2)
Fire Department Vehicle Reserve	\$15,000	Annually (1)
Town Hall Improvements	\$50,000	2013 (1,2,4)
Harbor Improvements	\$20,000	2011 (1,2,3,6,7)
Roof Replacement	\$15,000	2010 (1)
Key: 1. Appropriation 2. Surplus or reserve 3. Matching State grant 4. Bonded debt 5. MDOT Urban/Rural Initiatives Program (URIP) funding 6. Boat excise tax revenues 7. Fees 8. Motor vehicle excise tax revenues p.a. = per annum		
Source: Town Office		

Capital Investment Plan

Table N.2 Anticipated Road and Infrastructure Expenditures, 2010-2014				
Year	Road	Water	Sewer	Total
2010	\$1,400,000	\$511,000	\$399,000	\$2,310,000
2014	\$1,697,000	\$641,000	\$647,000	\$2,985,000
Total	\$3,097,000	\$1,152,000	\$1,046,000	\$5,295,000
Source: Town Office				

The Plan recommends that the Capital Investment Plan goal be accomplished through the following specific measures:

1. **Implement Capital Investment Plan:** The Plan recommends that the Select Board implement the Capital Investment Plan adopted in 2009.

Implementation Strategy: Select Board annually determines which capital expenditures in the Capital Investment Plan should be pursued and makes a recommendation at Town Meeting.
Responsibility: Select Board
Time Frame: Beginning in 2010 and then ongoing

2. **Pursue Sources of Funding for Capital Investment Plan:** The Plan recommends that the Select Board explore vigorously all possible means by which funding for the Capital Investment Plan may be obtained, including, but not limited to, State and Federal funds, Payments in Lieu of Taxes (PILOT) from tax-exempt entities and bond financing or other forms of borrowing, in addition to funding from local property taxes.

Implementation Strategy: Select Board pursues all possible sources of funding for the Capital Investment Plan.
Responsibility: Select Board
Time Frame: Ongoing

O. REGIONAL COORDINATION GOAL

Castine promotes regional coordination whenever it is of mutual benefit to all parties. These regional measures are addressed throughout these goals and objectives and are summarized below.

Summary of Policies Requiring Regional Coordination	
Topic	Supporting Policies
Economy	B.5
Housing	C.5
Transportation	D.5
Fiscal Capacity	Not applicable

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

MAINE'S COASTAL POLICIES	
1.	Port and Harbor Development. Promote the maintenance, development and revitalization of the State's ports and harbors for fishing, transportation and recreation.
Related Policies: G.1 & G.2	
2.	Marine Resource Management. Manage the marine environment and its related resources to preserve and improve the ecological integrity and diversity of marine communities and habitats, to expand our understanding of the productivity of the Gulf of Maine and coastal waters, and to enhance the economic value of the State's renewable marine resources.
Related Policies: G.2 & G.3	
3.	Shoreline Management and Access. Support shoreline management that gives preference to water dependent uses over other uses, that promotes public access to the shoreline, and that considers the cumulative effects of development on coastal resources.
Related Policies: G.1	
4.	Hazard Area Development. Discourage growth and new development in coastal areas where, because of coastal storms, flooding, landslides or sea level rise, it is hazardous to human health and safety.
Related Policies: This is addressed through existing shoreland and floodplain ordinances.	
5.	State and Local Cooperative Management. Encourage and support cooperative state and municipal management of coastal resources.
Related Policies: G.3	
6.	Scenic and Natural Areas Protection. Protect and manage critical habitat and natural areas of state and national significance and maintain the scenic beauty and character of the coast even in areas where development occurs.
Related Policies: D.3	
7.	Recreation and Tourism. Expand the opportunities for outdoor recreation and encourage appropriate coastal tourist activities and development.
Related Policies: F.1 & F.2, G.1 & G.5	
8.	Water Quality. Restore and maintain the quality of our fresh, marine and estuarine waters to allow for the broadest possible diversity of public and private uses.
Related Policies: G.2, H.1 & H.2	
9.	Air Quality. Restore and maintain coastal air quality to protect the health of citizens and visitors and to protect enjoyment of the natural beauty and maritime characteristics of the Maine coast.
Related Policies: Not applicable.	

THE CASTINE FUTURE LAND USE PLAN

Town Vision Statement: A year-round thriving community that values our heritage, village character and natural beauty.

1. Introduction

The Castine Future Land Use Plan presents a vision of how residents want the Town to grow. It should serve as a guide for managing future growth. It is not a zoning ordinance; nor is it a law of any kind. Any recommended revisions to the Town's land use ordinances must ultimately be specifically approved by a Town Meeting.

Castine's Future Land Use Plan should represent a balance between preserving village character and historic and natural resources, while also allowing reasonable opportunities for future growth. Although growth in Castine in the next ten-year planning period is projected to remain low, through careful planning, Castine can accommodate all growth that does occur.

This section will:

- A. estimate the amount of land needed for future growth;
- B. propose a future development plan for Castine; and
- C. recommend areas for growth.

2. Land Needed for Future Development

The Inventory and Analysis sections of Chapter C – Housing and Chapter L - Land Use discuss several land use issues the Town faces:

- A. the shortage of housing that is affordable by those of all income levels;
- B. the need for senior housing to be located near Castine Community Health Services and other Town services;
- C. the inability of the present Commercial District to accommodate growth;
- D. the inability of the On-Neck water and sewage distribution systems to accommodate major expansions by users, including the Town's largest institution, MMA; and
- E. the need for future MMA and other institutional expansion to be coordinated with the Town.

Castine has ample vacant, developable land to accommodate residential, commercial and institutional growth. As seen in Table L.3 (Soil Suitability Ratings), there are approximately 2,250 acres of soils with a medium, high or very high potential for low density development. Therefore, the issue is not the amount of development, but planning where and how the development will take place.

3. A Future Development Plan for Castine

Castine has avoided the sprawl and strip development that characterizes many Maine communities. One of Castine's strengths as a community is the on-going relationship between the more densely developed On-Neck and rural Off-Neck. However, growth On-Neck is severely constrained by the lack of parking, particularly in the Village, and the limited capacity of the water and sewer distribution systems. This means that more growth will be attracted to Off-Neck.

It is important that the Plan recognize the varying capabilities of different parts of the Town to accommodate growth. Specific sections of the Town are discussed below.

A. On-Neck

On-Neck has many historic homes and offers quiet, tree-lined streets. As described in Chapter E, public facilities and services such as the Town Office, municipal water and sewer systems, volunteer fire department, volunteer ambulance corps, school, Post Office and Castine Community Health Services are found On-Neck.

On-Neck has five zoning districts: Village I, Village II, Village III, Commercial and Institutional Development. On-Neck has two areas of different residential densities: South of Battle Avenue is medium to high density (corresponding to the Village I and Village II residential districts); North of Battle Avenue is low to medium density (corresponding to the Village III residential district). **See Map XII.**

As discussed in Chapter E-Public Facilities and Services, the total cost of the recommended improvements to the On-Neck roads and storm drainage, water and sewer systems in 2009 dollars is estimated to be over \$14,000,000. The Town approved the first of five phases of this project in an amount up to \$2,500,000 at the 2010 Town Meeting.

The Plan recommends that On-Neck retain its current mixture of residential, institutional and small scale commercial uses. The Plan recommends providing senior housing that is close to Castine Community Health Services and other Town services. This would be accomplished by the Town approving such type of housing at a Town Meeting pursuant to Article 2 of the zoning ordinance. No other changes are recommended in the On-Neck zoning districts in terms of density or the size of the districts.

As discussed above, the lack of parking and the limited capacity of the water and sewer distribution systems mean that On-Neck is severely limited in its ability to absorb more growth by the Town's largest institution, MMA. Castine is at a crossroads. The futures of both Castine as a year-round thriving community and MMA as a high quality academic institution depend on a positive and collaborative working relationship. In the past ten years, MMA has grown at a dramatic rate, both in terms of enrollment and facilities. In order to maintain its position as a first-class maritime academy, that trend is likely to continue. The Plan believes that the Town and MMA should work together as good community partners to ensure that growth is achieved through prior planning and coordination to meet the goals of the Plan's vision.

Prior to receiving site plan approval, any proposed senior housing development plans and any new or expanded facilities development plans by MMA or other institutions should be required to include appropriate impact studies showing the impact of proposed development on the Town, including environmental impacts and their remediation and impacts caused by traffic, noise, lighting, dust and odors and their remediation. Such proposed development plans should be required to include evidence of adequate water supplies, adequate sewage disposal, adequate electric power supply, adequate fire flow water volumes, adequate fire hazard mitigation and adequate off-street parking.

B. Shoreland and Islands

The most fragile areas of Castine's 15 miles of shoreland are protected by resource protection zoning. The Town's islands are also largely protected. Ram Island and Lower Negro Island are owned by the Conservation Trust of Brooksville, Castine and Penobscot and Holbrook Island is owned by the State. Upper Negro Island and Sheep Island are privately owned. Shoreland zoning offers the islands and the shoreland considerable protection. Therefore, no additional protective measures are needed for the shoreland and the islands.

C. Off-Neck Residential Areas

Off-Neck is zoned entirely rural with low residential density. **See Map XII.** The Plan recommends that Off-Neck remain predominately rural-residential. As discussed below, any residential and non-residential development Off-Neck would be designed to maintain the rural-residential character of the area.

Most development in the Square, the area within the perimeter of Routes 166 and Route 166A, has occurred along its edges, adjacent to the roadways with very little taking place in the interior. This trend is likely to continue; there are no public roads serving the interior of the Square and the existing lots are generally large. According to Town records, there are six completely undeveloped lots greater than 40 acres in the Square. In addition, there are seven lots greater than 40 acres in the Square that have only one house on the property. The Town-owned Transfer Station lot is also greater than 40 acres.

Affordable Housing. As discussed in the Inventory and Analysis section of Chapter C - Housing, Castine needs housing that is affordable by those of all income levels. The high cost of housing in Castine affects the availability of volunteers necessary to support the fire and ambulance services, hampers MMA's ability to hire and retain faculty and staff, diminishes the number of school age children necessary to maintain the Adams School and decreases the age diversity of the Town. A variety of ways of encouraging the construction of affordable housing are discussed below.

Encouraging Cluster Development. Increased use of cluster development is one way to retain the rural appearance of Off-Neck while also allowing ample opportunities for growth. The use of clusters rather than conventional subdivision development can decrease the cost of development and therefore lower the cost of housing within a cluster development. Castine's subdivision ordinance already includes the ability for a subdivision to be developed using the

cluster approach. As stated in the ordinance, the purpose of cluster development is to allow for the creation of open space, provide for affordable housing, recreational opportunities or protect important natural features from the adverse impacts of development. The ordinance encourages use of the cluster option by including standards for allowing lots within cluster subdivisions to be reduced in area and width below the minimum normally allowed in order to provide for affordable housing or in return for open space without increasing the net density of the subdivision. In contrast, conventional subdivisions should continue to require the standard two acre minimum lot size.

Strengthening Subdivision Development Standards. In order to increase the appeal of subdivisions while still retaining a rural appearance, Castine's subdivision development standards should be strengthened. The Plan recommends that the setback from existing roads be increased from 30 feet to 100 feet if either the conventional subdivision or the cluster option is used. This setback requirement would not apply to cul-de-sacs or other roads built solely for subdivision access. In addition, the open space preserved by the use of the cluster option should be visible from existing roads. The Plan also recommends that new minor subdivisions have only one entrance onto existing roads and new major subdivisions be limited to two entrances onto existing roads.

Strengthening Mobile Home Park Standards. Mobile homes and mobile home parks are another form of housing that is affordable and that should continue to be allowed Off-Neck; they are not allowed On-Neck. Similar to the recommendation with respect to subdivisions, to increase the appeal of mobile home parks and ensure preservation of open space and a rural appearance, Castine's mobile home park standards should be strengthened. The Town zoning ordinance presently requires a 30 foot setback from roads in the rural district and 200 feet of road frontage. The Plan recommends that the setback be increased to 100 feet from an existing road for new mobile home parks. This setback requirement would not apply to cul-de-sacs or other roads built solely for mobile home park access. In addition, future mobile home parks should have buffering and open space requirements to minimize the impact on surrounding properties. The open space required should be visible from existing roads.

The combination of cluster development and strengthened subdivision and mobile home park standards should help keep Off-Neck largely rural while encouraging the creation of affordable housing. Given the relatively low growth rates projected for Castine, no additional restrictions in this part of Town are needed.

D. Off-Neck Non-Residential Areas

Owing to the lack of available commercial acreage On-Neck and in order to promote the economic vitality of the Town, the Plan recommends that the Square should be studied for areas of potential development by commercial and research and development entities. This would require changes to the zoning ordinance approved by a Town Meeting to create districts for this type of development in an area that currently is zoned entirely rural.

Post-secondary schools such as the Town's largest institution, MMA, currently are allowed in the rural district. As discussed above with respect to future On-Neck development by MMA, the

Town and MMA should likewise work together to ensure that any Off-Neck development by MMA is achieved with prior planning and coordination.

Any non-residential development Off-Neck should be designed to maintain the rural-residential character of the area and would include setback, buffering and open space requirements to minimize the impact on neighboring properties. The open space required should be visible from existing roads. Prior to receiving site plan approval, any proposed non-residential development should be required to submit impact studies with respect to environmental impacts and their remediation and impacts caused by traffic, noise, lighting, dust and odors and their remediation. In addition, non-residential developers should be required to submit evidence of adequate water supplies, adequate sewage disposal, adequate electric power supply, adequate fire flow water volumes, adequate fire hazard mitigation and adequate off-street parking.

E. Off-Neck Conservation Areas

Most of the environmentally sensitive area of the Square is already protected by four resource protection districts (Bog Brook, the Ice Pond, Morse Cove Stream and Dunc's Meadow). Two of these areas (Bog Brook and Dunc's Meadow) are State designated freshwater wetlands. In addition, two areas (Dunc's Meadow and the Ice Pond) have further protection from development as they are owned by the Conservation Trust of Brooksville, Castine and Penobscot. Therefore, no additional conservation measures are needed.

F. Source Water Protection Areas

The Plan recommends that the Town continue to protect all public source water areas, including aquifers and surface water. While the current zoning protects the recharge areas adjacent to wells that presently serve the municipal water system, it is important that this protection be extended to any new public well areas. Since decisions on future water supplies will be made after this Plan is complete, the specific areas where protection is needed cannot be recommended here. The Source Water Protection Ordinance adopted by the Town in 2009 may need to be modified in the future to include new recharge areas for new public wells.

4. Growth Areas and Rural Areas

The determination of growth areas and rural areas is an important part of the comprehensive planning process. Growth areas are those parts of a town where most new growth is likely to occur.

As discussed above, the lack of parking and the limited capacity of the sewer and water distribution systems severely constrain the ability of On-Neck to absorb new growth. Accordingly, more growth will be attracted to Off-Neck. However, growth projections for Castine in the next ten-year planning period are expected to remain low. The growth that does occur would be primarily in rural-residential areas and newly created rural non-residential areas Off-Neck. The rural-conservation areas would remain rural. It is also possible that the rural area may experience growth by MMA or other institutions.

5. Measures to Distinguish Growth Areas and Rural Areas

The Plan makes clear distinctions between growth areas and rural areas. On-Neck should continue to retain its current densities of development. Off-Neck will attract a good portion of Castine's new homes, and possibly non-residential development, including expansion by MMA or other institutions, over the next few years. Increased use of cluster development and strengthened subdivision and mobile home park standards including increased setback, buffering and open space requirements should help maintain the rural character of the area, minimize the impact on neighboring properties and encourage the creation of affordable housing. These same requirements would apply to non-residential development, including development by MMA or other institutions allowed Off-Neck.

The islands are presently well protected from development by a combination of shoreland zoning and ownership by the State or conservation land trusts. The shoreland is protected by a combination of shoreland zoning and resource protection zoning. Additional conservation restrictions for the islands and the shoreland are not presently needed.

As discussed above, rural-conservation areas are large in size and are already protected from development through a combination of resource protection zoning and ownership by conservation land trusts. Additional conservation restrictions in the rural area are not presently needed.


6. Summary


The Future Land Use Plan contains sufficient measures to discourage sprawl and strip development, promote efficiency in access to public services and protect open space in the rural area. These are basic requirements of Maine's Growth Management Act for a Future Land Use Plan. Since commercial development Off-Neck would only be allowed if new areas were designated as commercial districts, there is no threat of commercial sprawl. Encouraging cluster development of subdivisions will encourage compact, efficient development and help create housing that is affordable. Strengthening subdivision and mobile home park standards will help preserve the rural feel of Off-Neck, reduce the risk of residential strip development and encourage the creation of affordable housing. Any future expansion of MMA and other institutions should be achieved through prior planning and coordination with the Town.


The Future Land Use Plan should help the Town achieve its vision of Castine as **a year-round thriving community that values our heritage, village character and natural beauty.**


Legend


Pavement Condition Index


 85 - 100 Very Good

 75 - 84 Good

 65 - 74 Fair

 45 - 64 Poor

 1 - 44 Very Poor

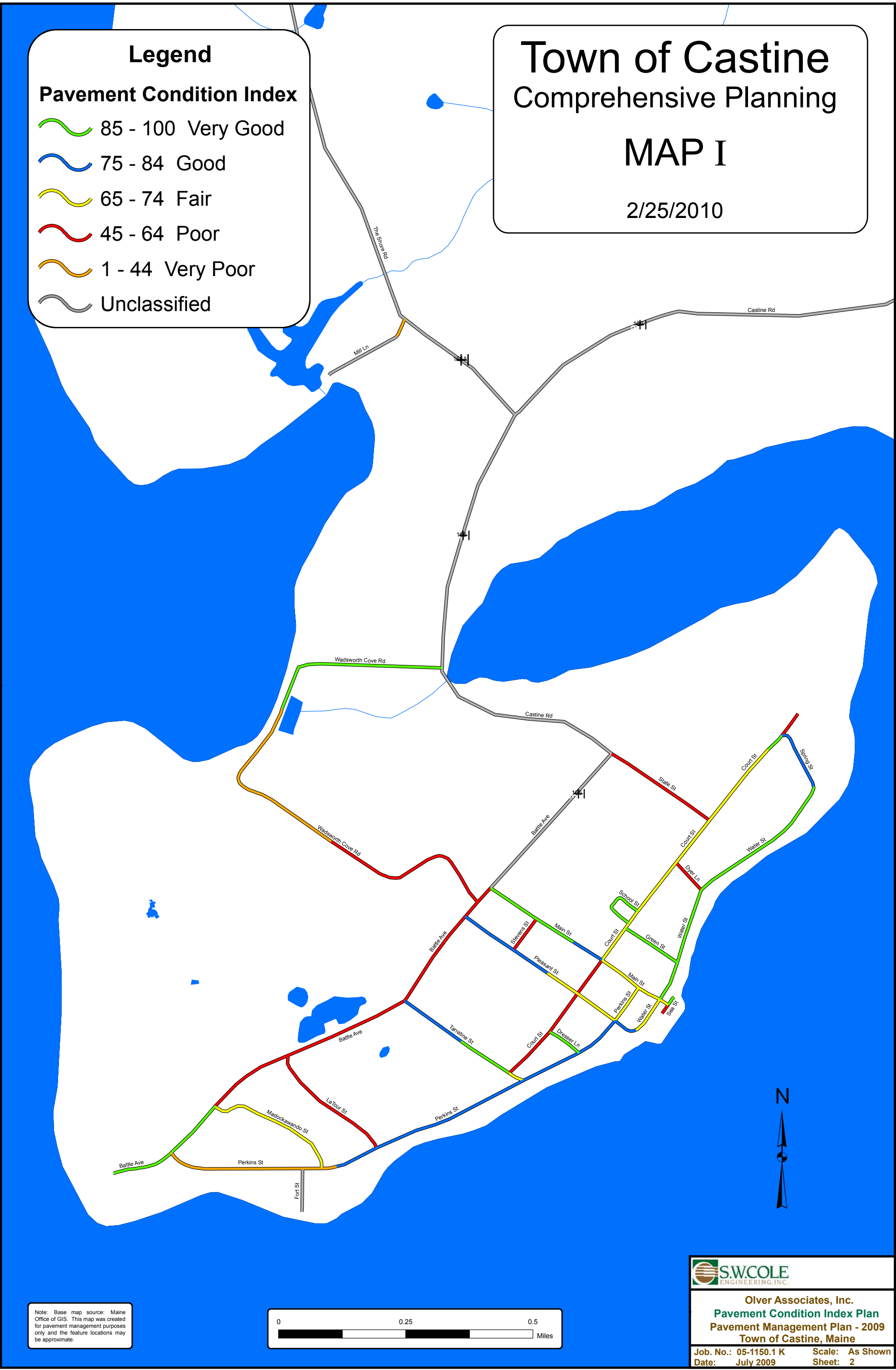
 Unclassified

Town of Castine

Comprehensive Planning

MAP I

2/25/2010



Note: Base map source: Maine Office of GIS. This map was created for pavement management purposes only and the feature locations may be approximate.



 **S.W. COLE**
ENGINEERING, INC.

Olver Associates, Inc.

Pavement Condition Index Plan

Pavement Management Plan - 2009

Town of Castine, Maine

Job. No.: 05-1150.1 K

Date: July 2009

Scale: As Shown

Sheet: 2

PENOBSCOT BAY

HATCH COVE

CASTINE CEMETERY

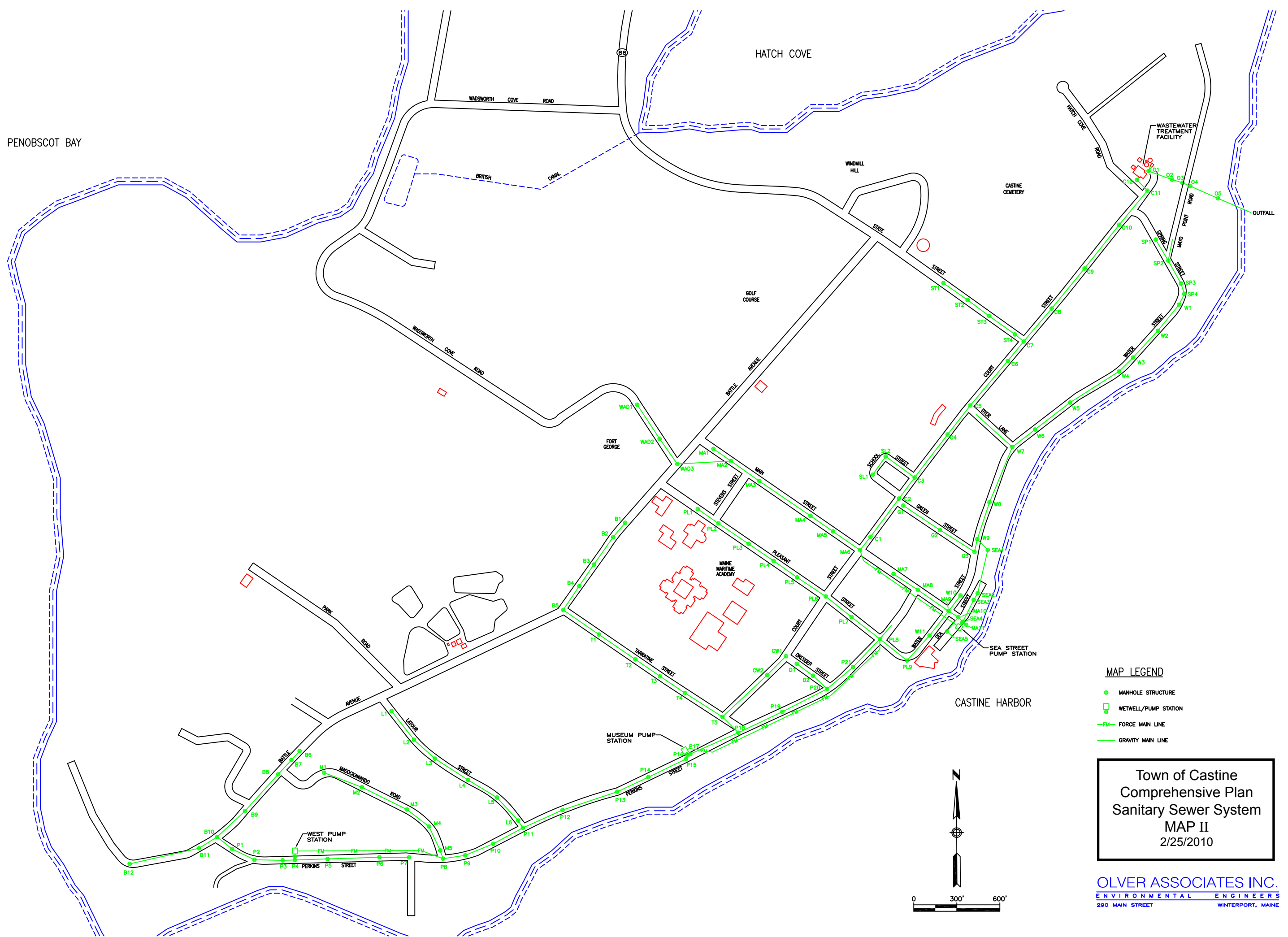
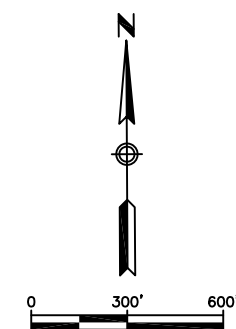
CASTINE HARBOR

MAP LEGEND

- MANHOLE STRUCTURE
- WETWELL/PUMP STATION
- FM — FORCE MAIN LINE
- GRAVITY MAIN LINE

Town of Castine
Comprehensive Plan
Sanitary Sewer System
MAP II
2/25/2010

OLVER ASSOCIATES INC.
ENVIRONMENTAL ENGINEERS
290 MAIN STREET WINTERPORT, MAINE



PENOBSCOT BAY

HATCH COVE

CASTINE HARBOR

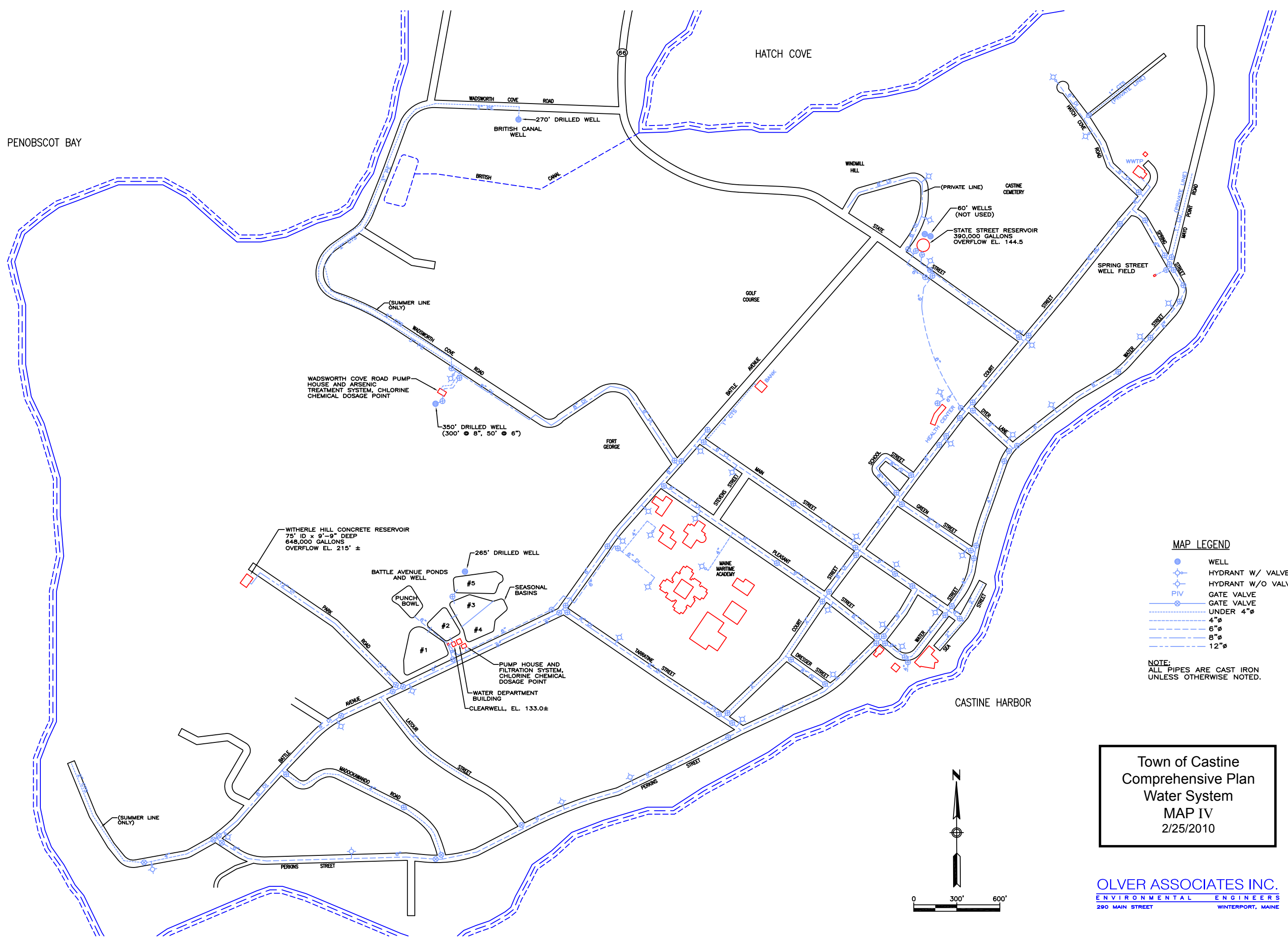
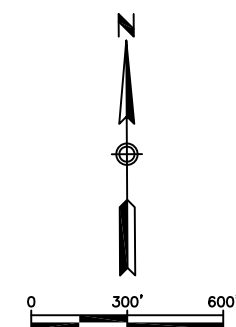
MAP LEGEND

- WELL
- ⊕ HYDRANT W/ VALVE
- ⊖ HYDRANT W/O VALVE
- PIV GATE VALVE
- ⊗ GATE VALVE UNDER 4"φ
- 4"φ
- 6"φ
- 8"φ
- 12"φ

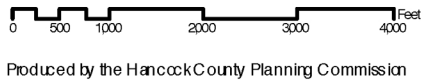
NOTE:
ALL PIPES ARE CAST IRON
UNLESS OTHERWISE NOTED.

Town of Castine
Comprehensive Plan
Water System
MAP IV
2/25/2010

OLVER ASSOCIATES INC.
ENVIRONMENTAL ENGINEERS
290 MAIN STREET WINTERPORT, MAINE

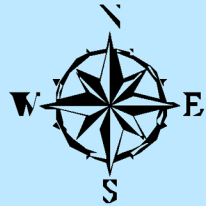


Town of Castine
Comprehensive Plan
**Cultural Resources
and Transportation**



Produced by the Hancock County Planning Commission

MAP # X



Legend

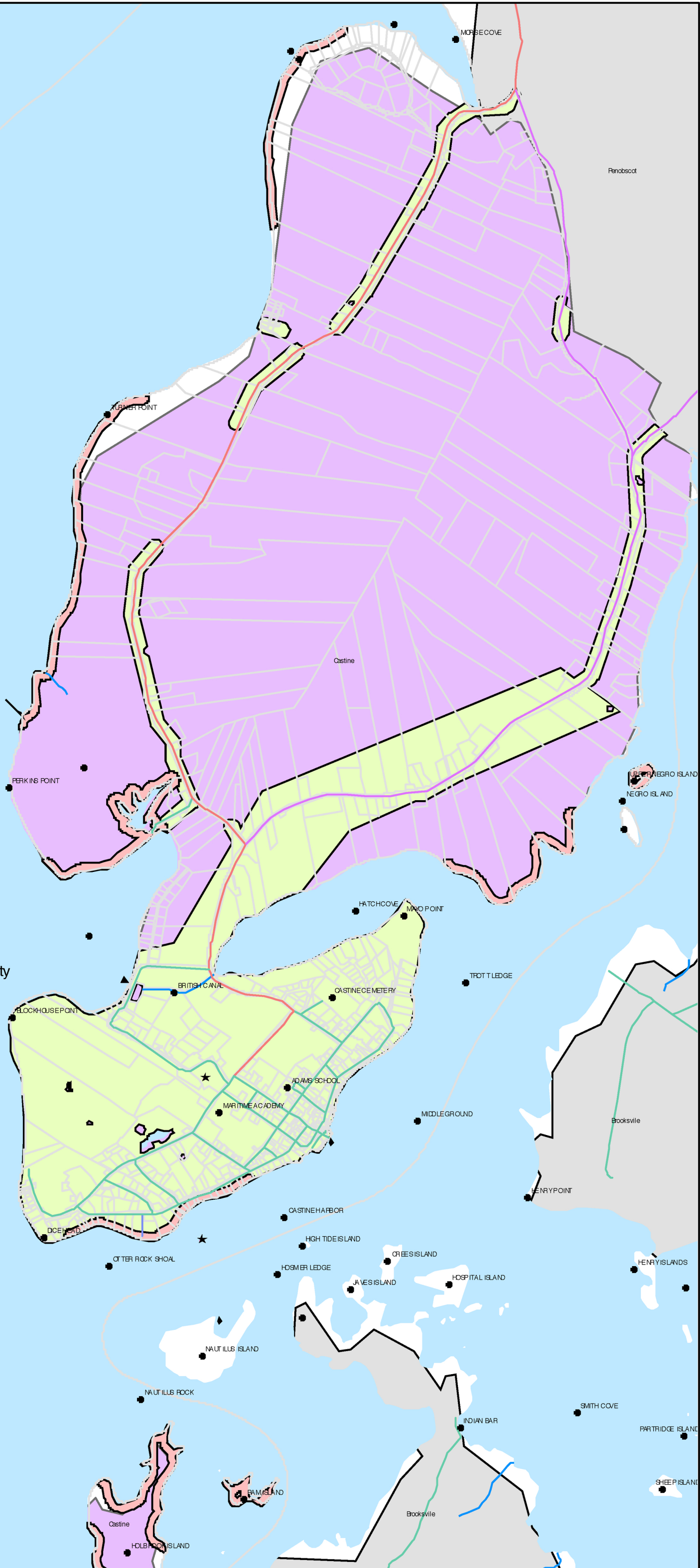
- ★ National Historic Register Sites
- Points Of Interest

Access Points

- ◆ Publicly Owned Access Site
- ▲ Publicly Owned Beach
- Privately Owned Beach

Road Jurisdiction

- State hwy
- State aid
- Town way
- Tnwy summer
- Area of Historical Sensitivity
- Area of Prehistoric Archeological Sensitivity





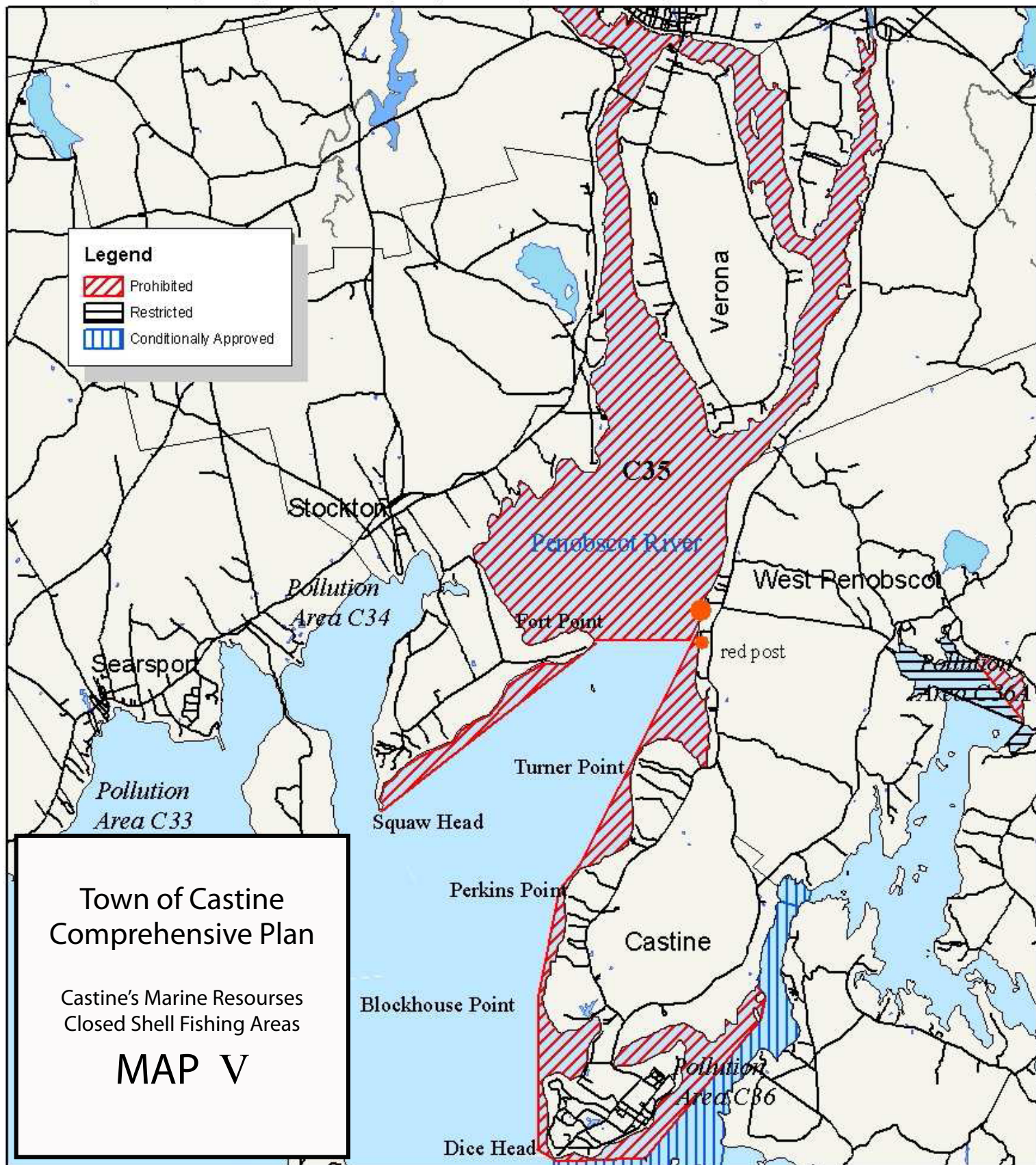
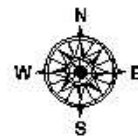
Maine Department of Marine Resources

Pollution Area No. 35

Penobscot River

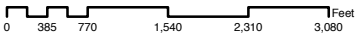
(Stockton, Prospect, Bucksport, Orland, Penobscot, Castine)

1/13/2009



0 2 4 Miles

Town of Castine
Comprehensive Plan
Land Use and Utilities



Produced by the Hancock County Planning Commission
DRAFT -- JWB -- 4/11/07 -- DRAFT

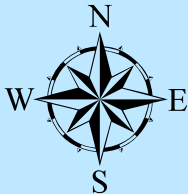
1 inch equals 1,000 feet

MAP # VI , Water-dependent Uses

NOTE:

Information shown is from various government and local sources.
See the Castine Comprehensive Plan text for more details.

The information is shown for town-wide planning purposes only. Where
specific data is needed, verification on the ground is recommended.



Legend

prime site for water-dependent use

^ existing water-dependent use





Town of Castine
Comprehensive Plan
Land Use and Utilities

0 455 910 1820 2730 3640 Feet

Produced by the Hancock County Planning Commission

1 inch equals 1,160 feet



NOTE:
Information shown is from various government and local sources.
See the Castine Comprehensive Plan text for more details.
The information is shown for town-wide planning purposes only. W
specific data is needed, verification on the ground is recommended.

Penobscot

Brooksville

Castine

Hatch Cove

Castine Harbor

Bagaduce River

Legend



Conservation land



Industrial ownership



Source water protection areas



Drinking water wells



Castine sewer facility



Municipal sewer line



Municipal water main

Town of Castine Comprehensive Plan

0 500 1,000 2,000 3,000 4,000 Feet

Produced by the Hancock County Planning Commission
JWB -- 4/11/07 DRAFT

1 inch equals 3,399 feet



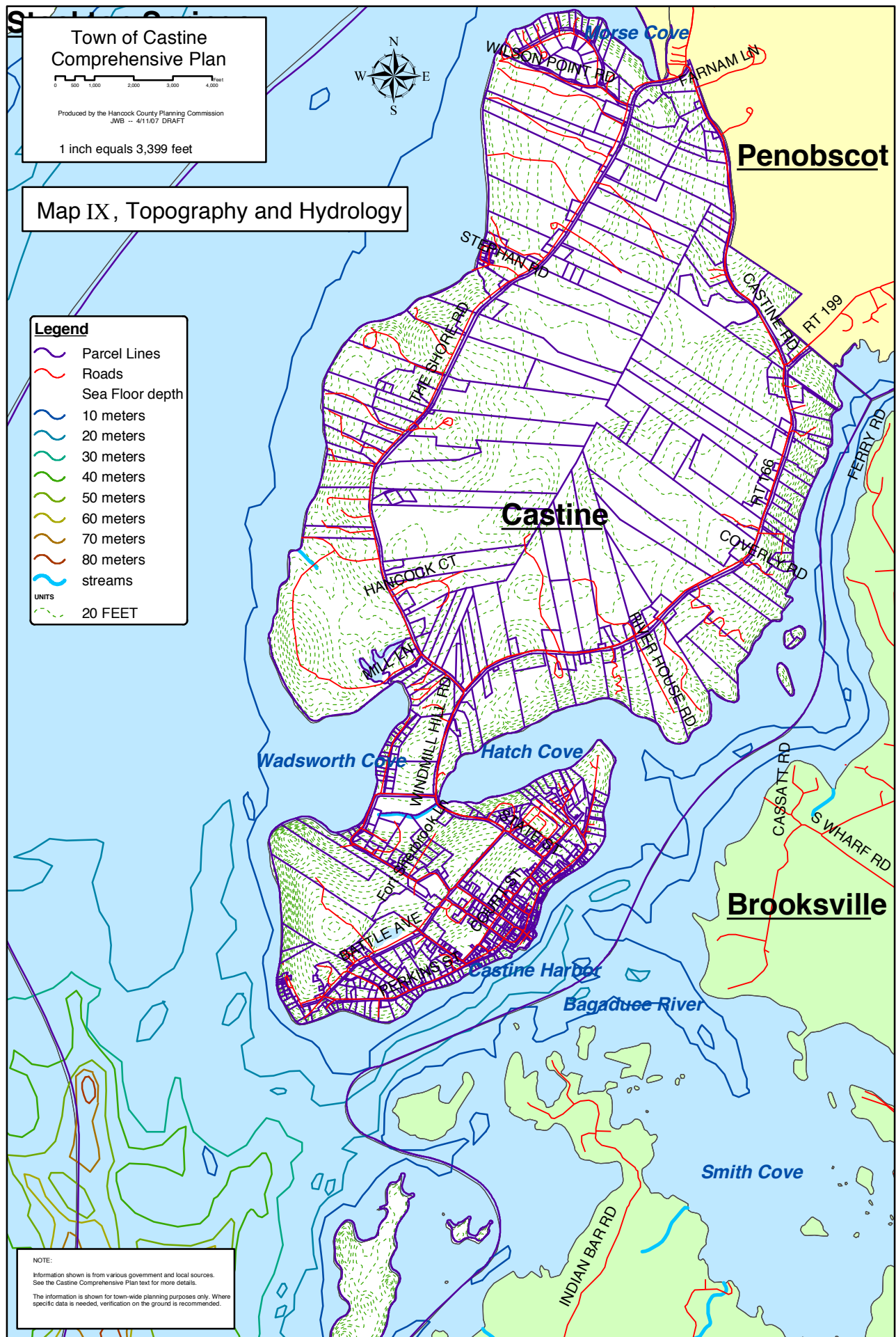
Map IX, Topography and Hydrology

Legend

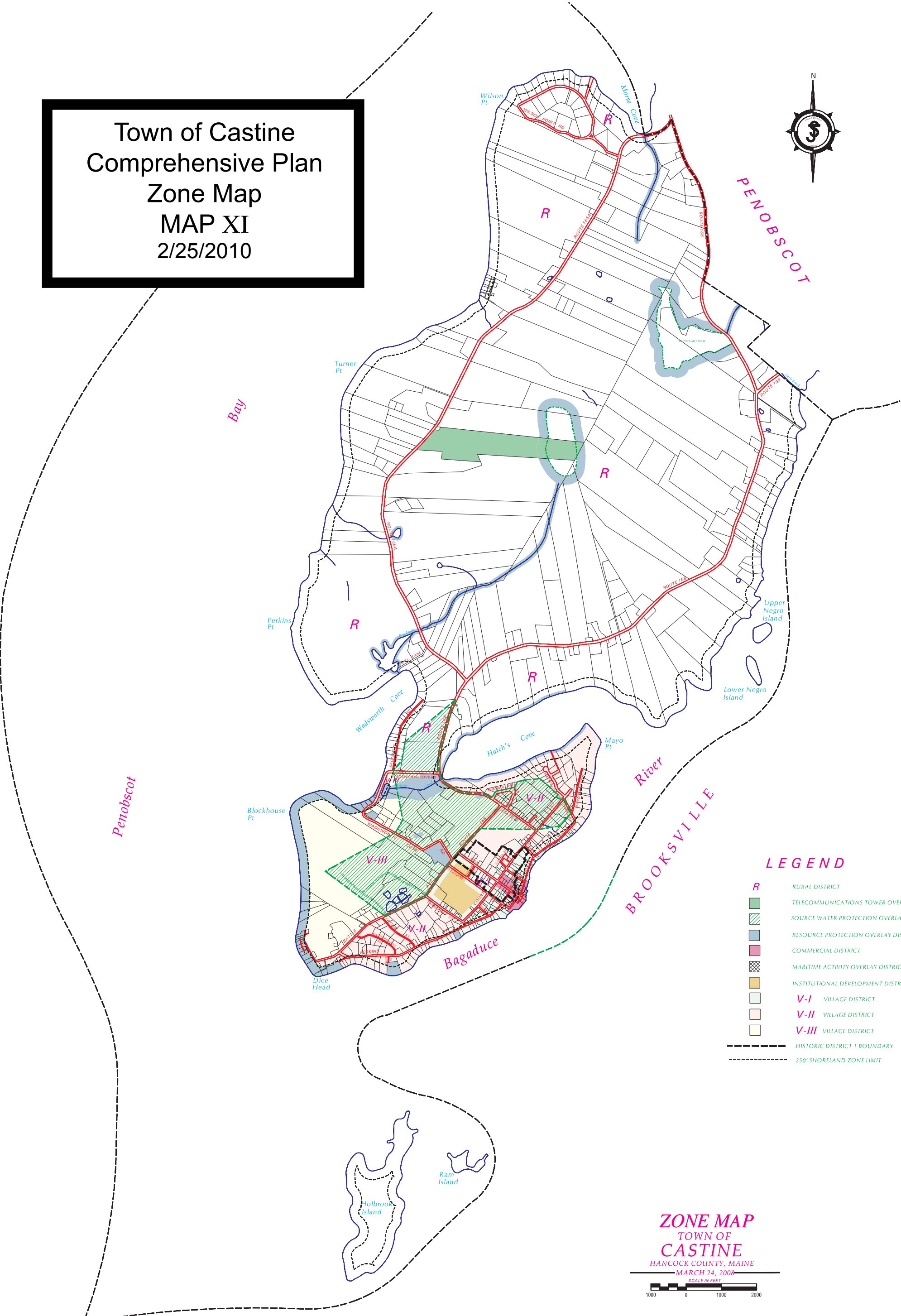
- Parcel Lines
- Roads
- Sea Floor depth
 - 10 meters
 - 20 meters
 - 30 meters
 - 40 meters
 - 50 meters
 - 60 meters
 - 70 meters
 - 80 meters
- streams
- UNITS
- 20 FEET

NOTE:

Information shown is from various government and local sources.
See the Castine Comprehensive Plan text for more details.
The information is shown for town-wide planning purposes only. Where
specific data is needed, verification on the ground is recommended.



Town of Castine
Comprehensive Plan
Zone Map
MAP XI
2/25/2010



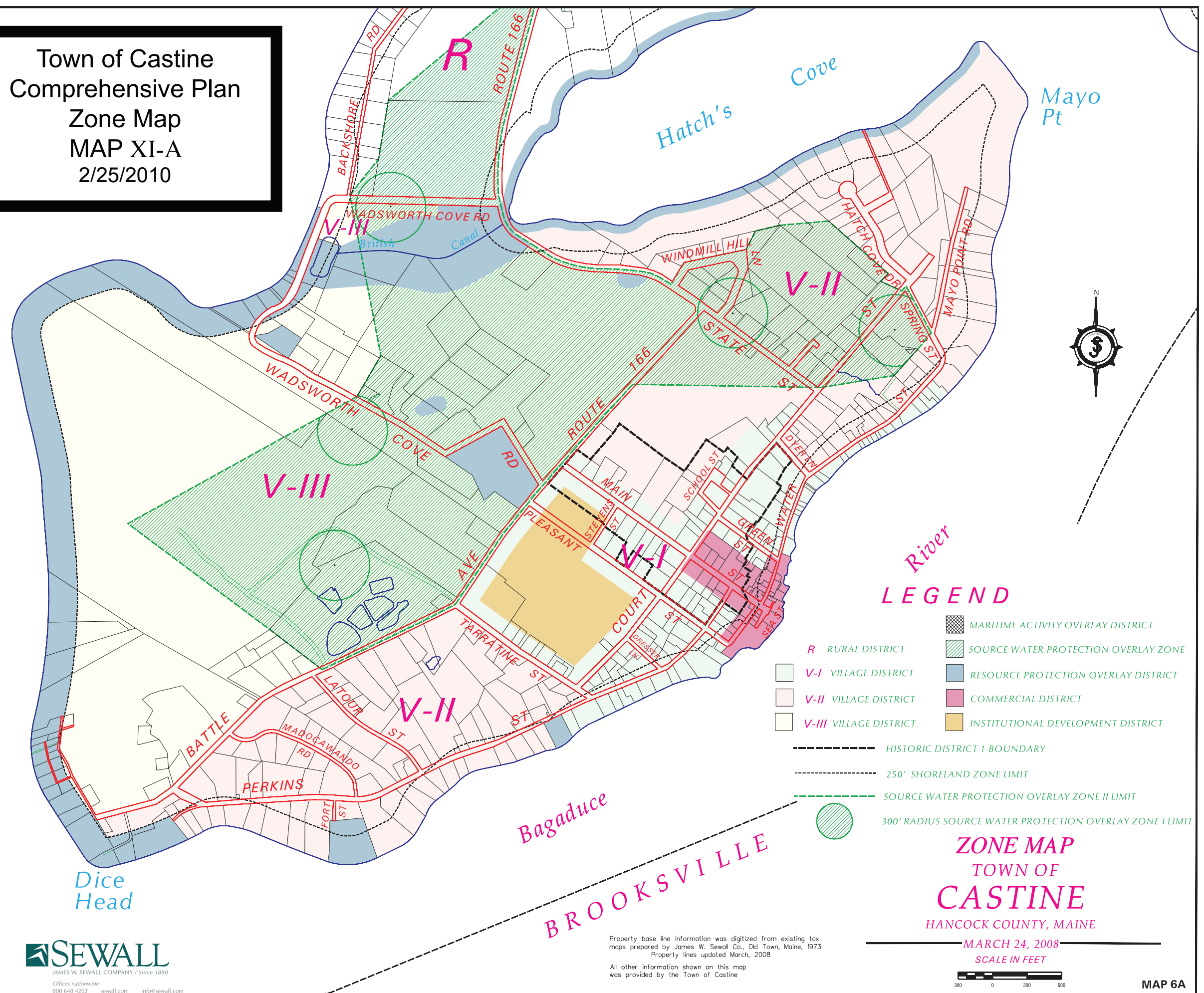
LEGEND

- R RURAL DISTRICT
- TELECOMMUNICATIONS TOWER OVERLAY
- SOURCE WATER PROTECTION OVERLAY ZONE
- RESOURCE PROTECTION OVERLAY DISTRICT
- COMMERCIAL DISTRICT
- MARITIME ACTIVITY OVERLAY DISTRICT
- INSTITUTIONAL DEVELOPMENT DISTRICT
- V-I VILLAGE DISTRICT
- V-II VILLAGE DISTRICT
- V-III VILLAGE DISTRICT
- HISTORIC DISTRICT 1 BOUNDARY
- 250' SHORELAND ZONE LIMIT

ZONE MAP
TOWN OF
CASTINE
HANCOCK COUNTY, MAINE
MARCH 24, 2008



Town of Castine
Comprehensive Plan
Zone Map
MAP XI-A
2/25/2010

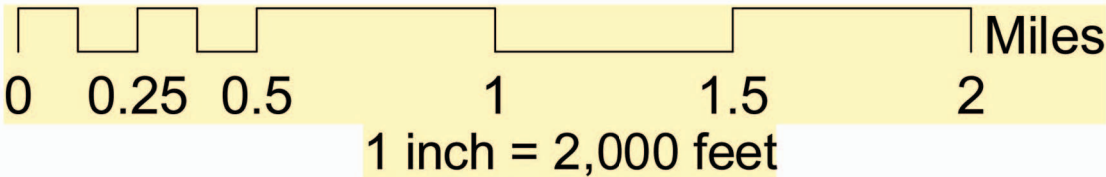


Town of Castine

Comprehensive Plan

Map XII

2/25/2010



Base Map Prepared by the Hancock County Planning Commission

Legend

—

Roads

Parcels

Castine Wetland

Estuary

Forested

Marine

Non-Forested

Future Land Use

Medium to High Density Growth

Low to Medium Density Growth

Low Density Growth