2005 Update of
The Harpswell Comprehensive Plan

Prepared by:
The Harpswell Comprehensive Plan Committee

March 2005
ACKNOWLEDGMENTS

Harpswell residents are extremely generous in volunteering their services to the Town in many capacities. This 2005 Comprehensive Plan was developed through the tireless efforts of a number of residents. The seven-person committee and the Town Planner had the advisory support of the 2003 comprehensive plan committee, which had begun drafting plans that were put on hold during the year of decision involving the possibility of a major industrial complex in Harpswell. After the LNG issue was decided, a new comprehensive plan committee appointed by the Selectmen, began work, beginning with a review of the 1993 Plan and the 2003 drafts. Thanks to members of the 2003 Advisory Committee for providing a solid base for our new research and results: Yvette Alexander, David W. Chipman, William Greenwood, Frank Kibbe, Richard Neiman, Karen O’Connell, Arthur Powers, Peter Riesenberg, Trudi Riesenberg, and Burr Taylor.

Thanks to Rick Seeley and the team from the Greater Portland Council of Governments (GPCOG) who provided planning assistance, statistical research, and superb maps that reveal a visible picture of our unique Harpswell.

Very special thanks go to Jay Chace, Town Planner. He picked up the responsibility when Noel Musson, previous planner, took a new position out of the Harpswell area. Jay’s knowledge and experience in planning has provided reliable assistance at all committee meetings and workshops. His work in managing the endless drafts of documents, serving as liaison for the Committee and GPCOG, managing the website, and solving innumerable problems has been outstanding. Harpswell is fortunate to have Jay Chace as our Town Planner.

We also thank the Selectmen and Town Administrator for their support during the three years of work in building this Plan. Thanks also to Town residents who attending our meetings, asked questions, and expressed their concerns. With all of the support received, we have tried our best to provide a Plan that will protect the public interest on behalf of Harpswell residents.

Elsa Martz, Co-chair, has given countless hours to organize and make this Plan as readable and user-friendly as possible. Members of the committee are especially grateful to Howard Nannen, an experienced town planner, for his leadership and commitment in helping to develop this ten-year Comprehensive Plan for Harpswell.

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INTRODUCTION

The 2005 Comprehensive Plan Update has been prepared by fellow citizens of Harpswell, your neighbors. They hope that their work will help prepare Harpswell for the inevitable changes of the next decade. The plan is based upon their research, their many consultations with you, and the advice of experts.

Role of the Comprehensive Plan

This Comprehensive Plan serves many functions. It is an expression of the community's vision of its future. It is a guide to making the many public and private decisions that will determine the Town’s future. It is a source of basic information about the Town's natural resources and its human environments. The Comprehensive Plan is not a zoning ordinance, nor is it a law. It is an advisory document setting out the community's goals for the future and the policies and programs necessary to move the Town in the direction of its goals. It is a foundation on which to build the Town's land use controls and a road map that can be used by the Town's elected and appointed officials to steer the Town on an agreed-upon course.

In addition to these compelling reasons for updating our Comprehensive Plan, the State of Maine mandates, through its Growth Management Program (Title 30-A §4312), that all communities update their comprehensive plan every ten years. Through the establishment of this law, the State effectively overrides a town’s “home rule” authority and establishes the way in which communities engage in land use planning and regulation.

This Comprehensive Plan Update is an effort to balance anticipated growth with the community’s natural and cultural values. It is an expression of the residents’ values, as communicated to the Harpswell Comprehensive Plan Committee (CPC).

Planning Process and Public Involvement

The essential key to any community-wide planning effort is involvement of the community. During a visioning session in the spring of 2002, the community developed the guiding principles for this Update\(^1\). The CPC has continued to seek out and encourage involvement of Harpswell residents through a number of different avenues. As a result, the CPC has conducted nearly 100 public meetings and workshops. Additionally, the CPC and Town Planner have sponsored six public seminars and a field trip with invited experts in affordable housing, water quality, water pollution and wildlife planning. The public was also invited to several town-wide forums and a public hearing on the final draft plan; all of which aided in the development of this Comprehensive Plan Update.

\(^1\)”A Vision for Harpswell” available in the Appendix
In addition to the numerous opportunities for direct public access to the planning process, the CPC utilized innovative methods for disseminating the ideas and concepts found in this Update. The town’s web site proved to be a valuable source of communicating with the public and an avenue for residents to share their reactions to the Plan. Also, a number of the public forums were televised and taped by the local Harpswell Community Television station. Numerous articles about the Plan’s progress have been published in the local newspaper and in several Harpswell Bulletins mailed to all residents. A thirty-question survey, mailed with one of the Harpswell Bulletins, was completed and returned to the Committee by over 700 residents.

In all our efforts we have tried to recognize the range of interest that Harpswell’s diverse populations cherish, and to balance and respect the importance of different views. We recognize that all groups desire a bright future for the town and that although there may be deeply held different views on what is right for Harpswell, which future is best, there are many overlapping areas of agreement.

Each member of the committee came to it with a desire to preserve, as much as possible, the best in the community: its traditional character based upon agriculture and fishing, its respect for property rights, its generally flexible yet protective policies toward the environment, and its proven ability to work things out.

In their work, committee members have had to acknowledge the inevitability of change and certain resistances to it. In our proposals we hope to have identified and managed change with respect for both the private and public good and needs. As far as possible we have tried to make self-interest coincide with the public good. And since change will always happen, we have tried to envision a community in which economic, ecological, and social processes and activities work toward the maintenance and regeneration of shared values and culture.

Past Planning Activities

This Comprehensive Plan is the fifth generation of plans for the community. The first Plan was prepared in 1974 by the Planning Board in response to the State Shoreline Zoning Law. It was updated in 1981, 1987, and again in 1993. The 1981 update was prepared by the Comprehensive Plan Committee and the 1987 and 1993 updates were prepared by a new configuration of the same committee with the assistance of a consultant. Our 2005 Update was prepared by the Comprehensive Plan Committee with assistance from both the Town Planning Office and the Greater Portland Council of Governments.

Since the last Comprehensive Plan Update in 1993, a number of the major recommendations of that Plan have been implemented: retirement of waste incinerator; focus on recycling; introduction of several new land use ordinances; increased professional staff in codes enforcement; major study of water quality and quantity; and major study of the fishing industry in Town are several examples. This committee has
carefully reviewed the 1993 Plan ensuring that relevant recommendations have been brought forth to the present Plan.

**Elements of this Plan**

This plan has been organized by the Comprehensive Plan Committee in an effort to make it both a user friendly and informative document. To achieve this goal, the Plan is arranged in two distinct parts.

Part I is the active piece of the Plan, highlighting background information, trends and analysis that introduce and give context to the goals, policies and action recommendations.

Part I begins with the Projected Growth which provides a brief overview of the fundamental issues facing Harpswell in the next 10 years. This is followed by seven major planning elements: Community Character, Marine Environment, Groundwater Resources, Natural Habitat, Housing, Marine Economy, and Public Services. Each of these sections contains its own background, trends, analysis/issues, goals, policies, and action recommendations. The ideas in the planning elements chapters serve as the underpinnings for the Future Land Use Plan. The Implementation Plan provides a timeline for the actions the Town will take to achieve the goals set forth by this Plan. Part I concludes with the Capital Investments Plan that lists projected capital investment needs of the Town over the next 10 years that were identified in the comprehensive planning process.

Part II expands the background information in Part I, further delineating the information that guided the policy-making process. The Part II background materials correlate with the topics in Part I as indicated in the Table of Contents. The information in this section is designed to augment the background, trends and analysis/issues sections of Part I, and to meet certain State requirements. These materials should prove valuable to those who are charged with implementing the action recommendations of the Plan.
PLAN SUMMARY

2005 Harpswell Comprehensive Plan Update

Any summary of a comprehensive plan over 100 pages long, containing over 150 recommendations relating to the future of Harpswell can only present an overview of the Plan. The Comprehensive Plan Committee suggests that the public use the Summary to discover how a topic of interest is covered in broad terms. Then citizens may seek further detail by reading the related chapter in Part I and statistical background for that chapter in Part II.

In broad terms the Plan outlines the form and features of the face of Harpswell. It discusses how the face of Harpswell is changing, the challenges and opportunities that change presents to the Town, and how to manage change for the benefit of residents and the environment. In each of these respects, the Plan reflects the vision of Harpswell as stated by the residents of Harpswell. Throughout the planning process, public input and comment has been a key element in the identification and development of the concepts put forth in the Plan.

Harpswell residents face choices about Harpswell’s future. We may choose to let growth occur in an unplanned manner, letting change define our community. Or, residents may choose to guide growth thoughtfully, so that we define our town’s future. Past events shown how important it is to plan for the future. Change, large or small, will come to Harpswell. We cannot stop it. Whether we benefit or not from this change depends on how well prepared we are to guide it in a way that enhances our community.

Projected Growth

In the coming ten years state planners expect Harpswell will grow by about 500 more people and up to 400 new homes. Based on past trends, these new homes and seasonal homes can reasonably be anticipated to consume 1000 acres of undeveloped land - nearly 7% of the total land area of the town. Our new residents will continue a trend of an aging population and fewer children. Results of these trends include more commuting workers, declining access to the water for fishing, development pressures on working waterfronts, increasing land costs, less affordable housing, and new demands on municipal services.

Community Character

Goal: Manage growth and development so as to maintain Harpswell’s community character.

This broad topic covers social and physical characteristics of Harpswell, which best define the town. These include the town’s fishing/farming heritage, its village settlement pattern, more recent settlement patterns, economic foundation, and visual appeal of its remaining rural areas. Impacts on these elements of community character result from
location, amount, type and cost of new development. As new large homes replace historic working waterfront homes, the character of fishing communities is lost. As new homes are built in wooded rural areas, habitat is lost and rural quality diminished. As traditional shared access to the ocean is lost to new housing development, fishing and shell fishing opportunities are lost. Recommendations include modifications to land use ordinances to encourage most new development to be built around historic villages as centers of community life. By contrast, limited development should be accommodated in rural areas. Preservation of working waterfronts, historic neighborhoods, and valuable natural resources is a priority.

**Marine Environment**

**Goal:** Maintain a high quality marine ecosystem.

Harpwell’s identity stems from its connection to the sea. Marine resources vital to the health and future of the town include clean ocean water, unpolluted coastal marshes, shellfish beds, and wildlife habitat. The health of these resources is determined by the amount, location and quality control of new development. Factors such as faulty septic systems, pesticides and fertilizers, and overboard discharges of untreated sewage degrade marine resources. To achieve the goal of a high quality marine ecosystem, the Plan outlines ordinances and actions that control pollution, promotes regional cooperation and encourages ongoing educational efforts.

**Groundwater Resources**

**Goal:** Protect the Town’s groundwater in order to provide safe, adequate water supply.

Perhaps the single natural resource on which residents most depend is clean groundwater, used for human consumption. The town has no public water supply or distribution system, so bedrock wells provide most groundwater supply. A recent study of the town’s groundwater details extensive information and data about the condition of this resource, noting areas with existing and potential degradation, largely due to overly dense, older residential development. To protect the safety and adequacy of the town's groundwater, policies and actions suggest education, conservation, further research, and land use standards for future development.

**Natural Habitat**

**Goal:** Preserve and protect sufficient habitat to maintain current diversity and health of wildlife.

Harpwell’s landform, consisting of islands and peninsula circumscribed by 216 miles of oceanfront, creates a rich and diverse marine-forest environment. Since most of the inland forested landscape is no more than half a mile from the ocean, alteration of this landscape also alters habitat. Freshwater and coastal wetlands, of principal concern,
support wildlife species on which we depend for harvesting, and which depend on us for preservation. Development jeopardizes habitat with intrusion and pollution. Preservation of habitat to maintain current diversity and health of wildlife will result from Plan proposals to accommodate new development, while balancing the value of habitat. To assist in systematic planning for habitat conservation, the Plan recommends that Harpswell develop a town-wide open space plan.

**Housing**

**Goal: Provide a range of housing opportunities to meet the needs of Town residents.**

In the past ten years about 500 new homes have been built, but the town’s population increased by only 227 residents from 1990-2000. Because of Harpswell’s extensive and desirable shoreline for residential development, the prices of land and new homes have risen rapidly. Although this phenomenon adds to the town’s tax base and restrains the mill rate, higher assessed values adversely affect some long-time residents, seniors on fixed incomes, and young families. The eventual result of a lack of affordable housing is a loss of Harpswell’s population diversity. In order to provide a full range of housing opportunities for town residents, the Plan encourages determining the extent of need and developing strategies to meet those needs. These strategies include education about the issue, researching funding sources, and joint public/private efforts to develop affordable housing. To promote a broader range of housing types, zoning regulations should be made more flexible.

**Marine Economy**

**Goal: Encourage and promote the retention and growth of marine economic activities including, but not limited to fishing, shell fishing, boat building, tourism and marine supply and service.**

Fishing has been the mainstay of the local economy for generations. Many fishing families still reside in town after five or six generations. Research indicates that 50-60% of local jobs are fishing-related. The value of the landed catch in Harpswell varies with conditions and regulations, but is estimated at $10 million annually. Some fishermen state they represent the last generation to continue fishing because of regulation, risk, development pressures, and other options open to younger individuals. Pressures on the industry include loss of access to the ocean, increasing recreational use of waters, federal regulation, and closure of shellfish grounds due to pollution from development. To retain a sustainable marine economy, the town must limit conversion of working waterfronts to new residential uses, preserve access, manage lands abutting shellfish flats to reduce pollution, and diversify the marine economy by promoting nature-base tourism on town waters.
Public Services

Public services are provided in Harpswell by a responsive town government and a multitude of volunteers that embody the best of community life. As the town grows, levels and cost of services increase. Substantive improvements in the past ten years include a new recycling center, expanded code enforcement, town administrator, town planner, expanded town offices, acquisition of Mitchell Field and land around the town offices, a recreation director and new ball field. Policies to improve public services in administration, improve town landings, codes enforcement, waste disposal, recreation, fire, rescue, police, transportation system, libraries, and schools are included. Plans for Mitchell Field are outlined, and the fiscal capacity of the town to provide adequate facilities to meet future needs is discussed.

Future Land Use Plan

Comprehensive plans are required by the state to include a description of where and how to accommodate future growth. This chapter identifies areas in town suitable for new development in the next ten years, and those areas better maintained for their natural functions as wetlands, coastal marshes, and wildlife habitat. Strategies to manage growth include public incentives and modifications to land use ordinances that encourage growth where desired. These strategies include recommendations for intensity and type of land uses. The goals of the proceeding chapters are accomplished with the principles and mechanisms of the Future Land Use Plan. It, along with the balance of the Comprehensive Plan, becomes the foundation for future growth management and land use ordinances.

Planning Maps The Comprehensive Plan Committee developed with its consultant and the Town Planner a number of inventory and planning maps, which underpin the Future Land Use Plan. These identify and locate natural resources, habitat, existing land use, water resources, recent new house permits, developable land, and development constraints. This Comprehensive Plan includes an Existing Land Use Map, Development Constraints Map, and Future Land Use Map. Others are available for study at the town offices and are valuable for use by selectmen, planning board, real estate agents, builders, and residents.

Implementation Plan

The Implementation Plan is a systematic approach guiding the Town’s efforts to employ the action recommendations as prescribed throughout the Comprehensive Plan. An oversight committee will be established by the Selectmen with the primary responsibility for reviewing the progress of the Plan’s implementation. The materials in Part II of the Plan provide valuable background information to those who are charged with implementing the action recommendations of the Plan.
Capital Investment Plan

The Capital Investment Plan (CIP) identifies the Town’s anticipated expenditures on public infrastructure and services in order to accommodate the project growth. This CIP explicitly recognizes the implicit costs associated with the Town’s future needs as identified throughout the Comprehensive Plan.
PART I
PROJECTED GROWTH

Here is a brief overview of the range of trends and issues facing Harpswell in the next 10 years. These trends and issues are described in more detail in the Issue Summaries of Part I and the Background Chapters of Part II.

**Population and Housing** By 2015, Harpswell’s 2000 population of 5,239 is projected to have increased by approximately 500 people. Taking into account the continued shrinking of the region’s average household size and the growing retirement population, this growth is projected to add about 340 new year-round housing units and about 48 new seasonal housing units to the existing supply. This represents an increase of about 14% in year-round housing units, and an increase of about 4% in seasonal housing units since 2000.

**Land Area Required** How much land this new residential growth will occupy depends in part on what the minimum lot size requires, but also on what people prefer and how much land they can afford. If the minimum lot size remained the same as it is now and all new residential development took place on lots just meeting the minimum lot size, about 80%, or about 310 houses, would likely be developed on one-acre lots and about 20%, or 78 houses, would be built on two-acre lots or an alternate lot size, as currently allowed, within subdivisions. Together, both these types of new residential development may easily consume more than 500 to 800 additional acres of undeveloped land.

But because normal market forces include the sale of at least some building lots at a range of sizes in excess of the minimum lot size, the projected growth may realistically take place on about 1,000 acres of presently undeveloped land.

In addition to the amount of open land to be converted to residential land under either assumption above, some unknown portion of the new development, perhaps as much as 10%, will require new roads to serve it, that will consume additional land. Of the remaining undeveloped and unprotected land in Harpswell, it is reasonable to expect that the total acres to be developed will equal or exceed 1,100 acres.

**Demographic Trends and Changes in Community Character** Harpswell is in the midst of a trend begun perhaps as early as 20 years ago, of changing from primarily a fishing community to one where fishing and related marine industries still provide the largest source of local jobs and the largest number of small businesses, but the majority of people are retirees and upper middle class professionals who commute to work in other communities.

**Access to the Water** Traditional means of access to the water are declining and marine and fishing support industries, infrastructure and moorings are increasingly under pressure to serve recreational boating interests and/or sell to developers who will likely convert these essential, often water-dependent uses to more lucrative, non-marine or non-fishing related uses.
Agriculture and Forestry  Agriculture has nearly disappeared as a full-time occupation as has forestry. The amount of land in Tree Growth has declined by 34% between 1993 and 2004.

The Prices of Land and Housing  Meanwhile, the very high and still climbing median price of homes and land, as well as the shortage of rental housing in Harpswell, are pricing younger and less affluent households out of the housing market, even away from the waterfront. At this writing, Harpswell has the highest median home price of any town in Maine. Most of Harpswell's households could not afford to buy a new house at the 2002 median price of $287,500 if they were to enter the housing market today, and younger households are in that market. The proportion of heads of households under 44 years of age has dropped from 43% in 1990 to 32% in 2000 and is projected to be 28% in 2007.

Schools  Because of the high price of housing that results from the influx of retirees, pre-retirees and other older and/or more affluent working residents, enrollment in Harpswell’s two elementary schools has been declining and threatens the long-term viability of continuing to provide education to elementary students in these two school locations.

Changing Service Needs for an Aging Population  As the average age of a Harpswell resident continues to rise in the future due to the forces outlined above, the nature of some municipal and regional services may change in response. For instance, emergency medical services may need to become more responsive to the needs of an aging population in their equipment and training. Similarly, the menu of needed recreational programs and facilities may change to accommodate more older citizens while still serving all age groups. There will be increasing demand for in-home caregivers and for programs such as Meals on Wheels. Perhaps municipal trash and recyclables collection may become needed.

Open Space, Public Access, Water, Natural and Marine Resources  As the Town grows, its historic and rural character, its groundwater resources, its marine resources, its marine economy, its forestry, its scenic and habitat values, and its public access to the sea, may all suffer significant losses in the next ten years if they are not recognized and protected through sound growth management and continuing private conservation efforts.

Added Demands on Municipal Lands and Volunteer Government  Owning the several large parcels of land that it does, and having recently enlarged the Town Office in a major expansion, the Town is well positioned with land needed to meet a variety of community needs for the next ten years. The Town has always had a very active spirit of volunteerism and independence, and it has served the Town well in providing a range of community and municipal services and plans.

Even so, fire and rescue services, which continue to be supplied on an all-volunteer basis are finding it increasingly difficult to maintain available staffing levels that are needed, as
older volunteers retire and new ones are not replacing them as fast, and as more qualified volunteers work further from Harpswell.

These are among the many issues and trends facing the Town and its people, which are addressed in the pages that follow.
COMMUNITY CHARACTER

Background A community’s character can be divided into two major elements: physical character and cultural character.

Harpwell’s physical character owes much to its seagoing and farming heritage. Moving around its islands and peninsulas reveals a pattern of rural areas alternating with villages oriented mostly around sheltered harbors. Rural areas offer views of field and forest with scattered houses along main roads. Scenic ocean vistas open up nearer to the sea. Closely settled villages surround working waterfronts and are peppered with historic structures. Waterfront neighborhoods, both old and new, seasonal and year-round, abound to take advantage of wonderful views and ready access to recreational boating. Within the villages and waterfront neighborhoods, buildings tend to be of similar scale, smaller in older areas and larger in newer areas. Throughout Town, boats and fishing gear stored in yards are constant reminders of our past and present maritime orientation. Mud flats, eel grass beds, wetlands, streams, forests and vernal pools provide critical habitat for the wildlife which enriches our lives.

Harpwell’s cultural character also reflects our connection to the sea. An active and healthy marine economy underlies the fishing flavor of town. Summer cottages and colonies, boatyards and marinas, and shores dotted with pleasure boats speak to our heritage as a tourist, seasonal and recreational haven. Our town meeting form of government with its active volunteer committees and our volunteer-run community organizations providing everything from fire and emergency services to land conservation and historic preservation sustain our sense of living in a small and close knit community. Our numerous churches and meeting halls evidence our community spirit. Scattered small businesses serve local needs. Home occupations are a significant factor of our economy, and, along with other the small businesses, help to sustain our sense of self-reliance.

Trends Substantial population growth and second home development over the last 30 years have begun to change our community character. Farming and forestry have nearly disappeared from our economy although their traces contribute substantially to the scenic and rural character of Harpwell. While most new development has occurred along the shore, new homes along our main roads have begun to break up the fields and forest which underlie the Town’s rural character. New waterfront development and seasonal home conversions have changed the views of Harpwell from the water and created new threats to the quality of the town’s marine environment. The diversity and sustainability of the wildlife, which enrich our lives, are at risk from habitat fragmentation by new roads and other adverse impacts of new development. Some areas of town are becoming suburbanized with cookie cutter, two-acre subdivisions eating up open land, while new driveways and side roads increase traffic congestion and decrease safety. Increasing demands are put upon our limited groundwater supplies and upon the capacity of our soils to treat septic waste. Decreased groundwater recharge from development adds to stormwater run-off threats to our marine resources. While the marine economy remains a
mainstay of Harpswell’s economy, recreational piers and moorings can conflict with commercial fishing activities.

Our active marine economy, historic villages and structures, coastal vistas and rural character, and our closeness to the employment opportunities available in larger cities and towns make Harpswell a very desirable as a place to live. Nearby well paying jobs in Portland, Brunswick, Bath and Augusta are transforming Harpswell from a primarily rural, fishing and tourism community into a bedroom community. Along with retirees, these commuters make up the majority of townspeople. Rising land prices have made affordable housing difficult to keep or to come by for many people of more modest means, even away from the water. Rising land values also threaten the sustainability of working waterfronts. The demolition of older small-scale waterfront homes and their replacement with much larger homes is changing the character of older waterfront neighborhoods. New owners sometimes close off traditional waterfront access over private lands while publicly owned water access is insufficient for the townspeople's needs. A diminishing younger population is leading to lower school enrollments and loss of diversity. An increasingly older population is creating new needs for services. Longer commutes reduce the ability of our volunteer emergency services to respond during the workday.

Business development in Harpswell, other than that associated with the marine economy, has been small in scale compared to commercial and industrial development in the neighboring towns of Bath, Brunswick, Freeport and Topsham, and serves mostly very local needs. Because Harpswell has a limited infrastructure and is on the way to nowhere but itself, that is likely to continue. Home occupations are expected to remain a significant part of the town’s economic future.

The people of Harpswell have responded to these trends by strengthening its shoreland zoning, site plan and subdivision ordinances that regulate new development, and by supporting a growing number of private conservation measures by which individual landowners can commit their land to conservation. The Town has increased its knowledge of local groundwater conditions to learn more about how and where to direct new development in order to protect the groundwater from contamination and assure adequate quality and quantity in the future. The Town has expanded its government facilities and activities to meet the increasing needs of its people and requirements resulting from its growth.

**Analysis/Issues** If Harpswell is to sustain its present desirable community character in the face of inevitable population and second home growth, more needs to be done. As the Town grows, its historic and rural character, its groundwater resources, its marine resources, its marine economy, its forests, its scenic and habitat values, and its public access to the sea and open space, may all suffer significant losses in the next ten years, if they are not supported and protected through sound comprehensive planning and growth management. Although the Town’s recent changes to ordinances have helped, as have local conservation efforts, still more needs to be done to achieve and protect Harpswell’s community character.
The marine economy and our working waterfronts need to be further protected from residential development pressures and even given room to expand. Our marine environment and habitat essential to sustaining the diversity and abundance of our wildlife needs to be sheltered further from the adverse effects of poorly managed growth and development. Continuation of our pattern of rural sections alternating with villages needs to be sustained. The scale of traditional waterfront neighborhoods needs to be maintained. Suburbanization of rural areas needs to be slowed. The contribution of our scenic vistas, historic structures and one-time farms to our sense of community needs to be assured. Diversity of population needs to be maintained. A full range of housing opportunities needs to be available. Water access needs to be protected and improved. Our vital groundwater supplies need to be protected from further contamination and excessive drawdown. Our volunteer public services and organizations need to be further supported.

The Comprehensive Plan Committee conducted a public opinion survey and held a visioning session in 2002 to get a clear picture of the townspeople’s priorities for responding to the many ways community character is changing in response to growth. These have been incorporated into the policies and action recommendations in this Plan. From an article on the May 2002 visioning session in the July 2002 issue of the Harpswell Anchor:

**General qualities most often mentioned were:**
- Closeness of the ocean
- Natural beauty, views, and recreational opportunities
- Neighborliness and a strong sense of community
- Diversity of people
- Rural nature of town
- Spirit of volunteerism, integrity of people, caring nature of community

**What People Envision for Their Neighborhoods**

**Cundy’s Harbor**
- Maintain village character
- New homes clustered to preserve open space
- Maintain walkability
- Continue the community as a working fishing village
- Maintain a limited number of small shops
- Affordable housing for retired fishermen and seniors

**Great Island/Route 24/Mountain Road**
- Preserve and connect open space with trails and bike paths
- Town center on Mountain Road with Town Hall, a post office, library, teen center
- Public landings with parking
- Protect ocean from pollution, jet skis, fast boats
- Affordable housing
Orr’s and Bailey Islands
- Limit growth due to limited groundwater and density of development
- Public access to ocean and beaches with parking
- Strengthen village quality around Orr’s I. library and post office
- Preserve Mackerel Cove as working harbor
- Preserve remaining open space

South Harpswell
- Continue as multiple-use area with tourism, recreation, fishing
- Maintain/expand access to ocean
- Preserve historic quality of Pott’s Point and Auburn Colony
- Plan for recreational, fishing and limited commercial use of fuel depot
- Control septic pollution of ocean

North Harpswell
- Create affordable housing
- Preserve mix of forest and field
- Limit size and number of commercial uses on Route 123
- Increase public access to ocean
- Connect open space with walking and bike paths

Future Development Preferences

Participants were asked finally to locate and identify where and what kind of future growth should occur. Given the choices of single-family homes, multifamily homes, and new business development, folks emphasized the following:

- More interest in new waterfront business was expressed than for single-family homes. Locations for new business development covered all neighborhoods with emphasis on the fuel depot, Cundy’s Harbor and the south end of Bailey Island.
- Multi-family housing was favored over single-family with locations over most of the town.
- Elderly/special needs housing was also of particular interest with emphasis on locations near Town Hall, in Cundy’s Harbor and in the Wood Landing Road area.
- The Community Drive area next to the Town Hall stood out as the single area in town where all forms of development were suggested: elderly/special needs housing, multifamily housing, business development and single family housing in that order of preference.
- Other clusters of mixed uses appeared in Cundy’s Harbor, Route 123 between Hawthorne Lane and Spy Rock Road, Lookout Point and Allen Point Road along Route 123, and Route 123 south of the Brunswick line.”
From these sources it is clear that there is support for further actions to better manage the tide of change in which the community finds itself. Because this topic area is so broad, and relates directly to other major goals, much of what is needed will be reflected in goals, policies and action recommendations listed under other topic areas as well as this section.

**Goal:** Manage growth and development so as to maintain Harpswell’s community character.

**Policies**

- To maintain our traditional pattern of alternating rural and village development and to minimize suburbanization and sprawl, encourage new growth to locate in villages and existing neighborhoods while directing new growth away from the most rural areas. Maintain the rural views from our roads. Direct new commercial and institutional development to the villages and the town center.
- To sustain our marine economy, protect the working waterfront from pressures for alternative development and maintain critical access to the water.
- To sustain our maritime commercial and recreational heritage, expand opportunities for new marine economic activity, protect our marine environment from pollution and manage our harbors to maximize available space and minimize conflicts.
- To maintain the diversity and abundance of our wildlife, protect essential habitat from the adverse effects of development.
- To sustain our traditional sense of connection to the land, preserve the rural character of our landscape, our farming and forestry environment, and our open spaces.
- To maintain our relationship to the sea, protect our scenic vistas, and protect and improve public access to the water.
- To maintain diversity of population, provide opportunities for affordable housing in the face of rising land values.
- To sustain our connection with the past, encourage protection of our historic structures and the scale of our traditional neighborhoods.
- Protect our groundwater from contamination and overuse to protect our health and meet our needs.
- To sustain our sense of self reliance and independence and our sense of community, continue support of home occupations and our volunteer public services and community organizations.

**Action Recommendations**

- Amend land use ordinances to increase density of development in villages and decrease density of development in rural areas. Maintain present density in rural and waterfront neighborhoods.
- Amend land use ordinances to direct new commercial and institutional development to villages and the town center.
- Amend land use ordinances to maintain rural views from main roads and minimize new curb cuts.
• Amend land use ordinances to clarify essential working waterfronts and limit non-maritime uses in them.
• Amend land use ordinances to designate areas for expansion of marine economic activity.
• Amend land use ordinances to protect further the marine environment from pollution and other adverse impacts of development.
• Amend land use ordinances to protect essential wildlife habitat from the adverse effects of development.
• Upon development of a Town Open Space Plan, work to preserve and connect open spaces. Amend land use ordinances to support preservation and connection of open spaces.
• Identify critical scenic water vistas and adopt measures to preserve their contribution to our community character.
• Develop materials to educate and inform owners of large undeveloped lots of their options for preservation and conservation under state law and through land trusts.
• Encourage cooperative use of recreational wharves to minimize altering the natural appearance of our shoreline.
• Develop regulations to limit maximum speeds and sound of personal water-craft (jet skis) within Harpswell waters.
• Identify and inventory points of traditional public access to the water over private land. Work with landowners to perpetuate that access.
• In addition to increasing allowable density of development in village areas, continue to allow mobile and manufactured homes anywhere in town. Amend land use ordinances to encourage multifamily housing in village areas where septic treatment methods can protect groundwater quality and groundwater supplies are sufficient.
• Explore creation of a public program to provide for affordable housing.
• Undertake a program to identify and replace failed septic systems in villages.
• Identify and inventory historic structures in town and work with owners to protect their historic character.
• Develop a local plumbing code designed to reflect Harpswell’s soil conditions and sewage treatment needs, take into account new septic technologies, and protect our groundwater quality.
• Continue and possibly expand town financial support for our volunteer emergency services.
• Conduct studies to determine available groundwater supply capacity in village areas.
• Undertake a program to acquire and develop new points of public water access.
• Survey the Town-owned land in the Town Center to determine its development constraints and develop a plan for its future use.
MARINE ENVIRONMENT

Background  A close connection to the sea has always been at the base of the Harpswell economy and quality of life, and the sea will remain the heart and future of Harpswell. Fishing, shellfish production, boat building, boatyards and marinas, kayaking, restaurants, lodgings, even real estate and the resulting construction of new homes -- all of these businesses and others are rooted in our relationship with the sea and depend on a healthy marine environment. Much of the everyday quality of life in Harpswell also derives from our intimacy with the ocean. Among the important elements of Harpswell’s marine environment are unpolluted water, a productive sea floor, coastal marshes, shellfish beds, coastal waterfowl and wading bird habitat, eelgrass beds, sea bird nesting islands, and essential habitat for federally listed endangered species.

Trends  The growth of some of these activities threatens the well being of the marine environment. Development, whether on the waterfront or inland, increases the potential for erosion, sedimentation, and storm water runoff. In addition, waterfront development intrudes permanently into vegetation that previously buffered wildlife’s use of the shoreline. Added sediment and boat traffic over eelgrass beds can limit their growth or cause them to die back. Pesticides and fertilizers on new lawns and gardens near the shore threaten the marine ecosystem and fishing. Septic systems near the shore and streams that drain into the ocean send the nutrient nitrogen to the sea. These and other sources contribute nutrients beyond natural levels, thus stimulating growth of marine algae and plankton, and lowering dissolved oxygen in marine waters. There are ongoing impacts from existing development that prevent the harvesting of shellfish in major portions of the Town. Failing septic systems contribute to coliform bacteria counts in adjacent coastal waters that trigger the prohibition of shellfish harvesting under federal regulations. Overboard discharge systems (OBDs) that were licensed by the State until the late-1980s result in closed shellfish areas. Marine toilets pollute marine waters when emptied at sea or in harbor. Marine littering can injure a variety of sea creatures.

Analysis/Issues  Some of these trends are already being addressed. Over the past several years, with financial help from the Maine DEP, overboard discharge systems are being replaced and have decreased from a peak of 127 to 93 remaining systems. Some clamflats have been reopened to harvest. Marine toilet pump-out stations have been set up at local marinas. New waterfront construction uses erosion and sedimentation controls. Shoreland zoning vegetation buffer requirements are being more strictly enforced and penalties for violations have been increased. The town is participating in two regional efforts to protect and improve the marine environment.

Much more needs to be done if Harpswell is to maintain and protect the high quality marine environment upon which our marine and tourist industries and our quality of life depend. Shoreland setbacks and vegetation buffering need to be extended to streams which drain into the sea. Existing homeowners and waterfront users need to be informed about and encouraged to create vegetative buffers wherever reasonable. Nitrogen loading from septic systems needs to be addressed. Commercial and recreational boaters need to
be encouraged to respect and protect the marine environment. New opportunities for coordination with neighboring towns and regional organizations working to address shared marine resource management issues must be explored.

Opening shellfish areas that are closed requires not just OBD removal, but correction of other problems that impede good water quality and contribute to closures. New septic system technology offers more options for treating wastewater adequately.

The Town must manage its growth in ways that best preserve and protect the marine environment and its dependent livelihoods and lifestyles.

**Goal: Maintain a high quality marine ecosystem.**

* Policies

- Ensure that Town ordinances have adequate provisions for review of any proposed activity that could adversely impact the marine environment.
- Establish Town performance standards to minimize the impact of new construction on streams that feed into the ocean.
- Ensure that Town ordinances are adequate to minimize and control septic, sediment, nutrient, and other non-point pollution sources.
- Cooperate with other towns on Casco Bay to monitor the marine ecosystem and create multi-jurisdictional policies that protect the marine environment.
- Encourage marine-related businesses to operate in a clean and responsible way and support their efforts through publicity and other means.
- Increase general public knowledge of how to protect the marine environment from harmful human activities.

* Action Recommendations*

- Further restrict the use of herbicides, fertilizers, insecticides, growth regulators, and toxins near the shoreline to reduce their harmful effects on Harpswell’s waters. As a general guideline, a 100-foot setback is recommended (the same distance the State requires for septic systems).
- Continue Town’s grant program to eliminate overboard discharges.
- Maintain strong code enforcement efforts to protect the marine environment.
- Continue to participate in the New Meadows River Watershed Project and the Friends of Casco Bay. Explore possibilities for new regional efforts to monitor and improve the quality of the marine environment.
- Explore new septic system technologies which may reduce nitrogen nutrient loading of the marine environment.
- Support efforts to improve utilization of pump-out stations and trash disposal facilities.
- Commit resources to develop educational materials on the value to Harpswell of a high quality marine environment for use in schools and distribution to residents.
• Develop and distribute educational materials to encourage homeowners to adopt best management practices for minimizing pollution from run-off by maintaining good vegetative buffers along the shore and streams draining to the shore.
GROUNDWATER RESOURCES

**Background**  Harpswell has 24.6 square miles of land area located on a long, narrow peninsula and three large islands, comprising 216 miles of shoreline. Harpswell’s groundwater resources are limited to bodies (or lenses) of freshwater, supplied initially by rainfall and floating underground on the surface of heavier marine groundwater that surrounds and underlies all of the Town’s land masses. This water largely resides in bedrock and moves through the fractures in that bedrock. There are no documented sand and gravel aquifers in Harpswell and no water bodies that either could or do serve as public reservoirs for the Town. The amount of water available at any given location depends upon the degree of bedrock fracturing at that point. Harpswell residents and businesses depend for their fresh water needs on this limited and vulnerable-to-contamination groundwater resource. There are a few mapped areas containing known high-yield bedrock wells, and some additional mapped locations of known moderate-yield bedrock wells. The precise boundaries of these high and moderate yield areas and of their recharge areas are not known. With the exception of 93 properties served by overboard discharge systems, all of Harpswell’s residents and businesses also rely on individual septic systems to treat their wastewater before it is discharged to the groundwater.

**Trends**  Over the years, Harpswell’s groundwater resources have been studied – once in a 1982 town wide study, again via well surveys in the 1990s, and again in a town wide study completed in 2001. Documented problems include septic system failures contaminating nearby wells, salt water intrusion due to overuse of local groundwater, various types of petroleum product spills, road salt showing up in well water, and high sodium and chloride levels in well water from water softeners in nearby septic system effluent. Not surprisingly these problems have been concentrated in smaller, narrow land masses and areas with the highest density of development. Harpswell’s 2001 Drinking Water and Sanitary Septic Study – Phase I by Wright-Pierce, mapped 6 multiple groundwater impact areas, including the north end of Bailey Island and south end of Orr’s Island, Cundy’s Harbor, Potts Point, Long Point and Merriman Cove. The percentage of wells whose water exceeded water quality standards for nitrate and bacteria grew substantially between 1982 and 2000. Bacteria exceedances rose from 2% (19 in 939 wells tested) in 1982 to 38.6% (128 of 332 wells tested) in 2000. Nitrate exceedances rose from 0.7% (7 in 939 wells) to 14% (34 of 242 wells tested).

**Analysis/Issues**  It is clear that new growth in Harpswell can pose significant threats to the quantity and available quality of Harpswell’s groundwater unless carefully managed. The trends and existing multiple impact areas noted above and many other documented single or dual impact locations already pose health hazards that need to be addressed. Density of development is an important element in causing existing groundwater quantity and quality problems, and properly managing future development will be essential to preventing additional problems. Areas with the right soils can accommodate development better than those with less desirable soils, although few areas of Harpswell have what are considered “good” soils. Yet, basing the Town’s future density limitations solely on soil types would conflict with other desirable outcomes, especially strengthening the Town’s historic villages, maintaining the Town’s overall community.
character and preventing the suburbanization of Harpswell. The solution is to encourage growth that would sustain these desirable features of Harpswell while establishing carefully applied performance standards to minimize the adverse impacts of septic disposal and other threats to the Town’s groundwater quality and to ensure sufficient groundwater recharge, all despite the Town’s widespread soil limitations.

Harpswell’s groundwater concerns can be divided into quantity issues and quality issues.

**Groundwater Quantity** Available groundwater recharge varies according to soil types. Some soils are better than other soils at absorbing rainfall and discharge from septic systems and transmitting them to the groundwater. The Drainage Basin Analysis Map prepared for this plan shows the percentage of available recharge presently in use in each watershed and identifies watersheds where an adequate supply of groundwater is at risk from further development. Groundwater use is considered excessive when it exceeds 15% of available recharge. The use of available recharge in Harpswell’s drainage basins varies from under 10% to a maximum of 30% (Cundy’s Harbor). In addition, the Town’s groundwater studies have identified some localized instances of wells going dry and instances of salt intrusion. In at least some instances these may reflect small sub-areas within individual drainage basins where use exceeds recharge due to demand for water from existing development, relative to the ability of the local soils to facilitate adequate recharge. With the exception of these localized instances and a portion of Cundy’s Harbor, Harpswell’s overall use of groundwater does not exceed available recharge and there generally appears to be sufficient available groundwater to support well-managed growth for the foreseeable future.

Salt water intrusion into wells is a related groundwater quantity problem. It occurs where the groundwater lens is shallow along the shoreline. If too much water is drawn, the bottom of the lens rises enough for the salt water below to reach a well. Shared, communal wells, already in use in some places in Town, can help make sufficient water available to development on smaller land masses and points and in more densely developed areas where salt water intrusion is, or threatens to be, a problem. Requiring new wells to be located farther from the shoreline would also reduce the potential for salt water intrusion.

Other measures can also help assure adequate supplies of groundwater. Water conservation techniques can reduce demands on the groundwater. While impervious surfaces associated with development can diminish groundwater recharge, managing the run-off from the impervious surfaces to facilitate its absorption into the ground can minimize this problem.

**Groundwater Quality** The major man-made groundwater quality problems Harpswell faces are excessive nitrate-nitrite contamination from septic systems, bacterial and other pathogenic contamination, petroleum product and other toxic spills, use of sodium chloride type water softeners, and contamination by road salt. Nitrate-nitrite concentrations, in fact, are likely to show up as problems long before new impervious surfaces limit recharge enough to cause groundwater quantity problems. Use of new septic systems technologies can substantially reduce nitrate-nitrite discharge to the
groundwater. Threats from bacterial and other pathogens can be reduced by assuring proper location, construction and maintenance of septic systems, as well as identifying and replacing failed and inadequate systems. Soil types also play an important role here with some types better at treating waste and preventing groundwater contamination than others, although new septic system designs and technologies can greatly reduce the adverse impacts of the less effective soil types. Petroleum product spills can be reduced with better installation and inspection of home heating oil storage and piping, especially with regard to underground and outdoor tanks. Other petroleum and toxic spills resulting from certain commercial activities or individual acts can be reduced through education. Changing to potassium based water softeners can eliminate salting problems from sodium chloride softeners. Careful management and the use of alternative de-icers can help avoid contamination from road salt.

Goal: Protect the Town’s groundwater in order to provide a safe, adequate water supply.

❖ Policies:

• Reduce or eliminate groundwater contamination, and threats of contamination, from existing development.
• Protect groundwater quality from potential threats from future growth and development.
• Assure that future groundwater use does not exceed available supply.
• Improve general public knowledge of how to protect groundwater quality and assure sufficient groundwater quantity.

❖ Action Recommendations

• Continue to rigorously enforce the requirements of Maine’s Subsurface Wastewater Disposal Rules. Develop materials to advise subdivision developers and plumbing permit applicants of the septic designs and technologies that will best protect groundwater quality.
• Develop and adopt a Town Plumbing Code that takes into account the limitations of Harpswell’s soil types and its unique geology and geography. Utilize septic system designs and technologies that maximize treatment of bacteria and other pathogens and minimize discharge of nitrates and nitrites to the groundwater.
• Undertake detailed analysis and mapping of soil types and groundwater flow in villages where growth will be encouraged. Design density determinations, plumbing code requirements, and other land use performance standards designed for the local conditions in order to avoid groundwater contamination and assure sufficient groundwater supply. Identify possible sites for community wells and explore feasibility of small scale water supply and sewage treatment systems for villages.
• Review adequacy of existing land use performance standards to manage run-off for new development and redevelopment projects to protect groundwater supply from contamination and to maintain sufficient groundwater recharge.
- Identify and map moderate and high yield aquifers and their recharge areas. Adopt measures to assure future quality of groundwater in these areas.
- Develop better incentives to encourage the use of communal wells and septic systems in problem areas and subdivisions that propose cluster or open space development.
- Develop and distribute to the public, and incorporate into the school curriculum, materials regarding the nature and limitations of the Town’s groundwater resources. Stress the importance of protecting groundwater quality and assuring adequate quantity, and the types of activities that can jeopardize groundwater quality and quantity.
- Develop and distribute materials regarding conservation practices that residents can employ to help assure adequate supplies of groundwater, especially in areas subject to salt water intrusion.
- In areas of groundwater contamination, work with owners of the contaminated properties to effect cleanup and prevent additional contamination.
- Adopt Town standards or other programs, if necessary, to assure proper installation and maintenance of petroleum product storage tanks and piping.
- Examine the Town’s use of road salt to avoid excessive use. Explore whether alternative de-icers would meet safety and budget needs while reducing threats to groundwater quality.
- Establish shoreline setbacks for wells in the Shoreland Zone.
- Develop a program to assure regular septic system pumping and maintenance.
- Explore whether considerations of groundwater quality and quantity in older, small scale neighborhoods require limitations on seasonal conversions and the scale of redevelopment.
- Develop a program for replacement of failed and obsolete septic systems.
NATURAL HABITAT

Background The Town of Harpswell has a uniquely diverse natural and marine environment, due in large part to its distinctive geography as a town with long narrow peninsulas and over 40 offshore islands. With 216 miles of shoreline encompassing 24.6 square miles of land, one is never very far from the sea in Harpswell. The topography is varied with many areas of steep slopes and spectacular scenic views from both the water and the land. Outside of densely developed areas, most of the land is forested. The forest sometimes reaches directly to the sea or tidal flats, and less often to coastal marshes. Within the forest are many freshwater wetlands (swamp, marsh or bog) of varying size and ecological importance.

Freshwater and coastal wetlands serve several important functions, including but not limited to groundwater recharge, sediment retention, floodwater retention, plant and animal habitat, fisheries habitat, educational and cultural values and cleansing of water that drains across the land to adjacent shellfish areas. Coastal wetlands are also one of the foundations of the marine food chain. The Harpswell Conservation Commission, Town committees and the State have developed detailed wetland information that now allows the Town to make informed judgments and policy decisions based on the relative functional values of wetlands and their vulnerability to development.

Occasionally, open fields that are still used for hay production or grazing break the forest cover. Other fields are unused and are in the process of reverting to forest. Offshore there are multiple small islands, many of which are designated as seabird nesting islands by the State. Many of Harpswell’s intertidal areas are important feeding and staging areas for shorebirds, wading birds and migrating waterfowl, as are some inland wetlands. Eelgrass beds provide vital habitat for a number of important marine species. Bald eagles also nest and feed in Harpswell. In the spring as snow melts, vernal pools, important to rare amphibian, reptile and insect species, are formed for a few weeks. These intermittent wet areas provide critical reproductive cycle assistance to these species. These pools are often invisible except in spring which often leaves them susceptible to development.

Trends From 1998–2003, the Town issued over 300 building permits for new residential construction. Assuming an average two acres of land for each new residential unit, over 600 acres of undeveloped land, most of it in forest and a small proportion in wetlands, has been converted to residential use. Where new roads have been built to accommodate new units, additional acreage in forest has been lost and streams and wetlands have been crossed which increases the problems of runoff. Sometimes such roads fragment large remaining undeveloped areas of wildlife habitat into smaller pieces which reduces the diversity and/or abundance of wildlife species.

Analysis/Issues Wetlands, streams, vernal pools, mud flats, eelgrass beds, the sea and off-shore islands are the most important wildlife habitats in Harpswell; and wetlands and streams in particular are in short supply when Harpswell is compared to Maine as a whole. One critical natural resource policy issue is the need to extend selected shoreland
zoning protections to forested wetlands and wetlands of less than 10 acres. Another issue is managing new road locations to minimize habitat fragmentation. A related issue is the need to limit development impacts on upland wildlife habitat and the remaining travel corridors which are used by various species to find food and mates. Other issues involve erosion and sedimentation controls, runoff pollution of marine waters, and identification and protection of vernal pools.

**Goal:** Preserve and protect sufficient habitat to maintain current diversity and health of wildlife.

- **Policies**
  - Ensure that new development does not encroach upon critical natural areas or essential wildlife habitats.
  - Require setbacks from all five+ acre wetlands and streams that drain into the ocean sufficient to protect their ecological value and functions, and their integrity as wildlife habitat.
  - Encourage the owners of wetlands, vernal pools and other essential wildlife habitats to use their property in a manner which does not jeopardize the habitat value of their land.

- **Action Recommendations**
  - Identify and map critical natural areas and essential wildlife habitats and travel corridors.
  - Create and adopt a Town Open Space Plan.
  - Develop ways for critical natural areas and essential wildlife habitats to be preserved while allowing the landowner beneficial use of his or her property.
  - Revise land use ordinances to protect the functions and values of the town’s larger wetlands and its streams that drain into the ocean.
  - Develop and implement a plan for protecting critical upland habitat, wildlife travel corridors and vernal pools. Explore the use of conservation easements, land acquisition, transfer of development rights and managing the location of new roads to help accomplish this.
**Background** Harpswell has benefited from a demographic mix, both economic and cultural, of residents who enhance the community’s quality of life. However, market forces and demographic trends threaten to change the composition of Harpswell. Harpswell is the least affordable community in the Bath-Brunswick housing market, and possibly in the entire State of Maine. Nearly all the town’s year-round housing is single-family housing and most of it is owner-occupied. Year-round rental housing is in short supply, and there are very few duplex or multifamily buildings available. There are some renter and owner-occupied mobile homes on individual lots in Harpswell. As of 2000, about 22% of the year round owner-occupied housing stock dates from 1939 or earlier, about 19% from 1940 – 1969, and about 59% from 1970 through 2000. For year-round renter-occupied housing, these percentages are about 28%, 22% and 50% respectively.

**Trends** Harpswell is in the midst of a profound change from being primarily a fishing and marine industries town to becoming a predominantly bedroom community and retirement community. This is reflected in the rapidly increasing price of land and property. The median sale price of a single-family home in Harpswell has increased from $167,000 in 1995, to $251,000 in 2000, to an estimated $495,000 in 2004. A family would have to earn over $155,000 -- more than three times Harpswell’s median family income of $46,000 -- to afford the median-priced home. The State’s land valuation for Harpswell is now doubling every 4 years. By contrast, the median sale price for a home in Brunswick in 2000 was $129,000. The median home price in Harpswell among all Maine towns has gone from 6th highest in 2002 to 4th highest in 2003, and preliminary statistics indicate it may be the highest in Maine for 2004. Clearly, wages and salaries of people in Harpswell and surrounding towns are not rising at nearly the same rate as land, home prices and rents. There is already a chronic shortage of housing affordable for renters, first-time homebuyers, elderly households and individuals in need of assistance with mobility and day-to-day living. Land prices away from the waterfront may be driven upward by the limited supply of inland house lots in Harpswell. The teardown phenomenon also contributes to rapidly rising property values, fueling the increase of insurance costs and property taxes on surrounding properties. Mobile homes are allowed throughout Harpswell, but the rising price of land makes it increasingly limited as an affordable housing option.

**Analysis/Issues** All of these statewide, regional, and local trends add up to an increasing shortage of affordable housing in Harpswell. Although such a shortage is common to the region and the state, it is more acute here. In addition, national market forces are compounding the issue: the proportion of real estate transfers to out-of-state buyers continues to increase. In the past 3 years, out-of-state homebuyers paid an average of 1.5 times as much for a home in Maine as Maine residents. As the price of a home on Harpswell’s shorefront continues to rise the assessed value of nearby properties increases.

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4 Statistics from Maine State Housing Authority.
Our community character, in part, is based upon our diverse population. Lack of affordable housing reduces our community’s diversity. If recent trends continue, Harpswell will become a community of small households headed by an increasingly older population. With rising housing prices and no new multi-unit development, young individuals and families just starting out, even those with average incomes, will not be able to call Harpswell their home. A lack of diversity of population may slowly erode the vibrancy of life in Harpswell. Young families and their children become involved in local schools, sports and recreation. Some citizens become active in local government, social clubs and other community-based organization. Still other residents help to keep the fishing industry important to the local economy. To preserve this demographic mix, Harpswell must manage new development in order to provide a range of housing opportunities.

The Town has little control over most factors contributing to rising housing costs. Even the cost of maintaining some Town services at present levels is rising, and local taxes may reflect this increase in the future. However, the Town can influence the availability of housing by how it manages new development. Currently, Harpswell ordinances do not prevent any form of housing from being developed almost anywhere that new residential structures are allowed.

According to the federal government, an affordable house, including insurance and taxes, must not cost more than 30% of the household’s total income. In Harpswell, two in five renters and one in five homeowners are paying over a third of their household income in housing costs. A higher proportion of Harpswell households are burdened with higher housing costs than is true for nearby towns or Maine as a whole. Almost 85% of residents surveyed in 2002 said that some form of affordable housing is needed, particularly for seniors, people who work in Harpswell, and young people starting out.

The goal of the State of Maine is that each municipality should seek to assure that at least 10% of all new housing is affordable to low and moderate income households (those earning less than 80% of median household income for Cumberland County). Since the price of housing will likely continue to rise faster than the median household income, the need for affordable housing in Harpswell will be well above 10%. If Harpswell is to provide for a housing supply that can meet the needs of a full range of household types, diverse ages, and income and workforce skills, the Town will need to take proactive steps.

**Housing as related to Land Use**

**Background** Land use regulations can have a significant effect on the cost of housing development. They have a strong influence on the supply of land for housing development within a municipality. They can determine where housing is allowed and is not allowed, as well as what types of housing can be developed, and at what density. Subdivision regulations that set minimum construction standards for roads, a major element of development expense, also influence the cost of development. On the one hand, land use regulations of residential uses can help protect neighborhood values,
individual property values, public safety, environmental quality, and other amenities. On the other hand, they may add cost to housing development that must be passed on to homebuyers if developers and landowners are to make a profit on their land and construction. Every community tries to balance these competing community values.

In Harpswell, with few exceptions, local land use regulations do not prohibit housing development of any kind in any location. All forms of year-round and seasonal housing are permitted nearly everywhere. Only within the 75’ minimum setback from the shore and from wetlands subject to shoreland zoning is year-round housing development prohibited, although some critical areas, such as Resource Protection District, severely limit new housing construction. Seasonal housing is allowed everywhere except in Commercial Fisheries I Zone. The minimum lot size in Harpswell is 40,000 sq. ft. in or out of the shoreland zone, unless a subdivision is being created, in which case, 80,000 sq. ft. minimum lot size is required. In response to private roadway maintenance issues in recent years, the Town has adopted a Roads Ordinance that sets minimum construction standards for roads in subdivisions.

**Analysis/Issues** The Town of Harpswell is less restrictive than most coastal towns in southern Maine concerning the range of housing types and allowable density that are permitted. Unlike many towns, Harpswell has not chosen limited areas within which to allow mobile homes; under law they are allowed wherever they can meet state licensing requirements and local subdivision approval. Conversely the Town's ordinances are stringent in regards to the construction of multifamily homes by requiring, at a minimum, 40,000 sq. ft per dwelling unit. This is evident by the fact that no new multifamily housing has been built in Harpswell since the 1980s.

If land use regulations are to provide for affordable housing, they will need to be adjusted. One such adjustment may be to require or to provide incentives for subdividers to create and sell some minimum proportion of new housing units at prices that are affordable to households that are now priced out of the market. Some communities have done this effectively by requiring that a set percentage of the units in a subdivision will be marketed at affordable prices. Another effective method may be to provide a density bonus to subdividers who agree to create affordable units. Regulations that allow smaller minimum road frontages per unit can facilitate creation of affordable housing units. Smaller minimum road length can lead to lower per unit development costs. It is likely, however, that Harpswell’s high land prices will work against developers utilizing optional affordable housing incentives without other measures, such as partnering with a non-profit housing development agency, a land trust interested in reserving land for affordable housing, or State or federal housing programs. One such program is Maine’s new tax increment financing program for affordable housing. Another form of financial assistance that could work well with affordable housing-friendly land use regulations is the dedication of municipal land for development of affordable housing. However it is accomplished, development of affordable housing units will require a combination of land use regulation and other non-regulatory institutional support.
Goal: Provide a range of housing opportunities to meet the needs of Town residents.

❖ Policies:

- Encourage housing development and affordable housing, including multifamily buildings, at appropriate sites in village districts and town district.
- Encourage less housing density and use of clustering and design that is sensitive to scenic, open space and habitat values in rural areas.
- Generally maintain current density and scale of housing development in waterfront and rural neighborhoods and settled villages.
- Pursue the development of 5-10 new affordable housing units annually over the next ten years.

❖ Action Recommendations

- Amend land use ordinances to enable creation of more affordable housing lots and multifamily housing in the village districts and, possibly, in the town district.
- Amend land use ordinances to encourage clustering, to protect scenic, open space and habitat values, and to prevent sprawl and suburbanization in rural areas.
- Revise “in law” apartment provisions of land use ordinances to accommodate family needs while protecting quality and quantity of groundwater.
- Require and/or enable larger subdivisions to provide some affordable housing lots or contribute toward affordable housing elsewhere in Town.
- Create a Housing Committee to pursue development of affordable housing; to identify programs, mechanisms and possible Town approaches to developing affordable housing; and to investigate funding and possible sponsors or public/private partnerships for affordable housing, such as Habitat for Humanity.
- Provide support and referrals to programs such as meals-on-wheels, health care, transportation and personal services to residents to assure that they can remain in their homes as long as possible.
- Sponsor educational sessions on credit, home ownership, and other issues related to housing to help first time buyers and others obtain and keep affordable housing.
MARINE ECONOMY

Background  Activities related to the sea have always been the backbone of Harpswell’s economy as well as contributing a great deal to Harpswell’s community character. Harpswell’s marine economy has two major aspects: (1) commercial fishing and its related services and suppliers, and (2) recreational boating and its associated tourism, services and suppliers.

According to a 1999 Harpswell Fishing Industry Profile, commissioned by the Town, Harpswell had one of the highest concentrations of commercial fishing on the Maine coast. The report estimated that there were about 200-250 active licensed commercial fishermen and about an equal number of full and part time crew. The core of the local commercial fleet was estimated then at 236 fishing boats, of which 201 were lobster boats. There are 15-20 commercial fishing wharves scattered about Harpswell.

The 1999 report estimated that commercial fishing based in Harpswell provides full or part time employment for between 400 to 500 persons locally. Another 60-80 Harpswell jobs were in related local services and suppliers. Local restaurants and seafood sellers also depend directly on marine resource harvesters. Overall, the report estimated that fishing related occupations probably represent 50% to 60% of local full and part time jobs.

Shellfish harvesting is also important to the Town’s marine economy with about 85 commercial shellfish harvesters in Town. The Town operates a strong shellfish conservation and enforcement program.

Harpswell also has two marina/boatyards, at least two additional boatyards, at least one boat builder and a commercial kayaking outfit, all of which generate demand for additional services and supplies. Many summer and year-round residents own recreational boats and spend money locally operating and maintaining them. Food and lodging facilities around Harpswell depend for part of their business on Harpswell’s attraction for recreational boaters and waterfront users.

While there are no specific job numbers available for tourist businesses, second home construction and recreational boating businesses, it is clear those jobs added to commercial fishing jobs make up the lion’s share of local employment.

Trends  Commercial fishing and shellfishing in Harpswell remains strong. In 2004, the total number of commercial marine harvester licenses in Harpswell was 630, of which 85 are for commercial shellfish harvesting. Excluding the commercial shellfish harvesting licenses, there are 545 licenses that are held by 375 commercial fishermen giving Harpswell as their principal port. In 1999, there were at least 419 boats used in connection with commercial marine harvesting licenses in Harpswell. In 2004, there

5 Report available at Town Office
were 436 boats of which 224 were lobster boats. The number of commercial fishing wharves has increased somewhat in recent years.

In 1993, 50% of Harpswell’s shellfish areas were closed to harvesting although that figure was a substantial improvement over past peak closure such as the closure of 89% of Harpswell’s shoreline to clamming for part of 1989. Since the inception of the State’s overboard discharge removal program in 1994, the number of licensed overboard discharges has been reduced from 127 to 93 (27%) reduction. Nonetheless, a significant portion of the town’s shellfish areas remain closed due to pollution or the existence of the remaining licensed overboard discharges.

Recreational activity on and along the waterfront continues to grow as Harpswell’s year-round and seasonal residents increase in number. In 2004, the Town approved a rezoning to enable a local marina to expand to meet increasing demand. The pace of second home development, and the jobs it supports, is strongly related to the attraction of Harpswell’s seashore. The demand for mooring in Harpswell has increased substantially as harbors elsewhere have filled to capacity. Nature-based tourism is a growing business locally and statewide.

**Analysis/Issues** Increasingly, Harpswell’s fishermen find themselves in conflict with the growth in recreational and residential development over continued access to the water, living on the waterfront, use of marine facilities, mooring space, and damage to and limitations on setting fishing gear. Among the issues discussed by those who were interviewed for the 1999 Harpswell Fishing Industry Profile, “there were several topics that were common to all of the interviews and focus groups. These included the following concerns:

1. There is a potential for future losses of commercial fishing uses under real estate pressure for sale or conversion to non-fishing uses.

2. The Town will face increasing pressure to deal with issues of harbor management, moorings control, and enforcement as recreational and transient boating use continues to expand in Harpswell.

3. Ultimately, the continuity of the fishing industry depends on adequate waterfront access. Existing public access points owned by the Town do not provide parking. As real estate values escalate and development pressures increase at the waterfront, the availability of privately owned access points may diminish.

4. The heritage and community character of Harpswell are defined by the presence of a commercial fishing industry. As the Town attracts more growth and investment in waterfront property, the future land uses that are allowed in the shorefront zones could determine how that character changes or is retained.”

While the recent increase in commercial fishing wharves indicates that this vital access is being maintained, the future threat of working waterfront loss to residential development remains.
Some 20 publicly owned (Town and State) points of access in Town provide some assurance of continued access to the water and flats for shellfish harvesters. However, the lack of parking and other facilities at some of these access points limits their usefulness to shellfish harvesters.

All of these issues need to be addressed by the Town.

**Goal:** Encourage and promote the retention and growth of marine economic activities including but not limited to fishing, shell fishing, boat building, tourism and marine supply and service.

*Policies*

- Preserve and protect vital water access for commercial fishermen and other economic activities that support the Town’s working water front and strengthen the Town's marine economy.
- Pursue actions consistent with the protection, conservation, maintenance, and restoration of shellfish habitat and other fishing resources.
- Manage harbors and mooring placement to meet the needs of both commercial fishermen and recreational boaters.
- Allow marine related activities such as boat and gear storage and maintenance throughout the Town.
- Undertake actions to improve usefulness of existing public water access points and maintain traditional private access points for commercial fishing.
- Support further development of boat building, recreational boating and related activities.
- Support measures to strengthen tourism development that will complement the growth of the marine economy.

*Action Recommendations*

- Adopt zoning and land use measures to protect working waterfronts from the pressure to convert them to residential use. Review the current Shoreland Zoning boundaries for the Commercial Fishing Districts to protect areas in Town that are critical to commercial fishing. Consider having more restrictive land uses in Commercial Fishing Zones. Consider other land use ordinance changes to encourage boat building and economic activity related to recreational boating.
- Hold public forums to identify and establish working waterfronts in Harpswell.
- Consider an increase in marine related fees to support additional Town services provided for marine related issues.
- Continue to provide funding for effective shellfish conservation and enforcement.
- Develop harbor management plans for crowded mooring areas.
- Resolve title issues of public access points and develop adequate parking and maneuvering space at them.
• Publicize the importance of marine related activities to Harpswell's local economy and potential threats to the vitality of the industry.
• Create an informational database to monitor the health and well being of commercial fishing and tourism in Town.
PUBLIC SERVICES

**Background** Harpswell’s community facilities and services include general government, schools, recycling, recreation, police, fire and emergency response, libraries, and transportation infrastructure. The Town depends on various committees, boards, and commissions, to advise the Selectmen. Harpswell has a high level of volunteer participation on these committees. The experience and special knowledge these volunteers offer are invaluable.

**Trends** Facilities and services necessary to support the Town’s growth and development have increased in quantity, quality and cost over the past ten years. The Town has eliminated its solid waste incinerator and landfill and established a new recycling center. Harpswell has recently completed a major expansion of the Town office building. It serves to accommodate a broader range of municipal services. The Town has received the former Fuel Depot property on Harpswell Neck from the Navy and designated the 118.5-acre property as George J. Mitchell Field. As demand for Town services has been triggered by increased population, the population’s age profile also is changing. According to the 2000 Census, older adult and senior age groups increasingly represent a larger portion of the population while population in school age children and young adult age groups has been declining.

**Analysis/Issues** A major challenge facing the Town is how to respond to the changing service demands that come with a growing and changing population. These challenges include maintaining neighborhood schools in a period of declining enrollment, and anticipating and determining how best to respond to changing municipal service needs that come with these shifts. Concurrently, the Town’s ownership of land has greatly expanded, thereby providing new opportunities for a variety of municipal, housing, and/or economic development uses. These trends may further strain the ability of volunteers and existing Town staff to continue providing services at current levels. Accordingly, questions for the Town in coming years concern how to more effectively coordinate volunteer, staff and elected officials’ activities, and consideration of new forms of Town governance, administration and public safety/emergency response.

**Town Administration**

**Background** Harpswell governs itself through a Town Meeting – Selectmen – Town Administrator form of government. There are three Selectmen, an elected Town Clerk, an elected Tax Collector, an elected Town Treasurer, and an elected Road Commissioner. The Town Administrator oversees the activities of the several Town departments, including Assessing, Codes Enforcement, Planning, the Recycling Center and Transfer Station, and Recreation.

**Trends** Since 1993, the Town has increased its staff as needed to address growing service demands that have accompanied the Town’s growth and development. These have included the addition of the Town Administrator position, more codes enforcement
staff, a full-time town planner, staff changes appropriate to switching from a Town incinerator to a recycling center and transfer station, a recreation director, and additional clerical and support staff. In addition to the Planning Board, Board of Appeals, Budget Advisory Committee, Conservation Commission, Solid Waste Committee and Marine Resources Committee, there are also a Harbor & Waterfront Committee, Fire and Rescue Committee, Recreation Committee, Library Committee, a Comprehensive Plan Committee, and a Town Lands Committee.

**Analysis/Issues** As Town Committees have grown in number, their respective roles have sometimes been unclear or apparently duplicative. With assistance of Town committees and others, the Selectmen will clarify roles of Town committees and boards by creating specific descriptions of the responsibilities for each. These descriptions will prescribe the respective authority of each committee, and to whom each reports. Annual work agendas should be cooperatively developed with priorities, reporting requirements, timelines, and possible funding requirements.

**Goal:** Provide services and facilities to meet the Town’s needs, now and in the future.

- **Policies**
  - Continue the tradition of volunteer service through boards and committees to provide Town government with broad public participation in determining the Town’s future and how services are best provided.
  - Ensure the Town is providing information, referral and services to maintain and meet the needs of a diverse population including health care, transportation, social services, recreation, and others.

- **Action Recommendations**
  - A Governance Committee will study the capacity of town services and explore possible regional and state resources to ensure that the needs of residents are met. This would include, but not be limited to, services such as Town administration, recreation, police, fire & rescue, education and waste disposal.
  - Form a volunteer advisory group of residents to conduct a comprehensive inventory of quality of life concerns of senior population. Identify basic needs of food, shelter, and health; determine deficits and identify means to solve problems (including regional efforts and grant monies). Additional concerns about transportation and recreation should be addressed.

**Codes Enforcement Office**

**Background** Proper codes enforcement is the front line of land use protection in town. Without it, land use ordinances and conditions of approval are not effective. The Codes Enforcement Office receives and reviews applications for building permits, plumbing permits, and other local permits required under the Town’s land use ordinances and the
State Plumbing Code. The Office also helps landowners and contractors to navigate these ordinances, alerting them to any need for approval from the Planning Board or Board of Appeals, and/or state or federal permits that they also may need. Codes Enforcement Officers, including the local plumbing inspector, are responsible to inspect for compliance with such codes and conditions as construction proceeds, as staff time allows. When violations occur, the Codes Enforcement Office is responsible for enforcing the ordinance standards.

**Trends** Over the past several years the Town has experienced a heavy burden of applications for new construction of homes, additions and wharves. Applications for new homes alone have averaged 50 per year. Until the late 1990’s, the Town attempted to meet its codes enforcement needs with one part-time codes enforcement officer. The volume of activity was such that the Town ultimately expanded its codes enforcement staff to two full time codes officers and a secretary. Subsequently, Town permit records have been better organized to keep them updated. In addition, the burden on codes enforcement staff from assisting the Planning Board with development review has been reduced with the hiring of a Town Planner and a Planning Assistant.

**Analysis/Issues** While a significant progress has been made, the Town still has codes enforcement issues to be addressed. Given Town growth, review times for applications may now be longer as they compete with on-going enforcement duties. Applications for land use permits that are approved by the Planning Board or the Board of Appeals are often approved with conditions. In some cases, applicants or their contractors do not adhere to these conditions. Land use ordinances in their current form are published in several individual documents – the Basic Land Use Ordinance, Shoreland Zoning Ordinance, Site Plan Review Ordinance, Subdivision Ordinance, and a Definitions Addendum. Organized with the intent of enabling applicants to obtain one ordinance that pertains to their particular application, in fact, the ordinances often have overlapping application, requiring more than one ordinance to properly address all code requirements. There is no broadly published notice of building or land use permits issued. Public knowledge of permits issued contributes to an informed citizenry, thereby assisting codes enforcement through their awareness of properly permitted activities. The Codes Enforcement Officers must balance land use concerns with private property rights. Since the Town’s valuable groundwater and ocean resources are shared, responsibility for their protection must be shared by all residents.

**Goal:** Assure that State and local regulations governing land use, plumbing, sewage disposal, and development are administered in a fair, conscientious, and even-handed manner.

**Policies**

- Create awareness that Harpswell’s land use regulations are designed to protect the public interest on behalf of the town residents.
- Develop a system for reviewing applications that ensures adequacy of the fee schedule to cover the costs, the ability of the Codes Office to review each application
in a timely manner, and allows for the necessary time for the Codes Officers to follow up on permits.

**Action Recommendations**

- The Codes Office should develop a systematic approach for ensuring that decisions by the Planning Board and Board of Appeals are complied with.
- Maintain a sufficient number of qualified Codes Enforcement Officers to handle the workload.
- Monitor all development and construction to assure that it is carried out in accordance with the applicable codes, regulations, and requirements of the project approval.
- Provide ongoing oversight of sewage disposal systems that are malfunctioning or illegal to assure that violations are addressed, and the resulting systems are functioning according to design, permit requirements, and local codes.
- Institute a public information program on septic system maintenance to assure that the public understands how these systems work and what actions are necessary to ensure their long-term operation.
- On a monthly basis the Codes Office will publish all building permits and certificates of completion at the Town Office and the Town website.

**Waste Disposal**

**Background** The Town's Recycling Center and Transfer Station is open most days during the week to receive a wide variety of recyclable materials. These materials are thereby removed from the waste stream and sold, in an effort to offset the expense of managing the Town's municipal solid waste. Materials presently being recycled include paper products, certain plastics, waste metals, glass, batteries, electronic goods, oil and paint cans. Bulk materials collected include construction & demolition debris, furniture, white goods, large metal items, propane tanks, tires, large batteries, ashes, brush, wood, leaves and yard wastes.

**Trends** In its implementation of the major recommendations of the ’93 Plan, the Town’s principal accomplishment has been the abandonment of its aged incinerator (dismantled in 1999) and the creation of a new transfer facility. A major function of the Harpswell Recycling Center continues to be the management and promotion of the Town’s recycling efforts. Household waste is now collected at the center, compacted, and shipped to out-of-town landfills. In recent years the Recycling Center has raised the percentage of recycled materials to more than 50% of the waste material deposited. In 2002 the Town's reached a record 56.6% which is above State recycling goals. Substantial increases in total materials deposited have also been observed in recent years, due in part to extensive construction activity. All of these changes have been accomplished with only a modest increase in staff. Certification training has enhanced staff efficiency.

**Analysis/Issues** The sale of recyclable material assets offsets operational costs to some degree, but this revenue varies with changes in market demand and price. It therefore
remains to be seen whether increased usage will lead to higher operational costs, raising questions as to whether the Town should encourage residents to contract privately for trash hauling service. Such services transport waste-to-waste management facilities out of Town, thus reducing local trash recycling and cost. However, whether these services recycle as extensively as Harpswell raises the question of their impact on the Town’s ability to continue to meet or surpass state recycling goals.

Goal: Continue to plan for the Town’s waste management needs to meet anticipated growth.

❖ Policies

- Maximize the revenues generated by recycling efforts and use them to offset the operating cost.
- Consider regional waste disposal efforts.
- Emphasize the use of incentives rather than penalties to stimulate more recycling.
- The town should commit resources to continuing the residential composting program.

❖ Action Recommendations

- Study the methods used by other towns to achieve higher rates of recycling.
- Continue and expand the Town’s recycling program.
- Provide periodic opportunities for disposal of items not currently accepted at the recycling center, including but not limited to automobiles and household hazardous materials.
- Budget annually for public outreach programs to educate the Town’s residents about the value of recycling.
- Recycling Committee and others will publish informational guides that explain the costs associated with waste disposal and the potential savings associated with waste-reduction and increased recycling. Particular emphasis will be placed on the environmental and personal benefits of reducing purchases of non-recyclable goods.
- Recycling Committee and others will consider methods for monitoring the improper disposal of waste that should be recycled.
- Research the merits of creating a Town composting program.

Schools and Education

Background Harpswell is a member, along with Bowdoin, Bowdoinham, and Topsham in S.A.D 75. There are four S.A.D 75 Board members elected from Harpswell. Harpswell students attend the West Harpswell and Harpswell Island elementary schools, and Mt. Ararat Middle School and Mt. Ararat High School in Topsham. In April 2004 total school enrollment in all grades for students from Harpswell was 598.

Trends The Town’s elementary school age population has fallen by 36% over ten years, down from 359 students in 1990 to 255 in 2000. This loss is partly due to the move of grade 6 to Mt. Ararat Middle School. Prior to the move of grade 6, enrollment was 21%
less, due to population losses. In 2003-4, the total elementary school enrollment in Harpswell was 248 students, with 173 enrolled at Harpswell Island School and 75 at West Harpswell School.

**Analysis/Issues** The viability of the West Harpswell School is an ongoing concern due to shrinking enrollment. Board members are concerned about the lack of citizen involvement in Town education affairs. The Town’s share of the 2003-04 S.A.D. budget was approximately $5.8 million, nearly twice the Town’s budget for all other services. This is comparable to Topsham’s contribution although Topsham has nearly three times as many students as Harpswell. The disparity in local financial aid to the S.A.D. system reveals an unfair formula for allocating costs among towns in the district.

**Goal:** Assure that the regional school system recognizes the changes in Harpswell’s school-age population, and continues to provide a high level of education for the Town's children.

**Policies**
- Maintain neighborhood stability with neighborhood schools.
- Seek equity in regional school funding formulas.

**Action Recommendations**
- Work with the Town’s legislative representatives to alter regional funding formulas to treat towns like Harpswell more fairly.
- To ensure the continued viability of Harpswell schools, develop affordable housing to attract families with children to live in Harpswell.
- Selectmen and S.A.D. 75 will develop incentives such as seminars, workshops, and conferences to attract citizens to assume a more active role in educational policy.
- Study ways to maintain the viability of local schools.

**Public Access**

**Background** There are about 216 miles of shore frontage in Harpswell, the most of any town in Maine. Harpswell also has a long tradition of open and easy access to the shoreline and to the water. Boating, fishing, camping, picnicking, swimming, and duck hunting are just a few of the activities that take place on or near the water. There are approximately 20 publicly owned (Town and State) points of access to landings, docks, beaches, scenic waterfront, islands and waterways scattered throughout town. Generous individuals have allowed residents access to traditional shellfish beds and beaches over private property. There are also a number of points of water access available for a fee through private marinas, wharves, and docks. In recent years the work of the Harpswell Heritage Land Trust has protected even more of the traditional points of access through easements and purchases.
**Trends**  In spite of this, the Town of Harpswell faces many challenges in maintaining access to the water. As the number of residents and summer visitors grows, Town landings have often become congested with vehicles and trailers due to limited parking space. This situation is frustrating to abutters, fishermen, and residents, and it poses a traffic safety concern. Many town landings are difficult to use because they need maintenance or repair. Others have been encroached upon by private development. Increasing development is also beginning to impact traditional access points through private property and on offshore islands.

**Analysis/Issues**  The Town must re-examine the present situation, identify problems, and take appropriate action in guaranteeing access to the shore. This can be accomplished through a comprehensive approach that links access to open space and recreation, involves cooperation with groups like the Harpswell Heritage Land Trust, and educates and involves the public.

**Goal:**  Provide safe and convenient access to the ocean including landings, docks, beaches, scenic waterfront areas, islands, and waterways with access points distributed throughout Harpswell.

❖ **Policy**

• Provide adequate access throughout Harpswell to the ocean including landings, docks, beaches, scenic waterfront areas, islands, and waterways.

❖ **Action Recommendations**

• Develop a plan to improve condition and function of existing access points.
• Determine where new access points are needed and develop a plan to establish them.
• Inventory and map types of existing public access including landings, docks, beaches, scenic waterfront areas, islands, and waterways.
• Identify access points most threatened by development and prioritize them for protection.

**Recreation**

**Background**  In 1995, the Town established a Recreation Department, recognizing the role of the Town in providing local recreational opportunity. Prior to that time, the Town, at the request of the Recreation Committee, appropriated funds annually for out-of-town recreational activities for Harpswell children such as swimming and skiing lessons, Little League ball and youth hockey. The recreation program continues to depend heavily on volunteer participation.

**Trends**  With the opening of the Trufant-Summerton Field on Route 24 in 1995, many new recreational opportunities in town were instituted. In 2002, the Town hired a part-time recreation director to plan and carry out a program of sports, exercise, arts, and lifelong learning and leisure activities for citizens of all ages. These programs benefit the
community by contributing to the good health and well-being of its citizens, and by building community cohesiveness as people come together from our geographically dispersed villages. National recognition of the need for increased physical activity, coupled with the pressures of development, has led the Town to continue developing lands for public use. Examples include the Cliff Trail behind the Town House and the planned Mountain Road walking path. The Town also recognizes the need to clarify and possibly increase protection of existing locations of public access to the water for swimming and boating.

**Analysis/Issues**  
Population growth and the increase in the average age of the population pose challenges where provision of recreation facilities and services are concerned. There is a shortage of local facilities for programs such as arts, music, crafts and pre-school and senior citizen offerings. Concurrently, the dispersal of the population among islands and peninsulas results in insufficient density to support such offerings in all three Town centers. The State Planning Office projects that school age population will drop from 638 students in 2002, to 447 in 2017. There also are challenges in communicating available programs and activities to all those who could take advantage of them. Contributing further to the problem is a shortage of usable open space that is accessible by the public at a time when remaining open space is subject to rapid development and subdivision pressures in the market place.

**Goal:** To enhance the quality of life and well-being of Harpswell's citizens both by continuing to preserve and develop its natural environment for outdoor recreation and by offering a well-planned recreation program of leisure, educational, arts and sports opportunities for all ages.

**Policies**
- Ensure the Recreation Department has adequate staffing and resources to meet the demands of the department.
- Provide sufficient facilities, both indoor and outdoors, to meet current and future recreational and community uses.
- Continue to develop partnerships with surrounding towns and communities.
- Encourage availability of and access to traditional inland recreation opportunities such as hunting, hiking and cross-country skiing.

**Actions Recommendations**
- Evaluate the need for further professional staffing for this rapidly growing department.
- Determine how long existing indoor town spaces can accommodate recreation activities, and examine the feasibility of constructing a centrally located recreation building.
- Evaluate outdoor spaces throughout the town for future recreational uses, including outdoor ice skating rinks, ball fields, walking routes, and playgrounds.
**Mitchell Field**

**Background** The former Fuel Depot site has been returned to the Town and named George J. Mitchell Field. The Town, in agreement with the Maine Department of Environmental Protection and the U.S. Department of Defense, has determined that the Field may be used as a multipurpose site for the benefit of Harpswell residents.

Mitchell Field is an asset for the Town of Harpswell. The site is 118.5 acres of field and forest with 2,600+/- feet of water frontage on Middle Bay. Such a large undeveloped parcel presents the Town with both exciting potential and legitimate challenges to be considered.

The geographic location, on the southern portion of Harpswell Neck, of the site is such that it is isolated from major transportation routes and population densities. To avoid contamination from residual fuel in the ground, any pumping of ground water is limited to 450 gallons per day for the foreseeable future. This is barely more than enough to support a single household. Such factors suggest severely limited capabilities of the land to support business or residential activity. They do not seriously restrict recreational, educational or conservation uses.

Consideration should also be given to the water access of the site and the opportunities this may present for certain water dependent activities. The site provides ample opportunity for scenic vistas out over deep waters. However water dependent uses may be limited due to the exposed nature of the anchorage. The considerable cost anticipated to renovate (or demolish) the existing pier (estimated at $1,000,000+) may limit the Town’s ability to use the field for boating or fishing activities. While the land seemingly provides the Town a large undeveloped parcel on which it can shape future uses, these potential problems need to be recognized in any planning efforts the Town may undertake.

**Goal:** Within the site’s limitations, utilize Mitchell Field to best serve the interests of Harpswell’s people.

- **Policies**
  - The initial primary use of Mitchell Field should be recreation, education and conservation.
  - Resolve the future of the pier, water tower and existing buildings.

- **Action Recommendations**
  - The portion of the Field, south of the paved roadway that is wooded and largely undisturbed should be set aside for conservation and low impact recreation.
  - Designate and develop the level area near the gate for active recreation, including the construction of playing fields to expand the recreational opportunities available to Harpswellians.
• Reserve the remainder of the field in its present condition pending exploration of potential future uses.
• Conduct a study to determine the costs and benefits of renovating or demolishing the pier or pursuing other alternatives.
• Develop a plan for use of the two dwellings and their land when they are finally given over to the Town. Among the possibilities are sale to provide funds to develop the rest of the field, rental to provide income for the operation of the field, and low income housing.
• Determine whether to remove or continue to use the water tower.

Police Services

**Background** Harpswell continues to contract with Cumberland County for policing through the Sheriff’s office. Three deputy sheriffs maintain an office at the Town Office throughout the year. During the summer months, a fourth sheriff’s deputy joins them. The County Sheriff’s Office has been providing services under contract to Harpswell for about 30 years. The Cumberland County Sheriff’s office, under contract with the Town, has also provided two marine patrol officers to serve as shellfish wardens in Harpswell.

**Trends** In 2001, the monthly number or calls received by the sheriff’s deputies ranged from 160 to 270. In 2002, this number ranged from approximately 120 to 270. In 2003, the range was 140 to 270 calls per month. In each year the calls were highest in the summer months. In 2002, 25% of calls concerned crime, 31% concerned traffic, and 44% were for other reasons according to the Town Report. In 2003, these numbers were relatively unchanged, with 22% of calls concerning crime, 32% concerned with traffic, and 46% for other reasons. In 2004 crimes against people have increased in frequency in Harpswell, such as domestic violence (up 5.5 %), home invasions (up 6%), and assaults (up 15%). Calls in response to burglaries, are less frequent than in 2003.

**Analysis/Issues** Demand for police services in Harpswell is reasonably stable, and there seems little reason to anticipate major changes in that demand as the Town continues to develop. Contracting with the County Sheriff’s office currently appears to be the most cost effective and responsive way to meet the Town’s needs for the foreseeable future. For the Town to undertake this function on its own would require significant capital outlay and personnel cost.

**Goal:** Provide timely, cost-effective policing to all parts of Town.

❖ **Policy**

• Continue to rely on this regional form of policing as a cost-effective and reliable service.
Action Recommendations

- Determine with the County how best to continue policing as the Town grows. Affordable housing may encourage deputies to live locally to enhance this service. This form of policing is a good example of provision of local services by a regional government.
- Expand the data obtained from Sheriff’s Department to include information on items such as response times to calls, investigations conducted and closure rates.

Fire and Rescue

Background Townspeople have long maintained volunteer fire and rescue departments on Harpswell Neck and on each of the three large islands. The Town contributes a portion of their annual operating costs and between $20,000 and $25,000 for capital costs to each of these volunteer companies. The Cundy’s Harbor Fire Department serves Great Island, the Orr's & Bailey Island Fire Department serves both of those islands with a station on each, and the Harpswell Neck Fire Department serves Harpswell Neck from a station in South Harpswell. Ambulance service is run as a part of each of the three departments. Ambulance service is provided free of charge by the Cundy’s Harbor and Orr’s & Bailey Departments. Harpswell Neck has recently begun charging for service. There are no paid staff in any of the departments, which are all volunteer.

Trends During the past several years, major plant investments include a new station for Bailey Island, expansion of the Cundy’s Harbor station, and a new tank truck for Harpswell Neck. As technology advances, there are growing demands for specialized training and equipment to better protect Harpswell with its increased population and growing number of structures. Older volunteers are more common, and often better trained as well as more experienced than younger volunteers. The cost of equipment replacement and new equipment has risen steeply in the last several years and is projected to continue to rise. While the Department Chiefs all say they are currently well equipped, there are some pieces of equipment that will need replacement during the next 10 years.

Analysis/Issues It appears that Harpswell is best served with this decentralized system because of its geography. A concern is the aging of the fire and rescue volunteers whose capacities are reduced with age. Not enough younger recruits are volunteering to replace and assist older volunteers.

Goal: Provide timely and appropriate levels of emergency service to all parts of Town.

Policies

- Provide emergency fire and rescue services on the current decentralized basis until growth and development patterns change.
• The Town should consider some paid fire and rescue personnel at a time in the future when it is apparent that the all-volunteer service is no longer sufficient to meet the demands.

❖ **Action Recommendations**

• Consider strategies to attract citizens to volunteer for emergency services. This would be less costly in the long run than creating a central paid emergency service.
• Monitor the provision of these services as the Town grows to ensure adequate coverage in the future.

**Transportation System**

**Background** Harpswell’s roads and bridges constitute its primary transport network, linking it to the mainland. Routes 123 and 24 connect Harpswell with the mainland and Brunswick. The Mountain Road is the principal east-west route, and it connects these two state-aid highways with each other. The Cundy’s Harbor Road connects Cundy’s Harbor with Route 24. All other roads in Harpswell are local side roads leading to coastal development or, more recently, inland development with a low-density suburban layout. Traffic on these roads is generally much lower than on the main routes, but these roads sometimes slope steeply to the shore and are subject to erosion and/or grade changes that can make winter travel treacherous and emergency access difficult. Nearly all of such roads are private roads. The property owners are responsible for their maintenance.

**Trends** In 1990, 79.5% of Harpswell’s workforce, or some 1,801 residents, commuted out of Town to work. Only 20.5% of Harpswell’s workforce lived and worked in Harpswell. By 2000, the percentage of Harpswell’s workforce that commuted outside of Town had decreased to 74.5%, but the number of such workers had nevertheless increased to 1,850 people. Also in 2000, the number of workers living and working in Harpswell had increased to 634, or 25.5% of Harpswell’s resident workforce. An additional 228 workers in Harpswell commuted to Harpswell from other locations. Coupling these changes with the growing population it becomes clear that there are ever-increasing demands placed upon Harpswell’s roads by automobiles, trucks, bicyclists and pedestrians. At the same time, private roads serving multiple subdivisions often are poorly maintained, causing safety concerns in provision of emergency services. In recent years, the Town has adopted and amended a roads ordinance that requires minimum standards for private road construction and maintenance. Even though the Town is not generally asked to accept new subdivision roads and the costs thereof, poor road construction leads to high maintenance costs for existing and future homeowners who live along them.

**Analysis/Issues** Of particular concern is the condition of Routes 123, 24, and Cundy’s Harbor Road. Parts of these require fundamental reconstruction. Cosmetic, periodic repaving and filling of potholes by the state are inadequate maintenance of these roads. Whether to include paved shoulders and bicycle/pedestrian usage along Routes 123, 24 &
Cundy’s Harbor Road is being considered by the Highway Safety Committee. A Special Town Meeting in May 2004 approved bonding $600,000 for a capital roads project to take place over a 1-2 year timeframe for seven Town roads – Aucocisco, Eggemoggin, Field, Pinkham Point, Stevens Corner, South Dyer’s and Ocean Street. The Selectmen and the Town’s consulting engineer will oversee the work to maintain cost controls and oversight of this major capital improvement project. As development has increased, so have the number of entrances onto the major highways in Harpswell. These entrances increase safety hazards. The Maine DOT, on state-aid highways, and the Site Plan Review Ordinance now regulate access from new commercial uses to help limit any increased traffic hazard.

Goal: Provide a system of transportation which offers all users safe, reliable access that is in keeping with the character of the Town.

❖ Policies

· The Town will provide experienced oversight to ensure continuity of capital planning, road improvements, snow removal and road maintenance among other functions.
· An annual review process to analyze the condition of the Town roads and projections of cost for upgrades to the roads should be developed. Professional engineering review maybe necessary to develop proper specifications and bid procedures.
· The Town will work with neighboring towns and employers to create regional commuter park and ride lots in conjunction with commuter transportation programs.

❖ Action Recommendations

· The Town will work with State DOT and regional committees to ensure timely and appropriate State highway improvements to Routes 123, 24 and Cundy’s Harbor Rd.
· The Town will refine standards for road size and construction and periodically update the roads ordinance to reflect changes deemed useful. One concern is the requirement that roads be a fixed minimum width even for small subdivisions.
· The Town will explore solutions to resolve problems of substandard road construction and maintenance of old subdivision roads.
· Advocate with the State for the reconstruction of Routes 123, 24 and Cundy’s Harbor Road to current roadbed engineering standards to avoid the inefficient use of public monies spent in the past on temporary repaving of these highways.
· Develop a clear policy as to the width, speeds, and addition of paved shoulders along State and Town roads.
· The Town should undertake a study of the merits of a bike path system that links with similar proposals for Brunswick.
· The Town will study needs, value, and possible locations for future bicycle paths. A long-range system could connect large reserves of open space using bike-ways on land privately acquired, as well as on available road rights-of–way. Such efforts should be dovetailed with the proposed Open Space Plan.
Libraries

Background Libraries are an essential element of a community’s infrastructure, providing cultural resources and opportunities for lifelong learning. Harpswell is served by Curtis Memorial Library -- a private, full service facility making its resources and opportunities available to Brunswick and Harpswell residents and governed by a Board of Harpswell and Brunswick citizens. Portions of Harpswell are also served by two local libraries in Cundy’s Harbor and Orr’s Island. These libraries are also private but limited in their hours, facilities and catalogues compared to Curtis Library. Historically, Harpswell has provided about 6-7% of the budget for Curtis Library -- with the Town of Brunswick paying the remainder -- and partial funding for its two local libraries. Harpswell residents account for about 13% of the Curtis Library card holders and about the same amount of its borrowing activity. Cundy’s Harbor, Orr’s Island and Bailey Island residents, summer and year round, account for nearly all patronage and use of the local libraries. At present, the Cundy’s Harbor Library is considering an expansion. The Orr’s Island Library expanded somewhat a few years ago.

Trends Three years ago, in recognition of the disparity between Harpswell’s funding support and its patronage, Curtis Library asked the Town to increase its funding support to 10% of the library’s budget or about $100,000 at present, phased in over several years. Consequently, the Town’s appropriation for Curtis Memorial Library has risen from $64,900 in 2000 to $85,260 in 2003, an increase of 31% and bringing the level of Harpswell’s support to about 8.5% of the library’s total budget. Over the same period, the Town also increased its funding support for its local libraries from $14,000 to $19,000, an increase of 36%.

Analysis/Issues Harpswell has a perennial debate over how it should provide library services to its residents. Should the Town continue to provide a portion of Curtis Memorial Library’s budget in return for which the Town gets general access to the library for all Harpswell residents and a voice in how the library is run? Or should Harpswell just buy library cards for those residents who wish to avail themselves of Curtis Library services? Or should the town build its own library in a central location, incorporating the two existing local libraries?

Taking the latter question first, it would seem that the cost of building and operating a central Harpswell library to provide services equivalent to those of Curtis Library would be more expensive than continuing the Town’s present relationship with Curtis Library. Addressing the first two questions, at the current rate of $65 per card, providing Curtis Library cards to the approximately 1500 current card holders would cost $97,500. This is about what the Town would spend to continue the present relationship and Harpswell would lose its voice on the Curtis Library Board. The per card cost is projected to increase over the next few years. At the present level of use, any rate over $66 would probably cost the Town more than the current system, again without participation in the Library’s governance. In 2004, the per capita cost for Harpswell residents for having access to Curtis Library was $15.50 compared to $40.81 per capita for Brunswick residents.
Goal: Provide comprehensive library reference, research and recreational reading opportunities for residents of all ages and abilities in a cost-effective, efficient manner.

- **Policy**

- The Town should continue to provide both the local and regional library services that are currently available to Harpswell residents.

- **Action Recommendations**

- Continue the present relationship with Curtis Memorial Library. Regularly seek advice from the local library boards, the Town Library Committee and others to discuss with Curtis Memorial Library an appropriate level of cost and service for Harpswell support of the library.

- Increase financial support for its two local libraries to assist in their expansion and use of member interlibrary loan services. Regularly seek advice from the local library boards, the Town Library Committee and others to discuss the appropriate level of Town support for the libraries.

**Fiscal Capacity**

**Background** Fiscal capacity refers to the Town’s ability, through taxation and fees, to provide an adequate level of community services and facilities. The term, as used in the comprehensive plan, also refers to the Town's ratio of bonded indebtedness to its property valuation as defined by the State. As property values have risen over the past several years, the State has required the Town to revalue its real estate to reflect current market values. The State’s concern is twofold: first, to assure that all communities are meeting a constitutional obligation to assess property at fair market value; and second, to base state educational funding assistance to communities on frequently updated valuation data.

**Trends** In 1992, the Town’s outstanding bonding obligation, including its share of Cumberland County debt, was $1,711,415, or 0.34% of the Town’s valuation as defined by the State. Today, the Town’s valuation is $831,970,262. The Town’s current bond obligations, excluding any for Cumberland County, total $2,207,500, which amounts to 0.27% of its valuation. This is well within the recommended limit of 5% of State valuation for bonding, and the legal limit of 15% of valuation.

**Analysis/Issues** The need to fund capital projects such as new community facilities and infrastructure (roads, plant and equipment) must be balanced by the Town’s ability to pay for these projects. The Town has sufficient capacity to fund such projects within recommended limits. However, residents also must determine the level of taxation they are willing to accept. In the near term, the Town is presently undergoing revaluation by a private consultant retained for that purpose. Concurrently, the Maine Legislature and the
Governor have pledged to develop major property tax reform in the wake of the November 2004 election’s defeat of the Palesky Tax Cap Initiative. Regardless of how these uncertainties are resolved, a planned system of capital expenditures is a prudent and responsible process that allows for potential long-term cost savings. Needed capital improvements can be anticipated and coordinated in a multi-year schedule that spreads the burden over time to minimize the need for borrowing, maximize eligibility for assistance from outside public funding sources, and reduce unpredictable fluctuations in the tax burden.

Goal: Promote ongoing community discussion of the Long-term Capital Projects Plan contained herein, in order to review and revise projected capital proposals, expenditures, and priorities annually in light of periodic change.

❖ Policies

- As the Town grows, we must monitor the costs of delivering services to Town residents to ensure the maximization of resources and, as necessary, modify the delivery of those services to maintain their cost effectiveness.

❖ Action Recommendations

- The Town will initiate an annual Capital Projects Review by meeting with all boards and committees for their capital project recommendations. A Plan will be developed and presented for public discussion and review by the Budget Advisory Committee and Selectmen. This process should begin early enough in the fall to enable adequate review by all involved.
- The Town will consider the fiscal impact of capital projects on the Town’s mil rate, its credit rating and its fiscal capacity to fund such projects in its annual review.
- Continue the development of Five- and Ten Year Capital Projects Plans.
FUTURE LAND USE PLAN

Introduction

Ten years from now, in 2015, Harpswell residents will look back and answer two questions:

• Have we made prudent choices in managing growth to retain the Town’s character?

• Have we fairly balanced the needs of the community with the desires of individual property owners?

The Future Land Use Plan offers a framework to guide the community’s land use options in a manner that will allow a strong “YES” to both questions. Fundamental to the Plan, as the preceding chapters state, is a concern that Harpswell’s community character and quality of life may be eroded unless managed carefully. Such growth is changing the face and population of other coastal communities in Maine in a way that many believe is detrimental to the environment and residents. The Future Land Use Plan is an effort to preserve the best of Harpswell while accommodating growth responsibly.

Plan Objectives

The Future Land Use Plan designates areas of Town suitable and appropriate for types of general uses. The Plan also designates intensity of use within these areas. These uses are based on extensive research and study of natural and man-made characteristics of the Town. Evaluation of these characteristics has identified problems, opportunities and successful examples of land use.

The Future Land Use Plan is a requirement of the State, which recommends categories of land uses that include “growth” and “rural” areas, as well as “transitional” areas. Harpswell’s Future Land Use Plan establishes categories that meet the State’s requirements as follows:

• Village Districts
• Settled Villages
• Rural Areas
• Rural Neighborhoods
• Town District
• Waterfront Neighborhoods and Islands

These land use categories achieve State and Town objectives as further described.

Village Districts

These areas recognize traditional historical settlements that have grown over the years to include typical characteristics such as churches, libraries, schools, general stores, post
offices, cemeteries, fire departments and community halls. They also include homes near each other on small lots, allowing residents to walk easily from place to place. They have served as core communities for an island town spread far over land and water. This Plan respects the community values and settlement patterns of Harpswell’s villages by encouraging expansion around them on adjacent larger tracts of land. Village Districts are designated for Cundy’s Harbor, South, West, and East Harpswell, and Harpswell Center. They generally propose a continuation of the traditional mix of uses and intensity of land use found in the existing villages. Preservation of historic structures and homes is encouraged as a means of maintaining community identity and quality of life.

The goal of the Village Districts is to promote pedestrian movement and street life by placing homes, shops, workplaces and public buildings in close proximity; to reduce vehicular traffic; to provide locations for town life such as greens, parks, natural lands and civic buildings; to promote living opportunities for residents of all ages and financial means; and to promote a pattern of development that provides for cost effective public investment for required public services. It is the intent of the Plan to guide most new growth to these areas.

Harpswell Center  In the geographic center of Harpswell Neck, Harpswell Center boasts a collection of historic buildings that includes Kellogg Church, the old Town House, a cattle pound, Centennial Hall, several period homes, and a working waterfront at Lookout Point. Several office buildings, a scout hall and the Harpswell Historical Society's building are also located in this cluster. Around this constellation of period structures a number of larger parcels of land are located, which eventually will likely be subdivided. A fine expanded village district may grow here with a mix of types of homes. It does not appear that much commercial development will grow here, but the presence of several small office buildings suggests the possibility of additional mixed office/business uses. This area is some 300 acres in size, with half potentially developable over time.

South and West Harpswell  With over 500 acres of developed and undeveloped land, this area consists of fine period homes on Pott’s Point, Ash Cove Road and West Harpswell along Route 123. West Harpswell School, a church and several Businesses and artisans’ galleries are located here as well as working waterfronts in Pott’s Harbor. This attractive neighborhood has distant views of the ocean from higher elevations and a number of larger parcels that may be subdivided over time. Though 10 miles down Harpswell Neck from Brunswick, the great beauty of the area suggests it will continue to be developed with new homes. It has the potential for new, small retail shops and businesses to be included. Some 200 acres appear to be developable over time.

East Harpswell  Located at the north end of Great Island and only five miles to Cook’s Corner, this neighborhood has been actively developed in the past twenty years with a variety of old and new subdivisions. Its substantial population and relatively built-up nature suggests the possibility of some new business services to complement those along Cundy’s Harbor Road. Care should be taken to avoid what appears to be the beginning of a commercial strip in this area, and any new businesses should be clustered in one location. With a church, cemetery and existing businesses, this area may be thought of as
a neighborhood waiting to become a village. Careful provision of amenities such as public park space and new commercial activity in a centralized location could offer an attractive village center. There appear to be less than 100 acres of developable land.

*Cundy’s Harbor* A traditional New England fishing village, this neighborhood has grown over the past twenty years to include a number of vacation homes along the waterfront. The village core has a number of period homes of modest architectural style, suggesting the nature of a fishing center. The harbor itself is still home to many lobster boats and several trawlers for ground fishing, and some captains still live in the village.

A recent study of the village, Cundy’s Harbor Working Waterfront Study, was commissioned by the town. It focused on concerns that this working waterfront community, among others in Harpswell, may be gradually overcome by new residential development along the waterfront. In addition, various other concerns, such as loss of access to the water, lack of storage and parking space, and high-assessed values of working waterfront properties were covered. The report is referred to elsewhere in this Plan and is available for study at the Town Planner's office. A fine opportunity exists for this village to accommodate likely new growth on some 100 acres of land northwest of the village center, creating new population support for the local restaurants, general store, library, church, and industrial park. Harpswell’s only industrial park might also expand to accommodate operations similar to those existing now.

**Settled Villages**

In this category are the villages of southern Orr’s Island and Bailey Island, originally fishing communities, now known as well for their vacation character. These villages have many of the same fine community features described above but have little land left for expansion. In some locations both islands reveal environmental impacts that jeopardize groundwater and natural resources, suggesting need for caution and care with regard to size and location of new development.

The goal of these districts is to foster the same attributes of village life described previously by maintaining the distinctive character of these island communities without accommodating significant new development. Market pressures in these areas will expand the “tear-down” phenomenon by which older homes are replaced with new, often substantially larger homes. To maintain community character, scale, and quality of groundwater and ocean water, the size and location of such new homes must be managed carefully.

*Bailey Island* With very little vacant land left for development, Bailey Island is a mature village, which is nearly fully settled or built up. Famous as a vacation tourist destination, the island is perhaps best known for its photogenic Mackerel Cove. This sheltered body of water is still home to a fleet of lobster and fishing boats. Garrison Cove is also a working waterfront. With fewer young men and women entering the fishing industry and pressure on the working waterfront from new residential development, the island faces the same potential changes that other waterfront communities are experiencing in Maine.
Though there is little room for expansion, the island is witnessing the loss of smaller cottages and camps on the waterfront, as new large homes are built in their place. In cases where such homes are planned for non-conforming lots, or in places with documented environmental degradation, the town should manage new growth for location and scale. The island still maintains a village-like pace of activity and neighborhood character, even during peak vacation season.

**Southern Orr’s Island**  About the size of Bailey Island, southern Orr’s Island is also a mature village with little land left for expansion. The village area from Tower Hill to the Cribstone Bridge contains a library, churches, post office, small shops and galleries, and some working waterfront, all of which provide a sense of village life amidst many period historic homes. The same pressures for new waterfront homes, replacing older, smaller cottages, exist here, as on Bailey Island. Multiple environmental constraints, often resulting from overly dense development and outdated septic systems, also exist on southern Orr’s Island, and should serve to limit number and scale of new homes.

**Waterfront Neighborhoods**

These areas have grown over the history of Harpswell, initially as mostly vacation home districts and more recently as year round home locations. These neighborhoods are located throughout town in various forms. There are places where camps and cottage colonies, dating to the late 1800s still exist. In other areas, such as Indian Rest on Great Island, summer cottages were developed in speculative subdivisions during the early 1900s on lots as small as a tenth of an acre. Some locations, such as Stover’s Cove in South Harpswell have a mixture of seasonal cottages that have been converted to year-round homes and more recently built homes. Neighborhoods such as High Head have been developed as subdivisions with wooded appeal and well-built, larger homes. Many of these neighborhoods have serious problems with groundwater quality. Gun Point and Long Point are two of many locations with salt-water intrusion in wells, whereas the Dyer Cove area on the west side of Quahog Bay has periodically been closed to shellfish harvesting due to run-off from dense development and septic systems. Quahog Bay and the New Meadows River are also vulnerable to nutrient loading from the many septic systems in their waterfront neighborhoods. Nevertheless, these neighborhoods experience demand for conversion of older cottages to new large homes on small, non conforming lots. The town must use great care to protect existing homes from further groundwater degradation due to new development. Limits to growth in these areas also are necessary to prevent further resource degradation and to encourage resource restoration.

Some waterfront neighborhoods also contain working waterfronts. These include Pott’s Harbor, Orr’s Cove, Dyer Cove, Harpswell Harbor, Clark Shore, Merriman Cove, Bethel Point, Pinkham Point, Long Cove, and scattered individual fishing wharves.
**Rural Areas**

Rural Areas reflect Harpswell’s natural landscape of forest, field and water. These features are prized for their contrast to the built environment and for their beauty. For many, they are the essence of Harpswell’s rural identity. Within Harpswell’s rural landscape are essential natural features such as wetlands, flood plains, steep hillsides, high-yield groundwater wells, large habitat blocks and critical habitat areas. Rural Areas acknowledge the intrinsic value and ecological contribution of these and are intended to protect and preserve these districts and features, accommodating only limited new development. Where these lands include farms, hayfields, wood lots, lots in tree growth, and large natural habitat blocks, the intent of the Plan is to preserve these features and accommodate only limited new development. Very low densities and substantial setbacks from main roads of 75 feet where possible, will guide development away from main roads. Wooded buffer areas between main roads and new homes will maintain rural character.

Rural Areas on Harpswell Neck are identified in two locations along Route 123. These begin at the north end of Harpswell offering an attractive gateway to the town and extend to Harpswell Center, then beyond Harpswell Center to West Harpswell. These establish the character of rural wooded lands that provide a sense of separation between settled areas on Harpswell Neck. On Great Island, a Rural Area stretches from Long Reach to the Cundy’s Harbor Road where the combination of these natural features creates distinctive marine-forest ecology. Another is located between East Harpswell and Cundy’s Harbor and takes in Bethe1 Point to maintain a sense of separation between more heavily developed neighborhoods. This area will help prevent further pollution of Quahog Bay from development and preserve some of the last undeveloped waterfront in Harpswell. As noted earlier, most of the waterfront in town is built-up. Retention of some undeveloped waterfront areas not only reduces impacts on the ocean, but also maintains some of the exquisite natural marine-forest character of the community. On Orr’s Island, two Rural Areas incorporate the remaining blocks of natural landscape and are valued as the last forested preserves on heavily developed Orr’s and Bailey Islands.

Also within this category are most of the offshore islands. With little existing development and little developable land, these islands sometimes harbor rare birds, waterfowl and plants, and should not be intensively developed

**Rural Neighborhoods**

Areas identified as Rural Neighborhoods include Doughty Point, parts of East Harpswell and northern Orr’s Island. They have experienced extensive residential development over the past twenty years, and have relatively little land left for development. These areas are expected to be built out at prevailing neighborhood densities.
**Town District**

Harpwell’s far-flung settlement pattern over island, peninsula and water has created difficulty in communication and transportation in the past. Consequently, villages have required multiple services – post offices, churches, schools, libraries, fire stations, and community halls. As the Town grows in coming years, the Plan suggests it build on the wise decision made twenty years ago to locate the Town Offices in the geographic center of Harpswell. Several years ago the Town purchased about 70 acres of forest land abutting about 100 acres already owned around the Town Offices. The Town District recognizes the possibility of new public and private development in a central location, convenient to all residents, as the town grows. New, or expanded public services (town offices, recycling center, post office, recreation center, for instance) and possible new business services (bank branch, convenience foods, professional offices, restaurant, coffee shop, bakery, laundromat, service station, for instance) might be developed along Mountain Road. The Town District will complement Village Districts and Settled Villages by offering services the villages don’t have enough population to support. It should serve to unify and bring together remote parts of town.

**Land Use Inventory Maps**

The Town Planner and the Town’s Comprehensive Plan consultant, Greater Portland Council of Governments (GPCOG), have developed with the Comprehensive Plan Committee, six informational maps illustrating a number of land use features. These maps have assisted in preparing the Future Land Use Plan, and have a wide range of information that may be useful to the public, builders, developers, the Planning Board, Codes Office, Selectmen, and others. Not all the maps are included in the published Comprehensive Plan but are on file in the Town Planner’s office. A brief description of each of these maps follows:

**Existing Land Use Map**  This map inventories nearly all land uses in the town and their approximate extent. Major categories include: Agriculture, Commercial, Institutional, Recreation, Residential, Land Cover, and Conservation. Within these categories are subcategories providing further refinement of information. Parcel lines, buildings and an average assumed residential lot coverage are depicted. The map is revealing in illustrating where development has and has not occurred.

**Remaining Sub-dividable Parcels Map**  These parcels are divided in three categories: 0-1.99 acres; 2-19.99 acres; and 20-200 acres. Protected lands in conservation, resource protection, or owned by government, are also identified. Of note is that 40% of the undeveloped area falls in the 20-200 acre category. Another 53% falls in the 2-19.99 acre category. The two combined represent 10,555 acres, or about two-thirds of the town’s total acreage. These categories do not take into account the presence of wetlands, steep slopes and other constraints, which reduce their actual buildable area.

**Drainage Basin Analysis Map**  GPCOG has mapped all drainage basins in town, enabling calculations of precipitation absorption and groundwater consumption by local
land uses. The result is the identification of areas that consume more groundwater than is safely replenished. When consumption exceeds 15% of precipitation recharge, it is possible that groundwater quality is reduced due to inadequate dilution of storm water runoff and septic system discharge. These areas have been ‘red flagged’ on the maps, indicating where the town should carefully limit new development. In addition, locations of known high and moderate yield wells are noted, as well as areas in town where there exist reductions in groundwater quality, due largely to dense residential development, inadequate septic system quality, or too little separation of septic systems from wells.

**Natural Resources Map**  The Natural Resources Map includes many wildlife and plant life areas of significance. These have been inventoried by the Maine Department of Natural Resources and include wetlands, ponds, streams, steep slopes, habitat blocks, shellfish areas, shellfish closures, significant bird habitat and nesting areas, eel grass and rare plants. In some cases these features are protected from development and human activity by town land use regulation, and in other cases by state regulation. Some resources are not protected at all and represent a challenge to the town in balancing their value with future land development.

**New Residential Units Map**  From 1998-2003 some 345 new homes, seasonal cottages, mobile homes and apartments were constructed, and are mapped by location on this map. Of interest is the fact that these were quite evenly distributed through town, and that a majority were waterfront lots.

**Development Constraints Map**  This map combines information from the previously described maps to illustrate significant land features and other information to indicate where new development can safely and appropriately occur, and conversely, where not to build. Principal categories of constraints include Moderate Constraints, where some development can occur with careful review by the town; Severe Constraints, where development generally should not occur; and Protected Areas where development can’t occur due to protected status or regulation. Note that designated areas around high yield groundwater wells are both a possible water source for new development, as well as areas that require careful management to avoid pollution from development.

**Land Use Management Policies**

From analysis and evaluation of the extensive information developed and inventoried on maps, as previously described, policies to guide the town in planning for land use and managing growth over the next ten years follow:

**Protect and Preserve Natural Landscape Features**  These are valuable land characteristics that should be recognized for their contribution as natural resources and features that limit development. If development is allowed to occur on, or near these areas, human safety, the natural environment, and development are compromised. Features include: wetlands and water, flood plains, aquifer recharge areas, steep slopes, wildlife habitat areas.
Preserve the Character of the Waterfront  Much new residential development has occurred on waterfront lots over the past twenty years, altering the visual character of the forested waterfront, and causing pollution and nutrient loading from storm water runoff and septic systems built too close to the ocean. Development should be limited in areas where the ocean and groundwater are polluted or vulnerable to nutrient loading. The majority of new development should be directed inland into the Village Districts. Development on lots under the one acre minimum lot size should be managed to reflect the scale of neighboring buildings and to minimize ground and ocean water pollution.

Maintain and Expand Historic Villages  Our traditional New England villages were the core of community on Orr’s and Bailey Islands, Great Island and Harpswell Neck. The character and form of these, as described previously in Village Districts and Settled Villages, offer models by which Harpswell can continue to accommodate growth in the future. Harpswell can continue to house a diversity of new residents affordably and attractively by preserving historic homes and buildings, providing for single-family homes, attached homes, “cluster” development, and apartments. By allowing expansion on larger parcels of land around villages such as South and West Harpswell, Harpswell Center, East Harpswell and Cundy’s Harbor, the town can avoid overcrowding the waterfront and reinforce the sense of community in these traditional communities. Permitting retail and business uses, as well as public facilities, parks and open space will enrich life there.

On Bailey and Orr’s Islands there continues to be vital village life. There is limited land for new development on either island, so the challenge for the town will be to manage change of the built environment in a way to minimize loss of the historic architecture and settlement patterns of these communities.

Retain Distinctive Rural Features That Define Community Character  Much of Harpswell’s rural identity stems from the forest and fields that separate its village from each other. To preserve this special character, development should be limited outside of the villages to lower residential densities than in the villages. New homes along major roads, including Routes 123 and 24, Mountain Road and Cundy’s Harbor Road, should be set back at least 75’ beyond a wooded buffer where lot depths permit. An important part of the rural landscape is the view from the road. Many scenic vistas are identified on the maps described previously. These should be inventoried further and researched to determine how they can be permanently preserved.

Limit Growth in Areas With Identified Environmental Problems  A number of neighborhoods and places have experienced environmental degradation due to overcrowding of homes, poor water quality, salt-water intrusion, overboard discharges, hazardous waste contamination, and well contamination from winter road salt usage. Special care is needed to assist existing homeowners and limit new home development in these areas until environmental deficits are overcome.

Cluster New Commercial Development  New business development should be encouraged to locate in the Village and Town Districts and Settled Villages. Land use
regulations to complement Site Plan Review regulations will be developed for businesses to guide commercial development from spreading along major roads with multiple curb cuts. Rather, incentives can be created to enable business to co-locate with others in small, landscaped centers. Set back from main roads and buffered from nearby homes with landscaping, these small business centers can offer needed goods, services and employment to village residents.

Land Use Management Action Recommendations

An assortment of tested and productive management strategies exists to guide community development. Harpswell has used some of these for some time, including Shoreland Zoning Ordinance, a Basic Land Use Ordinance, Subdivision Regulations, Road Ordinance, and Site Plan Review Ordinance for businesses. The Comprehensive Plan recommends changes to some of these to accomplish the Plan’s goals.

Density and Lot Size   A key recommendation of the Plan is to guide most new development toward Village Districts, while directing new development away from Rural Areas and Waterfront Neighborhoods. One way to accommodate this development goal is by encouraging higher density development around existing villages and lower density development in rural and waterfront areas. Density of development simply means the number of dwelling units per number of acres of parcel size. Traditional residential development patterns in our villages have resulted in a range of densities from one dwelling per acre to four dwellings per acre. These densities account for the compact, walkable, interesting character of villages. Current land use regulations result in approximate densities of one dwelling unit per acre. The town’s current subdivision regulations permit a density of two dwellings per acre in cluster developments. The Plan encourages new development at densities up to those existing in villages now, subject to environmental constraints and planning board site plan layout review.

Current densities in rural areas range from one dwelling per four acres to one dwelling per twenty acres, or more. Densities of one dwelling per twenty or more acres define the wooded character of these areas. It is possible, however, to accommodate a new subdivision of homes clustered on small lots within a large parcel of land, suitably set back from main roads, leaving most of the land in open space. Small lots do not necessarily mean higher density. A low density of development in Rural Areas accommodating a modest amount of the town’s overall projected growth could be achieved in several ways:

- In subdivisions with minimum lot sizes of half an acre but a great majority of the subdivision land in open space
- in subdivisions with maximum lot sizes of perhaps an acre or an acre and a half with the great majority of the land in open space
- in subdivisions with a maximum density over the entire subdivision of perhaps one dwelling per ten acres, or more, of land

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In addition, the Plan recommends use of public incentives to accomplish desired land use goals. These are described below.

**Subdivision Regulations**  Much of remaining developable land consists of larger parcels some 10 – 200 acres in size. It is likely that as these parcels are sold for development, they will require subdivision review. Current subdivision regulations should be modified to enable more flexible application and regulation. The goal is to allow housing types that can be ‘clustered,’’ and to permit apartments, duplex homes and attached homes. Cluster subdivisions enable better protection of open space, scenic and habitat values and consume less land for roads and utility lines. Though the current subdivision regulations permit cluster, or open space developments, none have been proposed since the ordinance was approved by voters two years ago. The following recommendations will help accomplish this Plan’s goals:

- Tailor subdivision regulations to help accomplish the Town’s goals for each land use category.
- Require all major subdivisions (more than five lots) to utilize cluster lot design.
- Require some percentage of land in all subdivisions to be dedicated open space.
- Amend land use ordinances to assure that phased subdivisions meet the requirements of major subdivisions.
- Plan proposed open space in subdivisions to preserve desirable natural features and coincide with town-wide open space needs as identified on a town-wide open space plan.
- Plan for lower overall residential densities in subdivisions within Rural Areas, and higher overall densities of development in Village Districts to encourage new growth to locate inland, away from the waterfront, and generally outside of rural areas.
- Permit the use of dedicated open space for location of advanced community wastewater systems and community wells.
- Research possible use of dedicated open space for location of individual residential wastewater systems and wells, subject to state standards for soils, construction, and setback requirements.
- Moderately reduce the amount of required open space in the current cluster subdivision regulations to make this development alternative more viable.
- Permit mixed residential and business uses within Village Districts.
- Devise ‘planned development’ regulations to provide more flexibility in the design and planning of developments containing a mix of housing types and mixed residential/commercial uses, which do not fit the typical definition of a subdivision.
- To encourage affordable housing in new subdivisions, provide flexibility for Planning Board to reasonably alter some regulations such as road frontage, density, and open space.
- Require preliminary meetings with Town Planner and Planning Board prior to subdivision application to communicate town land use objectives for development proposals.
Devise standards that minimize road length in new subdivisions to reduce impervious cover, storm water runoff, disturbance of habitat, and response time for emergency vehicles.

Devise ways of reducing the rate subdivision in Rural Areas in an effort to reduce impacts on natural and community resources.

To preserve remaining undeveloped water frontage, require a common shared waterfront of at least two hundred feet and docking facilities for some portion of new subdivisions.

Devise a standard to preserve open space along waterfronts in new subdivisions.

Devise standards for landscape buffers between new subdivisions and adjacent uses.

Assure that phased subdivisions are reviewed under major subdivision standards.

**Site Plan Review Ordinance**  This ordinance provides for Planning Board review of business and commercial development. Following are proposed modifications:

- Develop standards for review of location and size of area required for various business uses in order to prevent conflicts with adjacent residential uses and traffic hazards.
- Develop standards for landscape architectural screens where buffering is necessary between adjacent properties.
- Develop setback standards to assure adjacent properties of appropriate distance from various types of business uses.

**Performance Standards**  These are minimum measurable standards that can be applied to certain land uses that should be managed within the various districts of the town. An example would be minimum bacteria and mineral concentrations that the state allows in drinking water.

- Create performance standards for new residential groundwater wells proposed for districts that have been identified as potentially contaminated on the Water Resources Map of this Plan.
- Create standards that manage the number of new homes that can be developed in potentially contaminated areas until contamination is reduced to acceptable levels in Waterfront Neighborhoods and other areas.
- Create standards for the amount of discharge of water used in business or manufacturing operations, laundromats, and the like.
- Create a local plumbing code to permit more careful regulation of location, size and setback requirements for sanitary wastewater disposal systems on non-conforming waterfront lots and other environmentally sensitive areas identified on the Water Resources and Development Constraints maps of this Plan.
Shoreland Zoning and Basic Land Use Ordinances

- Modify tables of permitted uses to direct commercial uses to Village Districts, the Town District and Settled Villages and restrict land uses incompatible with the growing residential character of the community. Examples include firing ranges, ATV trails and racetracks, and dirt bike trails.
- Devise ordinance changes to maintain scale of waterfront neighborhoods with non-conforming lots and limit development in areas with documented environmental deficits (for example, over-consumption of groundwater, polluted groundwater, hazardous waste spills).
- Devise ordinance changes to incorporate recommendations for working water-fronts made in this Plan and in the Cundy’s Harbor Working Waterfront Study to preserve these areas.
- Locate new, or expanded, public facilities in Village Districts over time as population and demand grow, while discouraging their location in Rural Areas.

Public Incentives  To encourage development to locate where designated in this Plan, the town will provide incentives as follows:

- Seek grant funds from state and federal agencies for assistance in developing local public water supplies for existing and new neighborhoods. These water supplies may be created by local nonprofit water companies, or simply take the form of community wells in new planned developments.
- Seek grant funds for community advanced wastewater disposal systems
- Invest local funds in new public water supplies and advanced wastewater disposal systems through a revolving loan fund that would be repaid over time by user fees.
- Seek grants for and invest in acquisition and development of public open space and parks, as proposed in a town-wide open space plan, that enhance new residential development and preserve rural areas.
- Accept new public roads only in village areas.
- Promote enrollment in current use taxation programs (Tree Growth, Open Space and Farmland) in Rural Areas.

Open Space Plan

- Create a town-wide Open Space Plan based around open space and natural resources and their interconnection.
- Develop protection mechanisms, funding sources and priorities for implementation of the open space plan.
- Develop a capital investment program with periodic funding into a sinking fund to be used for purchase of critical open space as identified by the open space plan.
**Application of the Future Land Use Plan**

This section describes the legal intent and content of the Future Land Use Plan. The Future Land Use Plan (FLUP) is required of Comprehensive Plans and updates by state law. The FLUP designates districts by land use and general intensity of use, that is, density of development in terms of number of homes per number of acres, and size of commercial development. Designation of growth and rural areas is required and may be described with various terms.

Implementation of the Future Land Use Plan and its proposed districts will require adoption of the implementation strategies described in this Plan, including land use ordinances changes, guided by the FLUP and the Future Land Use Map, and the uses and intensities of land use prescribed therein.
IMPLEMENTATION PLAN

In the preceding chapters this Comprehensive Plan has set forth numerous action recommendations designed to shape the future of Harpswell in such a way as to balance the anticipated growth with the cultural and natural values of the Town. The Implementation Plan is a timeline devised to guide the Town toward the future it has envisioned. The Selectmen shall have final responsibility for delegating the action recommendation tasks to appropriate committees and/or staff persons.

An oversight committee will be established by the Selectmen with the primary responsibility for reviewing the progress of the Plan’s implementation. The oversight committee will prepare an annual evaluation of the progress of the Plan’s implementation to be included in the Annual Town Report. The oversight committee may also provide assistance to the Selectmen in identifying groups that will be responsible for implementing the various phases of the Plan.

The Town should recognize that those responsible for implementing the Comprehensive Plan will need financial assistance for certain actions, such as new studies, and should appropriate funds accordingly.

The following is the implementation timeline for the action recommendations found in the Community Character, Marine Environment, Groundwater, Natural Habitat, Housing, Marine Economy, Public Services, and the Future Land Use Plan chapters.

**Community Character**

**Ongoing**
- Continue and possibly expand town financial support for our volunteer emergency services.
- Undertake a program to identify and replace failed septic systems in villages.
- Identify and inventory historic structures in town and work with owners to protect their historic character.

**Short Term (1 to 3 years)**
- Amend land use ordinances to increase density of development in villages and decrease density of development in rural areas. Maintain present density in rural and waterfront neighborhoods.
- Amend land use ordinances to direct new commercial and institutional development to villages and the town center.
- Amend land use ordinances to maintain rural views from main roads and minimize new curb cuts.
- Amend land use ordinances to clarify essential working waterfronts and limit non-maritime uses in them.
- Amend land use ordinances to designate areas for expansion of marine economic activity.
• Amend land use ordinances to protect further the marine environment from pollution and other adverse impacts of development.
• Amend land use ordinances to protect essential wildlife habitat from the adverse effects of development.
• Upon development of a Town Open Space Plan, work to preserve and connect open spaces. Amend land use ordinances to support preservation and connection of open spaces.
• Identify critical scenic water vistas and adopt measures to preserve their contribution to our community character.
• Develop materials to educate and inform owners of large undeveloped lots of their options for preservation and conservation under state law and through land trusts.
• Encourage cooperative use of recreational wharves to minimize altering the natural appearance of our shoreline.
• Develop regulations to limit maximum speeds and sound of personal water craft (jet skis) within Harpswell waters.
• Identify and inventory points of traditional public access to the water over private land. Work with landowners to perpetuate that access.
• In addition to increasing allowable density of development in village areas, continue to allow mobile and manufactured homes anywhere in town. Amend land use ordinances to encourage multifamily housing in village areas where septic treatment methods can protect groundwater quality and groundwater supplies are sufficient.
• Explore creation of a public program to provide for affordable housing.
• Develop a local plumbing code designed to reflect Harpswell’s soil conditions and sewage treatment needs, take into account new septic technologies, and protect our groundwater quality.
• Conduct studies to determine available groundwater supply capacity in village areas.
• Undertake a program to acquire and develop new points of public water access.

Long Term (4+ years)
• Survey the Town-owned land in the Town Center to determine its development constraints and develop a plan for its future use.

Marine Environment
Ongoing
• Continue to participate in the New Meadows River Watershed Project and the Friends of Casco Bay. Explore possibilities for new regional efforts to monitor and improve the quality of the marine environment.
• Continue Town’s grant program to eliminate overboard discharges.
• Maintain strong code enforcement efforts to protect the marine environment.

Short Term (1 to 3 years)
• Further restrict the use of herbicides, fertilizers, insecticides, growth regulators, and toxins near the shoreline to reduce their harmful effects on Harpswell’s waters. As a general guideline, a 100-foot setback is recommended (the same distance the State requires for septic systems).
- Explore new septic system technologies which may reduce nitrogen nutrient loading of the marine environment.
- Support efforts to improve utilization of pump-out stations and trash disposal facilities.
- Commit resources to develop educational materials on the value to Harpswell of a high quality marine environment for use in schools and distribution to residents.
- Develop and distribute educational materials to encourage homeowners to adopt best management practices for minimizing pollution from run-off by maintaining good vegetative buffers along the shore and streams draining to the shore.

**Groundwater Resources**

**Ongoing**
- Continue to rigorously enforce the requirements of Maine’s Subsurface Wastewater Disposal Rules. Develop materials to advise subdivision developers and plumbing permit applicants of the septic designs and technologies that will best protect groundwater quality.

**Short Term (1 to 3 years)**
- Undertake detailed analysis and mapping of soil types and groundwater flow in villages where growth will be encouraged. Design density determinations, plumbing code requirements, and other land use performance standards designed for the local conditions in order to avoid groundwater contamination and assure sufficient groundwater supply. Identify possible sites for community wells and explore feasibility of small scale water supply and sewage treatment systems for villages.
- Review adequacy of existing land use performance standards to manage run-off for new development and redevelopment projects to protect groundwater supply from contamination and to maintain sufficient groundwater recharge.
- Identify and map moderate and high yield aquifers and their recharge areas. Adopt measures to assure future quality of groundwater in these areas.
- Develop better incentives to encourage the use of communal wells and septic systems in problem areas and subdivisions that propose cluster or open space development.
- Develop and distribute to the public, and incorporate into the school curriculum, materials regarding the nature and limitations of the Town’s groundwater resources. Stress the importance of protecting groundwater quality and assuring adequate quantity, and the types of activities that can jeopardize groundwater quality and quantity.
- Develop and distribute materials regarding conservation practices that residents can employ to help assure adequate supplies of groundwater, especially in areas subject to salt water intrusion.
- In areas of groundwater contamination, work with owners of the contaminated properties to effect cleanup and prevent additional contamination.
- Adopt Town standards or other programs, if necessary, to assure proper installation and maintenance of petroleum product storage tanks and piping.
- Examine the Town’s use of road salt to avoid excessive use. Explore whether alternative de-icers would meet safety and budget needs while reducing threats to groundwater quality.
• Establish shoreline setbacks for wells in the Shoreland Zone.
• Develop a program to assure regular septic system pumping and maintenance.
• Explore whether considerations of groundwater quality and quantity in older, small scale neighborhoods require limitations on seasonal conversions and the scale of redevelopment.
• Develop a program for replacement of failed and obsolete septic systems.

Long Term (4+ years)
• Develop and adopt a Town Plumbing Code that takes into account the limitations of Harpswell’s soil types and its unique geology and geography. Utilize septic system designs and technologies that maximize treatment of bacteria and other pathogens and minimize discharge of nitrates and nitrites to the groundwater.

Natural Habitat
Short Term (1 to 3 years)
• Identify and map critical natural areas and essential wildlife habitats and travel corridors.
• Create and adopt a Town Open Space Plan.
• Develop ways for critical natural areas and essential wildlife habitats to be preserved while allowing the landowner beneficial use of his or her property.
• Revise land use ordinances to protect the functions and values of the town’s larger wetlands and its streams that drain into the ocean.
• Develop and implement a plan for protecting critical upland habitat, wildlife travel corridors and vernal pools. Explore the use of conservation easements, land acquisition, transfer of development rights and managing the location of new roads to help accomplish this.

Housing
Ongoing
• Revise “in law” apartment provisions of land use ordinances to accommodate family needs while protecting quality and quantity of groundwater.

Short Term (1 to 3 years)
• Amend land use ordinances to enable creation of more affordable housing lots and multifamily housing in the village districts and, possibly, in the town district.
• Amend land use ordinances to encourage clustering, to protect scenic, open space and habitat values, and to prevent sprawl and suburbanization in rural areas.
• Create a Housing Committee to pursue development of affordable housing; to identify programs, mechanisms and possible Town approaches to developing affordable housing; and to investigate funding and possible sponsors or public/private partnerships for affordable housing, such as Habitat for Humanity.
• Provide support and referrals to programs such as meals-on-wheels, health care, transportation and personal services to residents to assure that they can remain in their homes as long as possible.
- Require and/or enable larger subdivisions to provide some affordable housing lots or contribute toward affordable housing elsewhere in Town.
- Sponsor educational sessions on credit, home ownership, and other issues related to housing to help first time buyers and others obtain and keep affordable housing.

**Marine Economy**

*Ongoing*

- Hold public forums to identify and establish working water front s in Harpswell.
- Continue to provide funding for effective shellfish conservation and enforcement.
- Develop harbor management plans for crowded mooring areas.

**Short Term (1 to 3 years)**

- Adopt zoning and land use measures to protect working water fronts from the pressure to convert them to residential use. Review the current Shoreland Zoning boundaries for the Commercial Fishing Districts to protect areas in Town that are critical to commercial fishing. Consider having more restrictive land uses in Commercial Fishing Zones. Consider other land use ordinance changes to encourage boating and economic activity related to recreational boating.
- Consider an increase in marine related fees to support additional Town services provided for marine related issues.
- Resolve title issues of public access points and develop adequate parking and maneuvering space at them.
- Publicize the importance of marine related activities to Harpswell’s local economy and potential threats to the vitality of the industry.
- Create an informational database to monitor the health and well being of commercial fishing and tourism in Town.

**Public Services**

**Town Governance**

*Short Term (1 to 3 years)*

- A Governance Committee will study the capacity of town services and explore possible regional and state resources to ensure that the needs of residents are met. This would include, but not be limited to, services such as Town administration, recreation, police, fire & rescue, education and waste disposal.
- Form a volunteer advisory group of residents to conduct a comprehensive inventory of quality of life concerns of the senior population. Identify basic needs of food, shelter, and health; determine deficits and identify means to solve problems (including regional efforts and grant monies). Additional concerns about transportation and recreation should be addressed.
**Codes Enforcement Office**

**Ongoing**
- The Codes Office should develop a systematic approach for ensuring that decisions by the Planning Board and Board of Appeals are complied with.
- Maintain a sufficient number of qualified Codes Enforcement Officers to handle the workload.
- Monitor all development and construction to assure that it is carried out in accordance with the applicable codes, regulations, and requirements of the project approval.
- Provide ongoing oversight of sewage disposal systems that are malfunctioning or illegal to assure that violations are addressed, and the resulting systems are functioning according to design, permit requirements, and local codes.

**Short Term (1 to 3 years)**
- Institute a public information program on septic system maintenance to assure that the public understands how these systems work and what actions are necessary to ensure their long-term operation.
- On a monthly basis the Codes Office will publish all building permits and certificates of completion at the Town Office and on the Town website.

**Waste Disposal**

**Ongoing**
- Study the methods used by other towns to achieve higher rates of recycling.
- Continue and expand the Town’s recycling program.
- Provide periodic opportunities for disposal of items not currently accepted at the recycling center, including but not limited to automobiles and household hazardous materials.

**Short Term (1 to 3 years)**
- Budget annually for public outreach programs to educate the Town’s residents about the value of recycling.
- Recycling Committee and others will publish informational guides that explain the costs associated with waste disposal and the potential savings associated with waste-reduction and increased recycling. Particular emphasis will be placed on the environmental and personal benefits of reducing purchases of non-recyclable goods.
- Recycling Committee and others will consider methods for monitoring the improper disposal of waste that should be recycled.
- Research the merits of creating a Town composting program.

**Schools**

**Ongoing**
- Work with the Town’s legislative representatives to alter regional funding formulas to treat towns like Harpswell more fairly.
Short Term (1 to 3 years)
- To ensure the continued viability of Harpswell schools, develop affordable housing to attract families with children to live in Harpswell.
- Study ways to maintain the viability of local schools.

Long Term (4+ years)
- Selectmen and S.A.D. 75 will develop incentives such as seminars, workshops and conferences to attract citizens to assume a more active role in educational policy.

Public Access
Ongoing
- Develop a plan to improve the condition and function of existing access points.
- Inventory and map types of existing public access including landings, docks, beaches, scenic waterfront areas, islands, and waterways.
- Identify access points most threatened by development and prioritize them for protection.

Short Term (1 to 3 years)
- Determine where new access points are needed and develop a plan to establish them.

Recreation
Short Term (1 to 3 years)
- Evaluate the need for further professional staffing for this rapidly growing department.
- Determine how long existing indoor town spaces can accommodate recreation activities, and examine the feasibility of constructing a centrally located recreation building.
- Evaluate outdoor spaces throughout the town for future recreational uses, including walking routes, outdoor ice skating rinks, ball fields, walking routes, and playgrounds.

Mitchell Field
Short Term (1 to 3 years)
- The portion of the Field, south of the paved roadway that is wooded and largely undisturbed should be set aside for conservation and low impact recreation.
- Designate and develop the level area near the gate for active recreation, including the construction of playing fields to expand the recreational opportunities available to Harpswellians.
- Reserve the remainder of the field in its present condition pending exploration of potential future uses.
- Conduct a study to determine the costs and benefits of renovating or demolishing the pier or pursuing other alternatives.
- Develop a plan for use of the two dwellings and their land when they are finally given over to the Town. Among the possibilities are sale to provide funds to develop the rest of the field, rental to provide income for the operation of the field, and low income housing.
• Determine whether to remove or continue to use the water tower

**Police Services**

**Short Term (1 to 3 years)**
• Determine with the County how best to continue policing as the Town grows. Affordable housing may encourage deputies to live locally to enhance this service. This form of policing is a good example of provision of local services by a regional government.
• Expand the data obtained from the Sheriff’s Department to include information on items such as response times to calls, investigations conducted and closure rates.

**Fire and Rescue**

**Ongoing**
• Monitor the provision of these services as the Town grows, to ensure adequate coverage in the future.

**Short Term (1 to 3 years)**
• Consider strategies to attract citizens to volunteer for emergency services. This would be less costly in the long run than creating a central paid emergency service.

**Transportation System**

**Ongoing**
• Advocate with the State for the reconstruction of Routes 123, 24 and Cundy’s Harbor Road to current roadbed engineering standards to avoid the inefficient use of public monies spent in the past on temporary repaving of these highways.
• The Town will work with State DOT and regional committees to ensure timely and appropriate State highway improvements to Routes 123, 24 and Cundy’s Harbor Road.
• The Town will refine standards for road size and construction and periodically update the roads ordinance to reflect changes deemed useful. One concern is the requirement that roads be a fixed minimum width even for small subdivisions.
• The Town should undertake a study of the merits of a bike path system that links with similar proposals for Brunswick.

**Short Term (1 to 3 years)**
• Develop a clear policy as to the width, speeds, and addition of paved shoulders along State and Town roads.

**Long Term (4+ years)**
• The Town will explore solutions to resolve problems of substandard road construction and maintenance of old subdivision roads.
• The Town will study needs, value, and possible locations for future bicycle paths. A long-range system could connect large reserves of open space using bike-ways on land privately acquired, as well as on available road rights-of-way. Such efforts should be dovetailed with the proposed Open Space Plan.
Libraries  
Ongoing  
- Continue the present relationship with Curtis Memorial Library. Regularly seek advice from the local library boards, the Town Library Committee and others to discuss with Curtis Memorial Library an appropriate level of cost and service for Harpswell support of the library.

Short Term (1 to 3 years)  
- Increase financial support for its two local libraries to assist in their expansion and use of member interlibrary loan services. Regularly seek advice from the local library boards, the Town Library Committee and others to discuss the appropriate level of Town support for the libraries.

Fiscal Capacity  
Ongoing  
- The Town will initiate an annual Capital Projects Review by meeting with all boards and committees for their capital project recommendations. A Plan will be developed and presented for public discussion and review by the Budget Advisory Committee and Selectmen. This process should begin early enough in the fall to enable adequate review by all involved.
- The Town will consider the fiscal impact of capital projects on the Town’s mill rate, its credit rating and its fiscal capacity to fund such projects in its annual review.
- Continue the development of Five- and Ten-Year Capital Projects Plans.

Future Land Use Plan  
Ongoing  
- Permit mixed residential and business uses within Village Districts.
- Require preliminary meetings with Town Planner and Planning Board prior to subdivision application to communicate town land use objectives for development proposals.
- Develop standards for review of location and size of area required for various business uses in order to prevent conflicts with adjacent residential uses and traffic hazards.
- Develop buffer standards to assure adjacent properties of appropriate distance from various types of business uses.
- Promote enrollment in current use taxation programs (Tree Growth, Open Space and Farmland) in Rural Areas.

Short Term (1-2 years)  
- Tailor subdivision regulations to help accomplish the Town’s goals for each land use category.
- Amend land use ordinances to assure that phased subdivisions meet the requirements of major subdivisions.
- Require some percentage of land in all subdivisions to be dedicated open space.
Plan proposed open space in subdivisions to preserve desirable natural features and coincide with town-wide open space needs as identified on a town-wide open space plan.

Plan for lower overall residential densities in subdivisions within Rural Areas, and higher overall densities of development in Village Districts to encourage new growth to locate inland, away from the waterfront, and generally outside of rural areas.

Permit the use of dedicated open space for the location of advanced community wastewater systems and community wells.

Research possible use of dedicated open space for location of individual residential wastewater systems and wells, subject to state standard for soils, construction, and setback requirements.

Moderately reduce the amount of required open space in the current cluster subdivision regulations to make this development alternative more viable.

To encourage affordable housing in new subdivisions, provide flexibility for Planning Board to reasonably alter some regulations such as road frontage, density, and open space.

To preserve remaining undeveloped water frontage, require a common shared waterfront of at least two hundred feet and docking facilities for some portion of new subdivisions.

Devise standards that minimize road length in new subdivisions to reduce impervious cover, storm water runoff, disturbance of habitat, and response time for emergency vehicles.

Devise ways of reducing the rate subdivision in Rural Areas in an effort to reduce impacts on natural and community resources.

Devise ordinance changes to incorporate recommendations for working waterfronts made in this Plan and in the Cundy’s Harbor Working Waterfront Study to preserve these areas.

Devise a density standard of one dwelling for every 300 feet of shore frontage, while accommodating lots with 150 feet of frontage, to preserve some open space along waterfronts in new subdivisions.

Seek grants for and invest in acquisition and development of public open space and parks, as proposed in a town-wide open space plan, that enhance new residential development, and preserve rural areas.

Devise standards for landscape buffers between new subdivisions and adjacent uses.

Create a town-wide Open Space Plan based around open space and natural resources and their interconnection.

Develop protection mechanisms, funding sources and priorities for implementation of the Open Space Plan.

Develop a capital investment program with periodic funding into a sinking fund to be used for purchase of critical open space as identified by the open space plan.

Mid Term (3-6 years)

Devise ordinance changes to maintain scale of waterfront neighborhoods with non-conforming lots and limit development in areas with documented environmental
deficits (for example, over-consumption of groundwater, polluted groundwater, hazardous waste spills).

- Devise ‘planned development’ regulations to provide more flexibility in the design and planning of developments containing a mix of housing types and mixed residential/commercial uses, which do not fit the typical definition of a subdivision.
- Require all major subdivisions (more than five lots) to utilize cluster lot design.
- Create performance standards for new residential groundwater wells proposed for districts that have been identified as potentially contaminated on the Water Resources Map of this Plan.
- Create standards that manage the number of new homes that can be developed in potentially contaminated areas until contamination is reduced to acceptable levels in Waterfront Neighborhoods and other areas.
- Create standards for the amount of discharge of water used in business or manufacturing operations, laundromats, and the like.
- Create a local plumbing code to permit more careful regulation of location, size and setback requirements for sanitary wastewater disposal systems on non-conforming waterfront lots and other environmentally sensitive areas identified on the Water Resources and Development Constraints maps of this Plan.
- Seek grant funds from state and federal agencies for assistance in developing local public water supplies for existing and new neighborhoods. These water supplies may be created by local non-profit water companies, or simply take the form of community wells in new planned developments.
- Seek grant funds for community advanced wastewater disposal systems.
- Modify tables of permitted uses to direct commercial uses to Village Districts, the Town District and Settled Villages and restrict land uses incompatible with the growing residential character of the community. Examples include firing ranges, ATV trails and racetracks, and dirt bike trails.
- Accept new public roads only in village areas.

**Long Term (7+ years)**

- Invest local funds in new public water supplies and advanced wastewater disposal systems through a revolving loan fund that would be repaid over time by user fees.
- Locate new or expanded public facilities in Village Districts over time as population and demand grow, while discouraging their location in Rural Areas.
## Harpswell Capital Investment Plan, 2005-2015

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PART II
DEMOGRAPHIC TRENDS

An understanding of the population growth and change occurring within Harpswell and the region is essential to developing a realistic plan for the future.

Year-Round Population

The decades of the 1950’s and 1960’s saw a dramatic change in the Town’s year-round population as substantial growth occurred in the community (Figure 1). By 1970, the population of Harpswell had reached 2,552, almost double the population of thirty years earlier. The 1980’s saw the rate of growth in the community increase significantly with the Town gaining over 1,200 year-round residents during the decade.

![Figure 1](image)

From 1990 to 2000, Harpswell’s year-round population increased from 5012 to 5239 people, an increase of 4.5% (Table 1). The 2000 Census reported that the population of Harpswell as of April 1, 2000, was 5,239. Between 1990 and 2000, 511 children were born in Harpswell while 468 residents died, resulting in a natural increase of 43. Therefore, eighty-one percent of the growth in Harpswell during the 1980’s was the result of net in-migration to the community. Over the same ten-year period, the population of the Bath-Brunswick Labor Market Area (LMA) as a whole grew by 1.6%. Of all the LMA’s municipalities the Brunswick area grew at the slowest rate, 1.2%. During the
same period, Cumberland County’s year-round population rose from 243,135 to 265,612 people, an increase of 9.2%, while the State of Maine grew at a rate of 3.8%.

The projection of future population growth in Harpswell, as in any community, is at best an educated guess about the future. In many senses, the decade of the 1990’s is probably a good base for looking at the 2000’s. It was characterized by the period of a depressed national economy and high interest rates followed by a period of economic prosperity, job growth, and low interest rates and finally, a period of slower growth and moderate interest rates. Therefore, population size was reflective of various economic conditions. Harpswell’s geographic location on the coast and its proximity to Portland and Brunswick will cause additional growth pressure. Lastly, changing demographics will continue to result in smaller households as older people build homes in the town and more seasonal units are used as year-round residences.

The Maine State Planning Office (SPO) has produced population projections for Harpswell1, as well as for all towns in Maine: the projections for the Bath-Brunswick Labor Market Area are included in Figure I-3. Based on the State Planning Office population projection it is expected that Harpswell is expected to gain 498 new residents between 2000 and 2015 with a total of 5,737 residents in 2015 (Figure 1).

Table 1
Population of Harpswell and the Region, 1990-2000

<table>
<thead>
<tr>
<th>Municipality</th>
<th>1990</th>
<th>2000</th>
<th>Net Change</th>
<th>% Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Harpswell</td>
<td>5012</td>
<td>5239</td>
<td>227</td>
<td>4.5%</td>
</tr>
<tr>
<td>Brunswick</td>
<td>20906</td>
<td>21172</td>
<td>266</td>
<td>1.3%</td>
</tr>
<tr>
<td>Bath-Brunswick Area</td>
<td>77807</td>
<td>79038</td>
<td>1231</td>
<td>1.6%</td>
</tr>
<tr>
<td>Cumberland County</td>
<td>243135</td>
<td>265612</td>
<td>22477</td>
<td>9.2%</td>
</tr>
<tr>
<td>Maine</td>
<td>1227928</td>
<td>1274923</td>
<td>46995</td>
<td>3.8%</td>
</tr>
</tbody>
</table>

Source: Census 1990, 2000, Maine State Housing Authority

According to the State Planning Office, population in the region will increase over all of the next 10 years. Harpswell’s year-round population is expected to increase at 9.5%, from 5,239 in 2000 to 5,737 in 2015. In comparison, the state population is expected to grow by 8.0% in 2015 and the Bath-Brunswick Labor Market Area will grow by 7.1%.

Seasonal Population

Harpswell’s population dramatically increases during the summer season. In 2000, the U.S. Census Bureau identified approximately 1,213 seasonal homes in the community, which together make up 32.8% of the total housing units in the community. The number

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1 See Appendix for SPO Population Projection Procedures.
of seasonal housing units increased by 2.6% in comparison to the 1990 figure of 1,182. Combining the year-round and seasonal populations shows that Harpswell grows to a community of over 8,000 during the summer season, with peak population reaching at least 10,000 during the summer holiday weekends. The seasonal population appears not to have experienced any significant growth over the past decade. The number of summer homes has increased slightly, and the Town has not experienced significant growth in its transient lodging accommodations.

In early 1990, during the heart of the summer season, Harpswell’s previous Comprehensive Plan estimated that the seasonal population of Harpswell which spends the night in the community probably averaged 3,000 to 4,000 and that during peak holiday and weekend periods, the seasonal population probably reached 5,000 or more residents. The Greater Portland Council of Governments (GPCOG) estimates, using the Department of Human Services lodgings data, that the peak seasonal population remains at approximately 5,000 or more residents. The Town also hosts a sizable group of tourists who are day-trippers whose numbers are difficult to estimate and are not included in this estimate of peak seasonal population.

**Figure 2**

**Actual & Projected Population Change, 1990-2015**

![Bar chart showing population change from 1990 to 2015](image)

*Source: U.S. Census 1990, 2000, State Planning Office*

**Household Change**

The 1970’s saw a dramatic change in the composition of households. Overall, household size dropped dramatically. In Harpswell, the average household had 3.05 people in 1970. By 1980, the average household size had decreased to 2.55 people. This trend continued during the 80’s as average household size declined to 2.44 in 1990. In 2000 the average household size dropped to 2.24, a decrease of 8.4% since 1990. This decrease was caused by a variety of factors, including lower birth rates, increased longevity of
independent living among the elderly, higher divorce rates, and more young people living independently in their own households. In Harpswell, small retiree and pre-retiree households moving into the community also contributed to the decrease in household size.

The decrease in household size is also a national trend. The average household size in the United States decreased from 2.63 people in 1990 to 2.59 people by 2000. The decrease in household size has had a substantial impact on residential development in Maine communities in general and on Harpswell in particular. Between 1970 and 1980, the year-round population of Harpswell increased by 1,244 residents, while the number of households grew by 652. This resulted in a

<table>
<thead>
<tr>
<th>Year-Round Households</th>
<th>Avg. Household Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Town of Harpswell</td>
<td>Cumberland County</td>
</tr>
<tr>
<td>1960</td>
<td>626</td>
</tr>
<tr>
<td>% Change, 1960 - 1970</td>
<td>33.9%</td>
</tr>
<tr>
<td>1970</td>
<td>838</td>
</tr>
<tr>
<td>% Change, 1970 - 1980</td>
<td>77.8%</td>
</tr>
<tr>
<td>% Change, 1980 - 1990</td>
<td>37.7%</td>
</tr>
<tr>
<td>1990</td>
<td>2,051</td>
</tr>
<tr>
<td>% Change, 1990 - 2000</td>
<td>14.1%</td>
</tr>
<tr>
<td>2000</td>
<td>2,340</td>
</tr>
<tr>
<td>% Change, 1990 - 2000</td>
<td>14.1%</td>
</tr>
</tbody>
</table>

perception that population growth was faster than it really was since the average number of people living in each dwelling decreased. During the 80's, the year-round population grew by an additional 1,216 people, while the number of households increased by 561. From 1990 to 2000, household population grew by 227 people or 4.53% increase. At the same time households increased by 300, or 14% (from about 2,050 to 2,350), which reflected a continued decrease in the average household size. Nationally, from 1990 to 2000, the household population increased by 13%, while households increased by 15%.

Based upon the SPO year-round population projections, GPCOG calculates that the number of households in Harpswell will increase to 2,679 by 2015. This projection assumes that average household size will continue to decrease slightly between 2000 and 2015 and will reach 2.14, a 4.5% decline.
Household Composition

In 1990, single-person households represented 23.1% of Harpswell’s households. By 2000, single-person households increased to 27.1%. The percent of households having two members increased to about 43% in 2000, resulting in over 70% of all households having one or two members (Table 3). This is higher than Cumberland County or the State of Maine and probably reflects Harpswell’s growing retirement population. Just over 13% of Harpswell’s households had three members in 2000, while 12% had four members. Large households with five or more members constituted only 5.7% of Harpswell’s households in 1990 and only 4.1% of households in 2000. Nationally, single-person households increased by 20%, and larger households increased by 13% during the same time.

Table 3
Distribution of Households by Size, for Harpswell and the Region

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1 person</td>
<td>469</td>
<td>635</td>
<td>139,948</td>
<td>190,788</td>
<td>30,735</td>
<td>38,568</td>
</tr>
<tr>
<td>2 person</td>
<td>823</td>
<td>1008</td>
<td>190,788</td>
<td>26,416</td>
<td>15,9%</td>
<td>13,6%</td>
</tr>
<tr>
<td>3 person</td>
<td>334</td>
<td>315</td>
<td>82,339</td>
<td>69,421</td>
<td>16,551</td>
<td>14,712</td>
</tr>
<tr>
<td>4 person</td>
<td>296</td>
<td>286</td>
<td>69,421</td>
<td>26,416</td>
<td>15,9%</td>
<td>13,6%</td>
</tr>
<tr>
<td>5 person</td>
<td>81</td>
<td>80</td>
<td>26,416</td>
<td>6,752</td>
<td>5,596</td>
<td>1,338</td>
</tr>
<tr>
<td>6 person</td>
<td>16</td>
<td>16</td>
<td>6,752</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>7 or more</td>
<td>10</td>
<td>0</td>
<td>2,536</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Total</td>
<td>2,029</td>
<td>2,340</td>
<td>518,200</td>
<td>107,989</td>
<td>100.0%</td>
<td>100.0%</td>
</tr>
<tr>
<td>1 &amp; 2 person</td>
<td>1292</td>
<td>1643</td>
<td>330736</td>
<td>69303</td>
<td>63.7%</td>
<td>64.2%</td>
</tr>
</tbody>
</table>

Source: U.S. Census 1990, 2000

Age Distribution

In 2000, 19% of Harpswell’s year-round population was under 18 years old, down from 21% in 1990 (Table 4). At the same time, the number and percentage of younger children decreased by 90 persons from 6% of the total population in 1990 to 4% in 2000. In 1990, 40% of the year-round population was in the 18 to 44 years old age group, while almost 24% were middle aged (45 to 64 years old.) In 2000, the number of people in the 18 to 44 years old decreased to 30%, and 47% were middle aged (45 to 64 years old). Almost 19% of Harpswell’s population was 65 and older in 2000. In comparison, Cumberland County’s middle-aged group composed only 33% of the total population, and only 13% of the year-round population was 65 and older.

In 2000, the median age of Harpswell’s year-round population was 45.3 years old, which is significantly higher than 37.9 years old in 1990. This compares with U.S. Census 2000
estimates of median ages of 35.5 years for Brunswick, 37.6 years for Cumberland County, and 38.6 years for the State of Maine.

Table 4
Age Distribution in Harpswell, 1990-2015

<table>
<thead>
<tr>
<th>Age Groups</th>
<th>Harpswell</th>
<th>Cumberland County</th>
<th>Maine</th>
<th>Harpswell</th>
<th>Cumberland County</th>
<th>Maine</th>
<th>Harpswell</th>
<th>Cumberland County</th>
<th>Maine</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-4</td>
<td>6%</td>
<td>7%</td>
<td>7%</td>
<td>4%</td>
<td>6%</td>
<td>6%</td>
<td>4%</td>
<td>6%</td>
<td>5%</td>
</tr>
<tr>
<td>5-17</td>
<td>15%</td>
<td>16%</td>
<td>18%</td>
<td>15%</td>
<td>17%</td>
<td>18%</td>
<td>13%</td>
<td>15%</td>
<td>15%</td>
</tr>
<tr>
<td>18-29</td>
<td>16%</td>
<td>20%</td>
<td>18%</td>
<td>9%</td>
<td>15%</td>
<td>14%</td>
<td>7%</td>
<td>14%</td>
<td>13%</td>
</tr>
<tr>
<td>30-44</td>
<td>24%</td>
<td>26%</td>
<td>24%</td>
<td>21%</td>
<td>25%</td>
<td>23%</td>
<td>16%</td>
<td>22%</td>
<td>20%</td>
</tr>
<tr>
<td>45-64</td>
<td>24%</td>
<td>18%</td>
<td>19%</td>
<td>32%</td>
<td>24%</td>
<td>25%</td>
<td>38%</td>
<td>29%</td>
<td>30%</td>
</tr>
<tr>
<td>65-79</td>
<td>13%</td>
<td>10%</td>
<td>10%</td>
<td>15%</td>
<td>9%</td>
<td>11%</td>
<td>18%</td>
<td>11%</td>
<td>12%</td>
</tr>
<tr>
<td>80+</td>
<td>3%</td>
<td>3%</td>
<td>3%</td>
<td>4%</td>
<td>4%</td>
<td>4%</td>
<td>5%</td>
<td>4%</td>
<td>4%</td>
</tr>
<tr>
<td>Total</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
</tr>
</tbody>
</table>


In 1990, children in the school age group (under 17 years of age) comprised 21% of the Town’s population or 1,053 children. During the 90’s, this group experienced a slight decline, reaching 1,024 by 2000 or 19% of the population.

Figure 3
Population by Age in Harpswell, 1990-2015

During this same period, the Town’s elderly population changed as well. In 1990, residents 65 and older accounted for 16% of the year-round population (780 people). By 2000, this group had grown to 1,002 people, or 19% of the population. In the group 80 years of age and up, the population grew from 141 in 1990 to 221 in 2000. The aging of the baby boom generation is partly responsible for this trend, which is happening nationally. Other reasons are that younger first-time homebuyers are not buying homes in Harpswell and there has been an in-migration of households headed by the older population.

This aging of the population, with its reduction in school age children, decrease in younger households and increase in older households, reflects an overall increase in the cost of locating in Harpswell – a wealth effect – that accompanies the Town’s growing attraction for wealthy middle-aged and older adults as a place to live and retire.

**Educational Attainment**

Interestingly, the percentage of adults 25 and older with a Bachelor’s degree or higher in Harpswell was significantly higher than that in the region. Brunswick had 35% of college graduates, Cumberland County had 34.2%, and the State of Maine had only 22.9%.

In 1990, the percentage of Harpswell residents with high school diplomas was the same as the Cumberland County level of 85% and 10% below the Brunswick level. Three thousand forty seven (32%) adults 25 and older were college graduates and 1,145 (over 85%) had completed high school. See Table I-5. This trend continued and was even more pronounced in 2000. 1,659 adults 25 and older (42%) were college graduates, and 3,494 (almost 89%) had completed high school. This compares with 87.9% of high school grads in the town of Brunswick and 90.1% of high school grads for Cumberland County.

**Commuter Patterns**

In 1990, approximately 37% of the Town’s workforce reported commuting to Brunswick, while another 10% reported working in Bath. Only 20.5% of employed residents reported working within the community. This trend continued in 2000, when 29.6% of workers commuted to Brunswick for work and 8.8% traveled to Bath. At the same time, a total of 26.5% of the people employed in Harpswell traveled from surrounding towns to work in Harpswell, a 10% increase from 1990 (Figure 4).
While the percentage of employed residents reported working in the community slightly increased to 25.5% in 2000, the mean travel time to work increased from 24.5 minutes in 1990 to 31.5 minutes in 2000, which is significantly above county and statewide figures of 22 minutes and 22.7 minutes respectfully.

### Household Income

Median household income of $33,298 in 1989 was considerably higher than the statewide median of $27,854. This is significant when combined with a relatively low level of residents in the labor force (62.3%), indicating that income among non-retired households may be even higher than indicated by the median.

According to the U.S. Census, the median household income in Harpswell increased in the year 1999 to $40,611 with only 59.5% of the population in the labor force, while the State median household income was $37,240. Figure I-5 shows the distribution of household income in 1999.
The growing population has become more affluent, and its demand for land and housing has driven up property values, particularly along the shore. While increasing the prosperity of some sectors, it has made owning property in Harpswell more difficult for others. The higher property values have also increased the Town’s share of school and County tax assessments.
The economy of Harpswell is driven by a variety of factors. For much of the working population, the economy of the Town is influenced and controlled more by regional and national factors than by local conditions. This is particularly true since Harpswell does not serve as a retail, service, or major employment center. In addition a significant portion of retirees in Harpswell are not dependent on local economic conditions for their income.

Regional Economic Environment

Harpswell is part of the Bath-Brunswick region for much of its economic activity. From an employment standpoint, the Town is considered to be part of the Bath-Brunswick Labor Market Area (LMA) as defined by the Maine Department of Labor. The Bath-Brunswick LMA consists of 20 communities: Alna, Edgecomb, Durham, Brunswick, Harpswell, New Gloucester, Pownal, Richmond, Woolwich, Dresden, Arrowsic, Bath, Bowdoin, Bowdoinham, Georgetown, Perkins Township, Phippsburg, Topsham, Westport Island, West Bath, and Wiscasset, that function as an economic unit.

Between 1990 and 2000, the Bath-Brunswick LMA experienced 8% growth in employment (Table 15). This growth was spread across industry groups with the largest growth in wholesale trade (129.2%), construction (77.8%), education and health services (108.4%); and finance, insurance and real estate (75%). Despite 128% growth in non-durable goods manufacturing, employment in manufacturing decreased by 36% over this period, reflecting employment levels at Bath Iron Works (BIW), the region's major employer. According to the Maine State Planning Office report on the Maine Economy, Bath Iron Works Corporation was the second biggest private covered employer in the state with 6,600-6,800 employees in 2001. It is likely, however, that during 1990’s employment declined somewhat as the impact of the recession took hold.

Similarly, from a retail and service standpoint, Harpswell is heavily dependent on regional facilities available in Brunswick and is included by the State Bureau of Taxation.

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2 A labor market area consists of an economically integrated geographical area within which workers can reside and find employment within a reasonable distance or can readily change employment without changing their place of residence. - Bureau of Labor Statistics, U.S. Department of Labor.

3 In 1990, the Bath-Brunswick LMA consists of 16 communities only including Durham, Brunswick, Harpswell, New Gloucester, Pownal, Woolwich, Dresden, Arrowsic, Bath, Bowdoin, Bowdoinham, Georgetown, Perkins Twp., Phippsburg, Topsham, and West Bath. For the purposes of these analyses all 1990 figures were adjusted based on the current composition of the LMA, which includes 20 communities.

4 Covered employers are subject to the Maine Employment Security Law based on quarterly tax filings required under that law. These data do not include Federal government employees, self-employed individuals (sole proprietorships), unpaid family members, railroad workers, and certain farm and domestic workers. According to the Maine Department of Labor, covered employers account for more than 97% of the total nonfarm wage and salary employment in Maine and all of the goods producing industries in the industrial sectors. However, Harpswell is an exception to this rule due to the presence of the fishing industry and its large number of sole proprietors. According to the 1999 Harpswell Fishing Industry Profile by Bruce C. Mayberry, sole proprietorships and other non-covered employment in the fishing industry may actually account for as much as 50-60% percent of jobs in Harpswell.
as part of the Brunswick Economic Summary Area, which is similar to the LMA except that it does not include Durham, New Gloucester, Pownal, Richmond, Alna, Edgecomb, Wiscasset, and Westport Island. This area has seen its taxable retail sales increase from approximately $360 million in 1990 to $510 million in 2000 (Table 16). Even adjusted for inflation, this represents significant real growth in economic activity.

The heritage and community character of Harpswell are defined by the presence of the commercial fishing industry. According to the 1999 Town of Harpswell Fishing Industry Profile Summary Report by Bruce Mayberry, Harpswell remains of significant importance in commercial fishing in the region, with 31% of the County’s lobster boats and 20% of the County’s total ground-fishing, shrimp, and other fishing boats. Nearly all of the shrimping and ground-fishing boats of Cumberland County operate out of either Harpswell or Portland.

Local Employment

Current employment data is not readily available on a town-by-town basis for small communities. Harpswell does not have any major employers and many people commute

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Annual Average Employment</td>
<td>30,290</td>
<td>32,700</td>
<td>32,890</td>
<td></td>
<td>8.0%</td>
</tr>
<tr>
<td>Average Unemployment Rate</td>
<td>3.4%</td>
<td>2.7%</td>
<td>3.1%</td>
<td></td>
<td>-0.7%</td>
</tr>
<tr>
<td>Manufacturing</td>
<td>11,840</td>
<td>7,570</td>
<td>7,960</td>
<td>24.2%</td>
<td>-36.1%</td>
</tr>
<tr>
<td>Durable Goods</td>
<td>11,490</td>
<td>6,760</td>
<td>7,360</td>
<td></td>
<td>-41.2%</td>
</tr>
<tr>
<td>Lumber and Wood Products</td>
<td>110</td>
<td>40</td>
<td>***</td>
<td></td>
<td>-63.6%</td>
</tr>
<tr>
<td>Fabricated Metal</td>
<td>40</td>
<td>90</td>
<td>120</td>
<td></td>
<td>125.0%</td>
</tr>
<tr>
<td>Machinery &amp; Computer Equipment</td>
<td>30</td>
<td>40</td>
<td>30</td>
<td></td>
<td>33.3%</td>
</tr>
<tr>
<td>Transportation Equipment</td>
<td>10,900</td>
<td>6,100</td>
<td>***</td>
<td></td>
<td>-44.0%</td>
</tr>
<tr>
<td>Non-durable Goods</td>
<td>350</td>
<td>800</td>
<td>600</td>
<td></td>
<td>128.6%</td>
</tr>
<tr>
<td>Printing/Publishing</td>
<td>230</td>
<td>170</td>
<td>20</td>
<td></td>
<td>-26.1%</td>
</tr>
<tr>
<td>Non-Manufacturing</td>
<td>18,450</td>
<td>25,130</td>
<td>24,930</td>
<td>75.8%</td>
<td>36.2%</td>
</tr>
<tr>
<td>Construction</td>
<td>1080</td>
<td>1,920</td>
<td>1,700</td>
<td>5.2%</td>
<td>77.8%</td>
</tr>
<tr>
<td>Transportation &amp; Public Utilities</td>
<td>450</td>
<td>550</td>
<td>4,720</td>
<td>4.7%</td>
<td>22.2%</td>
</tr>
<tr>
<td>Wholesale Trade</td>
<td>240</td>
<td>550</td>
<td>350</td>
<td>6.2%</td>
<td>129.2%</td>
</tr>
<tr>
<td>Retail</td>
<td>5,290</td>
<td>6,010</td>
<td>3,970</td>
<td>21.9%</td>
<td>13.6%</td>
</tr>
<tr>
<td>Eating/Drinking</td>
<td>1,860</td>
<td>1,120</td>
<td>880</td>
<td></td>
<td>-39.8%</td>
</tr>
<tr>
<td>Finance, Insurance &amp; Real Estate</td>
<td>600</td>
<td>1,050</td>
<td>1,160</td>
<td>8.6%</td>
<td>75.0%</td>
</tr>
<tr>
<td>Education &amp; Health Services</td>
<td>2,260</td>
<td>4,710</td>
<td>4,770</td>
<td>31.9%</td>
<td>108.4%</td>
</tr>
<tr>
<td>Health Services</td>
<td>1,800</td>
<td>2,030</td>
<td>1,340</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Educational Services</td>
<td>40</td>
<td>1,310</td>
<td>2,660</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Social Services</td>
<td>420</td>
<td>1,370</td>
<td>770</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Government</td>
<td>4,510</td>
<td>4,410</td>
<td>4,440</td>
<td>12.5%</td>
<td>-2.2%</td>
</tr>
</tbody>
</table>

Source: Maine Employment Statistical Handbook, Maine Department of Labor
outside of Town for work. In 1990, the U.S. Census reported that the Town had 2,548 working residents, of which 464 or just about 20.5% worked in Harpswell. The balance commuted to work in other communities, primarily Brunswick, Topsham, and Bath. Based on the 2000 Census, the town has 2,582 working residents, of which 634 (25.5%) worked in Harpswell. At the same time, the Census reported that 228 people commuted to work in Harpswell from other communities, primarily residents of Brunswick.

The major source of local employment is in marine related activities. The Fishing Industry Profile Summary Report identified approximately 400-500 people as of 1998 who work full or part-time in fishing, lobstering, shellfishing and related activities. Out of these 400-500 people, between 200-250 individual license holders operating from the Town are estimated to be significantly dependent on commercial fishing for full or part time income. An additional 60-80 or so people are involved in marine services supported by local commercial fishing, including boat yards and marinas, boat builders and repair services, gear and traps, marine electronics and equipment, and marine construction services. Therefore, 50-60% of the total full and part time job base located within Harpswell is directly or indirectly related to commercial fishing.

Even though the 1999 Harpswell Fishing Industry Profile identified only 400-500 people who work full or part time in the fishing industry, the total number of commercial marine harvester licenses issued for residence/anchorage in Harpswell issued by DMR was 740 in 1998. The discrepancy is due to the fact that many individuals hold more than one type of license. The Fishing Industry Profile also reports that in 1998, there were a total

<table>
<thead>
<tr>
<th>Table 16</th>
<th>1998</th>
<th>1999</th>
<th>2000</th>
<th>2001</th>
<th>2002</th>
</tr>
</thead>
<tbody>
<tr>
<td>Harpswell</td>
<td>8,999</td>
<td>9,374</td>
<td>9,720</td>
<td>9,535</td>
<td>10,216</td>
</tr>
<tr>
<td>Brunswick ESA: Taxable Sales</td>
<td>424,310</td>
<td>465,796</td>
<td>489,126</td>
<td>505,676</td>
<td>510,125</td>
</tr>
<tr>
<td>Building Supply</td>
<td>40,997</td>
<td>56,927</td>
<td>64,230</td>
<td>64,543</td>
<td>65,813</td>
</tr>
<tr>
<td>Food Stores</td>
<td>58,520</td>
<td>63,279</td>
<td>66,160</td>
<td>56,399</td>
<td>57,447</td>
</tr>
<tr>
<td>General Mdse.</td>
<td>100,651</td>
<td>100,055</td>
<td>104,061</td>
<td>110,144</td>
<td>116,679</td>
</tr>
<tr>
<td>Other Retail</td>
<td>37,170</td>
<td>41,689</td>
<td>44,864</td>
<td>50,917</td>
<td>54,993</td>
</tr>
<tr>
<td>Auto Transp.</td>
<td>109,540</td>
<td>121,256</td>
<td>123,241</td>
<td>137,542</td>
<td>128,095</td>
</tr>
<tr>
<td>Rest. &amp; Lodging</td>
<td>77,432</td>
<td>82,589</td>
<td>86,570</td>
<td>86,131</td>
<td>87,098</td>
</tr>
<tr>
<td>Total Sales</td>
<td>463,806</td>
<td>497,688</td>
<td>524,390</td>
<td>538,410</td>
<td>534,901</td>
</tr>
<tr>
<td>Consumer Sales</td>
<td>424,310</td>
<td>465,796</td>
<td>489,126</td>
<td>505,676</td>
<td>510,125</td>
</tr>
<tr>
<td>Restaurants</td>
<td>63,479</td>
<td>67,655</td>
<td>70,281</td>
<td>69,746</td>
<td>70,444</td>
</tr>
<tr>
<td>Lodging Places</td>
<td>13,953</td>
<td>14,934</td>
<td>16,289</td>
<td>16,385</td>
<td>16,655</td>
</tr>
<tr>
<td>Brunswick ESA Sales By Quarter</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q1</td>
<td>19.6%</td>
<td>19.9%</td>
<td>19.8%</td>
<td>19.5%</td>
<td>19.3%</td>
</tr>
<tr>
<td>Q2</td>
<td>25.2%</td>
<td>24.6%</td>
<td>26.2%</td>
<td>26.5%</td>
<td>26.1%</td>
</tr>
<tr>
<td>Q3</td>
<td>28.6%</td>
<td>29.5%</td>
<td>28.2%</td>
<td>28.2%</td>
<td>29.5%</td>
</tr>
<tr>
<td>Q4</td>
<td>26.7%</td>
<td>25.9%</td>
<td>25.8%</td>
<td>25.8%</td>
<td>25.1%</td>
</tr>
</tbody>
</table>

Source: State Planning Office
of 522 people residing in or having their principal anchorage in Harpswell who held one or more licenses. Of these people 427 gave a Harpswell address. This is well within the 400-500 people the Fishing Industry Profile estimates to be working full or part time in fishing, lobstering, shellfishing and related activities. While the number of commercial shellfishing licenses declined statewide, Harpswell’s commercial shellfishing permits have increased substantially since 1990 as resources have improved under local conservation management.

The landings of marine products attributed to Harpswell-based fishermen for 1997 and 1998 had an estimated value of $12 – $14 million. Of this total, between $9-$10 million is estimated to be landed within the town of Harpswell. The value of local landings is predominantly in lobster and shrimp. Overall, Harpswell-based fishing represents an estimated 24% of overall landed value reported for Cumberland County.

Because of the Town’s population and labor force growth, its location near the Bath-Brunswick and Portland area labor markets, and the ascendancy of other faster growing industries, the percentage of local residents working in the fishing industry has declined and will probably continue to do so according to the Town of Harpswell Fishing Industry Profile. In addition, the future economic importance of the fishing industry in Harpswell, as well as the rest of Maine and New England, will depend in substantial part on how federal fishing regulations will limit fishing in the short term and how effectively that limitation will allow for fish population stocks to recover in the long run.

Employment in Harpswell varies seasonally, with the peak employment in most sectors occurring in the summer, which is the third quarter of the year. According to the Maine Department of Labor, in the third quarter of 2001, Harpswell’s 138 commercial establishments employed 691 workers – an average of 5 workers per firm. These businesses provide necessary goods and services for town’s residents, including water-related business such as boatyards, marinas, and yacht clubs; tourism-oriented services – motels, inns, active outdoor recreation and adventure establishments; general services – painting, construction, landscaping; customer oriented services – catering, restaurants, food and retail stores; and professional employment including home occupation.

Table 17 below shows an upward trend in Harpswell’s total covered employment figures from 1990-2001. While some industries such as transportation saw a decline (64 employees to 28), others such as construction, retail, service, and public administration saw increases. In 2001, the retail sector had the largest number of employees. Since 1990, third quarter employment has increased overall by 48% from 466 in 1990 to 691 in 2001. Third quarter figures for July, August and September include seasonal establishments. Annual employment figures were significantly lower than third quarter figures, with 387 employees in 1990 and 559 in 2001, which represents a 44% increase. Seasonal fluctuations in tourism-based covered employment are mostly reflected in the Retail and Service categories.

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5 See Footnote 4 for definition of covered employment.
While the Town lacks any large employers, it has a local economy that is characterized by small businesses and individual self-employed people who, taken as a group, provide significant local economic activity and income. These employers are scattered in various locations throughout the community. Besides the many small businesses and sole proprietors in fishing and marine-related industries there are also many small home-based businesses, sometimes called home occupations that are included in this group.

Table 17
Third Quarter Covered Employment by Major Industry, 1990-2001

<table>
<thead>
<tr>
<th>Industry</th>
<th>1990</th>
<th>2001</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agriculture</td>
<td>9</td>
<td>30</td>
</tr>
<tr>
<td>Mining</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Construction</td>
<td>57</td>
<td>100</td>
</tr>
<tr>
<td>Manufacturing</td>
<td>3</td>
<td>Suppressed</td>
</tr>
<tr>
<td>Transportation</td>
<td>64</td>
<td>28</td>
</tr>
<tr>
<td>Wholesale</td>
<td>26</td>
<td>41</td>
</tr>
<tr>
<td>Retail</td>
<td>200</td>
<td>259</td>
</tr>
<tr>
<td>Finance</td>
<td>4</td>
<td>15</td>
</tr>
<tr>
<td>Service</td>
<td>85</td>
<td>180</td>
</tr>
<tr>
<td>Public Administration</td>
<td>19</td>
<td>37</td>
</tr>
<tr>
<td><strong>Total Employment (3rd Quarter)</strong></td>
<td><strong>466</strong></td>
<td><strong>691</strong></td>
</tr>
<tr>
<td><strong>Total Employers (3rd Quarter)</strong></td>
<td><strong>86</strong></td>
<td><strong>138</strong></td>
</tr>
<tr>
<td><strong>Total Employment (Annual)</strong></td>
<td><strong>387</strong></td>
<td><strong>559</strong></td>
</tr>
</tbody>
</table>

Source: Maine Department of Labor, Division of Labor Market Information Services.

State, County, and Local Occupational Characteristics

In 2000, the size of Harpswell’s labor force was 2,583. The unemployment rate was 1.3%, which is significantly lower than statewide and county level of 3.1% and 2.5% respectfully. This may be due, in part, to residents’ ability to gain wider employment options via slightly longer travel times.

According to the 2000 Census, the key industry sectors that support Harpswell’s workers, not just in Harpswell, but everywhere they work, are education, health and social services (537, or 21.6%); retail trade (322, or 12.9%); construction and professional industry sector (263, or 10.6% each); manufacturing (250, or 10%), and agriculture, forestry, fishing and hunting, and mining (203, or 8.1%). Together these five provide 65.7% of the jobs for Harpswell. Comparatively, the largest portions of Cumberland County’s force is employed in education, health and social services (22.3%), and retail sales (14.7%), and less in the construction industry (5.5%) and professional sectors (9.9%). Statewide, 23.2% the labor force was involved in education, health and social services, 14.2% in manufacturing, and 13.5% in retail trade industry sector. (See Table 17).
According to statewide economic forecasts, the Maine State Planning Office expects the services and retail trade sectors of the economy to grow, construction jobs to hold relatively steady, and manufacturing jobs too show a steady decline.

To describe the labor force by occupational sectors the US Census indicates that just over 56% of the Town’s labor force reported their occupation in 1990 as management, professional or related occupations or sales and office occupations. This is somewhat higher than for the State as a whole but lower than Cumberland County. Another 10% held service jobs, and 22% were employed in farming, forestry, and fishing, construction, extraction, and maintenance, and production, transportation and material moving occupations. It is significant to note that almost 11% were employed in natural resource industries, primarily fishing. This is almost four times the statewide level and about eight times that of Cumberland County.

By 2000, almost 60% of the Town’s labor force gave their occupation as management, professional or related occupations or sales and office occupations. The percentage of service jobs remained about the same and the percentage of farming, forestry, and fishing, construction, extraction, and maintenance, and production, transportation and material moving occupations declined slightly to about 21%. The percentage of the labor force in natural resource industries declined to 7%, but remained at almost four times the statewide level and about ten times that of Cumberland County.

Retail Trade

The Town of Harpswell does not contain any large retail operations. Its primary sources of retail activity are the restaurants and lodgings and the small gift, craft and general stores. In 2002, the businesses in Harpswell had taxable retail sales of $10,215,600, up from just over $8,998,800 in 1998.

[See Table 18 on following page]

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6 See Footnote 5, above for the differences between covered employment and sole proprietorships, and how this affects representation of the fishing industry in state labor statistics. Note also that the Census uses still another measure.

7 Census 1990 and 2000 used different categories for dividing the labor force according to occupation. However, GPCOG estimated the percentage of service jobs.
Table 18: Significant Demographic Factors, Town of Harpswell, ME

<table>
<thead>
<tr>
<th></th>
<th>Town of Harpswell</th>
<th>Town of Brunswick</th>
<th>Cumberland County</th>
<th>State of Maine</th>
</tr>
</thead>
<tbody>
<tr>
<td>% of population &lt;10</td>
<td>12.5%</td>
<td>9.7%</td>
<td>13.4%</td>
<td>12.8%</td>
</tr>
<tr>
<td>% of population &gt;10</td>
<td>87.5%</td>
<td>90.3%</td>
<td>86.6%</td>
<td>87.2%</td>
</tr>
<tr>
<td>Median Age</td>
<td>37.9</td>
<td>45.3</td>
<td>31</td>
<td>35.5</td>
</tr>
<tr>
<td>Average Household Size</td>
<td>2.44</td>
<td>2.24</td>
<td>2.71</td>
<td>2.34</td>
</tr>
<tr>
<td>% of 1 person households</td>
<td>22.3%</td>
<td>27.3%</td>
<td>9.9%</td>
<td>30.8%</td>
</tr>
<tr>
<td>Education: adults 25 and over</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>% high school grads</td>
<td>85.1%</td>
<td>88.9%</td>
<td>95.5%</td>
<td>87.9%</td>
</tr>
<tr>
<td>% Bachelor's degree or higher</td>
<td>32.0%</td>
<td>42.2%</td>
<td>48.8%</td>
<td>35.0%</td>
</tr>
<tr>
<td>Income</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>median household income</td>
<td>$33,298</td>
<td>$40,611</td>
<td>$38,896</td>
<td>$40,402</td>
</tr>
<tr>
<td>per capita income</td>
<td>$16,952</td>
<td>$30,433</td>
<td>$14,343</td>
<td>$20,322</td>
</tr>
<tr>
<td>median family income</td>
<td>$36,604</td>
<td>$45,119</td>
<td>$36,577</td>
<td>$49,088</td>
</tr>
<tr>
<td>Income</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>% 16 and over in labor force</td>
<td>62.3%</td>
<td>59.5%</td>
<td>68.0%</td>
<td>65.5%</td>
</tr>
<tr>
<td>Unemployment Rate</td>
<td>3.5%</td>
<td>1.3%</td>
<td>4.6%</td>
<td>2.2%</td>
</tr>
<tr>
<td>Occupation</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Management &amp; professional</td>
<td>41.4%</td>
<td>40.0%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Service Occupation</td>
<td>11.8%</td>
<td>16.3%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sales and Office</td>
<td>18.5%</td>
<td>25.6%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Farming, fishing, forestry</td>
<td>7.0%</td>
<td>0.7%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Construction and maintenance</td>
<td>10.2%</td>
<td>8.4%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Production, transportation</td>
<td>11.1%</td>
<td>9.1%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Industry</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Agriculture</td>
<td>8.1%</td>
<td>1.0%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Arts and food</td>
<td>7.5%</td>
<td>9.8%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Construction</td>
<td>10.6%</td>
<td>4.5%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Education</td>
<td>21.6%</td>
<td>28.8%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Finance</td>
<td>3.1%</td>
<td>5.0%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Information</td>
<td>4.2%</td>
<td>3.4%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Manufacturing</td>
<td>10.0%</td>
<td>10.0%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other services</td>
<td>3.1%</td>
<td>3.8%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Professional</td>
<td>10.6%</td>
<td>8.5%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Public administration</td>
<td>1.9%</td>
<td>5.1%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Retail Trade</td>
<td>12.9%</td>
<td>15.4%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Transportation and utilities</td>
<td>2.4%</td>
<td>2.8%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wholesale Trade</td>
<td>4.0%</td>
<td>1.9%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Residence in 1985/1995</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>same house</td>
<td>60.2%</td>
<td>63.2%</td>
<td>39.3%</td>
<td>47.4%</td>
</tr>
<tr>
<td>same county</td>
<td>16.8%</td>
<td>11.8%</td>
<td>15.1%</td>
<td>17.6%</td>
</tr>
<tr>
<td>same state</td>
<td>6.5%</td>
<td>6.9%</td>
<td>26.8%</td>
<td>11.4%</td>
</tr>
<tr>
<td>different state</td>
<td>15.9%</td>
<td>16.0%</td>
<td>31.8%</td>
<td>21.9%</td>
</tr>
<tr>
<td>elsewhere</td>
<td>0.6%</td>
<td>2.1%</td>
<td>2.1%</td>
<td>1.6%</td>
</tr>
<tr>
<td>Place of Work</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>area of residence</td>
<td>25.9%</td>
<td>25.5%</td>
<td>60.6%</td>
<td>53.6%</td>
</tr>
<tr>
<td>out of area of residence</td>
<td>74.1%</td>
<td>74.5%</td>
<td>39.4%</td>
<td>46.4%</td>
</tr>
<tr>
<td>mean travel time to work</td>
<td>24.5 min</td>
<td>31.5 min</td>
<td>16.0 min</td>
<td>18.9 min</td>
</tr>
</tbody>
</table>
Issues and Implications

Residential and Business Use Conflicts. A key issue facing the Town is how it can accommodate small businesses without creating unnecessary problems for their neighbors. Finding a balance that provides a desirable environment for small businesses while assuring that they are good neighbors must be a major objective of the Town.

The Future Health of the Marine-Related Economy. The community also has an important marine related economy. Care must be taken to assure that the Town’s policies and regulations support this vital component of the Town’s economy and work to foster its growth.

Seasonal and Tourism-Related Businesses. A final issue is businesses that cater primarily to summer visitors. Since these businesses need visibility, they tend to locate along the two major roadways. While they provide important economic benefits, it is important that the Town consider how these kinds of businesses can be best accommodated without creating traffic hazards or reducing the attractiveness of the community.

The “Creative Economy”. Within the state and within the New England region the economic development community is developing and promoting the idea of boosting local economic stability and productivity through support of business opportunities that arise from the creative arts. For Maine and for New England this growing sector of the economy and newly emphasized aspect of economic development is being promoted and recognized as a competitive advantage. The creative economy is viewed as enhancing quality of life, which is one of the state’s and the region’s most attractive aspects for additional business development. For Harpswell, the existing quality of life is attractive to creative artists who already live here and for others who have not yet arrived. The fact that there is little reason for more traditional sources of jobs to locate in Harpswell, as opposed to communities to the north, makes Harpswell more attractive in this respect, at the same time that it leaves the Town with fewer options for job growth.
AGRICULTURAL AND FOREST RESOURCES

Agricultural and forestry resources can play an important role in most communities. Often they are a significant source of jobs and income. In Harpswell, this is somewhat true for forestry, but less so for agriculture. There is only one remaining active commercial farm. However, the use of land for productive agricultural or forestry use is part of the Town’s rural character. With land prices skyrocketing, it is doubtful that agriculture and forestry, even with the support of Maine’s current use taxation program are an effective deterrent to its conversion to other uses.

Existing Agricultural Use

The extensive farming going on in Harpswell at the turn of the 19th to 20th century has been gradually eroding. During the past 100 years and more, previous generations have left for better jobs elsewhere or entered other occupations. As the older generations retired, farms were abandoned and allowed to grow back to brush or timber. Some of this land has been developed.

The land use inventory conducted by members of the Land Use Subcommittee in 1992 identified only six operations in Harpswell, all of which are part-time operations. These operations involved a total of approximately 150 acres of land. The committee could find only six cows, two working horses, and several sheep, chickens, and ducks. Quite a bit of hay was cut, some for feed and some simply to keep fields clear. In addition, there were numerous saddle and trotting horses. Some gentlemen farmers were keeping sheep, bees and rabbits and raising berries and vegetables. The latter were selling some products at roadside stands. None of this activity had much direct economic impact.

Agricultural Suitability

A second approach to understanding the agricultural resource is to look at the suitability of land for agricultural purposes regardless of its current use. This approach is more long term since it views areas with potentially productive soils as a resource even if it is not currently being used for agriculture. Current land values and competing agricultural areas around the country and the world are effectively meeting Harpswell’s need for food. The likelihood is small that Harpswell or Maine should ever need to rely heavily on local or regional soils for food production. Nevertheless, if agriculture is to be supported against continuing decline, or even started up on a small scale of some specialty niche production, the relative suitability of soils for agriculture deserves some consideration. Though the likelihood any program seeking to preserve such areas from being lost forever to development is admittedly small, suitable agricultural soils in Harpswell are described below.

The Soil Conservation Service of the U.S. Department of Agriculture has defined "prime farmland" as the land that is best suited for producing food, feed, forage, fiber and oilseed crops. It has the soil quality, growing season and moisture supply needed to produce a

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8 Now known as the Natural Resource Conservation Service.
sustained high yield of crops while using acceptable farming methods. This approach to defining agricultural land is desirable since prime farmland is a limited resource.

The Soil Conservation Service has identified the soils types that are considered "prime farmland." The following soils found in Harpswell are considered prime farmland:

- BuB Buxton Silt Loam (3-8% slope)
- WrB Woodbridge Fine Sandy Loam (3-8% slope).

The Buxtons are quite widely scattered around town and show up in many areas including Cundy’s Harbor, Great Island, Harpswell Neck and even small areas of Orr’s Island. Small areas of the Woodbridges are found on Harpswell Neck and in the Cundy’s Harbor area.

The SCS has also designated other soils are "prime farmland" if irrigation is available. Some of these soils types are found in Harpswell including:

- DeA/DeB Deerfield Loamy Sand (0-8% slope)
- HiB Hinckley Gravelly Sandy Loam (3-8% slope)
- LyB Lyman Fine Sandy Loam (3-8% slope)
- WmB Windsor Loam Sand (3-8% slope).

In a situation such as Harpswell where there are limited fresh water sources for irrigation, it does not make sense to consider these as "potential high value agricultural land."

The SCS has also designated other soils as "prime farmland" if they are drained. There appears to be none of these soil types in Harpswell.

**Visual Impacts of Agriculture**

Agriculture is visually significant in Harpswell. The Merriconea Farm, at the entrance to Harpswell from Brunswick on Route 123 is significant for its beautiful farmhouse and barn, as well as for its wide, open fields and the vista they afford to the forests and marshes.

At several places around Harpswell there are open fields that provide similar visual access to wider views that include views of historic buildings and groups of buildings, forests, harbors, islands and the open sea.

If nothing else, the continued existence and annual mowing of these fields is important to maintaining the visual character of the Town. In 2004, there are only 20 acres within Harpswell that are enrolled the state’s Farm and Open Space Tax Program.
Existing Forestry Use

The vast majority of undeveloped land in Harpswell is in forest. However, of the 15,304 acres of land in Town, there were only 2,138 acres of land included under the Tree Growth Tax Program in 1993. In 2004, this total has declined to 1,419 acres, a decrease of about 34% in the past 11 years.

This program provides that the land be assessed for tax purposes for its "current use” as forestland. The owners of land in the program are required to conduct management activities professionally planned by a licensed professional forester.

There are no stands of timber that can be harvested to produce a sustained yield. Forestry activities do not make a significant contribution to the Town’s economy. At least two people do make a living cutting timber for lumber and firewood and for clearing building sites. Many landowners will cut a few logs from their own land for their personal use. Table 19 shows the general scale of timber harvesting operations in Harpswell. Over the years covered it appears there has been a general decline in the volume of activity.

### Table 19
Summary of Timber Harvest Information for the Town of Harpswell

<table>
<thead>
<tr>
<th>Year</th>
<th>Selection harvest in acres</th>
<th>Shelterwood harvest in acres</th>
<th>Clearcut harvest in acres</th>
<th>Total harvest in acres</th>
<th>Change of land use in acres</th>
<th>Number of timber harvests</th>
</tr>
</thead>
<tbody>
<tr>
<td>1995</td>
<td>55</td>
<td>80</td>
<td>2</td>
<td>137</td>
<td>-</td>
<td>4</td>
</tr>
<tr>
<td>1996</td>
<td>112</td>
<td>-</td>
<td>-</td>
<td>112</td>
<td>-</td>
<td>6</td>
</tr>
<tr>
<td>1997</td>
<td>106</td>
<td>-</td>
<td>-</td>
<td>106</td>
<td>-</td>
<td>6</td>
</tr>
<tr>
<td>1998</td>
<td>6</td>
<td>-</td>
<td>-</td>
<td>6</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>1999</td>
<td>20</td>
<td>35</td>
<td>5</td>
<td>60</td>
<td>6</td>
<td>5</td>
</tr>
<tr>
<td>2002</td>
<td>56</td>
<td>-</td>
<td>-</td>
<td>56</td>
<td>-</td>
<td>4</td>
</tr>
<tr>
<td>Totals</td>
<td>355</td>
<td>115</td>
<td>7</td>
<td>477</td>
<td>8</td>
<td>28</td>
</tr>
</tbody>
</table>

*To protect confidential landowner information, data is reported only where three or more landowner reports reported harvesting in the town. (Source: Maine Forest Service.)

There appears to be very little forested land in Harpswell that is capable of supporting commercial forestry. Instead, land values are so high that some of the land is being held until the right moment for development. Given current prices, even some tree farmers may be unable to resist future economic pressures to convert their land to development uses.
Forestry Suitability

As with agriculture, forestland can also be viewed from the standpoint of the suitability of the land to support commercially viable tree growth.

The SCS\(^9\) has also identified "prime forestland" based upon soils capability. They define prime forestland as land that has soil capable of growing wood at the economic productive growth rate for a given tree species. Based upon eastern white pine, many of the soils types found in Harpswell are "prime forestland" including:

- BgB/BgC2 Belgrade Very Fine Sandy Loam
- BuB/BuC2 Buxton Silt Loam
- DeB/DeC Deerfield Loamy Sand
- HiB/HiC/HiD Hinckley Gravelly Sandy Loam
- LyB/LyC Lyman Fine Sandy Loam
- LzB/LzC/LzE Lyman Very Rocky Fine Sandy Loam
- PkB/PkC Peru Fine Sandy Loam
- PIB/PIC Peru Very Stony Fine Sandy Loam
- Sn Scantic Silt Loam
- Wa Walpole Fine Sandy Loam
- WmB/WmC/WmD Windsor Loamy Sand
- WrB/WrC Woodbridge Fine Sandy Loam

These soils types include a large amount of the Town that is not wetland, probably three quarters or more of the upland area. Given the nature of the Town and the characteristics of the terrain, it is not realistic to consider most of these areas "prime forestland." While much of the undeveloped land is forested and a significant portion of these soils are identified as "prime forestland" soils, increasing land values of the Town make this resource of little competitive commercial value.

Therefore, emphasis placed on conserving woodland for commercial forestry use alone is misplaced. Programs and promotion of forestry needs to be part of a larger effort to raise awareness within the community of the importance for helping to support the forest habitat value, groundwater recharge value, scenic value, recreational value and non-point source water pollution prevention value. With these additional values as part of the purpose of promoting continued forestry and preserving the opportunities for it, forestry can be integrated into any public and private conservation activities that help keep the remaining forest from being lost to development.

\(^9\) Now known as the Natural Resource Conservation Service.
HISTORIC AND ARCHAEOLOGICAL RESOURCES

Historic Resources

Due to its early settlement and its pattern of villages, the Town of Harpswell is rich in historic buildings and structures. There are ten individual buildings, a bridge, an island, and an historic district that are listed on the National Register of Historic Places. These are:

- Harpswell Meeting House, Route 123
- Elijah Kellogg House, Route 123
- Merriconeag Farm, Route 123
- Elijah Kellogg Church, Route 123
- East Harpswell Free Will Baptist Church, Cundy’s Harbor Road
- Union Church, Route 123
- Union Hotel, Cundy's Harbor Road
- Halfway Rock Light Station
- Auburn-Harpswell Association Historic District, Route 123
- Eagle Island
- Bailey Island Cribstone Bridge
- Deacon Andrew Dunning House, Mountain Road
- Tarr-Hackett House, Harpswell Neck Road

The Auburn-Harpswell Association Historic District is located to the west of Route 123 with shore frontage on Potts Harbor. It contains 12 historic structures.

Listing on the National Register indicates that these places are of significance and deserving of protection. However, listing on the National Register does little to protect these places. It does require an historic review for projects involving federal funding if these properties are affected. It does not, however, involve any other restriction on the properties.

There may be additional properties in the community that are eligible for inclusion on the National Register. Extensive surveys have been conducted of the properties in Harpswell, at least some of which are held by the Maine Historic Preservation Commission. Further evaluation of the survey data available is needed to identify other properties that may be eligible for listing on the National Register of Historic Places.

There are a substantial number of buildings and structures that are of local historical significance. Although the National Register of Historic Places is national in scope, the program accommodates buildings and sites of national, state and local significance. So it can include properties and sites of local significance reflecting local values.
Archaeologic Resources

**Historic Archaeological Sites.** In the years since 1993, the Maine Historic Preservation Commission has identified 32 historic archaeological sites:

- Gun Point Saltworks, Anglo-American Saltworks
- First Potts Settlement, English Homestead
- Second Richard Potts Settlement, English Fishing Station
- Nicholas Shapleigh Settlement, English Farmstead
- 5 House Sites, American Domestic
- Great Harbor Cove House, American Domestic
- Bailey's Island Blockhouse, English Blockhouse
- Orr's Island Blockhouse, English Blockhouse
- Harpswell Neck Blockhouse, English Blockhouse
- New Meadows Fort, American Fort
- “MERRICONEAG”, American Wreck, Screw
- “CHARLES A. SMITH”, American Wreck, Screw
- Skolfield Shipyard, American Shipyard
- “DON”, American Wreck, Excursion Boat
- “ORTEM”, American Wreck, Yacht
- “POTOMAC”, American Wreck, Schooner
- Unidentified Schooner, American Wreck, Schooner
- “GEORGE W. CLIFFORD”, American? Wreck
- “CARRIE-?”, American Wreck, Coaster
- “CURIO”, American Wreck, Gas Screw
- “NOLO”, American Wreck, Gas Screw
- “STROLLER”, American Wreck, Gas Yacht
- “ELIZABETH W. SMITH”, American Wreck Schooner
- “LYDIA”, Unidentified Wreck
- “SARA POST”, American Wreck, Schooner
- “SKF JAMES”, Canadian Wreck, Schooner
- Lowell Cove Clay Pipes Find, American Artifact Find
- Garrison House, Anglo-American Garrison House

Of the above-listed sites, 16 (50%) are shipwreck sites. MHPC states that except for limited testing of a few of the above listed sites during a Casco Bay survey, no other professional survey for historic archaeological sites has been performed to date (as of October 2004). MHPC also suggests that future field work could focus on the site relating to the earliest European settlement of the Town, beginning in the seventeenth century.

**Prehistoric Archaeological Sites.** The Maine Historic Preservation Commission (MHPC) has subjected approximately half of Harpswell’s shoreline to reconnaissance archaeological surveys. As of October 2003, the number of prehistoric archaeologic sites identified, 165, reflects a decrease of one since at least 1993, when there were 166
identified sites. At least one of the identified sites has been destroyed by construction within the shoreland zone between April 2002 and October 2003. None of these sites are currently listed on the National Register, although 66 seem to be eligible. All are shell middens located in the shoreland zone. The MHPC recommends that the other half of Harpswell’s shoreline should be surveyed as soon as possible.

The MHPC has provided Harpswell with a series of topographic maps of the Town marked to show “prehistoric archaeologically sensitive areas”. These are on file at the Town Office. Nearly all of the area shown on these maps as prehistoric archaeologically sensitive areas lies within the shoreland zone.

**Harpswell Historical Society**

There is an active well-established historical society in Harpswell, which is called the Harpswell Historical Society. The following is an excerpt from the Society’s web page:

“The Harpswell Historical Society was created in 1979 by citizens who were concerned about preserving the Old Harpswell Meeting House and its contents. The group, headed by Harpswell resident and first president, Thurlow Alexander, met in the spring of ’79 and by fall had a group of 16 charter members dedicated to the preservation of Harpswell’s heritage.

“In the following years the Society oversaw repairs and stabilization of the Old Harpswell Meeting House [a Registered National Historic Landmark], was instrumental in relocating the Hearse House, [which still houses one of two horse drawn hearses which were available to Harpswell residents] at Harpswell Center, and assisted in the discovery and reconstruction of the 1759 vintage Harpswell Center Cattle Pound.

“In 1993 the Society received the deed to one of Harpswell’s few public community buildings, Centennial Hall. This building was constructed in 1876 by town residents, to celebrate the centennial this country’s independence from England. The building served the public as a meeting place for suppers, plays, dances and recitals well into the 1940’s and 50’s. For many years it was the home of the Harpswell Garden Club and many of their functions were held there. Centennial Hall gradually fell into disuse and ill repair but when Mr. and Mrs. Edwin Thompson made the building available the Historical Society in partnership with the Harpswell Garden Club, arranged to have the building cut into three pieces and moved to Harpswell Center and onto land owned by the Garden Club and designated as the Ann Francis Hodgkins Memorial Park. This then created the Harpswell Historic Park In the following years the Historic Park Committee, made up of members of both the Historical Society and the Garden Club, has overseen the reconstruction of the building and landscaping of the grounds. This effort is continuing and is about 85% complete.

“As a second addition to the newly created Historic Park, the North Harpswell District # 2 one room schoolhouse was given to the Historical Society by the Wilson Family as an example of one of the nineteen school buildings which once existed in Harpswell. Restoration of this building
continues with the school scheduled to be moved onto a foundation soon and reproduction desks to be installed soon.

‘In the past few years the Society has taken responsibility for the care and upkeep of two of Harpswell’s twenty cemeteries. The Thomas Cemetery and the Wilson Cemetery both on Harpswell Neck. A joint project with the Society and Harpswell Boy Scout troop 634 at Bailey Island is underway to restore the Doughty Cemetery on Great Island which is now abandoned and in a sad state of disrepair.

‘In 1998 the Committee for the conservation of old records began one of the original objectives of the Society. Filing cabinets and flat file drawers were purchased, Acid free files, envelopes were ordered and members attended several workshops at the Maine State Archives in preparation of cataloging and indexing old town records and the growing collection of Society memorabilia and documents.

‘Each year the Historical Society sponsors three public meetings with a guest speaker, which presents a program dealing in some fashion with either Harpswell History or Casco Bay Regional History. (We are always looking for suggestions for speakers or subjects). The programs have traditionally been held at Cundy’s Harbor, Orr’s Island and Harpswell Center.

‘The Harpswell Historical Society consists of a nine member Board Of Directors, which includes the four officers of the Society [President, Vice President, Secretary and Treasurer]. We presently have a membership of nearly one hundred and seventy five.”

As the above excerpt shows, the Society can and does play a meaningful role in promoting knowledge and awareness of the Town’s history and important historic structures. Together with Harpswell Garden Club, the Society operates and continues to further develop Harpswell Historic Park.

**Issues and Implications**

The protection of historic and archaeological sites runs headlong into concerns about private property rights and restrictions on the use of private property. This concern applies particularly to privately owned historic structures and potential archaeological sites. At the same time, there is a desire to preserve our “roots” and the remnants of earlier civilizations.

In addition, the scenic values of some locations in Harpswell depend to an important extent on historic architecture and village lot dimensions, setbacks and building scale, unplanned as they are. Individual development or redevelopment decisions in such locations can significantly affect the scenic appeal and unique character of such locations.

**Historic Sites.** To help protect the historic appearance of National Register-listed historic structures, the MHPC recommends establishment of a mechanism for reviewing impacts from new construction on or adjacent to such structures. Maine’s subdivision statute requires review of impact on “historic sites”. Harpswell’s subdivision ordinance
includes this review standard. The Town has no definition of ‘historic sites’ that is broad enough to include adjacent and nearby buildings for impact review in subdivisions and Planning Board decisions about applications for expansions, replacements, reconstructions of buildings on non-conforming lots.

Maine’s shoreland zoning statute includes as one of its purposes, ‘to protect archaeological and historic resources’. Harpswell’s shoreland zoning ordinance contains a review standard for archaeological and historical sites. It requires that, “All proposed land use activities shall be designed to protect archeological and historic sites that have been identified in the Town’s Comprehensive Plan, or by the Maine Historic Preservation Commission or the National Park Service. The developer must submit the application to the MHPC at least 20 days before it appears on the Planning Board agenda. The Planning Board must consider any comments received from the MHPC in acting on the application.

Archaeological Sites. One approach to dealing with the issue of protecting these resources while protecting landowner rights is to provide the opportunity for appropriate public bodies to conduct preliminary investigations when development is proposed, thereby creating an opportunity for them to work with the property owner if a significant resource is identified.

Another approach is a voluntary one in which the property owner is provided with information and assistance in protecting the resource. An example of this was work on the Tarr-Hackett House with assistance from the Harpswell Heritage Land Trust.
FRESH WATER, ESTUARINE AND MARINE WATER RESOURCES

The water resources of Harpswell include surface water, tidal water, and ground water. Residents rely on ground water for drinking and for subsurface waste disposal. The town’s tidal waters, ponds, and wetlands provide habitat for numerous species as well as recreational attractions. The town has had several water studies done over the past 10 years. This is a compilation of that data.

Freshwater Resources

Ponds. Harpswell has 10 freshwater ponds that exceed one acre and one that exceeds the 10-acre criteria for a great pond – Ice Pond. (Wright-Pierce) Harpswell has numerous smaller freshwater ponds, freshwater wetlands, and springs. Many of these ponds (8) are used for emergency water supplied for the Volunteer Fire Departments. Dry hydrants permitted by easements allow access to the water in these ponds.

Streams. There are several small streams and brooks that drain the land and flow into the ocean. Freshwater wetlands, often associated with these streams or ponds, are described in the Natural Resources background chapter.

Stream and Pond Water Quality. The State has four water quality classes that describe its water quality goals for streams and rivers (AA, A, B, C), and one class for lakes and ponds (GPA). They are all high standards with little variation between them. All water that attains these classifications meets the minimum “fishable-swimmable” standards established in the Clean Water Act.

Streams in Harpswell designated as Class B. Ponds are designated as GPA. According to the Maine DEP, there is no available water quality sampling data in Harpswell streams to show whether or not these streams are attaining their present water quality classification.

Threats to Water Quality. The principal threats to surface water quality in Harpswell streams are erosion and sedimentation from clearing for development, construction sites, timber harvesting, and road and driveway ditches. Automotive runoff from roads and parking lots, chemical fertilizers and herbicides from fields and lawns are additional threats to surface water quality. Development can contribute to erosion and sedimentation problems both during and after construction. After clearing and/or during construction stormwater runoff from bare earth can erode sediment from areas stripped of their vegetation and deposit the sediments into streams. After construction, worn areas, and poorly designed roads, paths and driveways, can cause erosion and sedimentation.

In pond watersheds, development raises the level of phosphorus contained in stormwater runoff. When these higher concentrations of phosphorus reach the lake or pond, they can, over time increase the concentration of phosphorus much more rapidly than under the natural conditions of a wooded watershed. At a density of one home on two acres,
the concentration of phosphorus can increase by a factor of 10. Phosphorus adds plant food to the water of a lake or pond. This can lead to more consumption of dissolved oxygen by algae in the water, decreased visibility within the water, increased temperature and even algae blooms.

Bacterial pollution in streams has limited adverse effects on the streams themselves. However, if a septic system is failing near a stream and the stream is carrying high fecal coliform counts, bacterial pollution in adjacent coastal waters can result. This pollution of coastal waters can be the basis on which shellfishing areas are closed to harvest.

**Existing Measures to Protect Surface Water Quality.** The Town of Harpswell has long been aware of the important relationship of stormwater runoff and stream water quality. The Town also knows that stream water quality affects estuarine and marine water quality. Accordingly, the Town has adopted strong standards limiting non-point source pollution from new development.

- **Erosion and Sedimentation Controls.** Under current ordinances, erosion and sedimentation control plans are required under the Basic Land Use, Shoreland Zoning, the Subdivision Ordinance and the site plan review ordinance. Shoreland zoning requires at least a 75’ setback from wetlands, and prohibits clearing of vegetation within the setback, except as needed for paths.

- **Phosphorus Controls in Great Pond Watersheds.** Because of the potential for degradation of water quality in lakes and ponds, the Maine Legislature amended the subdivision law to require that subdivisions in great pond watersheds be reviewed for their phosphorus impact on the lake or pond in question. Since the Town’s Subdivision Ordinance references the general review criteria of the subdivision statute, the Town does already have the authority to review for phosphorus impacts of any new subdivision proposed in the Ice Pond watershed.

- **Stormwater Management.** The Basic Land Use Ordinance and the Shoreland Zoning require new development to limit the amount of stormwater discharged post development to the same as close to pre-development amounts as possible. These two ordinances also require, wherever possible that the stormwater runoff be directed across vegetative buffers or into vegetated swales or other natural or built feature that will help to filter pollutants from the stormwater. The site plan review ordinance allows the Planning Board authority to regulate the quality of stormwater runoff from buildings and parking lots. The Subdivision Ordinance also regulates stormwater amounts and quality.

Except to the extent required under minimum State shoreland zoning standards, the Town does not regulate non-point source pollutants from agriculture, animal husbandry or from timber harvesting.

Nearly all streams in Harpswell are not required under State shoreland zoning standards to have a 75’ Stream Protection District of undisturbed buffer along each side of them.
However, for most uses, the current Maine Natural Resources Protection Act rules will require a 75’ setback in any case.

**Tidal Waters**

On almost all of its borders, Harpswell is surrounded by salt water, ranging from the open ocean to saltwater marshes. There are three main bays and one river – Middle Bay, Harpswell Sound, Quahog Bay, and the New Meadows River. Harpswell has one of the longest shorelines among Towns in Maine, at 216 miles.

**Estuarine and Marine Water Quality.** The DEP classifies surface waters according to their desired use and water quality necessary to support that use. Tidal waters in Harpswell are designated Class SA. Class SA is the highest water quality classification for estuarine and marine waters. Class SA waters are to be:

“...suitable for the designated uses of recreation in and on the water, fishing, aquaculture, propagation and harvesting of shellfish and navigation and as habitat for fish and other estuarine and marine life. The habitat shall be characterized as free-flowing and natural…. The estuarine and marine life, dissolved oxygen and bacteria content of Class SA waters shall be as naturally occurs…There may be no discharge to direct discharge of pollutants to Class SA waters, except storm water discharges that are in compliance with state and local requirements.”

In those shellfishing areas that have been closed by the State Department of Marine Resources due to bacterial contamination, we can tell by this statement that the bacterial standard listed above is either not being met or there is the distinct possibility it will not be met based on the presence of one or more overboard discharge systems or other threat of contamination.

Monthly water quality monitoring is conducted along the coast of Harpswell, testing for the presence of fecal coliform organisms. Fecal coliform counts are an indicator of the presence of human waste in the water. The results of these tests are important in terms of shellfish area closures.

There are 93 remaining licensed Over Board Discharges in Harpswell. The result is that many areas of the coast are closed to shellfish harvesting.

**Threats to Marine Water Quality.** According to the most recent published reports from the Maine Department of Environmental Protection, estuarine waters are attaining some SB uses from Parker Point in Yarmouth to the south end of Butler Cove (Merrymeeting Bay), Bath. This is another indication that Harpswell’s estuarine and marine waters are not attaining the State’s water quality goal of Class SA. The Town’s marine water quality depends in part on the quality of stormwater runoff, the effectiveness of septic systems, and the discharge or containment of sanitary wastes by boats into marine waters.

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10 This paragraph quotes excerpts from 38 MRSA §465-B 1A, 1B, and 1C, the Maine statute that sets water quality goals for estuarine and marine waters of the state.
Stormwater runoff carries sediment, bacteria, nutrients, fertilizers, pesticides, herbicides, oil, grease and other automotive chemicals into marine waters and organisms ingesting them. These materials are collected by the runoff from roads, ditches, construction sites, fields, lawns and parking areas and carried to the sea in rainwater and snowmelt.

During the 1990’s the Maine DEP developed ‘Best Management Practices” (BMPs) for limiting pollution in stormwater runoff from several sources, including agriculture, timber harvesting, erosion from construction sites, and stormwater from development. BMPs are published in a series of manuals by the DEP. Depending on the activity, BMPs can be applied by landowners voluntarily or by regulation. For development the DEP reviews, BMPs are generally required for controlling erosion and protecting stormwater quality. BMP’s for agriculture or timber harvesting are generally applied voluntarily. The Town requires BMPs for new development reviewed under its site plan review ordinance, subdivision ordinance and shoreland zoning. Neither the DEP nor the Town applies BMP's to management of the impacts from existing roads and driveways, or from ditches. If not maintained properly these can be a source of erosion and sedimentation as well as automotive pollutants. Some communities choose to address such impacts voluntarily through coastal watershed surveys and follow-up remediation work. Others require their municipal road crews or contractors to use BMPs in performing road and ditch maintenance and reconstruction projects.

Septic Systems. Not all septic systems are sited, constructed and maintained so as to function properly and without adverse impact on groundwater. Particularly along the shore, and especially in older, more dense areas of shoreline development, septic systems may allow tainted effluent to contaminate marine waters and adjacent shellfish areas, rendering them unsafe for shellfish harvesting and subject to regulatory closure to prevent human consumption at least until the contamination problems are corrected.

The 2001 Wright-Pierce Drinking Water and Sanitary Septic Study – Phase I Report identifies, describes and maps the incidence and likelihood of a range of septic system problems and issues. While new septic systems must be designed to conform with the Maine State Plumbing Code and the minimum setback in the Town’s DEP-approved shoreland zoning ordinance, existing systems, whether or not they were constructed according to the Plumbing Code, are not required to be upgraded until a problem becomes evident. And sometimes there is no suitable site for a replacement system on a property that needs it. In such circumstances, the Plumbing Code does allow for replacement system variances.

However, in the last few years, the options for new and replacement systems have broadened considerably, due to more efficient wastewater disposal and treatment technologies that are now recognized by and acceptable under the Plumbing Code. These new technologies sometimes require less land because of their new degree of
efficiency. This likely poses an opportunity for improving groundwater conditions in some existing older densely developed areas. But the same improved efficiency may also render some sensitive locations, including shoreland locations and offshore islands developable, where previously they were not.

- Overboard discharge systems (OBDs) are prime sources of potential contamination of marine waters with fecal coliform bacteria, and just the presence of one or more OBDs will trigger regulatory closure of an adjacent shellfish area, irrespective of the presence or absence of evidence of contamination.

New OBDs for residential and commercial uses are no longer licensed by the DEP. Those that were licensed, beginning in the 1970's and extending into the 1980's have been targeted by the State for removal and replacement with a system that eliminates the discharge to marine waters. For the past several years, Harpswell has worked with the DEP to provide financial and technical assistance to owners of OBD systems for their removal and replacement. Statewide the systems are targeted in order of priority for potential redemption of closed shellfish beds as productive beds subject to local shellfish resource management and harvesting.

To date, Harpswell property owners have reduced the total number of OBDs from 127 to 93. The program is still continuing to help remove additional OBDs. It is possible that the new wastewater disposal and treatment options cited above, will also offer new options for OBD replacement. In some locations, the new technology may offer an option where previously there was none. See the Water Resources Map for the locations of remaining OBD systems.

Ultimately, the question of whether or not to open a closed shellfish area may depend not only on the absence of OBDs discharging near it or directly into it, but also on the effectiveness of controls on stormwater quality as well as the remediation of failing septic systems as well. Any source of fecal coliform bacteria, even non-human sources such as domestic animals, can be sufficient grounds for the Maine Department of Marine Resources (DMR) to close an area, under FDA regulations. The DMR's marine water quality monitoring in the area will need to provide evidence that pollution is within acceptable limits before an area can be reopened.

The overall success of the OBD removal program at allowing shellfish areas to be reopened may therefore depend to a substantial extent on how well the Town also addresses problems with septic systems and stormwater runoff generally.

- Marine Sanitary Waste from boats poses another threat to marine ecosystem and human health when onboard holding tanks are emptied into marine waters instead of being pumped out at licensed marine sanitary pump out stations. Pump-out stations exist at Dolphin Marine Services in South Harpswell and Great Island Boat Yard in Quahog Bay. There is also a pump-out station at Paul's Marina on Mere Point, adjacent to Birch Island in Harpswell. One issue the Town faces is whether
these will be adequate to meet the need and whether boat owners will know they are there, know the impacts of discharging marine toilets at sea or in harbor, and will take advantage of them.

- **Nutrients, Dissolved Oxygen and Fish Kills.** In the same way that phosphorus serves as plant food in freshwater and can lead to algae blooms and lowered dissolved oxygen when present in excessive concentrations in lake water, nitrates in estuarine water can cause dissolved oxygen in estuarine waters to drop by stimulating growth or marine algae. Although the causes of the 1988 fish kill in Maquoit Bay are still debated among scientists, with some attributing the high nitrate concentrations to human impact and others supporting natural long term cyclical fluctuations in nitrate concentrations, it is still clear that, for whichever reason, a fish kill due to excessive algae consumption of oxygen did occur.

- **Too Many Pogies.** Though there is little anyone could have done to prevent the sudden fish kill in parts of Harpswell, including Quahog Bay, in 1990 due to massive numbers of pogies entering coves with relatively poor water circulation, this is another example in recent memory of how fish kills can, and once in a great while, do occur due to natural causes.

**Existing Measures to Protect Estuarine and Marine Water Quality.** Existing measures to control erosion and sedimentation using Harpswell’s land use ordinances are described above under Existing Measures to Protect Surface Water Quality. Other measures in local ordinances that help to protect estuarine and marine water quality include Shoreland Zoning setbacks of 75’ and strict limitations on clearing for development and on timber harvesting and vegetation removal within the 75’ setback. The Plumbing Code also requires a minimum setback from the normal high water line for new septic systems. It is noteworthy that the Plumbing Code is not designed to mitigate against nitrate pollution of groundwater. This fact makes it all the more important that the Planning Board has the authority under the Subdivision Ordinance and the Site Plan Review Ordinance to require hydrogeologic assessments prior to approving proposed subdivisions and site plans. Where these are on waterfront property, this authority can contribute, if used to do so, to ensuring that nitrates in septic system effluent do not reach the sea in concentrations any greater than would be permitted under federal drinking water standards.

Marine Pumpout Stations have been described above. There is also a mobile marine pump-out boat that is operated by the Friends of Casco Bay that serves South Portland to Freeport.

**Marine Resources.** The significance of protecting water quality on an ongoing basis is not only aesthetic and environmental, it is economic as well. There are many marine resource-harvesting businesses, restaurant and tourism-related businesses that depend on a continuing high quality marine environment. As detailed in the Marine Economy sections of Parts I and II of this Plan, marine resources are the basis for 50 to 60% of the local job base.
**Shellfish.** Harvested species include, but are not limited to, soft-shell clams. From 1997 through 2003, the seven-year average weight of soft-shell clam landings in Harpswell was 829,061 pounds per year. This amount exceeds not only any other town in Cumberland County, but also any other town in Maine for the same period, except for Waldoboro. Given that approximately half of the shellfish growing areas in Harpswell are closed due to contamination or the presence of overboard discharges, there is also potentially significant economic payback to the community at large if existing shellfish beds can be reopened. Currently there are 85 commercial harvesting licenses issued by the Town. The local shellfish resource is managed by the Marine Resources Committee and the Marine Patrol Officers who administer and enforce Harpswell’s Shellfish Ordinance. Volunteers who report to the Maine Department of Marine Resources frequently monitor water quality. The Friends of Casco Bay also monitor water quality at over 100 sites in Casco Bay including Harpswell waters.

**Lobsters.** Approximately 200 lobster boats based in Harpswell and their crews depend on a clean marine environment for producing abundant and clean lobsters for sale to local as well as regional, national and international customers.

Of more indirect but still substantial economic as well as environmental value, and also dependent on a clean marine environment for their continued existence are the following resources:

- **Eelgrass Meadows.** In shallow, near-shore areas, eelgrass can grow in large meadows. Eelgrass meadows help trap sediment that contributes to shellfish beds and serve as nursery areas for several species of fish, including small flounder and mussels and other shellfish. They also provide food for migrating waterfowl. Today eelgrass meadows are comparatively rare. In the 1930’s an eelgrass wasting disease destroyed 90% of eelgrass growing along the East Coast. Too much suspended sediment can block light to eelgrass meadows and cause them to die back and relinquish their root system’s stabilizing effect on the bottom sediment. Although eelgrass has rebounded somewhat since the 1930’s it faces new threats such as sediment in runoff from development, boat traffic, dragging of fishing gear, harvest of shellfish and periodic dredging of navigational channels. Recent outbreaks of eelgrass wasting disease have occurred in Maquoit and Middle Bays.

Eelgrass, though rare, plays a significant role in the marine environment and the land-based economy that depends on shellfish, fisheries and bird watching. Only some of the stresses on the resource are land-based, mostly those activities that generate sediment. If the marine activities that pose the other threats listed can be directed elsewhere than the eelgrass meadows, whether through regulation or education, the resources chances of expanding will be improved as would the consequent benefits for the marine economy and quality of life.

- **Coastal Wading Bird and Waterfowl Habitat.** Besides supporting shellfish, intertidal flats also support a Baltic clams, gems clams, mussels, periwinkles, amphipods,
marine worms, and other species that make these areas important feeding habitat for coastal wading birds and migratory waterfowl. Salt marshes are also important coastal wading bird and waterfowl habitat. Maine has designated these kinds of areas and others as one type of significant wildlife habitat under the Natural Resources Protection Act, and the Maine Department of Inland Fisheries and Wildlife has mapped Coastal Wading Bird and Waterfowl Habitat, including that within Harpswell. See the Natural Resources Map for specific locations.

As with most marine resources, these habitat areas are more likely to support waterfowl and wading birds, when the water quality on them is unimpaired by pollution impacts from the land. Another important factor in their use, particularly for species of birds that are more sensitive to the presence of humans (and even pets) is the degree to which nearby development is screened from these areas so as to afford some security for the birds. Vegetative screening enhances this sense and also contributes to more effective filtration of pollutants from runoff.

Continuing shoreline development may pose a threat to the current rate of usage of these intertidal flat and marsh areas by birds that help keep the marine environment in balance, provide an important element of the unique quality of life in Harpswell, and offer important potential for recreation and birdwatching as part of the local economy. Although some areas are designated significant wildlife habitat by the State, this designation does not currently have a regulatory significance under DEP rules. So the Town may wish to evaluate its shoreland zoning to determine whether additional riparian buffers adjacent to coastal wading bird and waterfowl habitat areas are warranted.

- **Seabird Nesting Islands.** Several of the many offshore islands of Harpswell, particularly those closer to the open Atlantic Ocean, have been designated as seabird nesting islands, another form of significant wildlife habitat that has been mapped by the State. These islands play a critical role in the reproductive cycle of many species of seabirds, and, unlike coastal wading bird and waterfowl habitat areas, they are subject to protection from development under DEP rules and Harpswell’s shoreland zoning. Two of these islands, Pond Island and Jenny Island are also habitat for the roseate tern, which is on both the State and federal lists of endangered species.

Although not subject to development, these islands can be visited by their owners and by sea kayakers and others arriving by boat to explore. On the one hand, they may provide an opportunity for ecotourism, and on the other, they are a fragile resource best left as undisturbed as possible if they are to perform their critical role in the birds’ reproductive cycles.

- **Regional Coordination.** Regional watershed management efforts, such as the Casco Bay Estuary Project, the Friends of Casco Bay, and the New Meadows River Watershed Project, are working on all the above issues, and Harpswell in varying degrees is participating in such regional efforts. Harpswell will need to decide how much to coordinate its actions with those of other Town’s and these public and
private non-profit organizations. These organizations offer monitoring, data and technical options and programs for working on these issues. The Town may wish to consider using these resources for educational purposes and/or for development of more effective Town ordinances, or both.
GROUNDWATER RESOURCES

This background chapter provides a more detailed look at relevant planning information and issues than the Background Trends and Analysis/Issues statement on Groundwater in Part I that precedes and introduces the Goals, Policies and Action Recommendations on groundwater.

Studies and Well Surveys

In 1982 the town commissioned a report, “Ground Water Resource Analysis, Harpswell, Maine” by Robert G. Gerber, Consulting Engineer & Geologist, and John R. Rand, Consulting Geologist, then both Harpswell residents, to assess the groundwater quality and quantity status of the town. This study drew on the results of a well survey that produced data on 1100 wells in Harpswell. The 1993 Comprehensive plan was largely based on data from the Gerber-Rand report.

In 2001, the Town completed Phase I of another study with the assistance of Wright-Pierce, a Topsham engineering firm. The report is entitled, ‘Drinking Water and Sanitary Septic Study – Phase I’. The report made use of the Gerber-Rand Study well data and analysis, and on well data on new wells reported to the Maine Geological Survey beginning in 1987, as required by state law.


Policies and Action Recommendations in Part I draw on the findings and recommendations of these surveys and studies. All three of the study reports are part of the Appendices to this Comprehensive Plan and are available for review at the Town Office.

Additional analysis was conducted by the Harpswell Comprehensive Plan Committee with computerized mapping assistance from the Greater Portland Council of Governments and technical assistance from Andrews L. Tolman, a professional hydrogeologist at the Maine Drinking Water Program to obtain a clearer picture of current groundwater usage rates in relation to rates of groundwater recharge, within each of the many small drainage basins within the town. The method for completing this analysis was adapted from a similar study method used in a townwide hydrogeologic study completed by Woodard & Curran for the Town of Phippsburg. The results of the analysis showed that while there are localized problems of insufficient groundwater quantity in existing wells, sometimes associated with saltwater intrusion, no drainage basin in Harpswell presently uses more than 30% of available recharge, and almost all use less than 20%.

A table map showing individual drainage basin results is contained in the Appendix. The watersheds are mapped and labeled on the Drainage Basin Analysis Map. Both are
available for review at the Town Office. The map was used in the preparation of the Development Constraints Map described in the Future Land Use Plan section of this Plan.

**Description of the Resource**

The following is a very brief and basic description of the groundwater system in Harpswell. More detail can be found in the Gerber-Rand Study and the Wright Pierce Study.

1. **Hydrogeologic Cycle:** When rain falls, or snow melts, some of it runs over the surface of the land and a small portion of it seeps into the soil. Of that portion that seeps into soil, some stays in the soil and some infiltrates still further downward to where soil, subsoil or bedrock fissures are saturated with water: the water table. The water table is the underground surface of a vast underground reservoir of water that has built up slowly over geologic time and fills the many cracks and fissures of the bedrock and portions of the soil and subsoil deposits on the surface of the bedrock.

Water moves within this matrix of earth and rock. The water table slopes beneath the surface of the land toward the sea. As more rain and melting snow slowly supply the system with water from the land surface, the groundwater flows ‘downhill’ within the land and exits where the land meets the sea. In this process, groundwater also supplies most of the flow in streams, where the water table emerges at the land surface. Rainfall causes streams to swell or subside, but groundwater supplies the steadier base flow that keeps water flowing in the streams between storms.

From above, the groundwater and soil water are drawn upon by vegetation drawing water up through its roots. Much more groundwater is used by plants and lost to the sea than is taken up by people using wells and springs. What water runs off to the sea, whether in a stream or underground, and what water is released by plants animals and humans to the environment all returns to the sea and the sky and then again to the land in the form of rain and snow.

2. **Bedrock Geology:** From the Gerber-Rand study summary: “The bedrock in Harpswell is divisible into thirteen major rock types… The single feature that characterizes most of the bedrock as a groundwater aquifer…is its layered fabric, with thin, platy laminations sandwiched between thicker, more massive beds. The layers trend parallel with the distinctive north-south grain of the Town’s peninsulas and islands, and are stacked upright, on end, like books on shelf. The rock tends to separate along the platy laminations, creating a multitude of narrow passageways through which groundwater can flow both down to depth and laterally to the north or south through the Town. In addition to these numerous lamination openings, the rock is also cracked at wider intervals by nearly vertical fractures that cut east-west across the layering. The bedrock aquifers of most of Harpswell owe their existence primarily to water moving through the lamination openings, although cross-fractures can locally be very important sources of ground water.”
3. Surficial Geology, Soils, and Recharge: Also from the Gerber-Rand study summary: ‘Harpswell soil types, which originated as Surficial deposits formed during either the advance or retreat of the last major glacier to cover Maine, are generally too thin to constitute reliable aquifers in themselves. The soils are very important, however, in that they dictate the rate that ground water can be recharged to the bedrock aquifers in their areas. Five major soil types have been identified whose natural differences in texture, compactness and thickness lead to significant differences in bedrock recharge, ranging from a low average annual recharge rate of 0.11 to a high of 0.91 gallons per minute per acre of soil area. The recharge potential of a soil is notably dependent on the vegetative cover and land use on that soil. There is much greater recharge potential in forested areas than in grasslands or areas of bare soil. No ground water recharge occurs in areas covered by such impervious structures as roads, parking lots and buildings.’

4. Aquifers: There are no sand and gravel aquifers in Harpswell shown on the Maine Geological Survey’s sand and gravel aquifer map series. Sand and gravel aquifers are typically formed from water-sorted glacial deposits and offer well yields of from 10 to 50 gallons per minute (gpm) or more.

Although this source says Harpswell does not have sand and gravel aquifers, Harpswell does have some documented locations, based on existing wells that currently provide high well yields from bedrock wells. The Wright Pierce Study documents and maps several known locations of high and moderate well yields. These locations are shown on the Water Resources Map of this comprehensive plan.

In addition, the Gerber-Rand study summary describes several possible high yield aquifer locations. ‘Several areas in Harpswell deserve special attention because of their inferred potential as relatively high-yield aquifers. Near South Harpswell, Merriman Cove/Harpswell Center, and on Bailey Island, three deposits of thick glacial till soil may overlie aquifers contained in buried sand and gravel deposits…Relatively high-yield bedrock aquifers may also exist, in narrow structures that cut northeasterly across the bedrock grain from western Harpswell Neck to eastern Great Island. The longest of these structures is a steeply-inclined diabase dike, a tabular volcanic intrusion up to 100’ in thickness, that is characterized by closely spaced, fairly open fractures. Shorter potential bedrock aquifers are inferred by topographic lineaments that cross the Long Reach Mountain and Orrs Hill on Great Island, possibly reflecting narrow zones of closely-fractured, saturated bedrock. The possibility that one or more of these special geologic features may ultimately be shown capable of providing substantial quantities of water for nearby community or commercial use distinguishes them as subjects for early protection and continued evaluation.’

5. Wells and Septic Systems: Except for a handful of developments that have two or more houses sharing wells and/or septic systems, residential development in Harpswell relies exclusively on individual on-site private wells and septic systems for water supply and wastewater disposal. There are 32 ‘public water supplies’ operated by the schools and private commercial land uses. The term ‘public water supply’ means any well having 15 or more service connections and/or serving 25 or more individuals are served
daily for at least 60 days per year. These wells are typically higher yield wells than domestic wells, but they may also be very small, such as when a small store sells coffee. The Maine Drinking Water Program requires monthly testing and reporting for a range of potential contaminants.

**Threats to Groundwater**

As in all Maine towns, groundwater in Harpswell is vulnerable to pollution from many sources. And groundwater in Harpswell is variable in its natural water quality and well yields. And as with many Maine towns, there are some existing groundwater problems and future development poses additional threats. Unlike most towns, Harpswell is surrounded by ocean and one is never more and often less than one-half mile from the water. And because Harpswell has more shoreline than any other Maine town, a very high percentage of existing and future development is now located and can be expected to locate along the shore.

1. **Water Quantity:** Within several densely built-up areas there are some locations where the cumulative use of groundwater by many leads to the wells of a few going dry or having reduced yields in the summer months of highest use. In some cases, the water table of freshwater has thinned due to excessive use in the area and wells draw in salt water from below the freshwater, which because it is less dense than saltwater, floats like a lens on the more extensive saltwater that underlies it.

2. **Water Quality:** There are several kinds of existing water quality problems that have been documented through the well surveys and the groundwater studies cited above. These can be divided into two categories: naturally-occurring and of human origin.

Naturally occurring quality problems consist primarily of high levels of iron, arsenic and magnesium, which have all been found in many wells, as documented in more detail in both the Gerber-Rand and Wright-Pierce studies. In many cases, the well owner applies treatment to reduce these contaminants to more acceptable levels. Existing problems of human origin fall mainly into four categories: nitrate-nitrogen and pathogens from septic systems, road salt in wells near major roads, saltwater intrusion into wells along densely developed shores, and petroleum product spills.

The Wright-Pierce study has documented and mapped known water quality problems of human origin. The locations of existing problems appear on the Water Resources Map. Although it is not documented on the Water Resource Map there also exists fuel contamination of groundwater underlying the Mitchell Field site, which was the former fuel depot for the US Navy that served the Brunswick Naval Air Station, which was later given by the Navy to the Town. The Maine Department of Environmental Protection has advised the Town that it will take several decades for this site to purge itself of the remaining contaminants to a degree that would render the site suitable for uses that depend on drinking water wells.
3. Potential Problems from Continuing Development: While most of Harpswell currently enjoys good water quality and sufficient water quantity, the available groundwater resources are not infinite, and in many locations, as the Water Resources Map shows, problems are beginning to emerge. Depending on how future development takes place, what kind of development at what scale or density, and where it happens, the types of problems in evidence now could become more common and/or grow worse where they are now.


Keeping in mind that the well data for 1982 and 1990 through 2000 represents different sampling methods and sample sizes, the trends in the percentage of wells whose water exceeded water quality standards for nitrate and bacteria grew substantially between the earlier and the later tests. Bacteria exceedances rose from 2.0% (19 in 939 wells) in 1982 to 38.6% (128 of 332 tests). Nitrate exceedances rose from 0.7% (7 in 939 wells) in 1982 to 14.0% (34 of 242 tests).

b. Potential use impacts.

Currently there is no zoning in Harpswell that limits permitted uses anywhere except in the shoreland zone. It is therefore quite possible that some large use such as a major resort hotel or, perhaps less probable, but still possible, an office complex could place unusually large and concentrated demands on the groundwater system. Also, it is possible that some allowed commercial uses could present wastewater quality issues. Current site plan review and subdivision ordinances allow the Planning Board to require hydrogeologic studies from an applicant to show whether a proposed use will meet current state and federal groundwater standards. However, the question of whether some uses should be excluded outright or accepted but only at a limited scale, needs to be examined.

c. Potential density impacts.

Current minimum lot sizes are one acre for residential development that is not part of a subdivision and two acres when it is part of subdivision. From the perspective of nitrate-nitrogen pollution prevention, the Gerber-Rand study and the Wright Pierce study recommend that allowable density for new development be based on soil type. Both studies concur that there are five major soil types in Harpswell and that each should be developed at a minimum lot size that ranges from 0.5 to 4.2 acres. Current hydrogeologic study requirements for site plan and subdivision can help evaluate individual proposals, but the question of whether to establish different minimum lot sizes in different parts of Town also needs to be examined. Salt intrusion impacts of new development are not easy to model and none of the three geologic reports reviewed offered a minimum lot size to address this question. Shoreland zoning requires that new wells be set back at least 100 feet from the ocean. To prevent salt intrusion in new wells, Wright-Pierce recommends locating them at least 200 feet from the shoreline. To prevent additional salt intrusion in
areas where it already has occurred, whether in new or existing wells, Wright-Pierce also recommends discouraging new residential development in these areas.

d. Potential petroleum spills, road salt.

New fuel storage tanks and related piping located outdoors are subject to some of the same hazards that have led to spills in the past. Since the ice storm of 1998, they are now known to be subject to another – falling ice and falling objects weighted by ice. Both Wright-Pierce and Newberg Associates offer some recommendations for improved safety in design and improved inspections and enforcement of safety standards. Existing wells near roads are at the mercy of the amount of salt applied to the road in that location. New wells have the option, but are not required to be located any minimum distance from an existing well-traveled and/or especially hazardous adjacent section of road.

e. Public water supply options.

In the event that portions of Harpswell become overbuilt from the standpoint of remaining serviceable by private wells and septic systems, any form of centralized public water supply would be infeasible due to high total costs and insufficient numbers of users to make water use fees affordable. However, the various potential aquifers indicated by areas of known high and moderate yield wells do appear to offer some promise for small community scale water wells serving nearby development. They also offer the potential for commercial uses that use ample amounts of water such as restaurants or hotels.

Until such locations are investigated to learn more about what they offer and what land use regulations may be needed to protect their recharge areas, the Town cannot plan for either their retention as potential future water supplies or their use to serve commercial needs.

**Additional Groundwater Protection Needs**

With its substantial and growing database on groundwater from well surveys and the three study reports referred to herein, the Town needs to begin implementing measures to help prevent further localized groundwater problems, protect groundwater quality generally from new development, and learn its full range of options with respect to possible future public water supplies. To this end, principal recommendations of the three reports are excerpted and included in the following table:
<table>
<thead>
<tr>
<th>Minimum Lot Size</th>
<th>Gerber-Rand</th>
<th>Wright-Pierce</th>
<th>D. W. Newberg</th>
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<tr>
<td></td>
<td>Recommended Minimum Lot Sizes are based on 5 major soil types identified in Harpswell and are intended to protect against excessive nitrate-nitrogen concentration in groundwater:</td>
<td>o Same minimum lot sizes based on soil types as Gerber-Rand, with the following recommendation: “There were a number of assumptions made when developing these minimum lot sizes such as the nitrogen concentration in the wastewater, the slope of the land, rainfall amounts, and the potential for denitrification in the soil. More conservative assumptions would yield larger minimum lot sizes whereas less conservative assumptions would yield larger minimum lot sizes. It may be desirable in the future phases of these study to utilize assumptions more specific to individual areas to assist in prioritizing certain areas of Town.”</td>
<td>o No minimum lot size recommendation made.</td>
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</table>
|                  | o ‘Glaciomarine Sand – 0.5 acres  
  o Reworked Glacial Till – 0.8 acres  
  o Glacial Till/Exposed Bedrock – 1.3 acres  
  o Lodgement Till – 2.0 acres  
  o Glaciomarine Clay/Silt – 4.2 acres”  
  Here is the general context in which this recommendation is offered. | o | o |
<p>|                  | o ‘Land use controls can take many forms. For example, Harpswell could be divided into a number of separate land use districts, with each district having its own permitted, conditional, and prohibited uses. Performance standards could be established for each type of permitted and conditional use. For example setback requirements could be specified for borrow pits and regulations could be adopted pertaining to borrow pit reclamation.” | | |</p>
<table>
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<tr>
<th>Protection of Recharge, Quantity and Quality</th>
<th>Gerber-Rand</th>
<th>Wright-Pierce</th>
<th>D. W. Newberg</th>
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<tr>
<td>o With respect to recommended residential densities in Table 8: “Notice that the restrictions on housing density due to water quality considerations result in allowable densities that are only about one-half those that are allowable due to considerations of recharge potential.”</td>
<td>o No recommendation made.</td>
<td>o No recommendation made.</td>
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<td>o “The most prominent effect of commercialization is reduction in recharge due to addition of impervious area.”</td>
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<td>o “The types of waste produced [from commercial or industrial development] and the methods of waste disposal should be carefully controlled.”</td>
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<tr>
<td>o “For example setback requirements could be specified for borrow pits and regulations could be adopted pertaining to borrow pit reclamation.”</td>
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<td>Nitrate-Nitrogen: Preventive</td>
<td>Gerber-Rand</td>
<td>Wright-Pierce</td>
<td>D. W. Newberg</td>
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<td>o See Minimum Lot Size above.</td>
<td>o ‘Increase separation distances between septic system and wells to a minimum of 200 feet between a septic system and a downgradient well and 150 feet between a septic system and a well located laterally.’</td>
<td>o ‘For all site evaluations in which a septic system design is based on a profile of 4, 5, or 6 soil the Site Evaluator should be required to identify, and locate on the HH-200 form, all down-gradient dug wells, springs, and well points which are within 300’ of the proposed system. If requested by the owner of the water supply, the owner of the proposed system should be required to pay for semi-annual monitoring of the nitrate concentration in the water supply.’</td>
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<td>o ‘Allowable residential densities could be defined in different areas according to our soil map and the calculated allowable densities in Table 8.’ [See Minimum Lot Sizes, above.]</td>
<td>o ‘Regulated density of development to lot sizes discussed in Section 7.’ [Gerber-Rand recommendations above]</td>
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<td>o ‘Any commercial development should be designed to follow two simple rules: a) the total runoff from the site in the developed state will not be increased beyond that in the undeveloped state (unless it can be shown that an increase in runoff will have no offsite impact); and b) the concentration of any pollutants introduced into the soil on the site will be attenuated to Safe Drinking Water Standard at the site boundary.’</td>
<td>o ‘Perform regular inspection and pumping of septic tanks.’</td>
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<td>o ‘In order to evaluate impacts on ground water, the subdivider should be required to map basic soil, water table, and drainage conditions. The developer should be required to lay out leachfields and wells in a manner that will minimize offsite ground water contamination. As recommended for commercial projects, subdivisions should be designed so that runoff is not increased by the project and Safe Drinking Water Standards will be met at the boundary.’</td>
<td>o ‘Recommend periodic testing of private wells (e.g., annual water quality testing).’</td>
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<td></td>
<td>o ‘Track septic system maintenance to include notifying homeowners when it is time to pump out septic tank.’</td>
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<td></td>
<td>o ‘Construct individual or small community advanced treatment systems that can remove nitrate and bacteria.’</td>
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<td>o Consider limiting conversions of seasonal homes into year round homes.’</td>
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<tr>
<td>Nitrate-Nitrogen: Remedial</td>
<td>Gerber-Rand</td>
<td>Wright-Pierce</td>
<td>D. W. Newberg</td>
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| o No recommendation beyond a general recommendation of strict enforcement. | o ‘Replace failed or substandard [septic] systems with properly designed and constructed systems.’  
o ‘Construction of small community system with individual septic tanks and shared leaching field.’ | o No recommendation more specific to nitrate-nitrogen remediation than the one related to finding suspected community supply source present on Bailey Island, directed mainly at saltwater intrusion. |

<table>
<thead>
<tr>
<th>Saltwater Intrusion</th>
<th>Gerber-Rand</th>
<th>Wright-Pierce</th>
<th>D. W. Newberg</th>
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</thead>
</table>
| o ‘We cannot, at this time, recommend a permissible housing density based upon considerations of salt-water intrusion potential. The potential for salt-water intrusion is complexly related to local geology, distance from the ocean, pumping rates, well location, and local recharge rates. All of these factors could only be taken into account in a ground water simulation model which would be difficult to develop. Until such models can be developed, we suggest that the allowable densities as determined by Figure 8 [listed above] be used as a guideline for preventing salt-water intrusion.’ | o ‘Locate wells at least 200 feet from shoreline.’  
o ‘Discourage additional building in areas with a potential for saltwater intrusion shown in Figure 2-4.’ [map] | o ‘The Town should identify an area on Bailey Island where Hinckley Series and related soils suggest the presence of permeable, coarse-textured sediments overlying bedrock, and where a water supply well could, if installed, be protected and utilized by the public. Such a water source would presumably be of particular benefit to the residents of the southern portion of Orrs Island and Bailey Island where well water is impacted by saltwater intrusion.’ |
<table>
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<tr>
<th>Petroleum Storage</th>
<th>Gerber-Rand</th>
<th>Wright-Pierce</th>
<th>D. W. Newberg</th>
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<tbody>
<tr>
<td>No recommendations specific to petroleum storage.</td>
<td>‘Distribute information related to spill planning.’</td>
<td>‘The Town of Harpswell should require every individual proposing to install an underground fuel storage tank to provide information on the depth to bedrock, type of overburden and depth to the water table. (Obtaining this information may require test borings and/or seismic investigation of the subsurface.) In addition, all wells, Waterbodies, and other facilities within 1000’ which might be threatened should be located on a plan drawn to scale. These data should be presented in sufficient detail as to facilitate decisions as to whether, and how, to attempt recovery of free product in the event of a spill. The information should be made available to all parties potentially responding to such an event.’</td>
<td>‘The Town, and, in particular the Code Enforcement Office, should work with the fuel oil suppliers of the residents of Harpswell to be sure that annual furnace inspections and maintenance are accompanied by careful examinations of the piping and fuel storage that are necessary for the proper operation of the heating system.’</td>
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<td>Heating oil tank inspection program.</td>
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<td></td>
<td>Gerber-Rand</td>
<td>Wright-Pierce</td>
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<td><strong>Road Salt</strong></td>
<td>o ‘New wells should be located as far as practicable from major roads.’</td>
<td>o ‘Reduced use of rock salt and increased sand use. Post signs ‘Reduced Salt Areas’.’</td>
<td>o ‘The use of salt on the roads in Harpswell should be carefully reviewed in consultation with the Maine Department of Transportation, and other organizations in a position to offer guidance. The goal should be to improve the safety of motorists during the winter months without excessive use of salt.’</td>
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<td>o ‘Research the use of alternative deicing chemicals such as calcium magnesium acetate, liquid calcium chloride, etc.’</td>
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<td>o ‘Locate new water supplies. State aid may be available to assist residents in locating new water supplies.’</td>
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<tr>
<td><strong>Water Softeners</strong></td>
<td>o No recommendation made.</td>
<td>o ‘Consider replacing sodium chloride with potassium chloride.’</td>
<td>o No recommendation made.</td>
</tr>
<tr>
<td><strong>Public Water Supplies</strong></td>
<td>o ‘It is highly improbable that large areas of Harpswell will ever be served by a public central water supply. The user fees that would be necessary to support construction of such a system in Harpswell’s shallow bedrock terrain would be enormous and beyond the financial capability of many Harpswell residents, who would choose not to stop using their existing wells.’</td>
<td>o ‘Develop and extend public water to affected homes. Possible sources include groundwater wells and desalinization systems.’</td>
<td>o ‘The Town should identify an area on Bailey Island where Hinckley Series and related soils suggest the presence of permeable, coarse-textured sediments overlying bedrock, and where a water supply well could, if installed, be protected and utilized by the public. Such a water source would presumably be of particular benefit to the residents of the southern portion of Orrs Island and Bailey Island where well water is impacted by saltwater intrusion.’</td>
</tr>
</tbody>
</table>
"An understanding of Harpswell’s natural resources is essential to planning for future development of the Town. Those resources which contribute to the Town’s attractiveness as a place of work and to live include its topographic setting of islands and peninsulas, its many bays, coves, harbors and vistas along its 186 mile marine shoreline, its access to inshore and offshore fisheries, its 2,500 acres of clam flats, its open spaces, forest reserves, wildlife habitats and wetlands. In potential conflict with these positive resources is the nature of the land itself with its uncompromising soils and its finite water supplies. These serve to limit the extent to which the Town may be developed and populated and used."

These words opened the discussion of natural resources in the 1981 Comprehensive Plan and are still relevant today.

This section identifies the major natural features of the Town and evaluates the future use of the Town’s land.

**Land Form**

Unlike any other town in Maine accessible by roads, Harpswell is comprised exclusively of long narrow peninsulas and island clusters, much resembling a great handprint stamped on the northern reaches of Casco Bay. The ground commonly rises rapidly up from the ocean shorefront, to reach inland elevations as high as 100 feet above sea level; the highest point in Harpswell is slightly over 200 feet elevation on Long Reach Mountain, Great Island. For long stretches of coastline and in numerous coves and harbors, the rocky shorefront drops off into water deep enough for all-tide docks and mooring grounds.

The shape of the Town is directly related to the south trending fabric of the layered bedrock formations in which it was carved. Originally deposited in an ancient ocean as flat-lying beds of muds, sands and volcanic flows, the formations were transformed by mountain-building forces in the dim geologic past to hard, crystalline rocks; the layers were tilted upright on end to a nearly vertical attitude, and were locally invaded by molten granitic masses. Through time, the unequal weathering and erosion of alternating upright layers of weak and strong rocks worked the land into long parallel valleys and ridges. The final shaping of the area we call Harpswell came with the passage of the last glacial ice sheet, scouring the valleys and ridges to fresh bedrock as it advanced southerly into the Gulf of Maine; leaving a veneer of clays, sands and till rubble as it melted and retreated to the north.

In addition to the steep slopes in shoreland areas, there are some inland areas which have significant slopes. Sustained slopes of greater than 15% create some constraints on the use of the land since road building and the installation of septic systems becomes more difficult and expensive as the slope of the land increases. Inland areas with significant slope constraints include the area between Lombos Hole and Long Reach, areas on the northern end of Orr’s Island and the portion of Great Island enclosed by Route 24, the Cundy’s Harbor Road, and the head of Quahog Bay.
Soils

The Cumberland County Soil Survey prepared by the Soil Conservation Service\(^{11}\) of the U.S. Department of Agriculture provides a general overview of the types of soils found in Harpswell. Soils in the Town vary a great deal and can change dramatically in very short distances as a result of the geological forces discussed above. The following excerpts from the 1981 Plan provide an overview of the Town’s soil conditions:

"Harpswell has nearly a dozen soil types. About 70\% of the land area is covered by Lyman soil, a thin veneer of glacial till, defined as shallow, fine sandy loam, locally very rocky. Ledge protrudes through this till in numerous places. The limitations on the suitability of Lyman soil for septic sewage disposal are very severe, and Lyman presents a hazard of polluting groundwater."

"Roughly 15\%-20\% of the land area is blanketed by relatively thick deposits of glacial-marine clay-silt, the well known 'blue clay' of southern Maine. Broad areas along the northeastern part of Harpswell Neck and on Great Island from Strawberry Creek northward, as well as many narrow valley bottoms throughout the Town, contain this material. These soils also have low permeability, are poorly drained, making them unsuitable for sewage systems, have a high seasonal water table, and are locally susceptible to land sliding or slumping.

"The remainder of the land area contains somewhat sandy soils which washed off the glaciers as they receded. The major deposits of these soils occur near the [former] Navy tank farm\(^{12}\) on Harpswell Neck, through the South Harpswell peninsula, and across the northern half of Bailey Island. Again, they present a very severe danger of groundwater pollution from downward percolating wastes."

Soil constrains the use of land. The two most important soil properties for Harpswell are:

1. the ability of the soil to treat (or "renovate") wastewater in subsurface sewage disposal systems, and

2. the permeability of the soil in allowing precipitation to migrate down and recharge groundwater.

The Maine State Plumbing Code dictates how subsurface disposal systems are to be designed based upon the anticipated capacity of the soil to provide treatment. Critical to all system designs and installations is the provision for a zone of native soil beneath every disposal field which will not be water saturated except for very limited periods of time. Thus, for every proposed disposal site 12 inches of native soil must exist above bedrock or above evidence (i.e., soil "mottling") of groundwater saturation (15 inches in the shoreland zone). Depending upon soil type, separations of 1 foot or 2 feet from bedrock or the water table must then be

\(^{11}\) Now known as the Natural Resource Conservation Service.

\(^{12}\) Now known as George J. Mitchell Field.
achieved in the design of the system. In this way a zone of unsaturated soil material beneath the disposal field is provided. The treatment occurring in the soil zone includes the dying off of pathogenic microorganisms (viruses and bacteria) and minor loss of nitrogen to the soil atmosphere. Other chemical components of wastewater are also retained in the soil zone.

For significant areas of Harpswell the soil conditions required by the Plumbing Code and discussed above, do not exist. Systems can be installed practically everywhere, but systems cannot be expected to perform satisfactorily unless the conditions described here are met.

While each septic system is designed to treat wastewater, it also is a method of replenishing groundwater removed by pumped wells. In this way every system degrades the quality of groundwater. This is the inherent "cost" of treatment. The challenge is to manage the costs while realizing the benefits of treatment.

Soil type influences the percentage of precipitation that infiltrates the ground to replenish groundwater and dilute contaminants. For example, soils with State Plumbing Code-designated profiles of “4”, “5”, and “6” are developed from highly permeable sands and gravels. Adams and Windsor soils, or their equivalents, can be found in certain areas of Harpswell. They represent this group of permeable soils.

On the other hand, soils with Code-designated profiles of "8" and "9" are fine-textured and are relatively impermeable. Buxton silt loam, a common soil in Harpswell, is an example of this group.

Septic systems sited in these very different soils may function equally well. However, they represent very different threats to groundwater. As a consequence, it might be prudent to permit a different density of septic systems (hence different minimum lot sizes) in areas of highly permeable soils than is allowed in areas of relatively impermeable soils.

The State’s recommended minimum lot sizes are generally less than 40,000 square feet based on the plumbing code criteria, except for the Curtis Cove and Stover Point areas on Harpswell Neck and much of Bailey Island where minimum lot sizes of 40,000 to 80,000 square feet are recommended because of rapid percolation and the potential for contamination of the groundwater.

The slope of the soil is another characteristic that has importance for both septic system siting and erosion and sedimentation from stormwater runoff. Slope gradient must be less than 20% to allow a septic system under the Plumbing Code.

The issue of infiltration of rainwater into the ground to replenish the groundwater supply and dilute contaminants is also affected by soils types. Sands and gravels generally allow a major percentage of the precipitation to infiltrate into the ground while clays cause most of the rainfall to run off and not be absorbed by the soils.
**Floodplains**

Floodplains are areas that are subject to flooding on a periodic basis. The federal government has established the 100-year flood (1% chance of flooding occurring in any year) as the basis for regulatory controls.

In Harpswell, where there are no rivers, only small ponds and only short streams, virtually all floodplains are in coastal situations. There are two basic categories:

1. Areas that are flooded simply through exceptionally high tides
2. Areas subject to wave action that increases the flood level. In these areas there is the danger of significant property damage due to wave action.

The Federal Flood Insurance Program requires communities to restrict/control development in floodplains. At the same time, this program provides subsidized flood insurance that underwrites the risk of development in floodplains.

The Water Resources Map shows the approximate locations of the 100-year floodplains in Harpswell, as designated by the Federal Emergency Management Agency. These designations are subject to error and must be used carefully in planning for the community.

There is a level of public interest in wise use of floodplains including:

1) Minimization of risk of private property loss,

In order for the Town’s property owners to remain eligible for federal flood insurance, the Town must continue to maintain its floodplain management ordinance’s consistency with federal standards for these ordinances, as determined by the State Floodplain Management Program.

2) Minimization of public tax subsidy to underwrite property flood damage claims under both insurance and disaster programs, and

The Town can voluntarily participate in various federal programs that help communities to better evaluate their risk of loss of life and property during floods and other natural disasters. Collectively such programs can be termed hazard mitigation planning, and they can have the effect of lowering not only risk, but also the cost of payout after disasters to their community due to reduced damage. Implementing some forms of hazard mitigation can also make policyholders eligible for lower flood insurance premiums.

3) Limiting exposure of public safety forces in responding to assistance calls.

While this is partly a matter of training, it can also be affected by planning by property owners and the Town that anticipates hazards to public safety personnel when approving new development.
Wetlands

Wetlands are vital natural resources that have both ecological and economic importance. Common names for wetlands include swamps, marshes and bogs. Wetlands provide a unique habitat for a broad spectrum of plants, animals and fish, including waterfowl, shellfish, fish, insects, reptiles, amphibians, and many mammals. Wetlands are important in the hydrologic cycle because they slow down and store storm water runoff, which is then slowly released into brooks and other surface waters, reducing flood hazard downstream. Wetlands also serve as water purifiers, absorbing nutrients and sediment carried into them by storm water and helping to protect water quality in streams, estuarine waters and shellfishing areas downstream.

Wetland Characterization System

The locations of wetlands in Harpswell are shown on the Water Resources Map. In 1999 and 2000, the State Planning Office developed a new method of characterizing wetlands in Harpswell and other towns within the Casco Bay Watershed. This new method provides a functional assessment of each wetland to rate its relative importance in each of six wetland function categories. These categories include:

1. Plant and animal habitat
2. Sediment retention
3. Flood flow alteration
4. Fisheries habitat
5. Shellfish habitat
6. Cultural and educational value

A wetland that meets the rating system’s threshold characteristics in any of these categories receives a “1”. If it does not meet the threshold it receives a ‘0” for that category. Each time a wetland receives a “1”, it is called a ‘hit’. In Harpswell, each wetland has received between 0 and 6 hits, depending on how many categories’ threshold requirements for a hit it meets.

It is important to note that all wetlands perform valuable ecological functions in all or most of the six categories above. Stated another way, ‘0” hits in any given category does not mean a wetland has no functional value in that category. It only means the wetland is performing that important wetland function at a level below the threshold for receiving a hit for that category.

All wetlands are important. This new rating system provides a systematic approach to determining which wetlands are most important for providing each type of wetland function. It also lets us see which function or combination of functions each wetland is playing an especially important part in providing for the ecosystem as a whole.
**Harpswell Conservation Commission Wetland Study**

Over the last several years the Harpswell Conservation Commission, with professional wetland scientist assistance from Woodlot Alternatives, Inc., has evaluated 28 wetlands to learn more precise information about their delineation, classification and values.

Subsequently, the Harpswell Land Use Committee worked with the Conservation Commission, the Greater Portland Council of Governments, the State Planning Office and Woodlot Alternatives to integrate the data from both studies to produce more accurate and informative maps of wetlands in Harpswell, and to develop recommended land use ordinance changes.

**Wetland Regulations**

Because wetlands are ecologically important in all the ways described above, and because they are vulnerable to filling, dredging, draining or other alterations in order to make them suitable for or supportive of development, these activities are regulated at federal, state and local levels of government. The Army Corps of Engineers (ACE) and the Maine Department of Environmental Protection (DEP) regulate activities in wetlands of all sizes.

At the local level, the State’s subdivision statute requires that all wetlands regardless of size must be shown on proposed subdivision plans. And the Town, pursuant to the State shoreland zoning statute, has placed a shoreland zone around unforested wetlands of 10 acres or more or associated with lakes, rivers or streams. If the wetland is high or moderate value habitat as determined by the Maine Dept. of Inland Fisheries and Wildlife (IFW) the land in this shoreland zone must be in Resource Protection. Where wetland habitat values are low or “indeterminate” according to the IFW, a minimum setback and buffer of 75’ is required for new development.

Under State and federal wetland regulations, sometimes a developer is allowed to fill, drain or otherwise alter a wetland, provided that the same developer compensates for this activity by restoring, creating, enhancing or preserving wetland(s) on the same site or elsewhere on another property. That property may or may not be located in Harpswell, or in the same watershed. This means that while the ecosystem as a whole is receiving the benefit of compensation, Harpswell may not be.

Harpswell does not presently have any substantial influence over what choices off-site are acceptable to state or federal authorities. State and federal regulators generally recognize that local concerns and wetland protection priorities are not taken into account in any systematic way. They are authorized and would like to make wetland compensation site choices that honor local wetland protection priorities. The State Planning Office has recently developed a model local ordinance for interested municipalities to use for this and other purposes that can compliment state and federal regulatory activities to cooperatively achieve more effective protection of local wetland resources.
Vernal Pools

There is one type of wetland that is not shown on either the Water Resources Map or the Natural Resources Map because there is no published source of information to document its locations. That type of wetland is called a vernal pool. Vernal pools occur on the forest floor in the early to middle weeks of spring. They are inherently temporary lasting for only a few weeks each year. These pools are fed by melting snow at the time of year when the water table is generally at its highest. They play critical roles in the life cycles of many species including the wood frog, the spotted salamander, the blue-toed salamander and the spotted turtle.

It is theoretically possible for developers and planning boards that know where vernal pools are located to prevent them from being lost to development. The main difficulty is that for all but a few weeks of the year their location is undetectable. Other wetlands are distinguished by wetland vegetation for all or part of the development season. But unless a vernal pool is found and its location delineated during its brief springtime existence, its need to occupy that space, which looks like any other low-lying area of forest floor, will go unnoticed and unprotected as a result.

The Maine IFW is gradually creating an inventory of vernal pools. And the Maine Audubon Society has created a manual for volunteers, possibly including classes of school children, to use for creating a local inventory of vernal pools.

Critical Wildlife Habitats and Natural Areas

The following habitat areas are shown on the Natural Resources Map13.

1. Significant Wildlife Habitat

Significant Wildlife Habitat is defined by the Maine Natural Resources Protection Act (NRPA), which became effective in 1988. It was intended to define, designate and protect Significant Wildlife Habitats from adverse effects of development. In the years since the Act’s adoption, various state agencies have been developing statewide maps of the many types of Significant Wildlife Habitats. Those present in Harpswell are described below and shown on the High Value Plant and Animal Habitat map.

a. Deer Wintering Areas

These are areas of forest in which the combination of cover, remoteness, and availability of food are optimal for deer to gather and survive the winter. Deer Wintering Areas as mapped have not been adopted as an NRPA-regulated habitat. None of the deer wintering areas are protected from potential development under current state or local rules.

13 Available at the Town Office.
b. Waterfowl/Wading Bird Habitat

Waterfowl and/or wading birds use this type of Significant Wildlife Habitat for breeding, feeding, roosting, loafing and migration areas. While these areas are not adopted as NRPA-regulated Significant Wildlife Habitat, they are protected to some degree by Harpswell’s shoreland zoning and by state wetland and stream regulations.

c. Sea Bird Nesting Islands

The Town of Harpswell is home to a substantial number of important wildlife habitats, the majority of which are seabird nesting areas. These provide breeding sites for (among others): seagulls, eiders, terns, several species of heron, osprey and bald eagles. The offshore islands are the location of the vast majority of these sites. Among the most important are:

- Birch Island - heron rookery, osprey nesting site
- Upper Goose Island - ospreys and other seabirds
- The Goslings - osprey nesting site
- Little Whaleboat Island - heron rookery, ospreys and other seabirds
- Upper Flagg Island - seabird nesting sites
- Little Birch Island - eider nesting site
- Eagle Island - gull, eider and night heron nesting sites
- Pond Island – roseate tern nesting site
- Jenny Island - roseate tern nesting site
- Mark Island - heron (great blue, green and night crown) rookery

While several of the offshore islands are now protected by conservation easements on all or part of them (Upper Goose, Whaleboat, Yarmouth, and Eagle Islands, for example), the bulk of them are under increasing recreational use and development pressure. Four or five years ago, the Town gave all of the shoreland zone portions of state-designated Sea Bird Nesting Islands Resource Protection status. However, even though Sea Bird Nesting Islands have some degree of State protection, the degree of this protection is insufficient in some cases to prevent all additional development on these islands.

The past decade also continued to bring a marked increase in recreational boat traffic throughout Casco Bay. This increase in boat traffic brought more people (and their pets) to virtually all the offshore islands. This rise in picnicking and camping threatens to disturb nesting and habitat areas. Examples of where this is already a concern are Little Whaleboat, Ragged, Snow, and most notably, The Goslings.

Another source of pressure on the offshore island habitats comes from deteriorating water quality brought about by increased development of the surrounding mainland, existing overboard discharges, poorly maintained septic systems in the shoreline area, and sewage and petroleum discharges from both recreational and commercial vessels.
In the last few years, a new generation of more efficient septic system technology has emerged. This new technology is now acceptable under the Maine State Plumbing Code. The new technology offers more versatile options for addressing existing groundwater problems in densely built-up areas and allows for higher densities of new development as well. However, these very advantages also make it more feasible, where otherwise permitted to develop on small coastal islands, at least some of which may be better protected for their rare or unique and fragile habitat values.

2. Threatened and Endangered Plants and Animals, Rare or Exemplary Natural Communities. In Harpswell, there are several species of plants and animals that are listed as of Special Concern, Threatened or Endangered under either state or federal Endangered Species Acts.

a. Plants and Rare or Exemplary Natural Communities

The Maine Natural Areas Program tracks plant species that are rare in Maine. Rare plant species and their locations in Harpswell are listed below and are shown on the High Value Plant and Wildlife Habitat map for the Town of Harpswell. These locations have been field verified within the last 20 years.

<table>
<thead>
<tr>
<th>Map Number</th>
<th>Plant or Community</th>
<th>State Rarity</th>
<th>State Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Low Elevation Bald</td>
<td>S3 – Rare in Maine (on the order of 20-100 occurrences)</td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td>Low Elevation Bald</td>
<td>S3 – Rare in Maine (on the order of 20-100 occurrences)</td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td>Rose Maritime Shrubland</td>
<td>S4 – Apparently but not demonstrably secure in Maine</td>
<td></td>
</tr>
<tr>
<td>4.</td>
<td>Wild Leek</td>
<td>S3 – Rare in Maine (on the order of 20-100 occurrences)</td>
<td>Special Concern</td>
</tr>
</tbody>
</table>

b. Threatened and Endangered Animals

The Maine Department of Inland Fisheries and Wildlife tracks the status, life history, conservation needs, and occurrences for animal species that are Endangered, Threatened or otherwise rare. Rare Animal species and their habitat or locations in Harpswell are listed below and are shown on the High Value Plant and Wildlife Habitat map for the Town of Harpswell. Rare Animal habitat locations need field verification.

<table>
<thead>
<tr>
<th>Animal Name</th>
<th>State Status</th>
<th>Federal Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bald Eagle</td>
<td>Threatened</td>
<td>Threatened</td>
</tr>
<tr>
<td>Roseate Tern</td>
<td>Endangered</td>
<td>Endangered</td>
</tr>
</tbody>
</table>
Since many of the habitats of these rare, threatened or endangered species are not commonly known, and are not necessarily part of an existing privately conserved parcel of land or zoned for Resource Protection, they are potentially vulnerable to being lost or impaired due to development. Current local regulations do not require routine checking of known databases, such as the Beginning With Habitat Program, Maine Natural Areas Program, or the Department of Inland Fisheries & Wildlife when applications come before the Planning Board, or any check by the Code Enforcement Officer of a map of these features when receiving applications for building permits.

3. Undeveloped Habitat Blocks and Habitat Fragmentation

Harpwell has always had an abundance of wildlife and a diverse range of habitats for plants and animals. This level of abundance and diversity has historically been supported by the large areas of undeveloped land and the many riparian and wetland habitats that link these larger undeveloped blocks. With the rapid development of the last decade, including new roads to support the new residential development in Harpwell, a phenomenon known as habitat fragmentation has gradually been taking place.

The size of the large blocks of unbroken habitat has decreased as new roads have extended into or crossed them, and as development has located along previously undeveloped stretches of existing roads.

Similarly, the important links between such large habitat blocks, including the riparian areas along streams and associated wetlands have become more narrowed or interrupted and less able to function effectively as wildlife travel corridors between habitat areas.

The Natural Resources Map\textsuperscript{14} shows where the remaining large blocks of comparatively unfragmented habitat remain. While some of these areas are wholly or partially protected from further fragmentation by conservation easements or by public ownership decisions to dedicate them to conservation uses, large areas of Harpwell are not protected from fragmentation due to development or isolation by development of presently undeveloped wildlife travel corridors to surrounding important habitat areas.

Table 5 below shows the typical effects of shrinking undeveloped habitat block size on the diversity of wildlife species supported in Maine.

\textsuperscript{14} Map available at the Town Office
Table 5
Habitat Block Size Requirements for Wildlife in Maine

<table>
<thead>
<tr>
<th>Tier 5</th>
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<th>Tier 3</th>
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<td>1-19 Acres</td>
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<td>100-499 Acres</td>
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<td>MOST REPTILES</td>
<td>MOST REPTILES</td>
<td>MOST REPTILES</td>
</tr>
<tr>
<td>GARTER SNAKE</td>
<td>GARTER SNAKE</td>
<td>GARTER SNAKE</td>
<td>GARTER SNAKE</td>
<td>GARTER SNAKE</td>
</tr>
<tr>
<td>RING-NECKED SNAKE</td>
<td>RING-NECKED SNAKE</td>
<td>RING-NECKED SNAKE</td>
<td>RING-NECKED SNAKE</td>
<td>RING-NECKED SNAKE</td>
</tr>
<tr>
<td>MOST AMPHIBIANS</td>
<td>MOST AMPHIBIANS</td>
<td>MOST AMPHIBIANS</td>
<td>MOST AMPHIBIANS</td>
<td>MOST AMPHIBIANS</td>
</tr>
<tr>
<td>WOOD FROG</td>
<td>WOOD FROG</td>
<td>WOOD FROG</td>
<td>WOOD FROG</td>
<td>WOOD FROG</td>
</tr>
</tbody>
</table>

Source: A Response to Sprawl: Designing Communities to Protect Wildlife Habitat and Accommodate Development, Maine Environmental Priorities Project, July 1997.

Of course, occasional instances of seeing wildlife species on smaller undeveloped habitat blocks do occur. This is often due to the presence of undeveloped riparian areas or other wildlife travel corridors linking smaller blocks to larger blocks beyond the area of the sighting. And various species of wildlife typically only found in large undeveloped habitat blocks, do occasionally venture into more densely developed areas than indicated on the chart. But overall, as the density of development moves from Tier 1 to Tier 5 over time, it shows the typical effects of habitat fragmentation on the numbers, diversity and composition of species remaining.
Harpswell’s approach to mapping undeveloped habitat blocks has been modeled after and updates and adapts the data provided by the ‘Beginning With Habitat’ Project, a joint partnership of several state agencies, including the Maine Department of Inland Fisheries and Wildlife, the Maine Natural Areas Program, and the Maine State Planning Office, with the US Fish & Wildlife Service, and the Maine Audubon Society.

**Scenic Resources**

The topographic setting of Harpswell and its subsequent development, has created an area of great scenic diversity. Whether one enters the Town by Route 123 and the rolling fields of Merriconeag Farm or by Route 24 and the Gurnet Strait, the route passes by the open spaces, forests, bays, coves, villages, and harbors that define, in part, Harpswell’s unique rural character.

Map 5 from the 1993 Harpswell Comprehensive Plan identifies scenic areas associated with the Town’s major public roads. Although Map 5 is not a comprehensive inventory of the Town’s scenic areas, it does offer a sample of the types of scenic resources identified by town residents, as important areas to be preserved as Harpswell grows. These areas include:

1. Scenic corridors identified by either underdeveloped open spaces and forests, or areas that have been developed in a manner whereby structures are setback from the road and are screened by natural vegetation;

2. Scenic village areas such as Harpswell Center or Cundy’s Harbor as identified by a concentration of historical buildings; and

3. Scenic views of the Town’s topographic features and the ocean.

Although shoreland zoning does provide some protection of the scenic appearance of opposite shores and the frequent scenic vistas of opposite shores visible from roads, the absence of visual screening on treeless shores and islands can allow even a singly home on an outer island to have a significant scenic impact.

Another kind of scenic impact to which Harpswell remains vulnerable is the impact of hillside development, where clearing for a view can become clearing for an eyesore for others if all viewers’ interests are not balanced against each other.
Housing Analysis

Housing is a key issue for the community. During the past decade, Harpswell experienced dramatic increases in housing prices fueled by substantial in-migration. Land prices have escalated to the point where many people can no longer afford to buy a lot. This has created a situation in which young adults who have grown up in the community find it increasingly difficult to find housing that is affordable. Rental housing, while available, is limited. This section looks at the current housing situation in Harpswell and the issue of affordability.

Housing Availability

The 2000 U.S. Census shows that 50% of housing units in Harpswell are year-round, owner occupied, 33% are seasonally occupied, and at that time 4% were vacant. Of the year-round housing stock (Table 6), almost 79% is owner-occupied and just over 21% is occupied by renters. This pattern of tenure remained consistent over the past decade. In 1990, the non-seasonal vacancy rate was 6% for all housing units in Harpswell, and decreased to 4% in 2000. The homeowner vacancy rate decreased from 1.9% in 1990 to 0.8% in 2000. The rental vacancy rate decreased from 8.5% in 1990 to 6.2% in 2000.

Table 6
Housing Stock 1990-2000, Town of Harpswell

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Housing Units</td>
<td>3432</td>
<td>3701</td>
<td>8%</td>
</tr>
<tr>
<td>Year-Round Units</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>occupied</td>
<td>2250</td>
<td>2488</td>
<td>11%</td>
</tr>
<tr>
<td>- owner</td>
<td>1569 (76.5%)</td>
<td>1843 (78.8%)</td>
<td>14%</td>
</tr>
<tr>
<td>- renter</td>
<td>482 (23.5%)</td>
<td>397 (21.2%)</td>
<td></td>
</tr>
<tr>
<td>vacant</td>
<td>199</td>
<td>148</td>
<td></td>
</tr>
<tr>
<td>Seasonal</td>
<td>1182</td>
<td>1213</td>
<td>3%</td>
</tr>
</tbody>
</table>

Source: U.S. Census Data 1990, 2000

According to the 2000 U.S. Census, Harpswell has 6% of the renter households in the Bath-Brunswick Housing Market Area\(^\text{15}\). Fifty-six percent (56%) of the year-round renter householders in Harpswell were younger than 45 years of age and candidates to become first-time homebuyers. During the same year, only 1% of the first-time homebuyers in the housing market who accessed loans from the Maine State Housing Authority purchased their first home in Harpswell. Potentially, half of the renter households in Harpswell could be homeowners, but these renter households may be looking outside of Harpswell for their first home.

\(^{15}\) See Figure 13 showing a map of the Bath-Brunswick HMA in this section for names of towns included in the HMA.
A study of the Harpswell real estate tax transfer records from fiscal year 2000 (July 1999 to June 2000) to the present indicates that the proportion of real estate transfers to out-of-state buyers has increased slightly in the past three years and is projected to increase in the future.

Source: 2000 U.S. Census

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**Figure 6**
Distribution of Year-Round Renter Households within the Housing Market Area, 2000

Source: 2000 U.S. Census

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**Figure 7**
Distribution of Buyers with the Maine State Housing Authority First-Time Homeowners Program within the Housing Market Area, 1997-2001

Source: Maine State Housing Authority
In response to this demand, there was a net increase of 305 single-family structures built in Harpswell from 1990 to 2000 (Table 7). There was also a net increase of 50 mobile homes or trailers. At the same time, there was a 2% decrease of two unit structures. Harpswell experienced an 8% net increase in the total number of housing units from 1990 to 2000, the majority being single-family homes. Figure 9 shows approximate changes in the distribution...
and number of new housing units by structure type between 1990 and 2002. In this figure, two-unit structures are included in the multifamily category.

Table 7
Comparison of Housing Units by Structure-types, 1990 and 2000

<table>
<thead>
<tr>
<th></th>
<th>1990</th>
<th>2000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Single family structures</td>
<td>2974</td>
<td>3279</td>
</tr>
<tr>
<td>Two unit structures</td>
<td>67</td>
<td>66</td>
</tr>
<tr>
<td>3 or 4 unit</td>
<td>30</td>
<td>23</td>
</tr>
<tr>
<td>5 to 9 unit</td>
<td>19</td>
<td>34</td>
</tr>
<tr>
<td>10 to 19 unit</td>
<td>50</td>
<td>17</td>
</tr>
<tr>
<td>20 or more</td>
<td>0</td>
<td>16*</td>
</tr>
<tr>
<td>Mobile home/trailer</td>
<td>216</td>
<td>266</td>
</tr>
<tr>
<td>Other</td>
<td>76</td>
<td>0</td>
</tr>
<tr>
<td>Total</td>
<td>3432</td>
<td>3701</td>
</tr>
</tbody>
</table>

Table 7 Source: U.S. Census Data 1990, 2000

*Per Harpswell’s assessor, the town contains no residential or lodging structures with more than 20 units.

Housing Conditions

As the table below shows 49% of the year-round renter occupied multi-units were built in 1939 or earlier and 51% were built in the 1970’s and 1980’s. No multi-unit structures were constructed in the 1990’s. An additional 59 mobile homes were occupied by year-round renters in 2000 compared to 1990, but none of these were manufactured in the 1990’s. With the exception of multi-units, most of the housing stock that is year-round renter occupied was built after 1960.

Table 8
Age and Type of Housing for Year-Round Renter Occupied Housing In Harpswell

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1 unit, detached or attached</td>
<td>89</td>
<td>0</td>
<td>13</td>
<td>75</td>
<td>62</td>
<td>37</td>
<td>55</td>
<td>331</td>
<td>344</td>
</tr>
<tr>
<td>multi-units in structure</td>
<td>49</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>15</td>
<td>36</td>
<td>0</td>
<td>100</td>
<td>113</td>
</tr>
<tr>
<td>mobile home</td>
<td>0</td>
<td>0</td>
<td>10</td>
<td>7</td>
<td>28</td>
<td>20</td>
<td>0</td>
<td>65</td>
<td>6</td>
</tr>
<tr>
<td>other (boat, RV, van)</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>19</td>
</tr>
<tr>
<td>Total</td>
<td>138</td>
<td>0</td>
<td>23</td>
<td>82</td>
<td>105</td>
<td>93</td>
<td>55</td>
<td>496</td>
<td>482</td>
</tr>
<tr>
<td>% of total renter occupied in 2000</td>
<td>28%</td>
<td>0%</td>
<td>5%</td>
<td>17%</td>
<td>21%</td>
<td>19%</td>
<td>11%</td>
<td>100%</td>
<td></td>
</tr>
</tbody>
</table>

Table 8 Source: 2000 U.S. Census

A majority of the owner occupied housing units in Harpswell are relatively new, 60% were built in 1970 and after (Table 9). Fifty-four percent (54%) of the year-round owner occupied
mobile homes were built in the 1980’s and 1990’s. Construction of year-round owner occupied housing units peaked in the 1980’s with 462 new homes being built, while only 346 new year-round owner occupied homes were built in the 1990’s.

Table 9
Age and Type of Housing for Year-Round Owner Occupied Housing in Harpswell

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>I unit, detached or attached</td>
<td>407</td>
<td>68</td>
<td>115</td>
<td>153</td>
<td>222</td>
<td>392</td>
<td>311</td>
<td>1,668</td>
<td>1,452</td>
</tr>
<tr>
<td>multi-units in structure</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>21</td>
<td>0</td>
<td>21</td>
<td>11</td>
</tr>
<tr>
<td>mobile home</td>
<td>0</td>
<td>0</td>
<td>7</td>
<td>0</td>
<td>64</td>
<td>49</td>
<td>35</td>
<td>155</td>
<td>106</td>
</tr>
<tr>
<td>other (boat, RV, van)</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Total</td>
<td>407</td>
<td>68</td>
<td>122</td>
<td>153</td>
<td>286</td>
<td>462</td>
<td>346</td>
<td>1,844</td>
<td>1,569</td>
</tr>
<tr>
<td>% of total owner occupied in 2000</td>
<td>22%</td>
<td>4%</td>
<td>7%</td>
<td>8%</td>
<td>16%</td>
<td>25%</td>
<td>19%</td>
<td>100%</td>
<td></td>
</tr>
</tbody>
</table>

Source: 2000 U.S. Census

Figure 10 summarizes change in age distribution of year-round renter and owner occupied housing units in Harpswell.

Figure 10
Age of Year-Round Renter and Owner Occupied Housing Units in Harpswell

Source: 2000 U.S. Census
Seasonal Housing

At the community forum on October 29, 2002, the issue of seasonal homes in Harpswell was raised. There was concern that the increasing number of seasonal homes would change the character of Harpswell. There was also concern that year-round homes were being converted into seasonal homes resulting in a loss of year-round housing.

According to the U.S. Census, the number of seasonal housing units in Harpswell has not changed considerably from 1970 to 2000. The number of seasonal housing units only increased by 21 units, or 2% from 1970 to 2000. On the other hand, the composition of the housing units in Harpswell has changed from 1970 to 2000. The table below shows that in 1970 48% of the housing units were seasonal; by 2000 this decreased to 33%. Therefore, Harpswell is becoming more of a year-round community.

From the U.S. Census data we are not able to determine what has been happening in the past two years, but the available data does not indicate that the addition of seasonal homes has an effect on the available number of year-round homes. From 1990 to 2000 there was an increase of 31 seasonal households in Harpswell, during this same time there was an increase of 401 year-round occupied housing units that were built. Even if all 31 new seasonal households were the result of converting year-round housing into seasonal this is a small number of lost year-round housing compared to the gain in new year-round housing.

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td># of Seasonal Housing Units</td>
<td>1,192</td>
<td>1,249</td>
<td>1,182</td>
<td>1,213</td>
</tr>
<tr>
<td>% of Total Housing Units</td>
<td>48%</td>
<td>42%</td>
<td>34%</td>
<td>33%</td>
</tr>
</tbody>
</table>


Housing Affordability

A home or apartment is considered affordable if an individual or family earns sufficient income to pay monthly housing costs and still has enough money left over to pay for other necessities. The rule of thumb adopted by the Federal government is that an owner household should spend no more than 28% of its gross income on housing costs (i.e. mortgage, insurance, and taxes). A renter household should spend no more than 30% of its gross income on housing costs (i.e. rent and utilities). Below is a range of affordable home prices and rents for various household incomes.
Table 11
Home Prices by Household Income

<table>
<thead>
<tr>
<th>Household Income</th>
<th>Affordable Home Price</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>With 0% down</td>
<td>With 5% down</td>
<td></td>
</tr>
<tr>
<td>$30,000</td>
<td>$67,600</td>
<td>$71,200</td>
<td></td>
</tr>
<tr>
<td>$40,000</td>
<td>$102,700</td>
<td>$108,100</td>
<td></td>
</tr>
<tr>
<td>$50,000</td>
<td>$137,700</td>
<td>$145,000</td>
<td></td>
</tr>
<tr>
<td>$60,000</td>
<td>$173,000</td>
<td>$182,000</td>
<td></td>
</tr>
<tr>
<td>$70,000</td>
<td>$207,900</td>
<td>$218,800</td>
<td></td>
</tr>
</tbody>
</table>

Source: Compiled by Planning Decisions, Inc.
Assumes a 7% interest rate, 30 year mortgage, $250 for taxes, insurance, and PMI per month

Table 12
Rent by Household Income

<table>
<thead>
<tr>
<th>Household Income</th>
<th>Affordable Rent</th>
</tr>
</thead>
<tbody>
<tr>
<td>$15,000</td>
<td>$375</td>
</tr>
<tr>
<td>$20,000</td>
<td>$500</td>
</tr>
<tr>
<td>$25,000</td>
<td>$625</td>
</tr>
<tr>
<td>$30,000</td>
<td>$750</td>
</tr>
<tr>
<td>$35,000</td>
<td>$875</td>
</tr>
<tr>
<td>$40,000</td>
<td>$1,000</td>
</tr>
</tbody>
</table>

Source: Compiled by Planning Decisions, Inc.
Utilities are considered included in total rent

According to the 2000 U.S. Census, 4 out of 5 year-round occupied housing units in Harpswell are owner occupied. This is a high proportion for Maine generally, and is an increase from 1970 when 3 out of 5 year-round occupied housing units in Harpswell were owner occupied.

Data from the Statewide Multiple Listing Service shows that the sale price of all homes (single-family, condominiums, and mobile homes) in Harpswell have increased in the past seven years. The median sale price for the 39 homes sold in Harpswell in 1995 was $167,000. By 2002 the median sale price for the 76 homes sold in Harpswell had increased to $287,500. This is an increase of 72% in seven years.¹⁶

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¹⁶ The Maine State Housing Authority provided a preliminary estimate of the median home sale price for a home in Harpswell in 2004: $495,000. Due to a staffing change at MSHA a final estimate of this figure is not yet available. It is likely, if this figure is correct, that Harpswell has the highest median home sale price of any Town in Maine.
The median price of a home sold in Harpswell in 2001, according to the Maine State Housing Authority, was $243,525, which is double the median price of $118,000 for a home in Maine and almost double the median price of $129,000 for a home in the Bath-Brunswick housing market area for the same year.

A study of the Harpswell real estate tax transfer records from fiscal year 2000 (July 1999 to June 2000) to the present also shows an increase in the price of homes. Land transfers are included in the information therefore the calculated median prices may be slightly lower due to the inclusion of all transfers. The median price a person from out-of-state is paying for real estate in Harpswell is about 1.5 times as much (or about 50% more) as a Maine resident is paying.
When median incomes are compared to median home costs, an affordability index can be constructed. Harpswell’s affordability index in 2001, as calculated by the Maine State Housing Authority, was 0.70. This means that the typical family can afford about 70% of the price of the typical house in Harpswell. In Maine as a whole the affordability index is 0.95. In other words, the typical Maine family can afford 95% of the typical home price. As can be seen in the map below, Harpswell is one of the three least affordable towns in the housing market area when it comes to homeownership (Figure 13).

For the 1 in 5 year-round Harpswell households who are renters, costs are rising as well. In 1997, the average rent for a two-bedroom apartment in Harpswell was $618, according to the Maine State Housing Authority. By 2001, the average rent for a two-bedroom apartment had increased to $650. The Maine State Housing Authority estimates that in 2001 there were about 153 renter households in Harpswell with very low incomes (50% of the area median income) who were paying more than they could afford for rent.

**Figure 13**
Affordability Index for Bath-Brunswick Housing Market Area, 2001

Source: Maine State Housing Authority, Mitchell Geographics, Inc.
Similarly, the 2000 U.S. Census shows that a higher proportion of Harpswell households are burdened with high rents and homeowner costs than is true for nearby towns and Maine as a whole. Figure 14 below shows that 40% of Harpswell year-round renters paid over a third of their incomes for rent in 1999, and 20% of Harpswell year-round owners paid the same in monthly homeownership costs. The federal government considers housing costs to be “affordable” if a renter is paying no more than 30% of their gross income and a homeowner is paying no more than 28% of their gross income on housing costs. In 1999, there were roughly 269 year-round owner households and 166 year-round renter households in which the cost of housing was more than what is considered affordable. As a result, Harpswell is one of the least affordable communities in which to live within the Bath-Brunswick Housing Market Area.

In summary, housing prices are very high in Harpswell, in part due to competition in the market from out-of-state buyers. Two in five renters, and one in five owners in Harpswell pay over a third of their incomes for housing costs. The cost of housing makes it difficult for young families to buy a first home here. The proportion of households under 44 years of age has gone from 43% in 1990 to 32% in 2000, and is projected to be 28% in 2007.

**Figure 14**

Percent of Households Paying 35% or More of Their Income on Gross Monthly Rent or Monthly Owner Costs, 1999

![Graph showing percentage of households paying 35% or more of income on housing costs.](image)

Source: 2000 U.S. Census

Also, household population has increased over the years, but more important is the increase in the number of households. As average household size continues to decline the demand for houses to shelter a given population increases. In 1990, 458 households were occupied by
one-person. By 2000 one-person households increased to 639, a 40% increase. All these factors have contributed to making Harpswell the town it is today and may continue to do so in the future.

Still another factor that is likely contributing to increasing housing prices and costs, regarding which there is presently little if any readily available data for Harpswell or surrounding communities, is the phenomenon of the ‘tear-down’, also sometimes called, ‘mansionization’. Over the last several years, developed coastal properties are sometimes sold to new owners who tear down the existing house and construct a much larger, more costly house in its place. Following reassessment, that property’s assessed value increases and neighboring properties, which may be occupied by owners of limited means, are also drawn upward, potentially leading to higher tax burdens on these surrounding properties. To the extent that these neighboring households of limited means may not be able to afford such an increased tax burden, should it arise, affordable housing may become a problem even for those who already own a house. Anecdotally, teardowns or mansionization have been occurring in Harpswell and other Maine towns, but there is as yet no Harpswell- or Maine-specific study of the phenomenon and its impacts.

**Housing Projections for 2015**

![Figure 15](image-url)  
*New Residential Units Added Each Year 1990-2000  
Town of Harpswell*

During the 90's, the Town saw its housing stock expand by almost 300 units (Table 7), half of the housing increase between 1980 and 1990. This growth mirrored the economic cycle. In the first half of the decade, the Town experienced residential development at a rate of 6 to
15 units per year (Figure 15). From 1995 through 2000, residential growth boomed at a rate of 20 to 60 units per year, significantly expanding the housing stock. It is unlikely that
Harpwell will experience a development boom in the 2000’s of a similar magnitude to that which occurred in the 1990’s, as land prices will slow down the rate of in-migration.

The Greater Portland Council of Governments used the following assumptions to predict housing growth in Harpwell through 2015:

- Given the current development pressures on coastal communities, land availability, and housing prices, the annual number of new housing starts will be more like the average for the last decade. Therefore, approximately 30 housing units per year will be used annually for the next ten years.

- The rate of seasonal housing conversion was not accounted for in the projection. Instead, 2000 figures were applied to calculate year-round housing in 2015.

- The projection of housing growth in Harpwell over the next decade is based on an average household size of 2.14 persons per household or 5% decline in average household size from 2000 to 2015. This number was based on the state and town historic trends, extrapolation of these trends through 2015, and correlation between town and state figures. For the Bath-Brunswick Labor Market Area housing projection the decrease in average household size followed the 1990-2000 trend.

- The 2015 population projections for Harpwell and the communities of the Bath-Brunswick Housing Market Area done by the State Planning Office served as the population growth assumed for this plan’s housing projections.

- The proportional make-up of housing units by structure type will not change substantially. Single-family homes will still predominate, but there might be slight percentage increases in two-family and multi-family units (Table 14).

### Table 14  
**Breakdown of Structure Type: 2000 and 2015**

<table>
<thead>
<tr>
<th></th>
<th>Single family</th>
<th>Two unit</th>
<th>Multi Family</th>
<th>Mobile home/trailer</th>
<th>Other</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1990</td>
<td>2974</td>
<td>67</td>
<td>99</td>
<td>216</td>
<td>76</td>
<td>3432</td>
</tr>
<tr>
<td></td>
<td>86.7%</td>
<td>2.0%</td>
<td>2.9%</td>
<td>6.3%</td>
<td>2.2%</td>
<td>100.0%</td>
</tr>
<tr>
<td>2000</td>
<td>3279</td>
<td>66</td>
<td>90</td>
<td>266</td>
<td>0</td>
<td>3701</td>
</tr>
<tr>
<td></td>
<td>88.6%</td>
<td>1.8%</td>
<td>2.4%</td>
<td>7.2%</td>
<td>0.0%</td>
<td>100.0%</td>
</tr>
<tr>
<td>2015</td>
<td>3632</td>
<td>74</td>
<td>98</td>
<td>295</td>
<td>0</td>
<td>4099</td>
</tr>
<tr>
<td></td>
<td>88.6%</td>
<td>1.8%</td>
<td>2.4%</td>
<td>7.2%</td>
<td>0.0%</td>
<td>100.0%</td>
</tr>
</tbody>
</table>

Source: GPCOG, 2003

- Owner-occupied units in Harpwell will remain high, but the percentage of housing units that are rented will decrease another percentage point below the figure shown in the 2000 Census data, from 21% to 20% following the 1990-2000 trend. This still
represents a significant increase in the number of rental units. The ratio of vacant, not seasonal housing units will stay about the same. For the region it was assumed that housing tenure would remain at the 2000 level (73% owner occupied and 27% renter occupied housing).

- Projected change in the number of total seasonal housing units for Bath-Brunswick Labor Market Area is estimated to be at the same rate as it was in the last decade (19.6%). The rate of seasonal homes change for Harpswell (3.9%) is calculated by extrapolating the rate in the previous decade to the year 2015.

Applying these assumptions, the Greater Portland Council of Governments projects that total number of housing units in Harpswell will reach 4,099 by the year 2015, a total increase of 398 housing units from 2000 that will be needed to accommodate 498 new persons (Table 13). The number of total occupied housing units will increase by 339, a 14% increase in comparison with 2000. Of that number, 271 units will be owner occupied and the remaining 68 will be rented. Figure III-12 below shows this projected housing increase for the year 2015 for Harpswell and the Bath-Brunswick Labor Market Area. Projected change in the number of new occupied housing units in Harpswell is somewhat higher than the regional figures. At the same time, change in seasonal housing for the Labor Market Area is predicted to be significantly higher than the change projected for Harpswell.

<table>
<thead>
<tr>
<th>Figure 16</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Projected Housing Growth 2000 - 2015</strong></td>
</tr>
<tr>
<td>for Harpswell and Bath-Brunswick LMA</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Harpswell</th>
<th>Bath-Brunswick LMA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Occupied</td>
<td>14.5%</td>
<td>14.1%</td>
</tr>
<tr>
<td>Housing Units</td>
<td></td>
<td></td>
</tr>
<tr>
<td>needed</td>
<td>2.8%</td>
<td></td>
</tr>
<tr>
<td>Total Not Seasonal Housing Units</td>
<td>12.6%</td>
<td>12.6%</td>
</tr>
<tr>
<td>Total Vacant, Not Seasonal Units</td>
<td>7.7%</td>
<td>7.9%</td>
</tr>
<tr>
<td>Total Seasonal Units</td>
<td>3.9%</td>
<td>19.6%</td>
</tr>
<tr>
<td>Total Housing Units</td>
<td>10.8%</td>
<td>13.3%</td>
</tr>
</tbody>
</table>

Change in the number of housing units depends substantially on the average household size. Harpswell’s housing projection shows that the average number of persons per household in the town is below the level of Bath-Brunswick Labor Market Area. Age distribution figures represent a substantial increase in population of 45 years and older. Population aging, in-
migration of retirees, and the nationwide trend of decrease in average household size suggest that over the next ten years there may be an unmet need for elderly housing. The Town’s land use ordinances allow for a wide spectrum of housing types. Accessory, or in-law, apartments are currently allowed in Harpswell, outside the shoreland zone, without requiring a doubling of the minimum lot size. Some of the demand for housing may also be satisfied by future conversion of seasonal housing into year-round homes. Obviously these projections are subject to variation based upon economic conditions, major employment changes, and other unforeseen changes in the region.

Housing is a key issue for the community. During the past decade, Harpswell experienced dramatic increases in housing prices fueled by substantial in-migration. Land prices have escalated to the point where many people can no longer afford to buy a lot. This has created a situation in which young adults who have grown up in the community find it increasingly difficult to find housing that is affordable. Rental housing, while available, is limited.

**Projected Need for Affordable Housing**

According the U.S. Department of Housing and Urban Development, 35% of Harpswell’s current residents live in households which earn less than 80% of the county’s median income. To maintain the town’s current level of diversity, the Greater Portland Council of Governments estimates that of Harpswell’s projected need for 398 new year round housing units by the year 2015, 80, or 20% of new units, will need to be affordable. This assumes that factors currently contributing to the need for affordable housing, cited above, will remain at least as significant as they are at present. Should the price of land and housing continue to escalate and/or the cost of financing, property taxes and insurance also continue to increase faster than household incomes, the need for affordable housing in Harpswell could ultimately be higher.

Section 4326, subsection 3A. of Maine’s Planning and Land Use Regulation Act requires each municipality, whether working independently or as part of a multimunicipal region, to ‘Ensure that the municipality’s or multimunicipal region’s land use policies and ordinances encourage the siting and construction of affordable housing within the community and comply with the requirements of section 4358 pertaining to individual mobile home and mobile home park siting and design requirements. The municipality or multimunicipal region shall seek to achieve a level of at least 10% of new residential development, based on a 5-year historical average of residential development in the municipality or multimunicipal region, that meets the definition of affordable housing. A municipality or multimunicipal region is encouraged to seek creative approaches to assist in the development of affordable housing, including, but not limited to, cluster housing, reduced minimum lot and frontage sizes, increased residential densities and use of municipally owned land;”

Section 4301 defines “affordable housing” as meaning, “..a decent, safe and sanitary dwelling, apartment or other living accommodation for a household whose income does not exceed 80% of the median income for the area as defined by the United States Department of Housing and Urban Development under the United States Housing Act of 1937, Public Law 412, 50 Stat. 888, Section 8, as amended.”
MARINE ECONOMY

Harbors and Anchorages

There are multiple harbors and anchorage areas in Harpswell that serve commercial fishing and recreational vessels alike. The principal harbors include: Cundy's Harbor, Ridley and Hen Coves, Quahog Bay, Lowell Cove, Mackerel Cove, Harpswell Harbor, Merriconeag Sound, Harpswell Sound, Potts Harbor, Garrison Cove, and Lookout Point.

Marine Related Economy

Commercial Fishing In 1998 the town of Harpswell commissioned a study to better understand the importance of the commercial fishing industry in the economics of the town. This study represents one of the best collections of data available for Harpswell's and Cumberland County's commercial fishing industry. According the study, Harpswell and Portland are the two main centers for commercial fishing in Cumberland County. In 1998 there were approximately 522 different individuals licensed for commercial marine harvesting who live or work in Harpswell. There were over 200 lobster boats. Commercial fishing is responsible for a significant portion of Harpswell's local economic activity. The Fishing Industry Profile estimates there were about 200-250 active licensed commercial fishermen and about an equal number of full and part time crew. With another estimated 60-80 people estimated to be working in related local industries, including dealer establishments and related marine services, there were probably 460-580 full or part time jobs in fishing and related industries. This represents approximately 50%-60% of the local full and part time jobs.

Value of the Catch and Related Income The Fishing Industry Profile estimates, based on the value of County landings by species for 1997 and 1998, that the range in gross landed value of the catch attributable to Harpswell is between $12 and $14 million, and that of that amount, $9 to $10 million was landed in Harpswell. The total landed value attributed to Harpswell represented about 24% of the Cumberland County total landed value. On the basis of $12-$14 million in gross receipts earned by fishermen, total person income in Harpswell from these receipts was estimated at $6 to $7 million.

Economic Impact of Harpswell Commercial Fisheries on the Region The total of direct and indirect induced sales for the Harpswell-based fishing industry represented an estimated total sales impact on the region of between $20 and $23 million in consumer and business sales which created an additional 238 to 280 jobs in other economic sectors.

17 Students at the Edmund S. Muskie School of Public Service completed substantial portions of the following research. The Comprehensive Plan Committee would like to thank Jennifer Stowell, Maria Kerley, Sarah Demers, and Kevin Beal for their hard work and assistance.

Recreational Boating and Tourism  The importance of recreational boating and tourism in the marine economy is growing as more and more people come to vacation in Harpswell. These industries create jobs at marinas, hotels, restaurants, and in other tourism based retail and service sectors. The long rocky coast and numerous outer islands provide ample spots for recreational boating.

Fishing and Shellfish Licenses

A comparison of the current status of licenses issued by the state and town for fishing and shell fishing provides a sense of the trends. An obvious caveat is that issuing licenses is no guarantee they will be used, and, standing alone, provides no data regarding licensees' individual landings or income. The following chart, reflecting the number of licenses issued to individuals listing Harpswell addresses, or anchorages, is an update to 2004 on data first assembled in the 1999 Fishing Industry Profile:

<table>
<thead>
<tr>
<th></th>
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<th></th>
<th></th>
<th></th>
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</thead>
<tbody>
<tr>
<td>Commercial Fishing (Finfish, Groundfish), Total</td>
<td>125</td>
<td>123</td>
<td>137</td>
<td>11</td>
<td>117</td>
<td>53</td>
<td>62</td>
<td>61</td>
<td>63</td>
<td>-62</td>
</tr>
<tr>
<td>Crew</td>
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<td>86</td>
<td>70</td>
<td>69</td>
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<td>0</td>
<td>0</td>
<td>1</td>
<td>1</td>
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<td></td>
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<td>Commercial Shellfish</td>
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<td>70</td>
<td>74</td>
<td>84</td>
<td>85</td>
<td>67</td>
<td>69</td>
<td>70</td>
<td>77</td>
<td>+10</td>
</tr>
<tr>
<td>Eel / Elver</td>
<td>23</td>
<td>8</td>
<td>24</td>
<td>13</td>
<td>14</td>
<td>12</td>
<td>7</td>
<td>7</td>
<td>-16</td>
<td></td>
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<tr>
<td>Commercial Lobster/ Crab, Total</td>
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<td>427</td>
<td>430</td>
<td>41</td>
<td>431</td>
<td>280</td>
<td>281</td>
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<td>44</td>
<td>41</td>
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<td>53</td>
<td></td>
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<tr>
<td>Apprentice &gt; 18</td>
<td>6</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
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<td></td>
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<td></td>
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<td>Over age 70</td>
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<td>18</td>
<td>7</td>
<td>6</td>
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<td>18</td>
<td>-3</td>
<td></td>
</tr>
<tr>
<td>Under age 18</td>
<td>40</td>
<td>50</td>
<td>22</td>
<td>21</td>
<td>16</td>
<td>6</td>
<td>4</td>
<td>7</td>
<td>8</td>
<td>-32</td>
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<tr>
<td>Non-Commercial Lobster</td>
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<td>0</td>
<td>3</td>
<td>14</td>
<td>21</td>
<td>13</td>
<td>20</td>
<td>30</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mussel Total</td>
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<td>2</td>
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<td>3</td>
<td>5</td>
<td>6</td>
<td>2</td>
<td>+5</td>
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<tr>
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<td>0</td>
<td>2</td>
<td>0</td>
<td>2</td>
<td>1</td>
<td>3</td>
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<td>1</td>
<td>+1</td>
</tr>
<tr>
<td>Hand</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>3</td>
<td>1</td>
<td>+1</td>
<td></td>
</tr>
<tr>
<td>Marine Worm Digger</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>5</td>
<td>3</td>
<td>5</td>
<td>11</td>
<td>13</td>
<td>10</td>
<td>+10</td>
</tr>
<tr>
<td>Mahogany Quahog</td>
<td>0</td>
<td>1</td>
<td>5</td>
<td>6</td>
<td>5</td>
<td>1</td>
<td>0</td>
<td>3</td>
<td>+3</td>
<td></td>
</tr>
<tr>
<td>Scallops, Total</td>
<td>35</td>
<td>43</td>
<td>45</td>
<td>41</td>
<td>24</td>
<td>25</td>
<td>26</td>
<td>29</td>
<td>24</td>
<td>-11</td>
</tr>
<tr>
<td>Boat/Dragger</td>
<td>29</td>
<td>35</td>
<td>32</td>
<td>31</td>
<td>16</td>
<td>19</td>
<td>20</td>
<td>21</td>
<td>-8</td>
<td></td>
</tr>
<tr>
<td>Diver/Hand</td>
<td>6</td>
<td>8</td>
<td>12</td>
<td>9</td>
<td>7</td>
<td>5</td>
<td>7</td>
<td>3</td>
<td>-3</td>
<td></td>
</tr>
<tr>
<td>Sea Urchins. Total</td>
<td>90</td>
<td>58</td>
<td>49</td>
<td>33</td>
<td>17</td>
<td>24</td>
<td>20</td>
<td>19</td>
<td>6</td>
<td>-84</td>
</tr>
<tr>
<td>Boat</td>
<td>45</td>
<td>22</td>
<td>14</td>
<td>7</td>
<td>3</td>
<td>1</td>
<td>1</td>
<td>5</td>
<td>-40</td>
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<tr>
<td>Hand</td>
<td>45</td>
<td>36</td>
<td>35</td>
<td>26</td>
<td>14</td>
<td>21</td>
<td>19</td>
<td>18</td>
<td>1</td>
<td>-44</td>
</tr>
<tr>
<td>Scallop/ Sea Urchin Tender</td>
<td>33</td>
<td>29</td>
<td>30</td>
<td>21</td>
<td>15</td>
<td>11</td>
<td>12</td>
<td>10</td>
<td></td>
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</tr>
</tbody>
</table>
The chart shows declines of about ½ in the number of commercial fishing crew and sole operator licenses, a small increase in recent years in commercial shellfishing licenses, and a decline in eel/elver licenses. Lobster and crab licenses declined until the late 1990's and then began a rising trend to just over ¾ of their 1994 number. Diggers of marine worms have increased in number from 0 in 1994 to 10 ten years later. Mussel and mahogany quahog licenses are slightly up. Sea urchin licenses are in steep decline. Scallop licenses have declined slightly. Many of the declines in licenses reflect changes in state and federal regulations, and the health of the fisheries for particular species.

**Marine Related Water Quality**

The Maine Department of Marine Resources (DMR) monitors coastal waters for a number of contaminants. Over 25 percent of the mussel and clam habitat along the Maine coast is closed to shellfish harvesting due to the threat of contamination by domestic sewage.

In Harpswell, the shell fishing industry is directly affected by the environmental impacts of wastewater discharge - both stationary, and seaborne. In 1993, 50% of Harpswell' s shellfish areas were closed, though that figure represented a substantial improvement over past peak closures, such as the closure of 89% of Harpswell' s shoreline to clamming for part of the year of 1989.

Today, a significant portion of Harpswell' s potential shoreline shell fishing flats remain closed at any given time as a direct result of non-point source pollution, failing septic systems, and the existence of nearby overboard discharge systems. Harpswell currently has 93 licensed overboard discharges. As evidenced by the accompanying maps produced by the Maine Department of Marine Resources, Harpswell has made progress on decreasing the number of licensed overboard discharges in the past ten years. Since the inception of the program in 1994, 34 of 127, or about 27%, of overboard discharge sources in Harpswell have been eliminated.

**Public Access to Water**

Public access to water is critical to several commercial fisheries as well as to tourists and other residents with recreational boating interests. Because businesses that depend on tourism such as motels, campgrounds, restaurants, marinas and other non-commercial fishing businesses also depend on access and on the presence and/or products of commercial fishing to some degree, public access benefits the whole marine economy, and thereby a majority of the local job base.

Taking inventory of public access and understanding its degree of permanence or transience is an uncertain science. Access types can range from publicly and privately owned wharves and boat ramps to roads that end at the water’s edge to lease agreements to courtesy extended
among neighbors or the public informally or by easement. Title to traditional access points is not always clear.
A 2002 report that studied and surveyed 25 working waterfront communities in Maine found six ways that communities experience loss of commercial fishing through loss of access:

1. Access to intertidal areas lost through no trespassing signs
2. New coastal property owners closing off/contesting public access
3. Commercial fishing access tenuous through lease arrangements
4. Singular reliance on public facility—competition from other users
5. Land-use access problem: limited parking
6. Conversion of working wharves to residential/recreational uses

Harpstown was among the 25 communities studied and surveyed. In Harpswell, the fisheries and related industries impacted by loss of access included groundfish, lobster, sea urchin, clam, worm, seaweed, mussel, scallop, lobster pounds, bait dealers, boat yards, fuel and ice, co-ops, and others. At the time of the survey there were 421 commercial resource harvesters in Harpswell. Total moorings, berthing, slips and tie-ups, commercial and recreational combined included 2,380, of which commercial fishermen used 21%.

According to the same report, the number of commercial private and public waterfront facilities in 2002 was 33. Of these, 17, just over one half, were dedicated to commercial fishing use. Thirty-one percent of commercial fishing access that is achieved through private residential piers or wharves that are owned or leased by fishermen.

The most numerous category of access points was “other” access points that included beaches and land crossings and not actual facilities. 100 of these access points were identified in Harpswell.

Among the 25 communities studied, Harpswell was determined to have an index of vulnerability to loss of commercial fishing access of 4 on a scale of 1 to 7 where one is least vulnerable and 7 most vulnerable.

In 2003-2004, a brief report summarizing their findings with respect to public access points in Harpswell was prepared by some Bowdoin College students. The group visited thirteen public access locations including:

- Hildreth Road
- Wharf Road
- Lookout Point Town Landing
- Wood Point Road Town Landing
- Graveyard Point Town Landing
- Giant Stairs
- Mackerel Cove Town Landing

---


There are other public access sites, not inventoried in this report, and at least some of these sites are located on the Existing Land Use Map. With regard to the inventory above, 8 are Town Landings, most have little or no beachfront, parking is non-existent, in short supply and/or off-site or by permit only, and boat launches are present at just three.

The report made the following observations of general trends and recommendations:

‘Several trends are characteristic of Harpswell public access locations. Most of the sites are small in size, limited to the width of a road easement. Most of the sites do not possess any public parking, forcing visitors to walk or park on private land. There is a general feeling that the sites have become the well-guarded secrets of neighboring residents, such other than these residents, only long term commercial marine interests know of them any more. A resident on Graveyard Point Road told us that the only people who reach the easement are those ‘who get lost on the way to Estes Lobster House.” Giant Stairs is a notable exception. The location of sites also holds noticeable patterns, including the large number on Bailey’s Island, the lack of sites in Cundy’s Harbor and the appearance of sites in aggregations.

“The town may benefit from an open discussion of the purpose of maintaining these locations for public access. The status of many of these sites as ‘public” seems questionable and the town’s ability to clarify their goals may help to direct future action. Pursuing maintenance at these sites will increase their usefulness to the general public and should be discussed so as to attain mutual understanding between vested parties. Discussion as to whether the sites will become more common knowledge to the general public should be pursued as a part of this discourse. This will clearly vary according to the different uses and needs of the sites and their surroundings.

“In planning for new public access spaces, the town should seek to pursue larger locations in a more diverse spatial array. Sites generally did not possess enough open space for general recreation, let alone any parking for residents to utilize during their visit. The Harpswell Heritage Land Trust’s site at Pott’s Point, while lacking in available parking, maintains sufficient space for multiple uses including swimming, boating, walking and exploring. Emphasis for new public access could be placed on finding sites in unique locations of Harpswell, such as Dyer Cover or Harpswell Sound.”

Bethel Point Town Landing
Potts Point Town Landing
Potts Point Wharf
Stover's Cove (Eider Road)
Steamboat Wharf Town Landing
Steamboat Road Town Landing/Chaplin Property
The 1993 Comprehensive Plan identified 13 areas of shoreline public access ‘that are believed to be publicly owned.’ Organized according to geographic distribution, these include:

<table>
<thead>
<tr>
<th>Bailey Island</th>
<th>Mackerel Cove, Garrison Cove, Giant Stairs and York Landing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Orrs Island:</td>
<td>Steamboat Hill Road</td>
</tr>
<tr>
<td>Great Island</td>
<td>Bethel Point</td>
</tr>
<tr>
<td>Cundy’s Harbor</td>
<td>Holbrook Street</td>
</tr>
<tr>
<td>North Harpswell</td>
<td>Wharf Road, Hildreth Road</td>
</tr>
<tr>
<td>Harpswell Center</td>
<td>Lookout Point, Wood Landing Point</td>
</tr>
<tr>
<td>South Harpswell</td>
<td>Pott’s Point, Basin Cove/Ash Point, Stover’s Cove.</td>
</tr>
</tbody>
</table>

Harpwell has just one State owned and maintained public boat access site. This is maintained by the Department of Conservation and is classified as a landing facility only. The Maine State Planning Office and the Department of Marine Resources have listed Harpswell as First Priority Area for increased water access.

**Fishing Industry Issues**

A major objective of the Fishing Industry Profile was to identify planning and community development issues facing the fishing industry, including those that local government might be able to do something about. Issues are listed from the results of Harpswell interviews and small focus groups. The principal local issues identified in the process that fall within the influence of local government are selected and listed below.

**Environmental Changes/Resource Protection**

- The Town has estimated its coastline frontage at 216.8 miles. With this extensive maritime area, Harpswell has one of the longest coastal shore frontages in the State, representing a tremendous resource as well as a management challenge.

- With two full time wardens, the Town has a relatively high level of effort in enforcement for its shellfish ordinance compared to other towns. Given the length of the Harpswell coastline, however, poaching remains a problem.

- There are about 100 [now down to 93 at this writing] overboard discharge sites remaining in Town. Remediation using state programs allows the Town to eliminate about 3 per year, which may gradually allow the opening of some new areas to clamming. However, most of the potentially productive flats are already open to harvesting.

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21 SPO and DMR completed a statewide survey of coastal water access and have assigned this status in a report entitled, ‘Coastal Water Access Priority Areas for Boating and Fishing’ through the Maine Coastal Program.
Discharge of oil and bilge into the water from commercial fishing boats may not be adequately addressed by enforcement (comment from waterfront facilities interviews, 1999 Port Inventory report).

Potential For Use Conflicts

Moorings demand has continued to rise, with pleasure boats consuming an increasing portion of total moorings. [Since 1990, the number of moorings has increased from 1,532 to 2,001 in 1998, and increase of 469 (31%) over an eight year period.]

Some believe there to be a large number of unregistered moorings in Harpswell, and that the problems of harbor traffic and moorings management will continue to intensify as residential use, second homes, and recreational boating increases. Given the number of harbors in the Town and their distance apart, there may be a need for more resources devoted to harbor management and enforcement.

There has been a big increase in non-commercial boat traffic. A major increase in recreational boats, notably in upper Middle Bay, has been observed.

Waiting lists for tie-ups at available waterfront facilities in Harpswell are entirely for recreational boating use, evidencing the increased demands from residential and pleasure boating.

There is a concern that, with the increase in residential development in the Town, that newer residents will begin to lobby for land use regulations or ordinances that are adverse to fishermen storing traps or equipment on their residential lots.

Changing Real Estate Values and Taxes

Unlike their Downeast counterparts, most local fishermen don’t live in on-shore properties. Increasingly, fewer fishermen will be able to live in Harpswell, become less able to access the waterfront, and retain only marginal ties to the community at large.

Increasing real estate values and property taxes make fishermen less able to live in Harpswell, and puts pressure on waterfront property to be sold or converted.

If owners continue to sell waterfront property at high prices, it will continue to bid up the price of real estate and eventually reduce facilities and access to support commercial fishing.
• Concern that increased real estate values will result in displacement of commercial fishing and less access to the waterfront and coves, especially for shellfishing. In addition, bottom leases could reduce availability of the shellfish resource to local fishermen.

• The fishing infrastructure (existing piers and wharves; waterfront access lots) could be converted and lost to other uses under real estate pressure if action is not taken to preserve waterfront facilities and access for the future.

Waterfront Access and Public Facilities

• A 1999 Port Inventory infrastructure survey identified 18 privately owned wharves or piers used primarily by the commercial fishing industry in Harpswell. Generally, the conditions ratings for Harpswell facilities were high, with evidence of recent and ongoing maintenance of facilities. Only one facility was identified as having a marine pump-out station. [There are now three accessible to Harpswell boats.]

• Town launch facilities were identified in the 1999 Port Inventory. Of seven town boat launch or ramp locations identified, only one has any parking and it is limited to 3-4 spaces.

• Town landings and boat launch facilities exist, and there are other undeveloped publicly owned ROWs. However, neither the developed nor the unimproved sites provide space for parking.

• The Town needs to maintain public access to the water. It could purchase or improve ROWs for commercial fishing access points or use the Fuel Depot. Fishermen also need places for short-term loading/unloading of gear and minor repairs.

• Use of the Fuel Depot’s existing facility is not practical for most working fishing boats due to the height of the pier. Development of public facilities for commercial fishing using public dollars could be viewed as subsidizing one part of the local fishing industry to the detriment of others who have already invested in developing and maintaining private waterfront facilities.

• The Fuel Depot site has a good potential to support aquaculture uses and marine research.

• There is a need to preserve access to the water and related facilities, and the Town’s capacity to support the catch and marketing of fisheries products.
Community Character and Heritage

- The Town used to be an agricultural and fishing town. Now it is becoming a professional bedroom community. This trend can eventually price out and displace the commercial fishing industry.

- The Town needs to have a plan to preserve fishing as an industry. It should make findings or resolutions to the effect that commercial fishing is an important priority to the Town, and that its basic supportive infrastructure needs to be preserved. It could consider setting aside future water access locations with some areas reserved exclusively for commercial fishing access.

The Town needs to ask what would happen to the basic character and heritage of the community if lobstering and commercial fishing were to be lost to other replacement uses on the waterfront. The loss in talent and experience of fishermen would not easily be replaced, nor could the “character of the community” that residents and tourists enjoy be easily reconstructed.

Cundy’s Harbor Working Waterfront Study

In the summer and fall of 2004, the Town retained consultants to perform a study of Cundy’s Harbor village and its working waterfront in order to identify policy and planning options for protecting the village from the possibility of losing access to the water for commercial fisherman. The consultants worked with the people of Cundy’s Harbor and the Town to create a detailed profile of the village and the development pressures it is experiencing, and to explore a range of policy and planning options with them to develop policy and planning recommendations. The consultants have completed a report\(^{22}\) that contains a village profile and policy options. Here are the findings and recommendations from the study:

Conclusion

Findings

Cundy’s Harbor has a strong commercial fishing culture and strong public support for maintaining that culture and preserving the infrastructure that supports commercial fishing. Cundy’s Harbor has been able to maintain its working waterfront and sustain its commercial fishing industry with relatively little recent change. Many of the concerns of working waterfront communities elsewhere are not urgent matters in Cundy’s Harbor. But it would be unwise to ignore the influences and pressures at work on coastal communities throughout Maine and New England. The relatively moderate and manageable change in Cundy’s Harbor is not necessarily an indicator that issues such as loss of access or conflict between

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\(^{22}\) “Cundy’s Harbor Working Waterfront Study, Village Profile and Policy Options” by Teresa Oleksiw, Hugh Coxe and Judy Colby-George
fishermen and residents will not become a problem in Cundy’s Harbor as they have in so many other working waterfronts.

But Cundy’s Harbor has options open to it that may help to ensure the continued vitality of the working waterfront. This report lists many of these options. It is important to note, however, that most of the options involve tradeoffs that require the community to make decisions about what it values and what it wants to be in the future. The community expressed support for considering many of the options and for engaging in the discussion necessary to plan for the future.

We found that marine infrastructure needs in Cundy’s Harbor are minimal but could be enhanced to promote and protect the fishing industry. While most people considered water access to be the most important factor in sustaining the fishing industry, we found that Cundy’s Harbor has experienced remarkably little loss of water access over the last decade. Despite this relatively modest loss of access, the residents and users of Cundy’s Harbor change. Coastal properties are in high demand in Harpswell and in other Maine coastal communities resulting in dramatic increases in the value of coastal properties in recent years. The pressure created by increased demand for recreational boating facilities is significant. The future of Holbrook’s, one of the larger commercial wharves, is uncertain.

Residents of Cundy’s Harbor expressed mixed opinions concerning the need and desire for additional public water access sites or a public wharf in the village. Additional public access would likely encourage additional recreational boating, something seen by many as anathema to commercial fishing. Also, public access for commercial fishing might be perceived as unfair to owners of private docks and wharves.

We found that available land for parking is limited throughout Cundy’s Harbor and parking is likely to continue to be in high demand. We also found there is an adequate supply of basic marine related goods and services but that many people are concerned about maintaining current levels of supplies and services.

The current land use regulations make the fishing industry an exclusive use on most of Cundy’s Harbor’s waterfront. While this zoning generally has been successful in promoting and protecting the fishing industry, we identified several aspects of the regulations that might be made more effective without imposing substantial new burdens on residents and property owners. Residents of Cundy’s Harbor seem to prefer to keep regulations to a minimum but they also would like the village to stay, as much as possible, as it is now. For instance, changes in ownership of properties may lead to alterations that are out of character with the current village and may eventually pose a threat to the continued vitality of the working waterfront. So residents of Cundy’s Harbor seemed to generally favor stricter land use regulations to stem the potential for future large-scale changes in the culture and built environment of the village. Moreover, to the extent commercial fishing operations may be in conflict with residential or other uses, people felt that the residents and users of Cundy’s Harbor should defer to the fishing industry needs.
We also found that much of the challenge to Cundy’s Harbor’s working waterfront comes from influences that are beyond the control of the town and its policies. Factors such as federal regulation, market conditions for seafood and for coastal property, and environmental conditions will continue to be key determinants to the future of Cundy’s Harbor. Nevertheless, local efforts to preserve the working waterfront play a vital role and generally enjoy broad community support.

**Recommendations**

Based on the information gathered for this study and particularly the feedback from people interviewed and people in attendance at the community forum, we recommend the community take the following actions.

Immediate actions:
- Include stronger working waterfront policies and strategies in the town’s comprehensive plan update.
- Educate the community, both seasonal and year round, on the importance and facts of living in a fishing environment. Use a brochure to achieve this purpose, and request or require that real estate agents give this to prospective buyers viewing homes and land in Cundy’s Harbor. An educational brochure could inform newcomers and seasonal residents of the realities of living in a fishing village.
- Review assessment methodology in Harpswell to ensure that small unbuildable and highly restricted waterfront lots are assessed appropriately.
- Disseminate this report to the residents and users of Cundy’s Harbor.

Longer-term actions:
- Institute the goal of working to preserve and protect the working waterfront.
- Select some of the promising land use options (such as more restrictive bulk and lot coverage standards for new and expanded residential in CF zones, combined with more targeted drawing of those zones) and further analyze the benefits and impacts (pros and cons) and engage the community to decide which, if any, to implement.
- Work with other coastal communities to convince the legislature to amend state laws so that coastal marine related property is assessed at current use value.
- Review the current land use regulations to determine if they should be amended to include protection of scenic views and if the current zoning boundaries for the commercial fisheries districts are accurate and adequate.
- Engage in discussion about the need and desire for improved or additional public access.
- Form a committee to review the desire and need for a dedicated commercial fisheries fund to be used for investments in the waterfront including purchase of land for access if desired.
- Form a committee to review the future potential uses of Holbrook’s. Consider the possibility of the Town acquiring the property to ensure public access and other benefits.
RECREATION AND OPEN SPACE

Recreational opportunities in Harpswell exist in both organized and unorganized and informal ways. The geography and natural environment of Harpswell have traditionally provided the "field of play", whether on land or at sea. However, the Town's rapid growth over the past few decades has resulted in the loss of some traditional recreational areas and has threatened many more. There is an active land trust in Harpswell and the Town has recently come into possession of land suitable for recreation, as well. Organized recreational facilities and programs in Harpswell have grown in number and variety. These programs use a diverse group of facilities in the town and in neighboring towns.

Recreational Facilities and Programs

The Town of Harpswell has limited outdoor facilities for formal, organized recreational activity. Both of the elementary schools have extensive playgrounds and a ballfield. The Town owns a Picnic and Rest Area on Route 24 on Orr’s Island. The Harpswell Neck Physical Education Association has a facility on land leased from the Kellogg Church that includes two tennis courts, a basketball court, playground, and a small crafts building. Use is limited to residents of Harpswell Neck. There are also outdoor basketball hoops at the Cundy’s Harbor Community Hall. The only State-owned recreational facility in the Town is "Sawungun," the former summer home of Admiral Robert E. Peary on Eagle Island. The facility is operated as day-trip park with no camping allowed. The park is reachable only by boat. It is one stop on a summer ferry route linking Bailey Island with downtown Portland.

Sports and physical fitness activities are organized by a number of groups. Two years ago the Town hired a part-time recreation director. She works with the Harpswell Recreation Committee to organize recreation programs for residents of the Town. These include:

Recreation Offerings 2002-2004

Adult Offerings: Digital Photography, Jewelry Making, Healthy Italian Cooking, Marine Knot Tying, German Cooking, French Cooking, Hiking in Maine, Map and Compass Skills, Camping In Maine, Outdoor Skills, Knitting, The Four Essentials of Health, Ocean Shell Rowing, Kayaking, Mountain Hike, Skiing, Quilting

Community Activities: Bike, Ski, Skate and Ride Helmet Sale, Kite Fly Day, Horse Drawn Sleigh Rally, Family Underwater Egg Hunt, Yard Sale, Local Artists Featured at the Town Office, Fairy House Building on the Cliff Trail


Youth Sports: Fall and Spring Cross Country, Pee Wee Soccer, T-Ball, Baseball, Softball, Youth Basketball, Developmental Basketball, Family Swim, Summer Swim, Karate

Clinics and Camps: Basketball Clinic, Camp Harpswell (sports/art/music)

Adult Sports: Coed Softball, Coed Basketball, Skiing, Lap Swimming

Harpwell youth also have access to recreational activities in nearby communities. Students in SAD #75 can participate in Topsham’s recreational programs. Harpswell’s young people participate in regional soccer and Babe Ruth baseball programs. There are also a number of scouting troops in the Town.

In addition to these public and quasi-public facilities, there are also a number of private areas that are used for recreational purposes. A number of private ponds are popular hockey and skating ponds. Local residents quietly and lightly use a couple of beach areas on private land. In recent years, however, some locally used recreation areas have been lost.

Marine-Related Recreation

The coastal waters of Harpswell comprise the largest playground in Town. Boating, recreational fishing, island picnics, swimming and duck hunting are favorite activities of residents and visitors alike. About 1,500 boats are registered in Harpswell. An unknown number of boats registered in other towns are regularly moored in Harpswell waters. Hundreds of day-trippers from out-of-town make use of the Town landings. Numerous larger boats cruise through the area and anchor overnight in the protected bays and marinas. There has been an explosion in recreational boating over the past 15 years and many want to come to Harpswell. During the last several years additional mooring space in neighboring towns has become scarce or non-existent, even as these towns have continued to grow. People who cannot find mooring space in their own town are finding it in Harpswell.

Demand for access to the water by recreational boaters, with and without moorings, is growing. The greatest obstacle to the public's enjoyment of the water is the limited public access to the shore. Title and the right of the public to use such access points is not always clear. The Town Lands Committee has recently taken inventory of access points to the water and, in a 2004 report, has made recommendations, as follows for improvements to several:

**Harpswell Neck**

- **Basin Cove, Ash Point, South Harpswell:**
- **Graveyard Point Town Landing:** Public Launch sign, Parking sign, needs widening
- **Hildreth Road Landing:** Public Landing sign, No Parking sign, reinforce banking, needs widening if it is to become a boat-launching site.
- **Lookout Point, Harpswell Center:** Public Launch sign, Parking sign(s), Rules sign.
- Potts Point Ramp: Public Launch sign, Parking sign, needs surveying.
- Potts Point Wharf:
- Stover's Cove Road, South Harpswell (easement):
- Stover's Cove, South Harpswell (Eider Road) (easement):
- Tide Mill Cove Town Landing: Public Launch sign, Parking sign, needs widening, needs bush cutting. (Canoes and kayaks).
- Wharf Road Landing: Public Landing sign, Parking sign(s).
- Wood Landing; Leased-monitor it.
- Wood Point Road Town Landing:

Bailey Island

- Garrison Cove Town Landing: Public Launch sign.
- Land's End:
- Mackerel Cove Town Landing: Public Launch sign, Parking signs, Rules?, mowing, needs clean-up.
- York's Landing: Public Landing sign, Parking sign. (Canoes and kayaks).

Cundy's Harbor/Great Island

- Bethel Point Town Landing: (has Public sign, No Parking sign, Private Parking at Bethel Point Boatyard –Terry Dunning, permitted parking for island access).
- Giant Stairs: (no facilities)
- Holbrook Road Town Landing: Public Launch sign, Parking and No Parking signs, (may be 2 parking spaces), ramp needs pavement.
- Strawberry Creek:

Orr’s Island:

- Merritt House Landing: Public Landing sign, needs widening, (potential launch, mowing, potential parking).
- Steamboat Hill Road (Merritt House Hill): (no facilities)
- Steamboat Wharf Town Landing:
In a 1973 report, the Conservation Commission noted that:

"Certain facts seem clear:

- Some Town Landings still allow public access to water.
- Others might possibly be cleared for public use.
- None can be adapted to handle auto and trailer traffic.
- They should be identified, but not advertised."

There are also a number of private points of access to the shoreline that serve specific groups. A number of owners’ associations have facilities that are available to their members. Boat yards, marinas, lobster dealers, and yacht clubs provide facilities on a restricted basis to their members or customers.

The Town landings can become quite congested with vehicles and trailers on sunny weekends, frustrating local residents and fishermen who have traditionally used the landings as their access to the water. As listed above, parking at the landings is limited or nonexistent, and the roadsides are often clogged with parked cars and trailers, creating traffic hazards and annoying the neighbors.

Increased development on offshore islands has created conflicts at some landings as new users compete with traditional long-term users, including fishermen and long-time residents of offshore islands for space for haul-off lines. Recent changes in shoreline zoning mandating deeded access to the mainland shore for any new offshore development should assure that this problem does not worsen.

**Land-based Recreational Transportation**

Summer and winter recreational facilities must be self-generated. Bicycle paths are not available since roads are too narrow to allow for this addition. Also, the summer tourist traffic adds an element of danger to bicycling.

Formal snowmobile trails are also not available in Harpswell. Most snowmobilers create their own trails such as the pipeline from Mitchell Field to the Naval Air Station, or trails on private property.

**Open Space**

Much of Harpswell is undeveloped and the open space that exists is a major factor in the Town’s character. While most of this land is owned privately, the Town, the State and federal agencies, and conservation organizations own several tracts. The following is a brief description of these areas:
1. **Town-owned open space**

The Town now owns approximately 177 acres of land adjacent to the Town Office and Recycling Center. Nearly all of this land is undeveloped and offers possibilities for recreational and open space use. The Town has recently opened a 1.5-mile trail loop called the Cliff Trail, on Great Island, which crosses near the highest point in Harpswell. This marked trail features a shore walk along Strawberry Creek and spectacular views from 150-foot cliffs overlooking Long Reach.

In the mid-1990s, the Navy gave its 117.5-acre Fuel Depot to the Town of Harpswell. The Town has renamed the site as the George J. Mitchell Field.

The Town also owns open land on both sides of Route 24 at the north end of Orr’s Island. In addition, the Town owns Elm Island, a small, offshore island.

2. **State-owned open space**

Significant portions of five offshore islands, Haskell, Little Birch, Pond and Mouse Islands are managed for wildlife purposes. The fifth State-owned island, Eagle Island, is a historic site. The State of Maine owns a number of parcels of land in the Town. The State owns the Admiral Peary Home, which is open to visitors. In addition, the State has a conservation easement over the southern half of privately owned Whaleboat Island. The State also owns Mark Island. The State also has sizeable holdings at the Great Island marsh on either side of Doughty Cove. This area is open to the public, but no parking or other facilities are provided. The State also owns a parcel of land at Allen Point that extends to the shore. No parking or other facilities are available.

The Baxter State Park Authority manages the 222-acre Austin Cary Lot, which is owned by the State, for timber harvesting and limited recreational use. Logging and old ‘woods’ roads form a network of unmarked walking and cross-country ski trails. Hiking is challenging since there is little trail maintenance with the ‘passive’ recreation stipulation imposed on this demonstration woodlot. Some bushwhacking is required to get to the shore.

3. **Federally-owned land**

The federal government controls Little Mark Island, Ram Island and the southern tip of Whaleboat Island, both of which have navigational aids.

4. **Nature Conservancy land**

The Nature Conservancy, a national conservation organization, has three major holdings. The organization controls Upper Goose Island. The island is closed to the public from March 15th to August 15th because of its value as a bird nesting ground.
5. Harpswell Heritage Land Trust

The Harpswell Heritage Land Trust, a local land trust, owns, or holds the rights to land or conservation land at 27 sites in Harpswell. Of these, at least 10 sites allow public access. These sites include 43 acres on Birch Island, the 3.35-acre Mackerel Cove Field, the 0.86-acre Mackerel Cove Town lot, the 1-acre McIntosh lot, the 40-acre Doughty Point Preserve and 2-acre island, 4 acres of pebble beach and salt marsh at Stover’s Point, the Potts Point Preserve, the 100 acre Long Reach Preserve, the northern 60 acres of Whaleboat Island, the 21-acre Skolfield Shores Preserve, and 3-acre Crow Island. The Trust also holds conservation easements on 890 acres of other private land, including 328 acres on other islands.

6. Harpswell Garden Club

The club owns a parcel at Stover’s Point that has a beach, parking, and a bird sanctuary. This area is open to the public. In addition, the club maintains the Anne Frances Hodgkins Park adjacent to the Old Town House and has an easement to Porter Pond for nature study purposes.

Private Land

Harpswell’s fields and forests have long been areas for recreation: hunting, hiking, snowshoeing, skiing, sledding, snowmobiling, etc. While some of this occurs on publicly owned land, most occurs on private land. But with many large tracts being broken up by development, it is becoming increasingly hard to walk very far in the woods before coming upon a residence. The shrinking open space has reduced wildlife habitat. More land is now posted against hunting and trespassing. Many private owners of land have traditionally allowed people to hunt, hike, picnic, or camp on their land. But with changes in ownership or development of the parcel, many of these privileges have been lost. In some cases this has been due to vandalism and lack of respect for the property; in others it is due to increased concerns for liability risks.

Analysis

The Town faces a number of significant issues as it considers open space and the current and future recreational needs of the community. In recent years the Harpswell Heritage Land Trust has preserved several additional sites that allow public access to the land preserved. The Town has acquired land at Mitchell Field, added to its holdings near the Town Office, and acquired significant land on northern Orr's Island. At the same time that demand for access to the water and for mooring space is increasing, changes in land ownership and other factors are having the effect of decreasing available points of access to the water, not just for recreational boaters but for fishermen as well. The records of who owns existing public access are sometimes uncertain, just when it is becoming more important to establish clear title, manage parking, and establish more access.
The growth pressures of the next decade will add to the current need to create a coordinated network of open space recreational opportunities. Ancillary purposes related to growth pressures and shrinking open space can also be served by careful planning of a network of existing and future open spaces. These include protecting important wildlife habitat from being further fragmented by new development, protecting scenic views, and protecting important aspects of Harpswell’s rural character. Linkages between parcels of open space, particularly along streams and shorelines that serve as wildlife travel corridors, can also help keep Harpswell’s wildlife populations healthy and abundant well into the future.

The Town needs to examine its public access to the shore, identify the problems and needs, and take appropriate action to guarantee access to the shore for both fishermen and recreational boaters, including parking. The opportunity exists for discovering additional public rights of access to the shore. Therefore, the Town should consider continuing to research and clarify the ownership of these areas. The retention of private open space is a key issue. This has been the source of much "traditional" recreational activity. This role is threatened by high property and estate taxes that make holding these parcels difficult, leading to increased development and changing patterns of ownership. The Town Lands Committee has made a good beginning with its 2004 report, but there are many remaining questions to be answered about these and other less prominent public access points. Public access to water can be integrated into an open space plan as well.

As the Town grows, the average age of a Harpswell resident is expected to continue to increase. Organized recreational activities and programs will need to serve an expanded range of age groups as a result. Children’s programs will always be needed, but increasing programs and activities for older adults will also be in demand.

One of the defining characteristics of Harpswell’s recreational programs and activities is that they are wide-ranging and involve an amazing variety of municipal, educational, religious, private and civic properties and facilities. Another defining characteristic is that there is no one central recreational facility that can host multiple programs and activities where they will be equally accessible for all persons desiring to participate. The lack of recreational facilities for formal, organized activities is significant, and the recent growth of the Town has increased the need for community facilities. Land adjacent to the Town Office and Recycling Center offers the possibility of locating municipal functions centrally within the Town. One question facing the Town is whether recreation is a municipal function that can be served in this location.

Another recent addition to Town property, Mitchell Field is not centrally located, but it also offers the potential for serving the recreational needs of many nearby residents and others.

At this time, the Town and State own significant undeveloped land. These holdings offer the possibility for developing recreational uses. The opportunity exists for Town committees and organizations to work with local and State officials to develop plans for recreational use of public lands in Harpswell.

Meeting the increasing demand for recreational services during the next ten years may also take more than a part-time recreation director and a Recreation Committee.
PUBLIC FACILITIES AND SERVICES

Increasingly, operation of the Town has become a more complex and formal system relying on full-time and part-time professional staff. This section summarizes the major public facilities of the Town and the services provided to the residents of Harpswell. The section also looks at the capacity of these facilities and services to accommodate projected growth over the coming decade. This section updates the text of the 1993 background section on public facilities and services.

General Government

The principal administrative functions of the Town are located in a newly expanded and modernized Town Office building located on the Mountain Road. The building was built in 1986. Expansion and modernization were completed in 2003 and the building now provides space for the following Town Departments and staff:

- Board of Selectmen
- Town Administrator
- Town Clerk
- Tax Collector
- Assessor
- Codes Enforcement
- Town Planner
- County Sheriff’s Patrol
- Marine Patrol
- Recreation Director
- Administrative offices
- Welfare Office
- Animal Control
- Meeting facilities for Town boards and committees with Cable TV cameras
- Public Restrooms
- Internal space for additional offices when needed

This facility is adequate to meet the Town’s general administrative need for the foreseeable future.

Public Safety

Public safety services in the Town of Harpswell are provided by a number of independent organizations. The Cumberland County Sheriff’s Department provides police services on a contractual basis. Fire and ambulance services are provided by local all-volunteer organizations. These organizations have seen a growth in the need for their services over the past decade.
The volunteer emergency services continued to see increases in the volume of both Fire and Emergency Medical Services (EMS) calls in 2003. This has been the steady trend for the last several years. The trend is anticipated to continue as the population grows and ages, with the largest volume growth in calls for Emergency Medical Services. The total number of runs from all three fire and rescue departments in 2003 were as shown in Table 20.

Table 20
2003 Fire and EMS Run Totals

<table>
<thead>
<tr>
<th>Department</th>
<th>Fire</th>
<th>EMS</th>
<th>Totals</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cundy's Harbor</td>
<td>61</td>
<td>96</td>
<td>157</td>
</tr>
<tr>
<td>Orr's &amp; Bailey</td>
<td>59</td>
<td>101</td>
<td>160</td>
</tr>
<tr>
<td>Harpswell Neck</td>
<td>78</td>
<td>131</td>
<td>209</td>
</tr>
<tr>
<td><strong>Total Calls</strong></td>
<td><strong>198</strong></td>
<td><strong>328</strong></td>
<td><strong>526</strong></td>
</tr>
</tbody>
</table>

1. Fire Protection

Fire protection in the Town is provided by three independent, volunteer organizations, each with its own board of directors and chief. Each department owns its own buildings and equipment. The three departments are the Cundy's Harbor Fire Dept. (CHFD), Harpswell Neck Fire Dept. (HNFD), and Orr's and Bailey Islands Fire Dept. (OBIFD). In 1986 the Orr’s Island Fire Department and Bailey Island Fire Department combined their boards, buildings, and equipment into one department. CHFD and OBIFD also maintain the ambulance services in their communities. Historically these departments were totally independent of each other (and the Town) and were very territorial. Beginning in the late 1980s, the department chiefs have changed to a course of closer cooperation with mutual aid for major fires and coordination of training, communication, and equipment purchases. During this time the departments retired some "antiques" and undependable trucks and purchased newer firefighting trucks with increased capacities to effectively fight structure fires. Also, more frequent training with State instructors has produced a safer more experienced volunteer force. Much of the training is now done on a townwide basis. Communications were changed to a dispatch system through Cumberland County Sheriff. Each firefighter and rescue person carries a pager or radio. Response time has improved dramatically, and the single communications network has enabled all the departments to work together.

Recognizing the need for sufficient personnel and equipment to handle a major fire, the three chiefs have instituted Automatic Mutual Aid for structure fires. The most limiting factor in Harpswell is available water. With no hydrant system in Town, all water must be shuttled to the fire scene in tank trucks. A number of "dry hydrants" have been installed in ponds throughout the Town in order to refill these trucks for continuous shuttling of water. In order to make the water shuttle system more effective and dependable, all three departments purchased new tank trucks in the late 1980s or early 1990s. Only Bailey Island lacks a water supply and must shuttle water from Wilson’s Pond on Orr’s Island. Island fires present even more difficult challenges. Firefighters and equipment, including portable pumps, must be
transported to the scene, often requiring that any available boat be commandeered.

In addition to the mutual aid agreements they have with each other, the three Harpswell fire departments have a verbal mutual aid agreement with the Brunswick, Topsham and West Bath fire departments, and a written mutual aid agreement with the Brunswick Naval Air Station.

Harpswell’s fire chiefs feel that the Town has enough dependable equipment to handle most fires in Town. The number of trained volunteers is sufficient for coverage at night, but daytimes are usually understaffed due to out-of-town jobs of many firefighters. Recruitment of new volunteers is getting harder because of increasing demands on time for training and because of the busier lives most people lead today. The chiefs all feel there is need for more training, especially on a townwide basis. They also express their desire for more coordination in the purchasing of equipment by individual departments that will also fit the Town’s needs, to enhance rather than duplicate the firefighting capability of the Town.

Table 21
Inventory of Fire Departments Apparatus

<table>
<thead>
<tr>
<th>Department</th>
<th>Truck</th>
<th>Year and Make</th>
<th>Pump Capacity (Gallons Per Minute)</th>
<th>Water Capacity (Gallons)</th>
<th>Future Life (Years)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cundy’s Harbor Fire Dept.</td>
<td>Engine 1</td>
<td>'97 Internatl’ 1</td>
<td>1,250</td>
<td>1,000</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>Tank Truck</td>
<td>‘92 Ford</td>
<td>500</td>
<td>1,950</td>
<td>5-7</td>
</tr>
<tr>
<td></td>
<td>Squad Utility Truck</td>
<td>’04</td>
<td>NA</td>
<td>NA</td>
<td>10</td>
</tr>
<tr>
<td>Bailey Island Fire Station</td>
<td>Cl. A Eng. 1</td>
<td>’93 Ford, Central States</td>
<td>1,000</td>
<td>1,000</td>
<td>18</td>
</tr>
<tr>
<td></td>
<td>Mini Attack Truck</td>
<td>’87 GMC, American LaFrance</td>
<td>250</td>
<td>250</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Parade Truck</td>
<td>’53 Ford</td>
<td>--</td>
<td>--</td>
<td>Infinite</td>
</tr>
<tr>
<td>Orr’s Island Fire Station</td>
<td>Cl. A Eng. 3</td>
<td>00 GMC, Emergency Vehicles of Me.</td>
<td>1000 + Compressed Air Foam System</td>
<td>1000 + 25 gallons foam</td>
<td>25</td>
</tr>
<tr>
<td></td>
<td>Tank 1</td>
<td>’87, GMC</td>
<td>350 NA</td>
<td>1,425</td>
<td>7-8</td>
</tr>
<tr>
<td></td>
<td>Squad Utility Truck</td>
<td>00 GMC, Emergency Vehicles of Me.</td>
<td>NA</td>
<td>NA</td>
<td>25</td>
</tr>
<tr>
<td>Harpswell Neck Fire Dept.</td>
<td>Cl. A Eng. 1</td>
<td>'81 Ford Grumman</td>
<td>750</td>
<td>750</td>
<td>3-4</td>
</tr>
<tr>
<td></td>
<td>Pumper</td>
<td>’90 Ford FMC</td>
<td>1,250</td>
<td>1,000</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>Cl. A Eng. 2</td>
<td>‘84 Ford Grumman</td>
<td>1,000</td>
<td>750</td>
<td>3-4</td>
</tr>
<tr>
<td></td>
<td>Eng. 4</td>
<td>‘85 chassis Intl’ 92 body Valley Fire Apparatus</td>
<td>500</td>
<td>1,800</td>
<td>15-20</td>
</tr>
<tr>
<td></td>
<td>Tank 1</td>
<td>85 chassis GMC ’02 body EVM</td>
<td>700</td>
<td>1,500</td>
<td>6-7</td>
</tr>
</tbody>
</table>
Table 22
Firefighting Personnel

<table>
<thead>
<tr>
<th>Department</th>
<th>Personnel Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cundy’s Harbor Fire Department</td>
<td>18 firefighters (12-14 steady), 4-5 junior firefighters</td>
</tr>
<tr>
<td>Orr’s &amp; Bailey Islands Fire Dept.</td>
<td>16 firefighters (8-10 steady), including 6-7 cross-trained EMTs, 1 paramedic</td>
</tr>
<tr>
<td>Harpswell Neck Fire Department</td>
<td>18 firefighters (12 steady), 3 junior firefighters</td>
</tr>
</tbody>
</table>

1990 was the first year the Town made a significant financial contribution to the fire and rescue organizations. Previously, each department raised its own funds through donations and fundraising events. Each fire and rescue department has an annual operating budget (exclusive of capital expenses such as new trucks or buildings) of about $33,000. Fundraising has been more difficult in recent years and the cost of equipment has climbed steadily. Even though the fire departments are all private non-profit organizations that do fundraising, the Town also contributes annually to their operating, training and capital budgets. Each fire and rescue department received about $20,000 to $25,000 annually that is earmarked for capital expenditures.

The Cundy’s Harbor Fire Department receives about ½ of its operating budget, plus or minus, from the Town, plus some support for training. It’s major capital needs include a new roof ($8,000 to $10,000) and a new furnace ($10,000) for the Community Hall, which is also the fire station, which it will probably purchase in the summer of 2005. The Chief estimates that the Department’s 1992 Ford tank truck has another 5 -7 years of life left. He estimates it will take at least $200,000 to replace, and probably more because the prices of fire equipment continue to rise rapidly. The number of Department volunteers remains approximately what it was in 1993 with minor fluctuations. Training is increasingly important as fighting fires becomes more complicated. The Chief says he could use an additional ten trained volunteers now in order to have a force adequate to the present firefighting need.

The Orr’s & Bailey Islands Fire Department has two stations, one on each island. The Orr’s Island fire station is in good condition, but will need a new roof and furnace in the next 5 years. The Bailey Island fire station is a new facility that will need nothing but regular maintenance for the next ten years and beyond. Their Squad Utility Truck is a relatively new acquisition that has several important features that enhance the department’s ability to fight fires effectively and safely. These include scene lighting on a 30-foot telescoping tower, a 15-kilowatt generator, a mobile cascade system capable of recharging up to about 100 compressed air tanks for self-contained breathing apparatus (SCBA), and an extrication tool that is owned by all three departments. The cab contains 4 SCBA and is being outfitted to serve as a command center. The back of the vehicle has medical supplies and can be used to keep injured persons warm and treated until an ambulance arrives.

The Harpswell Neck Fire Department’s station is located in South Harpswell. The Station is adequate with continued maintenance. It is projected to need a new generator around 2015.
Two capital improvements to the Station soon to be installed are a fire alarm and freeze protection alarm at a combined estimated cost of $8,000.

2. Ambulance Service

Like the fire departments, each community in Harpswell has its own ambulance and crew. The Cundy’s Harbor Fire Dept. and the Orr’s and Bailey Island Fire Dept. provide ambulance service in those parts of the community. Ambulance service in West Harpswell is provided by the Harpswell Neck Volunteer Ambulance Association. All three EMS units have fairly new and up-to-date ambulances and well-trained and dedicated attendants, as shown in Table 23.

Table 23
Ambulance Inventory and Available Attendants, 2005

<table>
<thead>
<tr>
<th>Fire and Rescue Department</th>
<th>Harpswell Neck</th>
<th>Orr’s &amp; Bailey Islands</th>
<th>Cundy’s Harbor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ambulance</td>
<td>’04 Ford</td>
<td>’95 Ford</td>
<td>’99 Ford</td>
</tr>
<tr>
<td>Years of useful service left</td>
<td>10</td>
<td>5-10</td>
<td>6</td>
</tr>
<tr>
<td>Anticipated Replacement Cost</td>
<td>$120,000-150,000</td>
<td>$150,000</td>
<td>$120,000</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Attendants:</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Physicians*</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Paramedic</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>EMT (critical care)</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>EMTI (intermediate)</td>
<td>3</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>EMT (basic)</td>
<td>5</td>
<td>17</td>
<td>10</td>
</tr>
<tr>
<td>First Responder</td>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>AVOC-certified Drivers</td>
<td>10</td>
<td>10</td>
<td>7</td>
</tr>
</tbody>
</table>

*State of Maine Statutes governs EMS Protocols.

The rescue services use the Cumberland County Regional Communication Center for dispatching their calls. The three services cooperate as needed, especially at multiple injury traffic accidents. There is also much coordination with the fire departments, with numerous volunteers performing both fire and rescue duties. Firefighters often drive the ambulances in Cundy’s Harbor and Orr’s/Bailey Islands. The number of available drivers in the Cundy’s Harbor Rescue Department has decreased from 10 in 1993 to 7 in 2005 due to higher requirements for certification than in 1993.

All three ambulance captains feel they presently have well-trained and equipped crews to adequately serve their communities. There is, however, a need for more daytime coverage while many volunteers are off at work. Recruitment of new volunteers is always a concern. It takes about 110 hours of classroom training to become a Basic EMT, and another 100+ hours to become an EMT Intermediate. Since each of these licenses must be renewed on a 3-year cycle, the need to reserve time and money for training is ongoing, even for long time volunteers. In order to be in a location from which it is feasible to respond to calls as a
volunteer it is important to be in Harpswell. This means that for a volunteer ambulance service to function it needs local, land-based employment opportunities for volunteers to remain close enough to respond to calls. The Cundy’s Harbor Rescue Service depends substantially at present on young retirees who have the time and do remain local. So that local volunteer ambulance service can survive, it will be important in coming years to be sure that land use regulation continues to allow the establishment of small businesses so that the local employment base will not shrink further.

Currently, 25% of Orr and Bailey Islands’ attendants are over 65, and some of Harpswell Neck’s seasoned personnel are retiring. Costs for replacing or upgrading equipment also continue to rise, so the ambulance services have the same financial concerns as the fire departments. The Town has contributed about $33,000 annually to the operating budgets of each of the three rescue services, at Townwide total of about $100,000 per year.

The Cundy’s Harbor Rescue Service will need to purchase a new ambulance in about 6 years. As a matter of pride and of being able to tell their contributors they are doing so, they have so far been able to pay for new equipment out of accumulated funds and do not need financing. In recent years, this rescue service has been able to realize its aspiration to acquire extrication equipment and shares the Squad Utility Truck for this purpose, among others, with the Cundy’s Harbor Fire Department. They are also updating their coldwater immersion suits for winter rescue of people from ponds and the ocean.

Cundy’s Harbor Rescue does not bill for services. Harpswell Neck Rescue does bill for services. Orr’s & Bailey Islands Rescue does not bill for services. All services depend for most or all of their funding on a combination of Town funds and private contributions.

As Harpswell’s population continues to grow, its average age is rising. As the population includes more retired people, the nature of rescue calls is shifting in response. When the population was younger, there were more calls for accidents, injuries or sudden illnesses such as strokes and heart attacks. In recent years, a growing proportion of rescue calls involve flare-ups of more chronic or complex medical problems, often involving patients on multiple prescription drugs. For such emergencies that involve the need for advanced life support, and/or involve patients taking several prescription drugs, there is a new interceptor service that provides Advanced Life Support administered by paramedics. This service is regional, being provided by Midcoast Hospital in Brunswick to an area that includes Harpswell and extends east to Georgetown. The hospital provides a mobile team of paramedics that can be called by a local ambulance en route to the scene to meet an ambulance at the scene to provide paramedical services to the patient. The paramedics drive a ‘Fly Car’ also referred to as MC-1 that has a mobile two-way radio.

As the population of Harpswell ages and grows, paramedical services will likely be needed more often. However, paramedics have to invest so much in training and practicing their skills that current demand for them in Harpswell is insufficient to support this level of training and practice in real-life rescue calls. Even paramedics who live in Harpswell but must work elsewhere are not generally interested in serving in the home community. They have such stressful day jobs that they are unlikely to have the energy to volunteer during off
hours.

3. Police Protection

The Cumberland County Sheriff’s Department, under a contract with the Town, provides police protection in Harpswell. The Cumberland County Regional Communication Center provides dispatching for the deputies as well as the dispatching for Harpswell’ s fire and rescue units. The selectmen oversee the Harpswell Town Patrol and provide office space at the Town Office. Five deputies cover the Town in 10-hour shifts. Harpswell pays for three deputies and their cruisers, and the county pays for the other two (one is half-time). Another deputy is hired in the summer for more coverage on weekend nights. With the current staffing there is 20 hours of coverage each day. Additionally there is one countywide deputy who can respond to Harpswell calls at night. However, he may be too far away in another corner of the county at any given moment.

In 1990 the patrol responded to almost 1,700 complaints and made 66 arrests. In 2003, there were approximately 2,200 calls for service. Of these about 22% were criminal, about 32% were traffic related, and about 46% were calls characterized as other. In general, crimes against people have increased, while crimes against property are decreasing slightly.

Due to Harpswell’s geography, response time to a call can be long if the deputy is on the other side of Town, or if he is occupied with another call. Also, there is no coverage for four hours each day (except for the one countywide deputy). Population growth has put increased pressure on the Town Patrol as more people inevitably leads to more crime, accidents, and traffic violations.

4. Marine Patrol

In recent years, the Town has contracted with the Cumberland County Sheriff’s Department to provide two full-time marine patrol officers to enforce shellfish regulations. Until the last two years, there were problems with high turnover, but recent adjustments to the contractual arrangements appear to have addressed this problem. Marine Patrol officers work on shifts that follow the tides. They are also fully licensed law enforcement officers, so they can be called into duty as police officers if needed during the hours when the Sheriff’s deputies in Harpswell are not on duty. In 2003, the Marine Patrol issued 19 warnings, checked 2,579 pecks of shellfish, issued 14 summonses, and made 1 arrest.

5. Summary

Public safety in Harpswell has improved greatly over the past decade. Better training and equipment of the volunteer services, as well as closer cooperation, has made Harpswell a safer place to live. Houses almost never burn down to the cellar anymore, and residents receive faster and more skilled emergency medical treatment. There is more response by county deputies to traffic violations, complaints, and criminal activity. For a small town with an inconvenient geography, Harpswell does quite well. But as the Town grows, there will be more pressure on all the departments, forcing the Town to make some hard choices. To
maintain or improve current levels of protection will mean committing more money and volunteer time to the fire, ambulance, police, and marine rescue organizations. What level of protection at what cost is the decision to be made.

**Highway Department**

The Road Commissioner, through contractual services with the Town, provides summer and winter road maintenance. The Town constructed a new salt and sand storage shed in compliance with State requirements in the early 1990s.

The Town’s policy has been to allow new roads in residential developments to be private roads. In the past, the Town provided financial assistance to road associations to maintain these roads. Changes in State law have restricted the Town’s ability to do this. The Town’s Road Commissioner has expressed concern about the standards for the construction of new roads if in the future they are to be accepted as public roads and maintained by the Town. The Town has since adopted a Roads Ordinance that sets forth minimum specifications for road construction for any roads that are to be offered to the Town for acceptance as Town roads.

The subject of roads is discussed in more detail in the Transportation Background section of this Plan.

**Solid Waste**

The Town provides for the disposal and recycling of solid wastes at the Strawberry Creek Recycling Center. The Recycling Center began operation in the spring of 1979, and now is in its 26th year of operation. It replaced two open burning dumps. The area is also used for temporary storage of "white goods" (major appliances), scrap metal, and tires pending their sale and removal.

Harpswell was one of the first fifteen municipalities in the State to institute both mandatory recycling and to enact a Solid Waste Ordinance. The Center recycles corrugated cardboard, newspaper, magazines, catalogues and books, mixed paper, cans, glass containers, metal items, returnables, used clothes, rags, plastics, batteries, waste oil, paint cans, and universal waste (fluorescent tubes and lights, mercury thermostats, and non-leaking PCB ballasts). The Recycling Center also accepts bulk materials, including construction and demolition debris, furniture, white goods, large metal items, tires, large batteries (e.g. auto), ashes, brush, wood, leaves & yard waste, and propane tanks.

For disposal of waste that is not recycled, the Town no longer uses the Bath landfill, but has a three-year contract with Waste Management, a private trash hauler.

**State Mandated Recycling Goals:** Legislation passed in 1989 established a State goal of recycling 50% of the statewide solid waste stream by 1994. In 2003, the Town’s recycling rate reached 75% of the municipal solid waste stream – well above the state goal of 50%, and second among municipalities in the state.
Capital Needs through 2015: The Recycling Center manager says there is sufficient capacity in Harpswell’s recycling and solid waste disposal systems to meet needs from the growth in population projected through 2015. The existing building conditions are generally good and are expected to remain so with continued regular maintenance. Over the next 5 years the manager hopes to replace or repair equipment for a total of about $300,000. Among other items, this amount includes, 1) a backhoe, estimated cost: $80,000, 2) a forklift, estimated cost: $20,000, and 3) a skid steer, estimated cost: $20,000.

Library Services

The Town financially supports the Curtis Memorial Library in Brunswick, which provides Harpswell residents with full access to the library and its services. In 1990 almost 1,800 Harpswell residents were cardholders. The Town of Harpswell is represented on the library’s board of directors and also on the board of the Friends of the Curtis Memorial Library. Harpswell provides 8.58% of the municipal funding for the library, while accounting for 12.8% of the cardholders and 13.3% of the borrowing activity.

In addition, the Town partially finances the operation of two local libraries, the Cundy’s Harbor Library and the Orr’s Island Library. These facilities provide part-time service to the local areas. Each of these libraries is open on three days each week.

Education

Public education in Harpswell is provided by School Administrative District #75. The SAD serves students residing in Harpswell, Topsham, Bowdoin, and Bowdoinham. As of April 1, 1991, the district had a total enrollment of 3,159, of which 657 students, or 20.8%, were Harpswell residents. In 2004, the district had an actual enrollment of 3,345 students of which, 598 students, or 17.9% were Harpswell residents.

Over the past six years, Harpswell’s total enrollment in the district has declined at an increasing pace, as shown in Table 24, below.

<table>
<thead>
<tr>
<th>Table 24</th>
</tr>
</thead>
<tbody>
<tr>
<td>Declining Total School Enrollment, 1999-2004</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>April 99</th>
<th>April 00</th>
<th>April 01</th>
<th>April 02</th>
<th>April 03</th>
<th>April 04</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Harpswell SAD #75 Enrollment</td>
<td>684</td>
<td>680</td>
<td>669</td>
<td>660</td>
<td>625</td>
<td>598</td>
</tr>
</tbody>
</table>

The district operates two elementary schools in Harpswell. The West Harpswell School located on Harpswell Neck serves grades kindergarten through 6. The Harpswell Islands School is located on Great Island and also serves grades kindergarten through 6.
Enrollment at Harpswell’s two elementary schools has declined in recent years as shown in Table 25. It seems very likely that the rising cost of land and housing in Harpswell may be forcing younger households from Harpswell to relocated out of Harpswell, and that this contributes to declining elementary school enrollments. These same factors make it more difficult for families with children to move into Harpswell.

Table 25
Declining Elementary School Enrollment, 1999-2003

<table>
<thead>
<tr>
<th></th>
<th>Fall 99-00</th>
<th>Fall 01-00</th>
<th>Fall 02-01</th>
<th>Fall 02-03</th>
<th>Fall 03-04</th>
</tr>
</thead>
<tbody>
<tr>
<td>West Harpswell</td>
<td>125</td>
<td>110</td>
<td>82</td>
<td>80</td>
<td>75</td>
</tr>
<tr>
<td>Elementary School</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Harpswell Islands</td>
<td>226</td>
<td>203</td>
<td>173</td>
<td>185</td>
<td>173</td>
</tr>
<tr>
<td>School</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Maine Dept. of Education.

Middle school and high school students attend the Mt. Ararat Middle School and Mt. Ararat High School, both of which are located next to one another in Topsham.

State educational grants and the four participating municipalities fund the operation of SAD #75. The local share of the district’s budget is apportioned among the four towns based upon State valuation of property in each community. This results in Harpswell paying a higher percentage of the district’s local costs than its percentage of pupils. This disproportionate share may increase as Harpswell completes its current revaluation, and as the price of land and housing continues to rise.

**Analysis**

The growth of the Town over the past decade has required the municipality to expand its services and construct new facilities to meet the needs of the community. At this point, the community has the basic systems in place to service the Town over the coming decade. Major areas that may require attention include the need to provide daytime staffing for the fire and ambulance services. In addition, continuing decline of elementary school enrollments is of concern. Harpswell’s schools play a vital role in the community. It is hard enough now, due to the rising price of land and housing, and the shortage of rental housing, for a young household to stay or relocate to Harpswell. If the schools were not to remain viable, there would be little reason for young households with children to locate here as well.

The Town is fortunate to have plenty of municipal land in a central location within the Town. The large parcel on which the Town Offices and the Recycling Center are now located has plenty of land for additional municipal facilities whenever they may be needed.
TRANSPORTATION

Routes 123 and 24 are Harpswell’s land link to the rest of the world. While these routes provide a reasonably high level of service, increasing traffic volumes combined with continuing development of small commercial uses along these roadways creates the potential for future congestion and safety problems.

Roads and Highways: There are three types of roads in Harpswell – State highways, Town roads and private roads. The 1993 Comprehensive Plan lists 28 miles of State Roads, 27 miles of Town roads, and an unknown length of private roads. As of 2001, the Maine Dept. of Transportation (MDOT) gave 28.64 miles as the total mileage of State-Aid highways in Harpswell. The Town gives the total length of Town roads as 27.78 miles.

There are an unknown number of miles of private roads in Harpswell. However, a figure that may offer some perspective is the combined total length of all paved and gravel roads, including State, local and private roads, in 2001, which was 148.80 miles.

Unfortunately, we do not have a figure from 1993 to compare to the 2001 total road mileage, so we cannot say precisely by how many miles the total length of roadways in Harpswell has changed. However, we can say that nearly all, if not all of the subdivisions approved by the Planning Board in the last 10 years were approved with private roads maintained by homeowners associations.

Functional Classes: From a functional standpoint, the MDOT classifies 23.94 miles of the State-Aid highways as Major Collectors (Mountain Road, Bailey Island Road and Rtes 123 and 24), and 4.70 miles as a Minor Collector (Cundy’s Harbor Road). All 29.68 miles of the Town Ways are classified as Local Roads.

Traffic Volumes: As new residential and commercial development have increased along Rtes. 123 and 24, as well as along the Mountain Road and the Cundy’s Harbor Road, and on roads that feed into these four major roads, there is the common perception that traffic volumes on the four major roads have increased. MDOT Annual Average Daily Traffic (AADT) figures for 1997 and 2000 for these roads do not in all cases confirm this perception, as reflected in Table 26, below. MDOT AADT figures for 2003 are not yet published.

In each year shown these traffic counts are lowest at the points nearest the ocean and highest at points nearest to Brunswick. The MDOT does recognize seasonal variation in AADT counts by placing the roads on which it makes traffic counts into one of three groups. Of the major roads listed above, all but Cundy’s Harbor Rd are in Group III – ‘Recreational” which is the group with the most seasonal variation. Cundy’s Harbor Rd is in Group II –“Arterial” which has only a moderate amount of seasonal variation in traffic volumes.

Given that Harpswell has continued to develop between 1997 and 2000, that there are no new alternate routes to other towns, and that nearly all new residents that work are likely to commute out of town, the traffic counts in Table 26 for all but Cundy’s Harbor Road and the
northern part of Rte. 24 seem suspect. However, this is the data provided by the Maine DOT and in the absence of another count, it is the only source available.

Table 26
MDOT Annual Average Daily Traffic Counts

<table>
<thead>
<tr>
<th>Location</th>
<th>1997</th>
<th>2000</th>
<th>Change '97-'00</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rte 24 north of Oceanside Drive</td>
<td>1,420</td>
<td>1,930</td>
<td>+510</td>
</tr>
<tr>
<td>Rte 24 at Orrs Island bridge</td>
<td>3,130</td>
<td>3,070</td>
<td>-60</td>
</tr>
<tr>
<td>Rte 24 south of Cundy's Harbor Rd.</td>
<td>3,680</td>
<td>3,890</td>
<td>+210</td>
</tr>
<tr>
<td>Mountain Rd northwest of Rt. 24</td>
<td>2,220</td>
<td>2,180</td>
<td>-60</td>
</tr>
<tr>
<td>Mountain Rd southeast of Rte 123</td>
<td>2,660</td>
<td>2,480</td>
<td>-180</td>
</tr>
<tr>
<td>Rte 123 southwest of Allen Point Rd</td>
<td>2,620</td>
<td>2,460</td>
<td>-160</td>
</tr>
<tr>
<td>Rte 123 southwest of Mountain Rd</td>
<td>3,900</td>
<td>3,390</td>
<td>-510</td>
</tr>
<tr>
<td>Rte 123 northeast of Mountain Rd</td>
<td>4,850</td>
<td>4,600</td>
<td>-250</td>
</tr>
</tbody>
</table>

Source: Maine Department of Transportation

The higher traffic volumes on roads in the north of Harpswell are to be expected, if only due to the geographic positions of the ocean to the south and the mainland to the north. However, they also reflect that, since at least 1990, about three quarters of Harpswell’s workforce commutes to other communities. See Table 29, below.

Table 27
Place of Work for Harpswell Residents

<table>
<thead>
<tr>
<th></th>
<th>2000</th>
<th>1990</th>
</tr>
</thead>
<tbody>
<tr>
<td>All Places</td>
<td>2484</td>
<td>2265 100.00%</td>
</tr>
<tr>
<td>Harpswell</td>
<td>634  25.50%</td>
<td>464 20.50%</td>
</tr>
<tr>
<td>Outside Harpswell</td>
<td>1850</td>
<td>1801 79.50%</td>
</tr>
</tbody>
</table>

Source: US Census

A much smaller, though substantial number of workers commute to Harpswell from other communities. In 1990, 16%, or 124 people, employed in Harpswell commuted here from outside of Town. In 2000, 26 %, or 228 people, employed in Harpswell commuted here from outside of Town.

Highway Condition: Of particular concern is the condition of State Routes 123 and 24, the only road links beyond Harpswell’s borders. Parts of these require fundamental
reconstruction. Cosmetic, periodic repaving and filling potholes by the state are inadequate maintenance of these roads. A capital improvement program was accepted at Town Meeting in 2003 for upgrades some of the Town’s local roads. The program should be analyzed annually to review priorities and costs. Professional engineering review is necessary to develop proper specifications and bid procedures. Private roads serving multiple subdivisions often are poorly maintained, causing safety concerns in provision of emergency services.

In 2002 and 2003, the Road Commissioner, with technical assistance from engineering contractors and subcontractors, performed a comprehensive inventory of the pavement condition existing roads. The inventory of existing pavement condition among the 27.78 miles of Town roads, broken out by road mileage, was found to be as shown in Table 28, below.

Table 28
Town Road Pavement Condition Inventory Mileage

<table>
<thead>
<tr>
<th>Pavement Condition</th>
<th>Very Poor</th>
<th>Poor</th>
<th>Poor to Fair</th>
<th>Fair</th>
<th>Fair to Good</th>
<th>Good</th>
<th>Very Good</th>
<th>Total Mileage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mileage</td>
<td>0</td>
<td>0.83</td>
<td>0.68</td>
<td>1.32</td>
<td>2.86</td>
<td>3.69</td>
<td>18.40</td>
<td>27.78</td>
</tr>
</tbody>
</table>

The Town estimates that it will spend $5 million to $7 million to reconstruct and pave Town roads from 2005 through 2015.

Safety: The Maine Dept. of Transportation keeps records of where accidents involving motor vehicles occur on the entire State’s road network. From 1997 through 2001 MDOT has identified several segments of highway in Harpswell that meet the State criteria for High Crash Locations. These include one on Cundy’s Harbor Rd from Bethel Point Rd to Dingley Island Rd, and three on Harpswell Neck Rd (Rte 123) from Ash Point Rd to Palmer Rd, from Lookout Point Rd to Skassen Rd, and from Sunset Hill Farm Rd to Peabody Rd. These sections of road should be given priority for study to receive possible improvements in road surface, signalizations, signage, lighting etc.

Another aspect of safety is the reliability of access by emergency vehicles. Nearly all of Harpswell’s local roads have only one point of access from the main road for emergency service vehicles. In some communities, the local subdivision ordinance will require that subdivisions with new roads have at least two points of access from the main highway in order to ensure access by an alternate route if the main entrance to the subdivision is blocked. With only short distances to the waterfront from the main roads and a preference by the marketplace for developing waterfront lots, sometimes at the base of steep slope, Harpswell may be particularly prone to development with just one point of access in the future, judging from the present roadway network outside of coastal village areas.

Access Management: In 2000, the Town adopted a new Site Plan Review Ordinance that included some access management provisions regulating the number, spacing and design of access points for new development subject to site plan review. Shortly thereafter MDOT and the Legislature adopted new entrance permit rules for entrances onto State and State-Aid
highways. In Harpswell these rules apply to entrance permits on Rtes 123 and 24, the Mountain Road and Cundy's Harbor Road. The idea behind both the local and the MDOT rules is to prevent the gradual creation of dangerous combinations of entrance locations within a single property or on neighboring properties as these roadway corridors gradually develop over time. Sight distances, entrance and exit design, corner clearances, intersection of local roads with the highway and other entrance design elements are regulated by these rules and local ordinance standards, with both permits required on the highways listed in this paragraph.

To help manage the impact on highway corridor mobility and rural character from driveways in new residential subdivisions, the Town’s subdivision standards can be amended to require that individual driveways link to existing or new side roads. This can limit both the number and frequency of new entrances onto the main highways and help retain their mobility and safety.

A more indirect way of enhancing access management for both ease and safety is to be sure the subdivision ordinance standards allow the Planning Board to require development of an interconnected road network that allows for more than one route to the main roads. Also see discussions above on safety and access management for indication of possible tradeoffs involved.

Public Parking. Public parking is in local driveways, on-street, on some local roads, and on-site for some local businesses. The Town’s site plan review ordinance applies minimum parking requirements based on the type of use. Parking is often tight in older more dense settlements and points of public access to water. Most points of public access have very limited parking if any, and little or no space on-site in which to locate even limited public parking. The Town Lands Committee has begun to evaluate the needs for parking and other amenities at points of public access.

Bicycles and pedestrians: Questions as to widening and bicycle usage of Routes 123 and 24 relate to possible higher traffic volumes and speeds. The Highway Safety Committee is considering these issues and how best to relay them to the State Department of Transportation. Harpswell should develop a clear policy on these matters.

Public Transportation. Coastal Trans, Inc. (CTI) is a private, non-profit corporation providing public transportation to Knox, Lincoln, and Sagadahoc Counties, as well as the towns of Brunswick and Harpswell in Cumberland County. Coastal Trans provides transportation services to MaineCare-eligible appointments. In Harpswell there is no regular route or schedule, service requires calling to make an appointment to be picked up and dropped off. The Casco Bay Island Transit District provides access to Bailey Island in the summer months from the CBITD terminal in Portland. This is a once daily round trip, and is passenger service only. This is the only public ferry service to any part of Harpswell. Harpswell has no rail lines, no regular commercial or public bus service, and no airports.
EXISTING LAND USE

Background

The Town of Harpswell consists of two long, narrow, parallel rocky landmasses stretching from northeast to southwest. These are irregular in width and very convoluted. The soil depths vary from a few inches near the shore to depths of many feet at some inland points. Rock outcroppings occur with great frequency in shoreline areas but can also be found in many inland spots. There is virtually no place in Town more than one half mile from the ocean. There are approximately 15,304 acres in the Town, 2,200 of which are on outer islands, and about 216 miles of shoreline. Of the shoreline, forty-one miles are zoned for commercial fishing, less than one mile is zoned for business, and the rest is zoned residential. Except for a thin marshy strip of land at the north end of Harpswell Neck, the Town is completely surrounded by water. There are also some 40 outer islands of various sizes, some of which are partially inhabited in the summer, but most are not.

The eastern land mass consists of three large islands: Great Island (Sebascodegan), Orrs Island, and Bailey Island. These are connected to the mainland by four bridges. With the completion of the bridge between Orrs and Bailey islands in 1927, all of these islands were then accessible from the mainland by road. All access to both sides of Harpswell is through the Town of Brunswick. Until a bridge was built between Harpswell Neck and Great Island in 1974, the only way to get from one side of Town to the other was through Brunswick.

With land access so limited, it was natural for the Town to grow from the ocean and to use it for transport. Until shortly after World War II, South Harpswell, Orrs and Bailey Islands received mail and some freight by boat from Portland.

Isolated fishing villages grew up at various spots where harbors are protected. Among these were Cundy’s Harbor on Great Island, Mackerel Cove on Bailey Island, and Potts Point, South Harpswell. Away from the fishing villages, the land was cleared for timber and farming. Boat building took place at numerous spots wherever good timber was available. Many of the original farms are still held by family members, although in some cases they have been subdivided by inheritance or sale and much of the shore property has been sold for summer or full-time residences.

There are four principal roads in Town. State Route 24 runs from Brunswick down through the islands to terminate at Lands End on Bailey Island. State Route 123 runs from Brunswick down Harpswell Neck to terminate at Potts Point, South Harpswell. The Mountain Road connects Routes 24 and 123. The fourth road extends from Route 24 to the Cundy’s Harbor area. With few exceptions, roads in Harpswell branch from the four major roads and run towards the ocean. A few roads are Town-owned and paved, but the great majority are private. The private roads are often unpaved. Most have a small association of residents who band together to maintain it and possibly plow it in winter.
The Harpswell Existing Land Use Map shows how land is used from place to place within the Town as of 2003. While there is still much open land and forested land that has not yet been developed, the most dominant land use involving structures is residential.

**Recent Development Trends**

1. **Residential Development**

Over the past ten years a substantial amount of the new residential development in Harpswell has occurred on the waterfront as well as inland.

- Approximately 50 new homes were built per year from 1992 to 2001: 76 new homes permitted in 2002, a 50% increase in the average number of new home permits.
- Most new homes were built in shorefront zones or nearby.
- Many older cottages and camps on non-conforming lots are being expanded or replaced with much larger structures.
- These larger structures are often built on nonconforming lots, which are frequently much smaller than the minimum 40,000 sq. ft lot size required for construction of a new home.

Two analyses, one conducted in 2000 based on review of permit records for 1995 through 1999 in the Codes Enforcement Office, and the other, for the period 1998 through 2003, conducted using the Town’s GIS and spreadsheets of permit records provided by the Town, give an overview of residential development trends over the past decade.

Since the total number of permits issued for new residential units was compiled for each year in both of these analyses, we can reasonably assume that total number of permits for new residential units for the period 1995 through 2003 comes to a total of 544 permits. However, because of different methods used to collect the data for the two analyses, numbers from both analyses for most other measures of development should not be combined. There are small discrepancies in permit counts for 1998 and 1999, the two years common to both analyses. Still, taken separately, they offer reasonably accurate measures of development activity in each of the two time periods for which the data was collected.

a. **New Residential Building Permits and New Lots**

From 1995-1999:
- the total dwelling units in Harpswell increased by 282 units
- 85% (232) of these units are modular or site built; 15% (50) are mobile homes
- 93 new subdivision lots were approved
From 1998 – 2003:
- a total of 369 building permits for new homes were issued.
- 96% (350) of these units are modular or site built homes or additions with apartments; 4% (14) are mobile homes

The total number of parcels in Harpswell in 2001 was 4,673, supporting a total of 5,218 buildings. By the end of 2003, the total number of parcels had increased by 267 to 4,940. This represents and 5.7% increase in the total number of parcels over the two-year period.

b. Distribution of New Residential Permits and Subdivision Lots

Here are some statistics from each analysis about where new residential development is has been taking place:

From 1995-1999:
- The 282 new residential permits are distributed as follows:
  - 2 (1%) on the Outer Islands
  - 28 (10%) on Bailey Island
  - 18 (6%) on Orr’s Island
  - 85 (30%) on Harpswell Neck
  - 149 (53%) on Great Island

- In new subdivisions, a total of 93 new lots were approved, distributed, in number and as a percentage of the Townwide total for the period, as follows:
  - 14 (15%) on the Outer Islands
  - 8 (9%) on Bailey Island
  - 10 (11%) on Orr’s Island
  - 9 (10%) on Harpswell Neck
  - 52 (55%) on Great Island

- 55 (59%) of approved subdivision lots were waterfront lots. Of these:
  - 42 (76%) were created in the Shoreline Residential zone
  - 13(24%) were created in the Commercial Fisheries zone

- In 2000, of the 55 subdivision lots approved in the shoreland zone from 1995-1999:
  - 17 (31%) were occupied by dwellings
  - 38 (69%) did not yet have dwellings on them.

- Building permits issued for lots in subdivisions and for other lots:
  - 32 (11%) for lots in subdivisions approved from 1995 through 1999
  - 250 (89%) for lots in not in subdivisions or approved as part of a subdivision before 1995

From 1998-2003:
- Of the 369 lots for which new residential building permits were issued, 345, or 93% have been mapped. These 345 are distributed as follows:
- 17 (5%) on the Outer Islands
- 21 (6%) on Bailey Island
- 35 (10%) on Orr’s Island
- 113 (33%) on Harpswell Neck
- 159 (46%) on Great Island

- Of the 369 lots for which new residential building permits were issued, at least 199, or 54% of the permits were issued for new houses on waterfront lots. Since only 32% of the land in Harpswell is waterfront land, the fact that 54% of permits were granted for lots with waterfront shows that the waterfront is under substantially higher development pressure than lots without waterfront.

- Of the lots for which these 199 permits were issued, 76 lots, or approximately 38% are located in the Commercial Fisheries Zone, about 122 lots, or about 61% are located in the Shoreline Residential Zone, and 1 lot, about 0.5% of these lots is located in the Shoreland Business Zone.

- Of the lots for which the these 199 permits for new residential development were issued, 23 lots, or about 12% are located entirely within a shoreland zone adjacent to tidal waters.

- Of these 23 lots, 8 lots, or about 35% are less than the 40,000 square-foot minimum lot size within the shoreland zone adjacent to tidal waters.

In addition to new residential development, some unknown number of existing seasonal residential properties have been converted to year round use, as retirees, pre-retirees, and seasonal residents move to Harpswell to live here year round or simply convert their dwelling so that it has that capability for future year round use.

Another growing trend in Harpswell in recent years is the phenomenon of the ‘teardown’, in which older waterfront homes are purchased and then torn down and replaced by a new and much larger home.

2. Commercial/Industrial Development

Because Harpswell is located on a peninsula and islands and is by passed by coastal Route 1 in Brunswick, well to the north, where existing and developing local and regional commercial centers serve most of the region’s needs for retail goods and services, it seems unlikely that Harpswell will experience large scale retail development any time soon. Unless it involves a water-dependent use, most commercial development seeks to locate along one of the four main roads in Harpswell, especially Routes 123 and 24, which are more heavily traveled.
a. Recent Commercial/Industrial Development

In contrast to the high numbers of residential building permits, there have been very few commercial developments in Harpswell in the period from 1998-2003. The record of building permits for this period shows only about 12 permits for new commercial construction, several of which are for additions or outbuildings for existing commercial and marine establishments.

3. Institutional Development

a. Recent Changes

Broadly speaking this land use category includes civic, public, and religious land uses. Beginning in 1998, Town building permit records show that the Town of Harpswell has completed a major Town Office expansion, a 24’ x 50’ yard sale building, and another 22’ x 30’ building. The Cundy’s Harbor Fire Department took out a permit for an addition and renovations, and the Orrs Island-Bailey Island constructed a new fire station. The Orrs Island Library put on a small addition. A new Roman Catholic Church was constructed.

Analysis/Issues

1. General

There is no existing policy and ordinance framework that effectively encourages growth to locate in designated Growth areas and discourages it from locating in designated Rural areas, as called for by the State’s Growth Management Law. As a consequence, and due to the strong pull of coastlines for development, new construction permits have been issued for nearly all parts of Harpswell in a geographic distribution that reflects, ‘sprawl’.

While current market forces dictate this pattern, a more compact pattern would, if implemented, help to reduce the adverse impacts of new development on the marine and natural environment, community character and Town service costs and tax rates from each new unit of development. More compact development would mean shorter road length per new unit. Shorter roads cost less to maintain and plow, whether the cost is privately or publicly borne. School bus routes need not lengthen as fast to serve additional students in a more compact pattern.

In Harpswell, there is such a strong pull exerted by the waterfront that it seems unlikely that shortened minimum road frontage requirements would be utilized in subdivisions of parcels with water frontage, except possibly on roads that carry traffic along that water frontage just behind waterfront housing. Road lengths on such parcels would be unlikely to diminish, since their ultimate destination is the shore.

For parcels without shore frontage, to the extent shorter road frontages and/or smaller lot sizes can be utilized, more open space is likely to remain, habitat fragmentation is more
likely to take place at a reduced rate, and people may be able to walk rather than drive to see more of their friends and neighbors.

At the same time, groundwater and soil type limitations and other constraints may limit how densely local new development should be concentrated. While the emerging new generation of septic systems and other wastewater disposal and treatment technologies for individual and small community scale use may afford more flexibility with respect to lot size than in 1982, Wright-Pierce, in 2001, endorses the recommended minimum lot sizes based on soils that were identified by the Gerber-Rand study.

Also, Harpswell is unique among Maine towns dominated as it is with many islands and peninsulas, so suitable locations for compact development are themselves uncommon and spread about the landscape. Even so, the rate at which the adverse impacts of development can be reduced using these limited options may be substantial.

a. Residential

It is clear that market forces are creating great demand for waterfront homes and home-sites and Harpswell is part of a New England-wide housing market. These forces create pressure to convert the commercial waterfront (‘working waterfront’), by which owners earn their living, to new, and often larger, homes. In each of the analyses examining development in Harpswell between 1995 and 2003, more than half of the new development is taking place on the waterfront.

This increase in the number of large homes on the waterfront and increasingly rapid rate of development can lead to greater impacts from pollution upon the Town’s most valuable resources – the ocean and groundwater for consumption.

Lot by lot development inland, or on the waterfront, occurs with no overall guidance other than in the Shoreland Zoning Ordinance. So, large blocks of open land that give the community its rural appearance, are gradually being consumed. Harpswell’s wooded character, as viewed from main roads, and its traditionally modest vacation and fishing community homes viewed from the water, are giving way to suburban patterns.

Ever larger homes on the waterfront and less open space along major roads change not only the Town’s character, but also its culture. The heritage of Harpswell’s values of independence, self-sufficiency and tight-knit community are giving way to suburban anonymity. In the process, local growth contributes to the relentless sprawl occurring in most Maine coastal communities.

A significant side effect of this process is the escalation of property values for land on and near the waterfront. This escalation drives up property taxes, creating particular hardship for those who earn their living on the working waterfront, and for seniors who live on fixed incomes on or near the shore.
While market forces pull new development in all directions toward the waterfront, this is also generally where groundwater resources have the most limited capacity for serving additional development without creating water shortages, salt intrusion, or pollution in neighboring wells.

At the same time, State comprehensive planning policy calls for concentrating new growth near older, existing concentrations of development. In Harpswell, near coastal villages and the older more dense summer colonies, this edge of existing concentrations of development is also where groundwater resources are least able to continue to support both existing and new development. Salt intrusion, older, pre-Plumbing Code septic systems and the lack of any public water system already cause pollution problems in some of these areas (see Groundwater Resources).

2. Impacts of Continuing Residential Development

The above-listed trends and the following concerns over the impacts of continuing residential development need to be considered in development of Goals, Policies and Action Recommendations for future residential land use in Harpswell:

- Larger residential waterfront structures on non-conforming lots often have larger sewage systems, which can have an adverse impact on the ocean and groundwater used for wells.

- Nearly half of Harpswell’s waterfront is generally closed to shellfish harvesting due to pollution of flats. Pollution is the result of overcrowding development on the waterfront, outdated home sewage treatment systems, overboard discharges, and stormwater runoff in heavily developed areas.

- Inland development often consists of lot-by-lot development on main roads, leading to a gradual elimination of the Town’s fields and woods, which have given the town its rural character.

- The Town has a limited range of housing types - with few apartments, starter homes, homes for seniors requiring care or assisted living, duplex, or condominium homes - eventually resulting in a population that will be less diverse than it is today.

- There are very few year-round rental properties in existence in Harpswell. While mobile homes are allowed throughout Town very few new mobile homes (14) have been installed for either rental or owner occupancy from 1998 – 2003. This represents a substantial decrease in the rate of new mobile home installation over the 35 new mobile homes installed in the preceding three years, 1995 – 1997. This decrease may reflect the effects of steeply rising land values in Harpswell.

- With the spiraling cost of land in Town, the prospects for smaller, less expensive homes appear fewer as time goes on.
Projected population growth in Harpswell to 2015 will require 398 new dwelling units on the landscape. State law requires that the Town's comprehensive plan designate ‘growth’ and ‘rural’ areas on a “future land use map”, and take measures to encourage projected growth to locate in designated growth areas and discourage it from locating in designated rural areas.

3. Commercial/Industrial

a. Impacts of Continuing Commercial/Industrial Development

There are several issues to be considered in establishing Goals, Policies and Action Recommendations regarding future commercial land use, including the following:

- Currently, commercial development of nearly any kind can be located anywhere in Town outside of the Shoreland Zoning districts.
- Existing commercial retail development except for boat services and fishing presently provides a bare minimum of services and is widely scattered through Town.
- New commercial services are beginning to create too many curb cuts for business entrances along some major town roads, causing traffic conflicts, increased stormwater runoff, and adverse impact on adjacent homes.
- The close proximity of commercial development to residential development has created conflicts in several parts of Town.
- Home occupation businesses exist as an important entrepreneurial activity throughout Town.

These offer part- or full time employment for owners and limited numbers of employees. These small business operations face expansion difficulty when they outgrow their premises, and may present traffic and other conflicts with adjacent residential uses.

4. Institutional

Current locations of municipal properties appear to be central to the populations they are designed to serve. This is true of the Town Offices, the recycling center and the fire and rescue stations, and even the Town-owned open space on Orrs Island is quite central to the Town population as a whole.

Perhaps the largest future land use question regarding future uses of municipally owned land is the future use of Mitchell Field and its existing wharf.

5. Undeveloped Land and Open Space

As land is developed and the amount of developed land increases, the amount of remaining undeveloped land also decreases. If we assume that about 2 acres of land is converted to residential use for every new unit created under Harpswell’s current ordinances, then the 544 residential units created from 1995 through 2003 resulted in an effective cumulative loss of about 1,088 acres of undeveloped land over an eight-year period.
Some of Harpswell’s remaining undeveloped land is protected, at total of about acres, as noted near the beginning of this section. However, most of the remaining undeveloped land is not protected from further development. This means Harpswell is not immune to further losses of unprotected scenic views, important unprotected wildlife habitats, groundwater recharge area, open fields, forests, and all the existing and potential recreational values these types of land provide.

This comprehensive plan calls for an Open Space Plan, as part of its Future Land Use Plan. Here are some considerations that should govern its development and integration into the Future Land Use Plan:

- “Open space” is defined here to mean undeveloped land that is protected from building development by means of ownership of the public, or by private land trusts, or by beneficial easements that restrict building development from privately owned lands.
- “Natural resources” include soils, geologic formations, groundwater, surface water, flora, fauna and air.
- Environmental functions of open space that cannot be used actively by residents include aquifer recharge, air purification, wetland functions, and wildlife habitat.
- Complementary use of open space is desirable – i.e., aquifer recharge areas and recreation, dedicated subdivision open space and residential wastewater discharge areas, conservation lands and residential development.
- The amount of open space publicly owned, or privately owned and under conservation easement is currently about 2000 acres, or one-eighth of the Town’s total land area.
- Types and amounts of various types of open space are not currently inventoried.
- Planning standards for amounts of various types of open space for a given population exist.
- Access to open space is necessary for use and enjoyment of residents. We don’t know how much open space is readily accessible.
- The Town has not developed priorities for location, type and cost of open space preservation.

6. Energy

- “Energy” refers to the resources used to power our world. Our reliance on fossil fuels to power our economy and heat our homes costs our society greatly in direct costs to obtain and process these resources, and in indirect costs in the form of pollution and adverse health impacts. Global warming continues to be a related concern.
- Fossil fuels are finite, whereas other sources of energy are renewable and increasingly viable, including solar power, wind, wood, corn, and soy.
- Conservation is the easiest way to reduce direct costs and indirect costs of energy.
- Opportunities exist for individuals, and groups to choose alternative energy sources to achieve environmental conservation.
FISCAL CAPACITY

The fiscal capacity of the Town is an important consideration in the planning process. The ability Harpswell to spend local funds or take on new debt to implement the ideas of the plan is an important factor in the development of the Town's policies and implementation program.

Tax Base

The Town of Harpswell is predominantly a residential and seasonal community. The Town does not have any significant commercial or industrial sector to support the cost of municipal government. The presence of a large number of seasonal homes, most of which are owned by nonresidents, provides a significant source of property tax revenue for the Town. However, this benefit is counterbalanced by high county taxes and assessments by School Administrative District #75 as a result of the high total property valuation in the Town.

In 2004, the State set the full market value of all real estate and taxable personal property in Harpswell at $1,024,400,000 (based on 2002 sales figures). This represents an increase of over $430 million since 2000, reflecting the escalation in property values that has expanded the tax base. The total valuation used by the Town (which was less than the State figure) for property tax purposes, (real estate and personal property) as of April 1, 2003, was $841,360,681. A revaluation in 2005 will bring the Town valuation more nearly in line with the State. Market price for waterfront and water view real estate drives the escalating property valuation of the Town. Given the demand for waterfront properties, the Town will likely see continued substantive growth in its total taxable value; however, not all residents of the Town have incomes that keep pace with the rate of the property valuations.

Table 29
State Valuation Figures for Harpswell

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<tr>
<th>Year</th>
<th>Value</th>
<th>% Increase Since 2000</th>
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</thead>
<tbody>
<tr>
<td>2000</td>
<td>594,300,000</td>
<td></td>
</tr>
<tr>
<td>2001</td>
<td>621,850,000</td>
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<td>2002</td>
<td>775,800,000</td>
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<td>2003</td>
<td>892,850,000</td>
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</tr>
<tr>
<td>2004</td>
<td>1,024,400,000</td>
<td>72.37%</td>
</tr>
<tr>
<td>2005</td>
<td>1,184,800,000</td>
<td>proposed</td>
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</table>

Revenues

Like most Maine communities, the predominant revenue source for the operation of the Town of Harpswell is the local property tax. In 2003, property taxes accounted for over $8 million of the Town’s revenue, or 83.3%. Excise taxes produced another $1,006,572, resulting in the Town’s residents and property owners providing almost 94% of the Town’s income.
2003 Revenues

- **Property Taxes**: $8,084,785 (83%)
- **Excise Taxes**: $1,006,572 (10%)
- **Misc. Revenue**: $278,363 (3%)
- **Intergovernmental Transfers**: $346,314 (4%)

2003 Expenditures

- **Education**: $5,831,132 (60.41%)
- **Protection & Safety**: $752,541 (7.80%)
- **General Government**: $804,686 (8.34%)
- **Contingency**: $48,291 (0.50%)
- **Capital Outlay**: $332,425 (3.44%)
- **Fixed Charges**: $737,971 (7.64%)
- **Health & Welfare**: $30,197 (0.31%)
- **Public Works**: $681,326 (7.06%)
- **Debt Service**: $283,583 (2.94%)
- **Cultural & Rec**: $151,070 (1.56%)
Expenditures

During 2003, the Town spent $9,653,222 to operate its municipal government, support the operation of SAD #75, and pay its proportional share of the operating budget of Cumberland County. Payments to SAD #75 are the largest single item in the budget comprising 60.4% of all municipal expenditures (Figure 17). Because Harpswell is part of a School Administrative District (SAD) and subject to a cost-sharing formula that uses valuation in part as a basis for paying its costs to the District, it is paying significantly higher per pupil costs than the other three towns in the school district. As the state considers modifications to its general purpose aid to education formula it remains unclear what the local fiscal impact will be to Harpswell as a member of the District and how that change may affect the continuing relationship with SAD 75.

The Town’s total expenditures have grown by $2.2 million between 1999 and 2003. In 1999, total expenditures were just over $7.4 million. From 1999 to 2003 when expenses grew by approximately $2.2 million, major components of this increase were payments to SAD #75 (up $1,294,210 or 28.5%), capital outlay (up $305,717 or 1144%), county tax (up $277,591 or 60.3%), and the cost of general government (up $172,737 or 27.3%).

Capital Debt

As of December 31, 1999, the Town had $585,000 of outstanding long-term debt. This included borrowing to finance recycling center upgrades, construction of the municipal building, the addition to the Harpswell Island School and the 1997 revaluation. As of December 31, 2003, the Town’s outstanding long-term debt was $2,025,000 primarily as a result of a major construction and renovation project of the municipal building, purchase of land at Doughty Point Road and a contribution to the Harpswell Heritage Land Trust. The Town debt service payment in 2004 was $368,219. New borrowing in 2004 for a capital road project, revaluation, and Old Town House restoration project totaling one million dollars will increase the annual debt service cost to the Town in 2005 to $552,772. The Town is well within statutory borrowing limits in accordance with 30 MRSA, Section 5061, which limits a municipality from incurring debt in the aggregate in excess of 15% of its stated assessed valuation (Harpswell is at 0.1%). Improved capital planning has resulted in the development of five-year capital plans for the Town, its recycling center and the three independent fire departments.

Analysis

Compared to many Maine communities, the Town of Harpswell is quite well off financially with a general undesignated fund balance exceeding two million dollars, and capital debt that is well within statutory limits.

Continued growth through the 90’s and into the new millennium has significantly changed the form of municipal government and the costs associated with it. Over the past decade, the municipal government has evolved to offer a more professionally trained, full-time staff
providing a higher level of service. Growth in number of Town employees in Codes, Planning and Assessing, expansion of the sheriff’s patrol and addition of marine patrol, and increased costs associated with managing a recycling/transfer facility are only a few indicators of the changes that have occurred. The Town is planning prospectively for major capital projects, one of the largest components being road reconstruction.

A major issue for 2005 and beyond will be the increased role the municipal government should play in addressing the issues raised in this plan and the willingness of the taxpayers to pay for these activities.

### Table 30
Expenditure Trends 1999-2003
Town of Harpswell

<table>
<thead>
<tr>
<th>Category</th>
<th>1999</th>
<th>2000</th>
<th>2001</th>
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<tbody>
<tr>
<td>General Government</td>
<td>$631,949</td>
<td>$692,385</td>
<td>$766,112</td>
<td>$850,502</td>
<td>$804,686</td>
<td>$172,737</td>
<td>27.33%</td>
</tr>
<tr>
<td>Public Works</td>
<td>737,326</td>
<td>693,773</td>
<td>924,281</td>
<td>725,787</td>
<td>681,326</td>
<td>(56,000)</td>
<td>-7.60%</td>
</tr>
<tr>
<td>Protection &amp; Safety</td>
<td>651,155</td>
<td>753,547</td>
<td>791,586</td>
<td>676,746</td>
<td>752,541</td>
<td>101,386</td>
<td>15.57%</td>
</tr>
<tr>
<td>Education</td>
<td>4,536,922</td>
<td>4,765,225</td>
<td>5,108,174</td>
<td>5,490,820</td>
<td>5,831,132</td>
<td>1,294,210</td>
<td>28.53%</td>
</tr>
<tr>
<td>Health &amp; Welfare</td>
<td>44,247</td>
<td>46,886</td>
<td>47,027</td>
<td>35,637</td>
<td>30,197</td>
<td>(14,050)</td>
<td>-31.75%</td>
</tr>
<tr>
<td>Cultural &amp; Recreational</td>
<td>119,027</td>
<td>110,064</td>
<td>106,690</td>
<td>155,248</td>
<td>151,070</td>
<td>32,043</td>
<td>26.92%</td>
</tr>
<tr>
<td>Debt Service</td>
<td>184,600</td>
<td>223,885</td>
<td>222,587</td>
<td>282,933</td>
<td>283,583</td>
<td>98,983</td>
<td>53.62%</td>
</tr>
<tr>
<td>Capital Outlay</td>
<td>26,708</td>
<td>2,852</td>
<td>129,858</td>
<td>477,778</td>
<td>332,425</td>
<td>305,717</td>
<td>1144.66%</td>
</tr>
<tr>
<td>Contingency</td>
<td>21,372</td>
<td>2,335</td>
<td>7,480</td>
<td>794</td>
<td>48,291</td>
<td>26,919</td>
<td>125.95%</td>
</tr>
<tr>
<td>Fixed Charges</td>
<td>460,380</td>
<td>459,228</td>
<td>494,871</td>
<td>713,063</td>
<td>737,971</td>
<td>277,591</td>
<td>60.30%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>$7,413,686</td>
<td>$7,750,180</td>
<td>$8,598,666</td>
<td>$9,409,308</td>
<td>$9,653,222</td>
<td>$2,239,536</td>
<td>30.21%</td>
</tr>
</tbody>
</table>
APPENDIX A

A Vision for Harpswell

On May 4\textsuperscript{th} 2002, Harpswell residents gathered and created a vision of the town’s future. This vision will be used to aid policy decisions, to direct town resources, and as a common picture of the town’s future. The following vision statement reflects what residents said during the visioning meeting.

\textit{Introduction}

In Harpswell the ocean is all around. Rocks, trees, fields, islands, farms, and stone walls combine to create an ever-changing landscape. The smell of salt water and mud flats hang in the air. The peaceful evenings are lit up by stars. Harpswell has a diverse natural beauty.

There is diversity in the people as well. There are newcomers and old-timers, fishing families and retirees. They meet in the town’s small historic villages, or on their boats in the harbors. They meet at the post offices, or in the libraries, or on walking trails, or at school events. Harpswell is a cozy, caring community, where people see each other often. Every citizen is equal, and every citizen is listened to in town meetings.

This is the special character of Harpswell that must endure forever.

\textit{Special Places}

The character of Harpswell is reflected in its special places.

Harpswell consists of long narrow peninsulas. The views along the roadways driving through Town, Routes 123 and 24, capture its diversity and beauty. There are inlets and farms, forests and historic churches, harbors and villages, stone walls and winding paths.

The tips of the Harpswell peninsulas are special places to visit and look out on the ocean, including Potts Point, Land’s End, and West Cundy’s Point. Special coves and beaches include Sandy Cove, Mackerel Cove, and Stover’s Cove.

\textit{Harpswell’s Future Development}

The Town of Harpswell wishes to keep its rural and peaceful atmosphere, and preserve its natural environment; but at the same time remain affordable and home to a diversity of people,
young and old, fishing families and business leaders, newcomers and old-timers.

To accomplish both goals, the Town’s future development needs to be carefully managed. The Town’s water supply must be protected, and to achieve this alternative sources – such as desalinization – might be considered. Access to the waterfront should be preserved, especially for fishermen and women. Pump-out facilities could be established in each harbor, in order to protect water quality. Open space can be purchased and protected, at the same time that land for affordable housing is identified and made available. In particular housing for the elderly should be developed within existing village areas. Libraries and post offices should also remain in village centers. Historic preservation activities should maintain the buildings and surrounding character of old houses and village centers. Bike and walking paths can connect the villages and school and recreation areas. Road improvements, street lights, and signs can be limited to preserve the rural, peaceful, unhurried feel of the community. Local stores and businesses should be encouraged, particularly inside village areas, and chain operations discouraged. The re-establishment of regular ferry service to Portland, either at Bailey Island or South Harpswell, could reduce automobile traffic.

**Harpwell’s Villages**

Within this general framework, here are the visions for the individual villages, neighborhoods, and areas within Harpswell.

**Cundy’s Harbor** should remain a village that accommodates multiple activities – from fishing access to tourist/restaurant to village center (library, church, retail – and a re-located post office). Because the village sits atop a fragile water supply, and is limited in land availability, future development ought to be on a very small and careful scale. New housing should be sized to fit with the existing buildings, be located on land near the village (not spread out along Cundy’s Harbor Road), and be planned in a way that does not harm the water supply or further burden traffic. The village itself should be made more walkable to discourage driving – new sidewalks put in, utility poles buried below ground, and bike paths created to connect to other parts of Town. Retail should be locally-owned and small in scale. Holbrook Wharf ought to be maintained with a small restaurant and working fishing operations, and restrooms and a pump out facility might be added. Land could be purchased to create beach access to Sandy Cove for local residents.

**Great Island** should continue to develop as a community center. It could include a town recreation area – with ball fields, tennis courts, skate-boarding, a place for seniors – either near the Town Hall or at a more intensively-used school complex. The area is a good location for a post office (moved from South Harpswell). Route 24 should be preserved as an open, winding, beautiful entrance to Town – curb cuts for new developments restricted, street lights discouraged, and bike trails set alongside. This is an area where marine-related and home-based businesses can develop – but not strip malls. Water activities should remain quiet, with controls place on jet ski usage. Open space can be identified and purchased, and walking trails can be developed to connect the areas.

**Orrs and Bailey Islands** should also retain their village/fishing/rural character. Restaurants, shops, post office, and church ought to remain in the village center. The Orrs Island Library
should be preserved and become a community center. Town landings with parking should be added to both islands. A ferry connection to Portland might be re-established here (or in South Harpswell). Public transportation and bike paths could connect to the villages, thus reducing car traffic. Public access to the waterfront for fishermen and women, and to Cedar Beach (including access for the handicapped), should be created and maintained. Mackerel Cove ought to be preserved in its current state. Development and seasonal conversions should be limited in order to protect water supplies.

**North Harpswell** should retain its current historic character. Skolfield Farm’s buildings and orchards and fields ought to be fully protected by a land trust. A village center could be created near the church and Bailey Store. There small-scale stores and home-based businesses might be encouraged, so long at they do not require too much parking, and are done in ways sensitive to the historic architecture of the area. Public access to the water can be created at Lookout Point and on the state property off Allen Point Road. The vegetable corner is a special place, but traffic at the intersection of Mountain Road and Route 123 needs careful management. At the north end of Route 123 a cluster affordable housing development with green space could be built. Route 123, like Route 24, should retain its rural character, with protected open space, bike paths, no street lights, junk removed from yards, and no strip commercial development.

**South Harpswell** should also retain its historic village character. The old Fuel Depot is a key resource for the future. It can be redeveloped with recreation and open space in mind for local residents. The Dolphin Marina is currently and should remain a focal point for a restaurant, fishing boats, and pleasure boats. More water access should be created for fishermen and women. Parking should be added to the existing wharf. The school library could be open more hours, and serve as a community center. The West Harpswell School should remain open for early grades. The post office might move to Mountain Road. Craft stores, gas and food stores, should be encouraged. The historic character of Potts Point an the Auburn Colony should be preserved. Development should be carefully controlled to protect clam flats and preserve the water supply. More recreation in the form of a bathing beach, recreation area, biking and walking trails, should be created.

**The Challenge for Harpswell**

After many years of relative stability, Harpswell has been discovered as a beautiful place to live by the outside world. New people and new houses are part of Harpswell’s future. This is unavoidable. This vision describes one way that the future change can be directed to occur in ways that enhance the community as a whole. The challenge for the Town and its Comprehensive Planning Committee is to put in place the tools to accomplish this vision.

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Vision Statement drafted by
Planning Decisions, Inc.

with assistance from the
Harpswell Comprehensive Planning Update Committee