HARPSWELL
Maine

2025
Harpswell Comprehensive Plan
Part 1: Goals, Policies, and Strategies

Developed by the Comprehensive Plan Task Force
September 17, 2025

LAND ACKNOWLEDGMENT

Harpswell begins this plan by recognizing the stewardship of the Abenaki people, part of the Wabanaki Confederation, who lived in what is now Harpswell before the arrival of Europeans.

We acknowledge that these lands are the unceded territory of the Abenaki people.

We are dedicated to developing a deeper understanding of those who came before us and to repairing our relationship with this land.

PHOTO CREDIT: JAMIE HARK

THANK YOU

The Comprehensive Plan Task Force dedicated hours of discussion and outreach to create a plan that captures the needs and dreams of all Harpswell.

Thank you to all of the town committees and volunteers who donated their time and expertise to making this plan representative of Harpswell.

We are grateful as well for all members of the public who attended any of the public meetings or contributed to the conversation in any way. This plan is intended to represent the entire community and your participation was instrumental.

We appreciate the organizations & groups that added valuable perspective to the plan, including the Harpswell fire departments, members of the fishing community, SAD 75, Harpswell Heritage Land Trust, Curtis Memorial Library, and many others.

This plan would not have been possible without the knowledge and enthusiasm of Harpswell's town staff. Thank you for going above and beyond.

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Consultants from VIEWSHED assisted the Comprehensive Plan Task Force throughout the development of the plan.

FB Environmental and Rbouvier Consulting provided support and subject-matter expertise for special topics.

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PART I

INTRODUCTION

Comprehensive Planning

A comprehensive plan is a broad plan to address the long-term needs of a community, from land use and housing to recreation. Creating a comprehensive plan is the first step in preparing Harpswell to meet future challenges. The plan acts as a road map for future decision making. Comprehensive plans are not regulatory. Rather they set the intentions of the town and will inform policies, ordinances, land use decisions, and investments over the next 10-15 years.

A Comprehensive Plan is a guide for a community's future that:

- » Lays out a vision for growth and change in the long-term
- » Aligns town decision-making and investments with the vision
- » Helps prepare for ongoing & future challenges and needs

"A local comprehensive plan represents a **'big picture'** of the community, allowing officials and citizens to explore their communities' major **opportunities** and **challenges** and clarify their ideas on the **kind of community** they would like to live in."

American Planning Association (APA)

The Planning Process

The planning process started with gathering information and data and then identifying trends and challenges. For this plan, inventories were created for each of the 13 topic areas required by the state, plus a few additions specific to Harpswell.

Concurrently, community members came together to create a vision for Harpswell's next 10-15 years. Visioning is a process through which the community gathers, shares their experiences and hopes for the town, and builds a collective dream for their future. The resulting vision statement is the compass which guides the rest of the plan.

The inventories and the vision were used to create goals for each topic area over the course of several community and committee meetings. These goals help realize the vision and address the challenges identified in the inventories. Policies break the broad goals into more specific objectives, and then strategies outline distinct actions to achieve the policies.

A key part of this goal-setting is creating a Future Land Use Plan (FLUP). The FLUP creates recommendations for land use regulations that support the goals of the town.

Finally, the implementation plan was created to provide guidance and accountability for putting the plan into action.

INTRODUCTION

Background

This plan is the 6th Comprehensive Plan prepared by the town. The first plan was developed in 1974, in response to the state requiring municipalities to create shoreland zoning. Updates were completed in 1981, 1987, 1993, and 2005.

Some trends from the previous 2005 plan have continued, such as the decline in school enrollment and increase in retirement-aged population. Some things have changed, such as the projected increase in population size and the urgency to address climate change impacts. Creating an updated plan will help the community address new needs.

This Comprehensive Plan was developed under the guidance of the Comprehensive Plan Task Force, a committee of initially 11 community members, over the course of over three years. The Task Force was chosen by the Select Board to represent a diverse range of the population. The process incorporated public engagement from the beginning and sought to accurately represent the community's needs and desires.

Plan Purpose

A good comprehensive plan can help improve the quality of life for community members by addressing current concerns and, as best as possible, preparing the town for the changes and unknowns of the future. For example, a comprehensive plan could help a town take actions to sustain village centers, preserve natural resources, support sustainable economic growth, or prepare community assets for climate change impacts. Rather than reacting to issues as they come up, a plan will allow all of the decision-makers in town to be proactive.

At its essence, this plan seeks to answer the questions in the above graphic. The first question highlights what the community values, the second creates broad goals as guiding stars for the town, and the third will help the town put the plan into action.

Why Create a Comprehensive Plan? A plan can...

- Be an opportunity for public input into town policies
- Guide future growth and investment
- Coordinate planning and policy decisions
- Qualify the town for certain state funding opportunities

INTRODUCTION

Navigating the Plan

This plan is intended to be a resource that is accessible for everyone, from municipal committee members seeking to align their decisions with the town's goals to a community member looking for more information about where the town is going. The Executive Summary is a good place to start if you want to get a high-level understanding of the plan and the key issues and goals for Harpswell. These priorities rose to the top in the public outreach and research conducted throughout the planning process. The following section, Goals, Policies, and Strategies, is organized by topic.

If you want to...

Read the Key Points

Go to the **Executive Summary.** You'll find:

- Overview of the needs & challenges
- Discussion of priority actions

See the Goals & Actions by Topic

Go to the **Goals, Policies, and Strategies.**

For each topic, you'll find:

- Relevant background information & main issues
- Description of a few priority actions
- List of all relevant goals, policies, and strategies

Help Turn the Plan into Reality

Go to the **Implementation Plan.** You'll find:

- Table of all goals, policies, & strategies
- Estimated timeline & responsible parties
- Guidance for getting started & measuring progress

Dig into the Data & Details

Go to the **Inventories** in Part 2. Each topic covers:

- Relevant data & trends
- Related town policies, ordinances, & initiatives
- Key issues & challenges

PHOTO CREDIT: JAMIE HARK

EXECUTIVE SUMMARY

PHOTO CREDIT: JAMIE HARK

EXECUTIVE SUMMARY

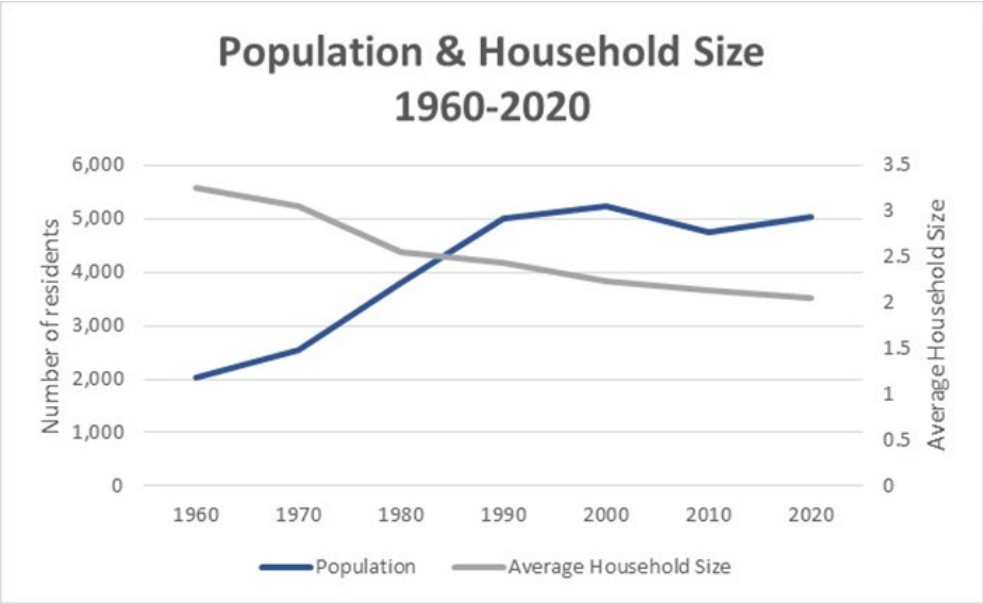
Setting the Stage

Harpswell is a community of approximately 5,000 year-round residents. Made up of long rocky peninsulas and a number of islands, the town is remarkably beautiful and geographically complex, with views of the rocky shore, protected harbors, open ocean, and rolling hills throughout the interior. The ends of the peninsulas and the major fishing harbors have picturesque villages.

In addition to its natural beauty, Harpswell has a long tradition of civic engagement. The town has many volunteer committees providing opportunities residents to work together in meaningful ways. The combination of natural beauty and sense of community creates a strong demand from people in all walks of life to live and recreate here, both year-round and part-time.

Other important details that capture Harpswell's current status and impact future planning include:

- A year-round population that has remained fairly stable (approx. 5,000) since 2000
- An increase in the number of households which has resulted in fewer people living in each house
- A rise in the median age of Harpswell residents (currently the "oldest" town in Maine, which is the oldest state in the U.S.)
- A decline in school enrollment along with a reduction in the number of young families in town
- A dramatic increase in housing costs making affording a home increasingly difficult for many who want to live here
- An increase in the number of financially secure retirees moving to the town to purchase a second home or invest in the real estate market
- The impact of climate change which is raising the sea-level and generating stronger, more frequent storms that impact properties throughout the town
- An ongoing concern regarding potable water and the ability to sustain adequate supplies
- A strong desire to maintain open space and the town's rural character



EXECUTIVE SUMMARY

Plan Process

The Comprehensive Plan Task Force ('Task Force') was appointed by the Select Board in November 2021. Early meetings focused on reviewing previous plans and gathering information from expert members of the Task Force on the working waterfront, real estate trends and conservation activities in the town.

Engaging the Community

From the start, the Task Force understood the importance of engaging the community. A website was established to share information on the plan. Throughout the process, multiple methods of input were provided, including in-person events, online and print surveys, comment cards at the Town Office, and discussion forums. Every meeting the Task Force held was open to the pubic as well. The Task Force prioritized community engagement throughout the process to include as many voices as possible.

Regional Collaboration

Harpswell has a history of collaboration with neighboring communities to fulfill common goals and share resources. The three fire departments have mutual aid agreements with nearby towns. Harpswell is a part of School Administrative District #75, and youth from Harpswell can participate in some of Brunswick's and Topsham's recreational programs, as well as regional soccer and Babe Ruth baseball programs.

Regional cooperation is woven into the goals, policies, and strategies throughout the plan. Some issues, like increasing housing availability and managing marine resources, are by nature regional. Pooling resources, capacity, data, and aligning common goals will allow Harpswell to more effectively achieve the goals laid out in this plan and also contribute to the region.

Vision

A visioning session was held in November 2022, which was attended by over 100 people. There was also a survey and information online to allow more participation. Together, over 200 participants contributed to the Vision Statement and elements.

While the vision statement itself is short and aspirational, eight elements were also identified which help organize and guide the plan's goals and policies. The elements were not prioritized because the Task Force concluded that different elements may be more important to different segments of the community.

A word cloud of the most commonly mentioned words during the visioning process

EXECUTIVE SUMMARY

Vision Statement:

In Harpswell, we cherish our rural roots, our flourishing fishing community, and the remarkable natural resources that surround us. We are committed to being a community that is a welcoming place to raise children and enjoy life as an older adult, where businesses can thrive, and everyone has access to our vibrant waterfront.

Vision Elements

A. Enhancing our sense of community, our diversity and inclusion, and the quality of life for all residents by strengthening our traditions of cooperation, volunteerism, and neighbors-helping-neighbors.

B. Sustaining a vibrant working waterfront by preserving water access and infrastructure, creating cooperative relationships between commercial and recreational uses, and protecting the marine environment from pollution.

C. Preserving the beauty and resilience of our waters, open space, and natural settings in the face of climate change by leading in sustainability and resilience initiatives.

D. Increasing the availability and diversity of housing options to support young families, the workforce, older adults, and the fishing community.

E. Creating and improving community spaces to support intergenerational recreation and community-building opportunities, especially for children and older adults.

F. Enabling residential growth that sustains water quality, transportation, the environment, and rural character while providing for the housing needs of our diverse community.

G. Encouraging a thriving local economy in the village areas by supporting local, low-impact retail and service businesses.

H. Enhancing public participation and mutual respect in Harpswell by improving communications through web, email, and social media platforms, and by expanding access to high-speed broadband.

Key Elements & Strategies

Among the eight vision elements, three were highlighted by the public in intial meetings as being particularly important: the working waterfront, protecting the environment, and housing.

Working Waterfront

Supporting, maintaining, and enhancing the working waterfront are key priorities of this plan and strongly supported by the community. During the writing of this plan, there were two winter storms that badly damaged the working waterfront, sweeping away several wharves and other structures. This made it apparent how important it is to provide local support during the rebuilding effort. It will be important to remove barriers that prevent rebuilding working waterfront infrastructure. Barriers to rebuilding wharves higher should be examined to ensure that commercial fishermen are able to increase the resilience of their infrastructure, especially as intense storms become more common. A few actions were identified as important ways to support these priorities.

Reconstruction

As mentioned previously, two back-to-back storms in January 2024 severely damaged many waterfront structures and jeopardized the livelihood of many commercial fishermen. This damage further increases the pressure on remaining docks and public access. The town should take strong and immediate steps to help local fishermen and other waterfront businesses recover and rebuild as quickly as possible, including removing bureaucratic obstacles and providing financial support where possible.

Right-to-Fish

This proposal mirrors the right to farm movement first arising in the 1980's. As residential development encroached on farmland, tensions grew between residents and farmers over things such as noise, smell and visual impacts which generated complaints and law suits. This ultimately resulted in all 50 states passing "right to farm" rules to protect farmers from "nuisance" law suits.

As residential development increases along Harpswell's coast and property changes hands from people who made their living on the water to those who have never lived near an active working waterfront, similar tensions have arisen. By advocating and supporting a right-to-fish rule, the town can protect the local fishing community from potential law suits in the future.

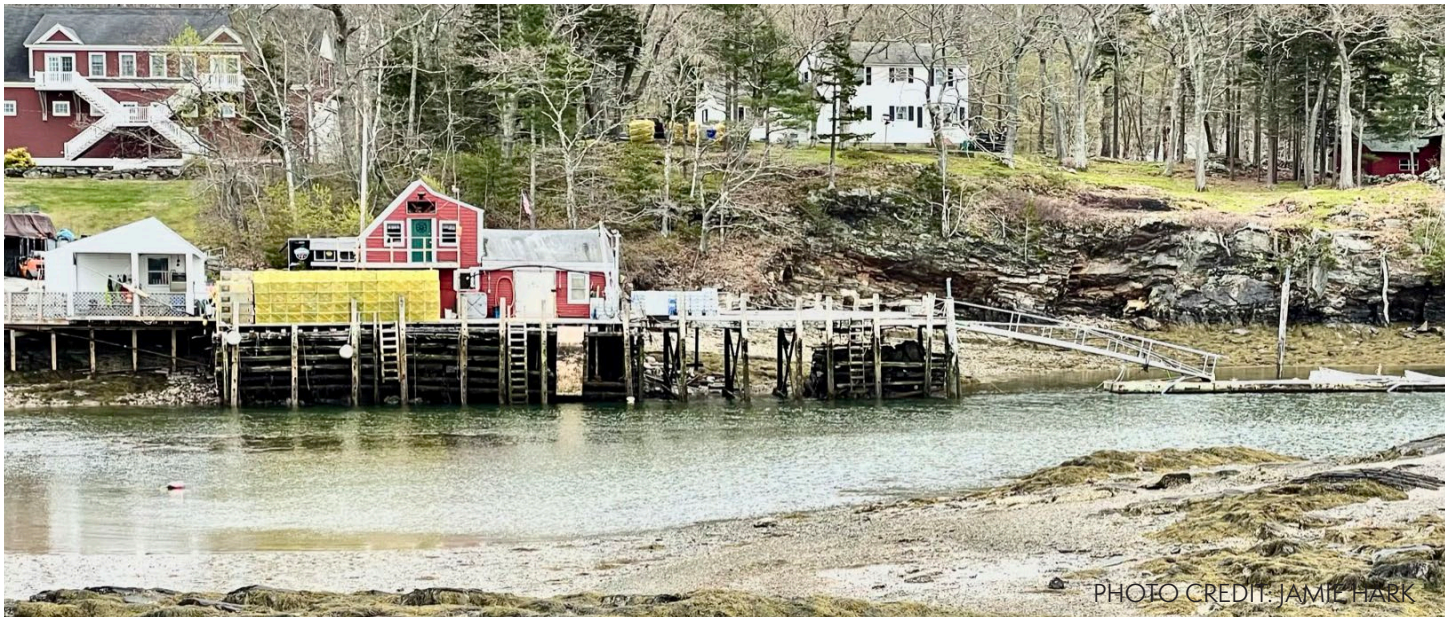


PHOTO CREDIT: JAMIE HARK

EXECUTIVE SUMMARY

Land Use Review

Harpswell should review its Shoreland Zoning ordinance to ensure the districts reflect current realities. The last time this review was done was over 10 years ago. There should also be a review of the Commercial Fishing I & II Zones to determine if there is a need to change the rules and the boundaries of these zones in order to protect areas of working waterfront from residential development. In the past 10 years, 57% of the residential building permits issued have been for lots in the shoreland zone and 22% of these (56 lots) were in a commercial fishing zone.

As the town reviews all of its Land Use Ordinances, attention should be paid to rules which restrict or limit the activities of commercial fishing and harvesting.

Harbor Management

With commercial and recreational boating increasing, managing limited harbor space will continue to be important in the future. Harpswell's 2011 Harbor Management Plan should be updated to reflect current and future needs. Harbor planning should take into account sea level rise and increased storm intensity to ensure that working waterfront infrastructure is prepared.

Access

The town should prioritize creating, maintaining, and enhancing water access points for a variety of purposes, including shellfish harvesting and recreational boating.

EXECUTIVE SUMMARY

Protecting the Environment

Groundwater, Water Quality, & Natural Resources

The town has consistently identified protection of the environment as crucial to its future. From ensuring public health to enjoying outdoor recreation, there are many strategies presented in the comprehensive plan to address these issues.

Study Groundwater Resources and Use

The town has completed a number of studies related to groundwater resources. The most recent was completed in 2008. The town should consider updating that study. Mapping the private wells and septic locations in town would provide useful information and insight on the community's water use, vulnerable areas, and a more accurate picture of the efficiency of current wastewater treatment.

Low Impact Development

The town should continue to ensure that the best low impact development standards are being implemented in town. The goal of low impact development is to maintain water on the parcel, making it more likely to infiltrate into groundwater.

Open Space Plan

The town has developed an Open Space Plan and should continue to support the implementation of the plan. In implementing the plan, inventorying and mapping open spaces will be an important record of the work accomplished and allow the various committees and non-profits to show citizens the progress that has been made.

Scenic Views and Historic Sites

The town should identify the areas of high scenic and historic value and ensure that future development does not negatively impact them.

PHOTO CREDIT: JAMIE HARK

EXECUTIVE SUMMARY

Housing Strategies

In many of the public meetings held, the Task Force heard from citizens that there needed to be more variability in the size, cost, and types of housing available in the community. Concerns were expressed that most new houses being built were large homes on large lots. The lack of smaller, more affordable housing options creates a situation where many people cannot afford to live in Harpswell; specifically young families, single people, working people, and those wishing to age in place in a smaller home.

Harpswell has seen a dramatic rise in housing costs and a reduction in the inventory of available properties for sale. The median price of a single-family home in Harpswell has increased from $352,250 in 2015, to $470,000 in 2020. As of January 1, 2024, there were 16 homes for sale with a median listing price of $707,000.

In 2022, the town established an Affordable Housing Working Group (AHWG) to study and address this issue. The full report of the AHWG, "Housing for Harpswell" can be found on the town's website here.

Land Use

In addition to the previous three focus areas, the plan includes recommendations for revising the land use regulations that apply in non-shore-land areas. The Future Land Use Plan proposes dividing the existing Interior Zone into two main components as well as addressing offshore islands.

- **Maintaining Existing Patterns** - includes the Developed Areas and Working Waterfront Villages. The standards for those areas are intended to make improvements to existing structures in these areas feasible while protecting the groundwater and to maintaining the look and feel of the existing villages.
- **Rural Areas** - includes limiting the intensity of development to protect the rural character and groundwater supply by requiring cluster, open space development for major subdivisions (five or more lots) in which open space is permanently preserved.
- **Offshore Islands** - includes establishing a new district with standards that are appropriate for these islands.

PHOTO CREDIT: JAMIE HARK

Executive Summary Conclusion

Harpswell has created a plan that will help guide the town into a future that matches the values of the community. The implementation of the plan will be a critical part of continuing this work. As a result, the town will need to create an implementation committee to help the staff and Select Board and work with other town committees.

The plan has much more detailed information in the remaining sections. The Goals, Policies, and Strategies and the Implementation Plan are included in Part 1. Part 2 of the plan has "Inventory Chapters," where data was gathered and synthesized into a detailed description of what has happened since the last plan in 2005. It also contains summaries of the major town reports created in that same time frame.

PHOTO CREDIT: JAMIE HARK

GOALS, POLICIES, & STRATEGIES

PHOTO CREDIT: JAMIE HARK

GOALS, POLICIES, & STRATEGIES

Goals, Policies, & Strategies

The Task Force has worked over the past 18 months to develop goals, policies, and strategies or actions that will help the town achieve its vision. While there are a great number of strategies, rather than eliminate potential future courses of action, the Task Force felt it was important to present a full array of options the Town could use to formulate an implementation plan. The town will need to create a committee that has the responsibility of ensuring the implementation of the strategies. Many of the strategies outlined in the plan will require further study, detailed analysis, and continued public input. While further work needs to be done on many strategies detailed in the plan, the goal of creating a comprehensive plan is to ensure that all the elected officials, committees, and staff are working towards a consistent set of goals.

The following strategies support the highest priorities the town identified in the Vision and through the process of developing the plan.

How to Use This Section

Each topic in this section includes the following components:

1. **Issues & Implications —** A brief overview of considerations and issues related to the topic
2. **Goals Overview** — A description of the goals for the topic
3. **Action Highlights** — Detailed descriptions of a few key actions that are most important to achieving the community's vision
4. **List of Goals, Policies, & Strategies** — A complete list of each goal, policy, and strategy for a topic. Each goal is broken down into supporting policies, which are then further broken down into specific, actionable strategies.

These recommendations constitute the actionable portion of the plan. Each part of this plan is the result of hours of discussion, community outreach, and research, to ensure that any recommendations support the community vision.

PHOTO CREDIT: JAMIE HARK

MARINE ECONOMY

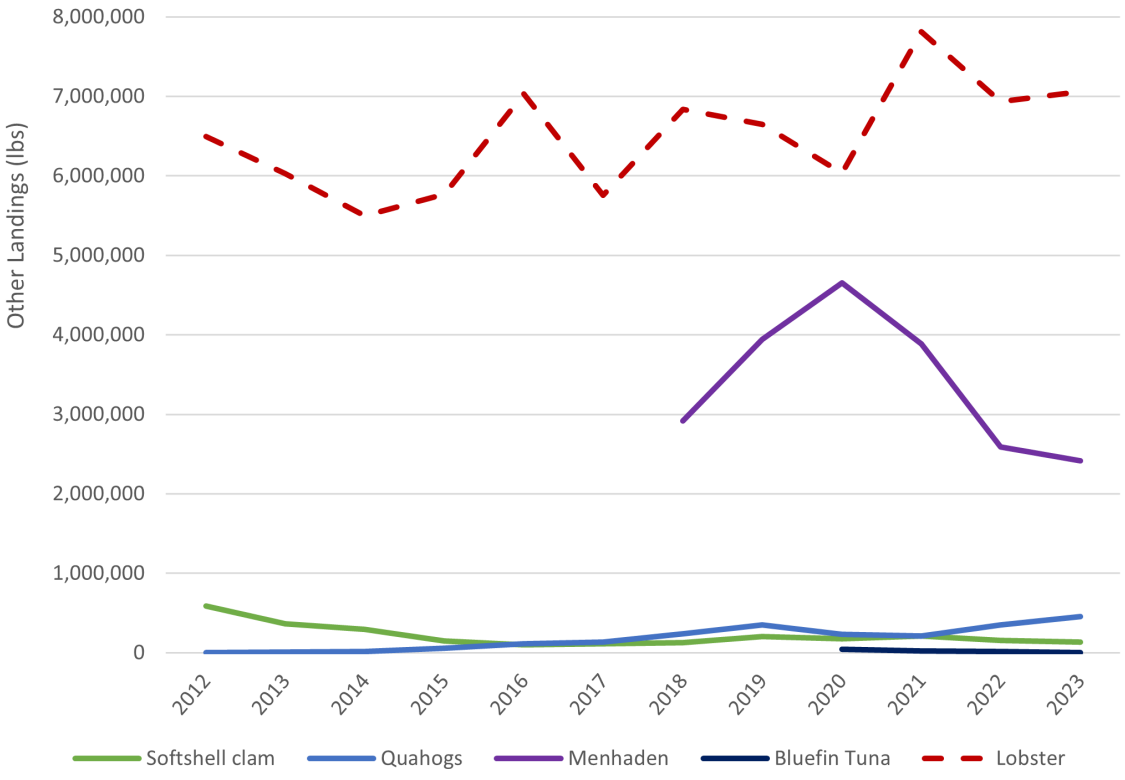
Introduction

The ocean has provided for the livelihoods of people living in what is now the Town of Harpswell, from the Wabanaki people until today. Fishing is not a quaint historical idea, but the day-to-day reality for those who make their living from the sea, from lobstering to worming and all the species in between. Those harvesting from the sea also create economies which support their work, such as boat building and repair, fish processing, and other supporting industries. The natural beauty of the coast provides incentives for tourism, both for day and longer-term visitors. This supports an economy which includes restaurants, rentals, boating, and retail offerings.

Issues & Implications

While numerous changes are posing challenges to Harpswell's marine industries, it's important to recognize that the marine economy remains a crucial aspect of Harpswell's economy and culture, with promising opportunities for the future. The Town will need to come together to address a number of issues to ensure these businesses continue to thrive.

Factors such as coastal gentrification, increasing regulations, and escalating operational costs put pressure on fishermen and their families, making it more difficult to live and work in Harpswell. Attainable housing for fishermen, marina staff, tourism workers and others working in the marine industries would help offset some of these challenges.



Landings of shellfish in Harpswell for the past 11 years.

MARINE ECONOMY

A lack of specific self-employment and economic data on this industry at the town-level makes it difficult to pinpoint challenges or changes. This creates a condition where slow incremental changes are ignored or not recognized and addressed early on.

Access to the water to support commercial fishing, recreation, and tourism will continue to be a key issue for the marine economy, especially maintaining and building the infrastructure needed to support these activities. This includes moorings, parking for access points, and shoreside storage, among others. Balancing a diversity of uses in the marine environment will also be increasingly important, as the commercial fishing industry, aquaculture, marine recreation/tourism, and others, all utilize the working waterfront.

Finally, issues caused by climate change will need to be considered. Changes in storm patterns, sea level rise, and other factors will challenge marine infrastructure, access to the water, and basic transportation infrastructure. The damage incurred by back-to-back storms in January 2024 severely damaged many structures and jeopardized the livelihood of many commercial fishermen. This damage further increases the pressure on remaining docks and public access. The town will need to take strong and immediate steps to help local fishermen and other waterfront businesses recover as quickly as possible, including removing bureaucratic obstacles and providing financial support where possible.

The marine economy is an integral component of Harpswell's identity and economy, which underscores the importance of addressing these issues. Harpswell holds the potential to implement community-driven changes that can bolster its marine industries, which are an intrinsic element of the town's heritage and a vital component of the town's future.

PHOTO CREDIT: PAUL VANDERWERF

Goals Overview

In every public meeting, survey, or opportunity for public input, community members have communicated resounding support for the marine economy. There are several challenges that the town needs to address to ensure that its marine industries are supported and able to grow.

Six main goals have been identified:

- Protect and enhance the ability to commercially harvest finfish, lobster, shellfish, and marine worms.
- Preserve and expand intertidal and deepwater access.
- Support maritime tourism as an important economic pillar
- Integrate aquaculture as appropriate into traditional fishing activities
- Understand and mitigate the impacts of a changing climate.
- Work with neighboring communities and regional partners to understand and protect marine resources.

MARINE ECONOMY

Action Highlights

Right to Fish

As residential development began to encroach on farming areas in the US in the seventies and eighties, tensions grew between the two uses. This led to a high number of complaints and filing of nuisance lawsuits against farming. Most often these lawsuits had to do with neighbors alleging that the odor, noise, dust, and other environmental issues were interfering with their ability to enjoy and use their property. These lawsuits led to all fifty states passing "right-to-farm" legislation to protect farmers from these lawsuits.

As residential development increases along the coastline, there will continue to be disputes related to the time of day, the noise, and the smell related to fishing activities. The town should work with other communities to consider a "right to fish" law that ensures those who harvest and fish the offshore waters of the town are protected. This will discourage complaints, preserve commercial uses that support the traditional fishing industry, and increase education of the public regarding commercial fishing and the working waterfront.

PHOTO CREDIT: PAUL VANDERWERF

Land Use Review

Harpswell should work to refine both the standards and the areas which are encompassed by shoreland zoning. Specifically, the town should review the area and standards of the Commercial Fisheries zones to ensure that they provide important and substantial protection for fishing activities within them. The town should also work with DEP to ensure that the changes made are compatible with state regulations.

Finally, the town should adopt revised land use ordinances that support the Future Land Use Plan described in this document. Doing so will support the villages, working waterfront, the fishing community, and enhance commercial access, and deep water pier access at Mitchell Field.

Harbor Management

Use conflicts have been and will continue to increase because of the limited space available to an increasing number of users of the shore, nearshore, and offshore areas of Harpswell. To manage these uses, the town will need to update its 2011 Harbor Management Plan. This will need to include not only an overall strategy for management, but individual harbor plans as recommended by the 2011 plan. It will also be important to maintain good data about the amount and location of particular uses and to look at the infrastructure needs for those uses, including parking, bathroom facilities, and storage areas.

Two back-to-back storms in January 2024 severely damaged many structures and jeopardized the livelihood of many commercial fishermen. This damage further increases the pressure on remaining docks and public access. The town should take steps to help waterfront businesses recover and rebuild as quickly as possible, including removing obstacles and providing financial support where possible.

MARINE ECONOMY

Goal 1. Protect and enhance the ability to commercially harvest finfish, lobster, shellfish, & marine worms.

Policy 1.1 Maintain & enhance the working waterfront.

Strategy 1.1.1. Develop a "right to fish" rule similar to "right to farm" rules in the local ordinance.

Strategy 1.1.2. Ensure that infrastructure meets the needs of the commercial fishing and harvesting communities.

Strategy 1.1.3. Review shoreland and land use ordinances to ensure that working waterfront areas are protected from residential and non-water dependent commercial development.

Strategy 1.1.4. Review working waterfront checklist every two years, update information, review trends, and report to Select Board.

Strategy 1.1.5. Maintain detailed information about the number of boats moored in, offloading in, or otherwise working throughout Harpswell.

Strategy 1.1.6. Create an updated economic impact report for fisheries in Harpswell.

Strategy 1.1.7. Address the lack of storage for commercial fisheries in town.

Strategy 1.1.8. Support the necessary level of enforcement to maintain safe function of waterfront facilities.

Strategy 1.1.9. Support commercial industry that is reliant on and important to the working waterfront.

Strategy 1.1.10. Identify and pursue funding sources, grants, and partnerships to implement strategies identified in the plan.

Goal 2. Preserve and expand intertidal and deepwater access.

Policy 2.1 Pursue strategies to expand intertidal access and improve existing access points.

Strategy 2.1.1. Work with landowners to create formal protections for informal intertidal access points, including economic incentives. Prioritize access for commercial harvesters.

Strategy 2.1.2. Maintain and improve existing commercial fishing access points.

Strategy 2.1.3. Maintain and improve existing recreational access points.

Strategy 2.1.4. Review Shoreland Zoning and land use ordinances to protect existing access from incompatible development.

Strategy 2.1.5. Develop commercial access and facilities at Mitchell Field.

Strategy 2.1.6. Work with local real estate agents to educate new homeowners on existing formal and informal access points.

Strategy 2.1.7. Ensure that unbridged islands continue to have access to the shore.

Policy 2.2 Harbor Management

Strategy 2.2.1. Update 2011 Harbor Management Plan/complete recommendation to develop management plans for each harbor.

Strategy 2.2.2. Prioritize commercial fishing boats and unbridged island residents for mooring space.

Strategy 2.2.3. Maintain/expand harbormaster and shellfish warden capacity to manage and address needs in the nearshore environment.

Strategy 2.2.4. Review fees for moorings/access, using fee structures in surrounding communities for comparison.

MARINE ECONOMY

Goal 3. Support Maritime- related tourism.

Policy 3.1 Encourage maritime tourism in the town.

Strategy 3.1.1. Promote restaurants, motels and waterfront activities whenever possible.

Goal 4. Integrate aquaculture initiatives with traditional fishing in a collaborative fashion

Policy 4.1 Support "smart", non-intrusive aquaculture development.

Strategy 4.1.1. Work through the recently established Aquaculture Working Group and the Maritime Resources Committee to develop beneficial approaches to aquaculture development.

Goal 5. Understand and mitigate the impacts of climate change on Marine Economy.

Policy 5.1 Understand the impacts of climate change on fisheries.

Strategy 5.1.1. Monitor landings over time, identifying changes in quantity, quality, size, effort related to catch.

Strategy 5.1.2. Stay informed of statewide projects and research projects or research related to creating resilient fisheries.

Policy 5.2 Understand impacts on access.

Strategy 5.2.1. Review water access points under various sea level rise models and prioritize access preservation and acquirement accordingly.

Strategy 5.2.2. Plan to adapt other infrastructure related to commercial fisheries to sea level rise and changes to storm intensity.

Strategy 5.2.3. Plan to adapt mooring fields based on sea level rise and increased storm intensity.

Goal 6. Work with neighboring communities and regional partners to understand and protect the Marine Economy.

Policy 6.1 Work with regional partners to understand and protect marine resources.

Strategy 6.1.1. Build on existing and develop new relationships with regional organizations and efforts related to commercial fisheries and the marine economy.

Strategy 6.1.2. Identify opportunities to work with other communities, regional organizations, and the state to develop climate adaptation efforts.

Strategy 6.1.3. Continue to work with state agencies to participate in marine related programs.

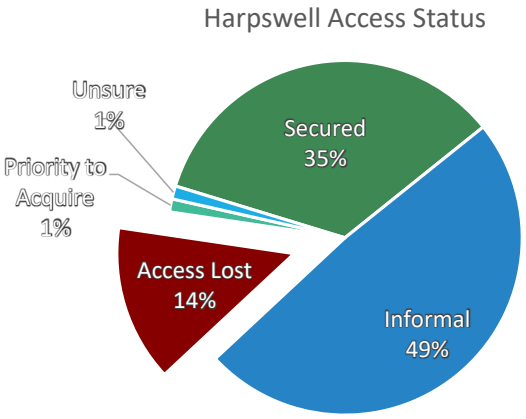
MARINE RESOURCES

Introduction

Harpswell has a culturally and economically important relationship with the sea, relying on it to support fishing industries and tourism. However, the conditions needed to support marine life and human uses (both recreational and commercial) are threatened by pollution, climate change, and human activities. Harpswell is taking actions to address these issues and maintain the quality of the town's marine resources for all those who depend on them.

Issues & Implications

Surrounded by the ocean on nearly all of its borders, Harpswell has some of the most extensive marine resources in the state. Islands for nesting seabirds, habitats for wading birds and water fowl, and eelgrass beds are just a few of the important marine resources in Harpswell. In addition to the environmental and aesthetic benefits of these resources, several economies rely upon them as well. However, several of these industries have faced closures and negative impacts from high bacteria levels and other sources of pollution. Eelgrass and shellfish populations are declining due to the impacts of climate change and invasive species. Harpswell has begun taking many steps to remediate these negative impacts, from removing overboard discharges (OBDs) to monitoring water quality and embarking on a study to restore eelgrass beds through more sustainable moorings. To continue supporting the ecological and economic uses supported by marine environments, Harpswell will need to continue to make progress in addressing these water quality threats.



Goals Overview

Harpswell's marine environment supports the town's deep-rooted marine economy, including its commercial fishing industry and a growing tourism and recreation-based economy. Good stewardship of these resources will be vital to securing the town's future and ensuring that its residents will continue to be able to secure livelihoods and enjoyment from the sea. The goals outlined below are intended to achieve just that:

- Maintain and improve water quality in nearshore and deepwater marine environments.
- Enhance and maintain the marine ecosystem.
- Understand and mitigate the impacts of climate change on marine resources.
- Work with neighboring communities and regional organizations to protect shared resources.

Action Highlights

Septic System Data

Septic systems and their condition can have a significant impact on marine water quality and have been known to contribute to shellfish growing area closures when not properly maintained. Knowing the age and condition of septic systems along the coast is a big step towards identifying the cause of pollution in these cases. It could also aid in the identification and improvement of potential problem areas before there are significant water quality impacts. Developing a methodology to collect, update, and maintain data on septic systems on coastal properties would be particularly helpful. This data should include updated tank and leach field locations, date of installation, and last date of service. Data could be collected from previous plans and studies, the state database on septic system permits, and in partnership with community members.

The status of intertidal access points in Harpswell, based on a study done by Manomet in 2023.

MARINE RESOURCES

Monitor Mudflats

The intertidal zone is an ecologically and economically important area for the marine environment. The health of mudflats, in particular, is key for supporting shellfish harvesting, which is an important commercial fishery in Harpswell. Understanding changes in distribution, density, and species present can help document trends and inform conservation activities in Harpswell. One way that this data could help is in identifying problem areas for predation or pollution and helping prioritize areas for conservation action. This is especially important as the industry adapts to potential changes caused by climate change, such as erosion and changes in shellfish and predator distribution.

PFOS/PFAS

The issue of PFOS/PFAS chemical contamination is an emerging concern throughout the state and world. The state is currently investigating the levels of these chemicals in multiple forms across the landscape. Town committees with an interest in this data and understanding its impacts should continue to monitor the work being done by state agencies and other organizations.

Goal 1. Maintain and improve water quality in nearshore and deep-water marine environments.

Policy 1.1 Understand existing marine water quality and future water quality.

Strategy 1.1.1. Maintain data on date and length of closures caused by rain and paralytic shellfish disease.

Strategy 1.1.2. Collect and maintain data on septic systems on coastal properties, including building on data from previous plans, updated tank and leach field locations, and date of installation.

Strategy 1.1.3. Develop a plan to conduct more frequent and consistent shoreline surveys.

Strategy 1.1.4. Follow & understand statewide and regional data collection on the presence of PFOA and PFAS levels in its marine waters and respond efficiently.

PHOTO CREDIT: PAUL VANDERWERF

Policy 1.2 Institute measures to improve marine water quality.

Strategy 1.2.1. Encourage the removal of overboard discharge systems where possible.

Strategy 1.2.2. Support regulation/inspection of coastal septic systems and overboard discharge systems on a 5-year basis.

Strategy 1.2.3. Add new and improve existing pump-out stations.

Goal 2. Enhance and maintain the marine ecosystem.

Policy 2.1 Understand existing species and habitats.

Strategy 2.1.1. Sample and map existing mudflats to determine distribution, density, and type of species present.

Strategy 2.1.2. Continue to map location and density of eelgrass.

Strategy 2.1.3. Create more detailed maps of the shorelines, including topography, vegetation, uses, etc.

Policy 2.2 Protect the marine environment from harm.

Strategy 2.2.1. Limit the number of private docks and the size of floats in order to protect eelgrass meadows.

Goal 3. Understand and mitigate the impacts of climate change on marine resources.

Policy 3.1 Understand & mitigate climate change-related shifts in marine species & habitats.

Strategy 3.1.1. Monitor mudflats for changes in tidal exposure time, elevation, and sediment distribution.

Strategy 3.1.2. Follow research being done by Manomet, Wells Reserve, University of Maine, etc. on species and habitat changes relevant to Harpswell.

Strategy 3.1.3. Install appropriately sized culverts to allow salt marsh migration.

Goal 4. Work with neighboring communities and regional organizations to protect shared resources.

Policy 4.1 Work with regional partners to understand and protect marine resources.

Strategy 4.1.1. Build on existing and develop new relationships with regionally based organizations and efforts related to marine resources.

Strategy 4.1.2. Work collaboratively with regional groups and nearby communities working on advocacy around marine resource protection.

Strategy 4.1.3. Identify opportunities to work with other communities, regional organizations, and the state to develop climate adaptation efforts.

FRESHWATER RESOURCES

Introduction

Potable groundwater availability is a critical issue for Harpswell. Each home and business must drill a well for their own water supply. Almost all wells need to be drilled through bedrock in order to access the water contained in small fissures and cracks.

Surface water also plays an important role in the town through its impact on natural systems. The streams and ponds in town support wildlife, help to replenish groundwater, and flow into the marine environment, all of which are important functions.

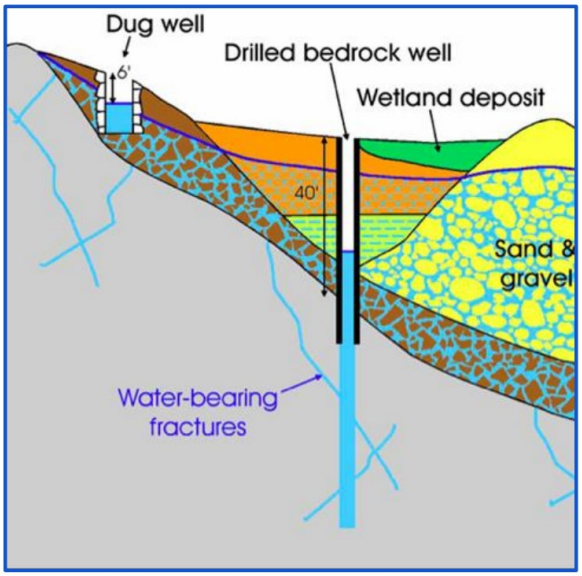
Issues & Implications

The freshwater resources of Harpswell are limited to groundwater, a small number of streams, several ponds, and freshwater wetlands. Little is known about the water quality of many of these resources. Some smaller streams are unregulated, yet they may be important contributors to potable water sources. As the town moves ahead it may wish to consider mapping smaller streams and placing development setbacks and other regulations to protect their water quality.

Groundwater resources are limited by the island's rocky topography and shallow depth to bedrock. Residents rely exclusively on private wells for drinking water and private septic systems for sanitary waste disposal. Some wells in Harpswell are 200 feet or more in depth.

The town will face challenges related to freshwater due to the impacts of climate change, such as changes in precipitation and saltwater intrusion. Major threats to water quality include stormwater runoff, erosion, septic and overboard discharge systems malfunctions. Harpswell has made efforts to reduce threats to groundwater, particularly through conversion of overboard discharge to septic systems and ordinances to control stormwater runoff and erosion.

When conserving the quantity and quality of surface and groundwater, maintaining trees and their understory is key. A healthy mix of native vegetation enhances infiltration of water into the groundwater.



A diagram of a bedrock well, and the water-bearing fractures these wells tap into.

As the town moves ahead, these and other threats will continue to challenge the community and will need to be key areas of engagement for the community.

Goals Overview

Freshwater resources, especially groundwater resources, will be critical as Harpswell plans to accommodate the needs of its residents. Understanding and caring for these resources, along with thoughtful development patterns, will be key to building a sustainable future for the town. The goals for this issue include:

- Understand and protect groundwater resources to support the current and future needs of the community.
- Understand and protect the health of surface water resources to support ecosystem and community health.
- Understand and mitigate the impacts of climate change on water resources.
- Work with neighboring communities and regional organizations to protect shared resources.

FRESHWATER RESOURCES

Action Highlights

Low Impact Development

Low Impact Development is a set of strategies that aim to minimize runoff and increase the infiltration of water on a property, limiting the impact of buildings on the stormwater flowing from a site. These strategies may include using permeable surfaces instead of impervious ones, using natural stormwater controls (like trees and vegetative buffers, swales, rain gardens, etc.), capturing and reusing rainwater, or minimizing the footprint of the building.

Harpswell has already adopted Low Impact Development standards for new development. This will allow more stormwater to infiltrate and recharge groundwater resources rather than running (and potentially washing pollutants) into surface water resources. The town should continue to include these standards for new development while considering how and when to apply them to existing properties. Harpswell should also update requirements as Low Impact Development strategies advance.

Study Groundwater Resources

Due to the fragmented nature of Harpswell's groundwater resources, it is difficult to track their condition and capacity. Collecting better data on the wells in Harpswell is a starting point for understanding groundwater resources. Building on existing well data from studies and from the Maine State Well Database, the town could map the locations of wells, depths, and other relevant water quality data. This could inform the focus of a future groundwater capacity study on areas where there are documented groundwater issues, and incorporate information on new well and subsurface waste disposal technology.

Water Conservation

The town currently has an excellent volunteer program, called WaterWise, that educates the public about how to be responsible water stewards. Education should continue to increase awareness of the importance of conserving water and provide accessible ways to reduce water consumption. WaterWise can also provide practical tips to reduce runoff by protecting or enhancing vegetative cover; and increasing the water efficiency of homes and businesses. These efforts could include developing educational handouts in Town Bulletins, holding water conservation workshops, and providing information on water efficient appliances. The town should fully fund this effort and ensure that educational resources are available to both property owners and the business community.

The town should work with the Conservation Commission to set a goal for reducing water use in the next 10 years. The town should also fund a program to assist homeowners with replacing inefficient fixtures and appliances with newer low flow versions. All new constructions and renovations of a certain size should be required to install low flow appliances and fixtures.

The town should continue to support the use of Low Impact Development best management practices (BMPs). It should look into increasing the cases where these are required to include any expansion of impervious area. If a home is being updated and it includes any revision of drainage or landscaping, then LID BMPs should be required.


PHOTO CREDIT: ANDY THRASHER

FRESHWATER RESOURCES

Goal 1. Understand and protect groundwater resources to support the current and future needs of the community.

Policy 1.1 Develop a better understanding of groundwater resources and how they are currently being used.

Strategy 1.1.1. Collect/Update/Maintain data on current wells - build on the data from previous plans to create a database of well locations, capacity, and depth.

Strategy 1.1.2. Collect/Update/Maintain data on current septic systems - building on data from previous plans, update tank and leach field locations, and date of installation.

Strategy 1.1.3. Develop a groundwater study to update the existing groundwater capacity study, including consideration of new well and subsurface disposal technology.

Strategy 1.1.4. Encourage homeowners to test private well water and provide results to the town. Or, help cover the costs of private well testing and require results be provided to the town.

Policy 1.2 Preserve the quantity and quality of groundwater resources

Strategy 1.2.1. Continue efforts through the WaterWise program to educate property owners on the importance of water conservation. Fully fund the Water Wise program to support the development of professional outreach materials and engagement activities.

Strategy 1.2.2. Ensure that citizens understand the importance of proper hazardous waste disposal and continue to provide hazardous waste collection opportunities.

Strategy 1.2.3. Create an outreach program to educate community members on the necessity of maintaining septic systems and guidance on maintenance best practices.

Strategy 1.2.4. Develop a septic pumping program to encourage regular maintenance. This could include postcards to remind people or create a fund to help residents pay to have their septic pumped, on a rotating basis.

Strategy 1.2.5. Follow best practices for salt use on roads, limiting salt runoff while maintaining roadway safety.

Goal 2. Understand & protect the health of surface water resources to support ecosystem & community health.

Policy 2.1 Develop a better understanding of surface water quality.

Strategy 2.1.1. Conduct stream water quality study to create a baseline for improving water quality.

Strategy 2.1.2. Develop a plan to conduct regular water quality monitoring of key surface water resources.

Policy 2.2 Strengthen measures to improve and protect the health of surface water resources.

Strategy 2.2.1. Continue to require the use of Low Impact Development BMPs and expand the requirement to include a specific percentage of renovations that expand impervious surfaces.

Strategy 2.2.2. Inventory & create regulation to protect all streams (perennial & ephemeral) that impact marine water quality.

Strategy 2.2.3. Develop culvert regulations that require or encourage the use of Coastwise and/or Stream Smart guidelines in culvert installation on both public and private roads.

Strategy 2.2.4. Continue enforcement of erosion control regulations for all public and private construction. Form a committee/working group to review erosion control & water run-off related rules.

Strategy 2.2.5. Continue to provide educational materials to homeowners on best management practices for yard maintenance

Goal 3. Understand & mitigate the impacts of climate change on water resources.

Policy 3.1 Study and address climate change impacts on potable water and subsurface disposal.

Strategy 3.1.1. Conduct a groundwater vulnerability study to understand the threat of salt water intrusion, greater storm intensity, and drought on potable water resources and the effectiveness of subsurface disposal.

Strategy 3.1.2. Plan for future development of alternative potable water systems and/or subsurface waste disposal.

Strategy 3.1.3. Consider location of buried hazards and storage tanks, and how sea level rise may increase the risk of these hazards contaminating water resources.

Strategy 3.1.4. Work with town and school officials to develop conservation policies for water use in public and school buildings.

Policy 3.2 Study and address climate change impacts on surface water quality.

Strategy 3.2.1. Develop regulations to require culverts on public roads to be designed to handle 100+ year storms.

Strategy 3.2.2. Require stormwater management measures in site review and subdivision rules to account for 100+ year storms.

Strategy 3.2.3. Educate homeowners along private roads to encourage properly sized and designed culverts for 100+ year storms. Include details about the risks and costs of not implementing proper sizing.

Goal 4. Work with neighboring communities and regional organizations to protect shared resources.

Policy 4.1 Work with regional partners to understand and protect groundwater and surface water resources.

Strategy 4.1.1. Build on existing and develop new relationships with regionally based organizations and efforts related to water resource protection.

Strategy 4.1.2. Work collaboratively with regional groups working on advocacy around water resource protection.

Strategy 4.1.3. Identify opportunities to work with other communities, regional organizations, and the state to develop climate adaptation efforts.

NATURAL RESOURCES

Introduction

Harpswell has valued and cared for its natural environment for decades. Formed by an array of narrow peninsulas and islands, the town possesses a unique suite of natural resources. Hundreds of miles of coastline, acres of open fields and forests, seabird nesting sites, wading bird and waterfowl habitat, and numerous threatened or endangered species of plants and animals are part of what makes Harpswell, Harpswell.

The natural beauty of the town has long been managed and stewarded by members of the community. An example of this continued stewardship is the adoption and implementation of an Open Space Plan in 2009. This plan was created "to enhance and preserve the natural and scenic qualities of the town's rural landscape while allowing future residential growth." According to the plan, open space was defined as land in a predominantly undeveloped condition, including permanently preserved land, conservation easements, or land owned by the town, state, federal government, or a land trust that has been preserved or managed in order to maintain the natural, scenic, ecological, cultural, hydrological or geological properties of the land. Strategic open space preservation can protect scenic views, important habitat, and aid in groundwater recharge. The continued and thoughtful management of these resources will be a key part of the town's future.

Issues & Implications

These resources provide bountiful environmental, economic, and aesthetic benefits to Harpswell and the many tourists they attract to the town. However, these same resources contribute to development restrictions within the town, such as limited drinking water sources and reduced capacity for wastewater disposal. Given the potential growth pressures of the next decade, the community will have to consider its priorities related to open space and other important values like affordable housing. These ideas are not necessarily in opposition to one another but should be considered as part of the entire human/ecological system of Harpswell.

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.

Finding the balance between protecting vital natural resources and open space with sustainable development will be key to the future success of both its residents and its beloved natural resources.

PHOTO CREDIT: JAMIE HARK

NATURAL RESOURCES

Goals Overview

Harpswell has unique natural, scenic, and open space resources that will need to be considered as the town makes land use and conservation decisions. Better data on these resources is a key part of incorporating them into the decision-making process and ensuring that development occurs in harmony with high value resources. The Comprehensive Plan includes the following goals to achieve this:

- Steward the town's network of open space and the environmental, scenic, cultural, or recreational values they provide.
- Protect terrestrial habitats, wetlands, and rare & endangered species.
- Direct growth to minimize impacts on natural resources.
- Create a more resilient network of open space and recreational facilities to ensure these resources are available for generations to come.
- Understand and mitigate impacts of climate change on terrestrial habitats and species.
- Work with neighboring communities and regional organizations to protect shared resources.

PHOTO CREDIT: JAMIE HARK

Action Highlights

Track Open Space

Continue to inventory and map open space in Harpswell and update over time to understand changes to the quality and quantity of open space. Include the high value Focus Areas identified in the Open Space Plan. Identify and map natural resources or habitat with limited or missing data, such as vernal pools, to ensure that these resources are protected. This data could then be used to inform open space acquisition and land use designations, to ensure that high value habitat and open space are protected.

Natural Resource Data

Developing and maintaining a town GIS that includes natural resource data would make this information more accessible for town staff and committees and would be a tool to help inform decision making and priorities. The town should consider compiling state data on natural resources, including Beginning with Habitat data, along with local data (such as the Open Space Plan's Focus Areas and current town Open Space) into a GIS to ensure easy access for anyone making decisions related to the town's natural resources. This could also help identify gaps in knowledge and potential priorities for data development, such as vernal pools.

Inventory Scenic Views

Harpswell's scenic vistas are a part of the charm that attracts visitors and residents alike. The town should continue work that began during the development of the Open Space Plan and identify important scenic resources in partnership with the planning board and the conservation commission. This process should include opportunities for public input to ensure that scenic resources with high local value are captured and documented. This scenic inventory could then be a part of Site Plan Review Standards to make sure that future development does not interfere with important scenic resources.

NATURAL RESOURCES

Goal 1. Steward the town's network of open space and the environmental, scenic, cultural, or recreational values they provide.

Policy 1.1 Protect and steward open spaces of community importance, especially those that provide key benefits to the community.

Strategy 1.1.1. Continue to implement and update the Open Space Plan.

Strategy 1.1.2. Continue to track changes to the quality and quantity of Open Space over time. Map any resources or special habitats that have limited or missing data, such as vernal pools.

Strategy 1.1.3. Support community efforts to manage invasive species through educational initiatives, especially in high value environments.

Strategy 1.1.4. Consider designating town-owned land within the Focus Areas outlined in the Open Space Plan for permanent conservation.

Goal 2. Protect terrestrial habitats, wetlands, and rare & endangered species.

Policy 2.1 Conserve Harpswell's existing natural beauty, habitats, wetlands, wildlife, scenic vistas, and unique natural areas.

Strategy 2.1.1. Encourage the preservation of important wetlands and saltwater marshes to support fisheries and maintain shoreland buffers.

Strategy 2.1.2. Identify data gaps for determining most valuable habitats.

Strategy 2.1.3. Gather and maintain natural resources, habitat, and scenic data in the town's GIS for continued access and updates by committees.

Strategy 2.1.4. Develop scenic inventory to identify important views that need protection.

Strategy 2.1.5. Develop habitat map to identify properties with greatest value for habitat preservation.

Strategy 2.1.6. Identify and delineate critical habitats for rare and endangered species.

Strategy 2.1.7. Protect important habitats through public/private partnerships to purchase land or easements.

Policy 2.2 Educate the public about natural resources, critical habitats, and rare and endangered species.

Strategy 2.2.1. Ensure that citizens are aware of ways to reduce their impact on critical habitats and rare/endangered species.

Strategy 2.2.2. Ensure that citizens living in or near critical habitat understand current use taxation programs as well as regulations.

Strategy 2.2.3. Encourage the planting of native plants in order to maintain important habitats.

Goal 3. Direct growth to minimize impacts on natural resources.

Policy 3.1 Review Land Use Ordinances.

Strategy 3.1.1. Continue to use Beginning with Habitat and other Critical Habitat data as part of the review process for all projects including capital improvements.

Strategy 3.1.2. Develop Site Plan Review Standards to include scenic views and resources.

Strategy 3.1.3. Ensure that future development maintains open spaces to the greatest extent possible.

Strategy 3.1.4. Regularly review LUOs to maintain consistency with applicable Federal, State, and Local rules.

Goal 4. Understand and mitigate impacts of climate change on open space in order to protect terrestrial habitats and species.

Policy 4.1 Provide protection for habitat and species migration due to climate change.

Strategy 4.1.1. Identify areas where marsh migration inland is likely and work with public/ private partnerships to preserve these areas.

Strategy 4.1.2. Consider locations of wildlife corridors to assist in species migration and work to protect these areas.

Strategy 4.1.3. Develop invasive species management plans for those species which pose a direct threat to otherwise healthy habitats.

Goal 5. Work with neighboring communities and regional organizations to protect shared resources.

Policy 5.1 Work with regional partners to conserve regionally important habitats.

Strategy 5.1.1. Build on existing and develop new relationships with regionally based organizations and efforts related to natural resource protection.

Strategy 5.1.2. Work collaboratively with regional groups working on advocacy around natural resource protection.

RECREATION & COMMUNITY SERVICES

Introduction

Harpswell has a variety of outdoor recreational spaces and excellent recreational programs organized by town's Recreation & Community Services Department. The department organizes youth and adult sports programming throughout the year, such as soccer and T-ball. They also coordinate community events, such as Bandstand By the Sea, a concert series at Mitchell Field, as well as programming for older adults in partnership with Harpswell Aging at Home. In addition to this, the department coordinates the Community Garden, which just celebrated its 10th year. Another function of the Recreation & Community Services Department is to connect community members to the resources they need, such as the General Assistance program. Informally, they are the information hub of the community, answering questions about town services and events.

In addition to recreational programs, Harpswell has plenty of passive recreational opportunities, such as hiking trails, biking, and water-based recreation. The trails, boat launches, and other infrastructure that support these activities are managed by different entities, including Harpswell Heritage Land Trust, the Harbormaster, and the Town Lands and Conservation Committees.

PHOTO CREDIT: JAMIE HARK

PHOTO CREDIT: JAMIE HARK

Issues & Implications

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 necessary.

One of the defining characteristics of Harpswell's recreational programs and activities is that they are wide-ranging and involve a variety of municipal, educational, and civic properties/facilities. However, 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. A lack of indoor facilities for a gym, kitchen, and meeting space limits the range of programming possible.

Harpswell has abundant passive recreational activities, with several publicly accessible preserves, trails, and boat launches, and a variety of recreational programming. As the town considers the current and future recreational needs, some opportunities include continuing to partner with community organizations for senior programming, expanding access to the water, and potentially adding more recreational facilities.

Access to the water continues to be an important issue in the town, due to changes in land ownership and a lack of proper facilities (such as parking) for recreational boaters and for fishermen as well. The ongoing water access study will provide more data to support and guide town actions to preserve water access and improve water facilities, if needed.

RECREATION & COMMUNITY SERVICES

A youth program held by the Recreation Department.

Goals Overview

Based on community input, the town needs to continue to support its Recreation Department to plan programs tailored to children of all ages as well as senior citizens. Another need cited in public feedback is access to more centralized gathering spaces, perhaps including small picnic areas, an event lawn, or recreation facilities like playing fields.

As a town surrounded by water and islands, Harpswell also needs to ensure that recreational boaters have sufficient water access and parking, especially as increased boat launch traffic can burden commercial fishermen.

Goals for the town's recreational resources include:

- Provide high quality recreational facilities and programming that meets the needs of all the town's residents and fosters a healthier, more connected community.
- Create a robust network of water access points to support the needs of recreational boating, fishing, and other water activities, as well as commercial fishing activities.
- Create a more resilient network of recreational facilities.

Action Highlights

Expand Recreational Opportunities

During the planning process several people mentioned that play areas and recreational opportunities for children need to be created throughout the town, so that parents do not have to drive to the Community School. The town should consider a few locations throughout town to create small playgrounds, tot lots for younger children, or nature play areas. These could be on existing town-owned land, such as Mitchell Field. People with children should be included throughout this planning process. There was also mention of creating more recreational opportunities accessible to older adults and those with limited mobility, such as barrier-free trails, outdoor exercise equipment, and trails with rest areas.

Create Gathering Spaces

A common theme in public feedback was the desire for more gathering spaces to connect with people from across neighborhoods and age differences. Creating picnic areas with seating, gazebos, or small event lawns for gatherings or music could be a way to facilitate community connections, especially paired with community programming and events.

Improve Water Access

Many people live or visit Harpswell because of its connection with the sea. Anecdotally, there is an increasing amount of traffic at boat launches and landings as more people recreate on Harpswell's waters. This can pressure commercial fishermen and others who make a livelihood on the working waterfront by limiting space and resources at launches, such as parking or slip space. The town should address overcrowding at boat launches and create a plan for expanding access and infrastructure at these locations to meet growing demand.

RECREATION & COMMUNITY SERVICES

Goal 1. Provide high quality recreational facilities and programming that meets the needs of all of the town's residents and fosters a healthier, more connected community.

Policy 1.1 Continue to offer a variety of recreational programs and opportunities for residents of all ages.

Strategy 1.1.1. Support the Recreation Department in programming and facility needs.

Strategy 1.1.2. Continue to identify recreational programming needs and opportunities for young and school-aged children.

Strategy 1.1.3. Continue to partner with community organizations to offer special programming, such as Harpswell Aging at Home

Strategy 1.1.4. Continue to update the Guide to Outdoor Recreation as the town's recreational spaces and opportunities change.

Policy 1.2 Identify opportunities to enhance or expand recreational opportunities to better meet the evolving recreational needs of the community.

Strategy 1.2.1. Identify improvements and additions to recreational facilities for young and school-aged children, such as tot lots, play-grounds, and story walks.

Strategy 1.2.2. Create spaces for community gatherings and events, such as a performance space, picnic area, or other amenities that support community building.

Strategy 1.2.3. Involve the community in any plans to expand facilities or add recreational programming.

Strategy 1.2.4. Plan and allocate funding for the expansion of active recreation facilities at Trufant-Summerton Field.

Strategy 1.2.5. Identify improvements to passive recreation facilities to support the needs and abilities of older adults.

Strategy 1.2.6. Seek creative ways to combine recreation with education.

Strategy 1.2.7. Continue to foster a close working relationship with Brunswick to ensure access to facilities at the former NAS , the YMCA, and People Plus.

Goal 2. Create a robust network of water access points to support recreational boating, fishing, and other water activities, as well as commercial fishing activities

Policy 2.1 While ensuring the needs of the commercial fishery industry are met, enhance the amenities and facilities at existing water access points to support the recreational needs of the community.

Strategy 2.1.1. Ensure that existing water access facilities can support increasing demands and traffic, especially in areas that are used for both commercial fishing and recreational uses. Identify opportunities to expand parking, provide restrooms, and improve existing amenities.

Strategy 2.1.2. Create signage at water access points to inform recreational users on how these spaces are also used for commercial fishing, to reduce potential conflict.

Policy 2.2 Protect existing and add additional water access points to support increasing demand for water access.

Strategy 2.2.1. Identify at-risk access points and develop a plan to secure key access points, in collaboration with local land trusts and other organizations.

Strategy 2.2.2. Create a water access fund to support projects to improve or secure water access points. Provide incentives for private land-owners to formalize access to the water with a priority of access for commercial fishermen and harvesters.

Goal 3. Support and maintain Harpswell's local Community Services Department and its impact on the community.

Policy 3.1 Maintain support for and growth of local Community Services.

Strategy 3.1.1. Continue to fund staff positions to provide Community Services.

Strategy 3.1.2. Evaluate needs of the community at least bi-annually to determine programming and staffing needs.

Strategy 3.1.3. Consider partnering with HAH to look for additional opportunities.

Goal 4. Create a more resilient network of recreational facilities.

Policy 4.1 Plan and prepare for the potential effects of climate change on open spaces by adopting management strategies that build resilience.

Strategy 4.1.1. Identify water access points or facilities that are at risk because of climate change and develop a plan to improve or adapt facilities where possible.

Strategy 4.1.2. Identify recreational facilities that are at risk due to climate change and develop a plan to adapt or replace facilities where possible.

PUBLIC FACILITIES

Introduction

Harpswell provides several vital services and facilities for its residents, including waste & recycling services, fire & emergency medical services, law enforcement, road maintenance, access to libraries, and access to public education. This section examines the capacity of these entities to accommodate projected changes over the coming decade.

Issues & Implications

Harpswell is facing several ongoing changes, such as declining school enrollment, lingering impacts from the COVID-19 pandemic on work and emergency services, an aging population, rising housing costs, and challenges from various climate change impacts. All these shifting dynamics have implications for the demands on the town's emergency services, schools, libraries, roads, and waste services.

Fire and emergency medical services do not have enough volunteers to augment paid staff. There is also a barrier to recruit paid firefighters and EMTs due to the shortage of qualified workforce in the region. These issues are intensified by the increasing number of emergency calls for medical help and an aging population that requires a higher level of care. To continue to provide high quality service to Harpswell, the town will likely have to increase investment in emergency services in the future.

Waste and recycling services recently started a composting program with growing participation, which may require additional investment by the town. The town's recycling rate has decreased somewhat, from 44% in 2018 to 40% in 2022, which may require additional education and investment to reinvigorate.

Harpswell's libraries continue adapting to better serve the population, including book delivery programs for those who are homebound, technology assistance, expanded catalogues, and events in partnership with community organizations and the Curtis Memorial Library.

Declining school enrollment can be partially explained by an aging population and a lack of attainable housing for young families. However, larger issues are also at play, such as declining birth rates across the U.S. The attainable housing issue is addressed in more depth in the Housing Section. Harpswell's focus should be on making the schools it supports the best they can be by leveraging the town's unique resources in creative ways.

PHOTO CREDIT: PHIL TAYLOR

PUBLIC FACILITIES

Goals Overview

Harpswell's changing population requires continued investment and creative solutions. Several programs and services are in need of additional support and resources, while some require an ongoing commitment by the town. The following goals outline the priorities of the town moving forward:

- Ensure adequate facilities and technology.
- Provide for the public safety needs of the community.
- Plan for the town's waste management needs.
- Support and maintain the quality of education in local schools.
- Support and maintain the quality of services and offerings of the local libraries.
- Support and maintain Harpswell's local Community Services Department and its impact on the community.
- Develop policies to adapt and mitigate the impact of climate change on the town's public facilities.

Action Highlights

Continue Fire & Rescue Investment

Fire and rescue services are facing increasing emergency service calls, while also contending with an aging volunteer base and geographically dispersed population. In order to maintain a high quality fire and rescue program that can adequately protect and serve the community, the town will need to plan for the continued investment in fire departments, including equipment and communications updates, funding paid personnel, exploring the need for improved facilities, the continued purchase of emergency vehicles and potential investment in a central emergency services building.

Track & Increase Recycling Rate

The recycling rate in town has declined slightly in recent years, while the amount of total waste increased between 2017-2021. There was a decrease in total waste produced in 2022, but the recycling rate could still be improved. Increasing investment in resident education, through handouts, educational events, and community challenges, could further decrease the total amount of waste in the waste stream. Planned improvements in the Recycling Center should be supported.

Public Building Energy Audit

One of the most effective ways to decrease the town's expenses and have a positive impact on the environment is to increase the efficiency of the town buildings. Conducting an energy audit would help identify ways that the town could save energy, such as increasing insulation, installing energy efficient lights and appliances, and low-flow faucets and toilets. This would also save taxpayer money over time, as less is spent on the running of town facilities.

PUBLIC FACILITIES

Goal 1. Provide the necessary facilities for the function of local government.

Policy 1.1 Ensure adequate municipal facilities & technology.

Strategy 1.1.1. Review facility needs and staff needs to ensure that the town offices are maintained and town departments are appropriately staffed.

Strategy 1.1.2. Continue to have and support a Technology Committee to ensure that the town maintains adequate technology for sharing information with the public.

Strategy 1.1.3. Continue to support the town office as a warming center/cooling center in case of emergencies.

Policy 1.2 Ensure that town resources and public engagement are inclusive & accessible.

Strategy 1.2.1. Continue to offer both online and in-office resources and services so that all members of the public can access them.

Strategy 1.2.2. Ensure that public engagement continues to have an online component so that those who may not be able to attend meetings, such as people with young children and non-resident landowners, can add their voices to projects.

Strategy 1.2.3. Continue to hold the non-resident Select Board meeting in the Summer.

Goal 2. Provide for the public safety needs of the community.

Policy 2.1 Maintain adequate fire and ambulance services to protect the people and property in Harpswell.

Strategy 2.1.1. Support the continued needs of the volunteer Fire & Rescue Organizations in town and ensure adequate funding.

Strategy 2.1.2. Work with the three volunteer organizations to ensure that adequate coverage is available at all times. It will be necessary to boost volunteer recruitment while also increasing support for staffing.

Strategy 2.1.3. Consider upgrading the facilities in Cundy's Harbor.

Strategy 2.1.4. Develop a plan to update all communications infrastructure to be digitally-compatible, in order to interface with regional dispatch.

Strategy 2.1.5. Consider the need for a central Fire & Rescue building on the Mountain Road and continue to gather information.

Strategy 2.1.6. Plan for adequate capital for the future purchase of trucks, equipment, and building maintenance.

Strategy 2.1.7. Continue to support mutual aid agreements.

Strategy 2.1.8. Promote town-wide coordination of services among all the Fire & Rescue volunteers and staff.

Strategy 2.1.9. Consider a cost/benefit analysis be conducted before building a central fire station.

Policy 2.2 Maintain adequate police services to protect the people and property in Harpswell.

Strategy 2.2.1. Continue to contract policing services of the Cumberland County Sheriff's Department.

Strategy 2.2.2. Continue to contract with Cumberland County Sheriff's Department for Marine Patrol Officers.

Strategy 2.2.3. Conduct at least an annual review of policing services to insure that the policing needs of the town are met.

Goal 3. Plan for the town's waste management needs.

Policy 3.1 Continue to recycle to the greatest extent possible.

Strategy 3.1.1. Provide opportunities for recycling of items not normally available to residents.

Strategy 3.1.2. Budget for public outreach to educate residents about current recycling plans and protocols.

Strategy 3.1.3. Continue and expand the existing composting program at the Recycling Center.

Strategy 3.1.4. Continue to track Recycling Rates and develop plans to increase the recycling rate over time.

Goal 4. Support and maintain the quality of education in local schools.

Policy 4.1 Maintain support for the Harpswell Community School.

Strategy 4.1.1. Continue to work with MSAD 75 to maintain an excellent school.

Strategy 4.1.2. Promote/create ways to leverage the educational value of the Schiller Coastal Studies Center, Quahog Bay Conservancy, as well as HHLT to benefit town school programs.

Goal 5. Support and maintain the quality of services at local libraries.

Policy 5.1 Maintain support for and growth of local libraries.

Strategy 5.1.1. Increase financial support where advised by local library boards.

Strategy 5.1.2. Continue the relationship with Curtis Memorial Library.

Goal 6. Develop policies to adapt and mitigate the impact of climate change on the town's public facilities.

Policy 6.1 Increase energy efficiency in all public buildings.

Strategy 6.1.1. Conduct an energy audit of public buildings and develop a comprehensive strategy to update the energy efficiency of all public buildings.

Strategy 6.1.2. Convert public buildings to the most efficient heat/cooling systems that are feasible.

Policy 6.2 Reduce the use of fossil fuels within the town.

Strategy 6.2.1. Continue to purchase electric power from renewable energy resources for municipal uses.

TRANSPORTATION

Introduction

Harpswell has two main roads, Route 123 and Route 24, which provide the only land access to neighboring towns. A third road, Cundy's Harbor Road, connects the village of Cundy's Harbor to Route 24. From their intersections with Brunswick's town line, Route 123 is 9.5 miles long, and Route 24 measures 11.6 miles. Cundy's Harbor Road is 4.6 miles long. Traffic volumes as measured by DOT have remained steady over the past decade. It is likely that traffic patterns have changed as a result of shifts occurring before the pandemic and, certainly, since then.

Issues & Implications

Harpswell is a mostly car-dependent community, especially since the neighborhoods and village centers are distributed along the town's long peninsulas and islands. Despite many residents commuting over 20 minutes to get to work and seasonal pressures due to tourism, the available data on traffic in Harpswell have shown varied amounts of traffic in recent years. Routes 123 and 24 continue to be important as the sole access points for the town.

Town roads will need to be studied as more data becomes available on sea level rise impacts, especially as a part of any capital improvement project. While it is not clear yet what impacts conversion to electric vehicles will have on driving patterns and road conditions, the town should consider if it will build the infrastructure for charging electric vehicles.

Pedestrian and bicycle access and safety continue to be a concern for community members, as demonstrated by recent community efforts to develop more off-road paths and infrastructure for these types of travel. Increased walkability will benefit families and older adults as they age in place. Since public transportation opportunities are nonexistent, support will continue to be needed to ensure vulnerable populations are able to get to medical appointments, groceries, and other resources.

Goals Overview

As the town plans for the future, there are opportunities to build more flexibility and resilience into the existing road network. Planning for future needs, parallel projects, and the impacts of climate change could help the town budget and plan for better transportation options, while taking advantage of funding and other opportunities. The following goals shape this approach to Harpswell's future transportation:

- Maintain a transportation system that is safe and promotes mobility for the entire community.
- Reduce the contribution of transportation to climate change.
- Understand and mitigate the impacts of climate change on the transportation system.

PHOTO CREDIT: JAMIE HARK

Action Highlights

Align MDOT Projects with Town Goals

Several main roads in Harpswell are maintained by the Maine Department of Transportation (MDOT), including Routes 123 and 24. These roads are vital access points to the mainland for the entire town, so it is in the town's best interest to stay informed of MDOT projects and to be proactive in making sure that projects are aligned with town goals. This could include securing funding for concurrent updates to culverts to align with Stream Smart guidelines, adding space for bike lanes or sidewalks, or incorporating salt marsh or other habitat restoration projects adjacent to road improvements.

Prepare for Climate Change

Several sections of road in Harpswell are vulnerable to increased flooding associated with climate change. By identifying high priority and vulnerable areas (using data from the Sustainability Plan) and creating engineering plans to address sea level rise concerns, the town could budget or secure funding for these improvements and ensure that they are incorporated into regular capital improvement projects.

Coordinate Regional Transit

While Harpswell may not have the population density to support a full public transit system, it could partner with nearby towns or regional organizations to create more regional transit opportunities, such as a bus to Brunswick. This could support senior citizens and those with limited mobility in accessing services and shopping, such as doctor's appointments or groceries.

PHOTO CREDIT: FIT MAINE

TRANSPORTATION

Goal 1. Maintain a transportation system that is safe and provides access for the community.

Policy 1.1 Ensure that land use ordinances relating to transportation and roads are not hindering development of appropriate housing types.

Strategy 1.1.1. Maintain and improve existing public roads.

Strategy 1.1.2. Prioritize road funding in town budgets and capital planning.

Strategy 1.1.3. Ensure that funding, staffing, and equipment exists for all maintenance activities, including ditches, culverts, drainage.

Strategy 1.1.4. Work closely with MDOT to ensure that projects support town goals.

Policy 1.2 Promote public health and sustainability though public transportation, pedestrian and bike access.

Strategy 1.2.1. Work with regional transportation planning to create opportunities for public transportation.

Strategy 1.2.2. Develop plans for off-road bicycle and pedestrian trails where possible.

Strategy 1.2.3. Work with regional planning agency to fund projects.

Strategy 1.2.4. Provide bike racks at all public gathering locations.

Strategy 1.2.5. Protect the scenic character of Harpwell's road system.

Goal 2. Reduce the contribution of transportation to climate change.

Policy 2.1 Incorporate impacts of climate change into transportation planning.

Strategy 2.1.1. Improve infrastructure related to electric vehicles, such as charging stations.

Strategy 2.1.2. Adopt Stream Smart Crossing Guidelines for all new public culverts to promote water flow and terrestrial fauna movement. Work to replace existing public culverts to conform to these guidelines.

Strategy 2.1.3. Increase alternative transportation options; including pedestrian, bicycle, and public transportation when & where feasible.

Goal 3. Understand and mitigate the impacts of climate change on the transportation system.

Policy 3.1 Understanding Impacts on the transportation system

Strategy 3.1.1. Identify and prepare preliminary engineering designs for areas where sea level rise or increased storms will impact on roads and trails.

Strategy 3.1.2. Plan to incorporate Stream Smart and Coastwise guidelines in any future culvert replacement projects.

Strategy 3.1.3. In all capital improvement projects, ensure they are engineered to account for increased storm surge and sea level rise.

Strategy 3.1.4. Ensure that current road standards for public and private roads also account for climate change impacts.

FISCAL CAPACITY

Introduction

The fiscal capacity of the town is a fundamental consideration in the planning process. Harpswell's ability to spend local funds or take on new debt will help make planning ideas realities.

Since the 2005 Comprehensive Plan, the trend of increasing property values is expected to continue. In addition, Harpswell's current bond obligations have continued to decrease, staying well below both the legal (15% of state valuation) and the town's target debt level (1% of state valuation).

Issues & Implications

The town has been a good steward of its fiscal resources. There is very low debt, property value increases allow for increased services, and the town has a low tax rate compared to other municipalities with a similar valuation. As with most municipal services, there is usually a stepped cost rather than a straight linear expansion. The town will need to consider in its capital planning where those stepped increases may occur and if there are needs in the town for services that can only be addressed by raising tax rates. Raising tax rates has implications both in the types of services which can be offered and the impacts on the citizens who bear that cost.

The town already uses capital reserve accounts to set aside funds for large investments, including completing the Basin Point Road Project, emergency vehicle purchases, road maintenance, and the ongoing renovation of the town's Recycling Center. Capital reserve funds can also be a tool to enable quick responses to grant opportunities, such as for Resiliency & Sustainability Projects. In this way, having some matching funds on hand can lower the total amount the town ends up spending on a project.

As the town considers necessary projects and service improvements to maintain the quality of life in Harpswell, the budget should also reflect the staff capacity needed to support this work.

Action Highlights

Extend Capital Improvement Planning to Ten Year Horizon

While the town currently has an annually updated 3-5 year CIP, planning large capital investments further into the future will help the town identify and procure funding, combine projects, and conduct public engagement, if necessary. This will increase the efficiency and coordination between projects, as well as more lead time to prepare for infrastructure investments.

Consider Allocating Annual Funding for Sustainability Plan Implementation Reserve Account

The town's climate action plan includes measures to prepare the town's infrastructure for increased flooding and more intense storms, as well as steps to reduce the town's carbon footprint. Implementing these strategies will require applying for grant funding in some cases, which can require the town to match a portion of the funds. In other cases, some strategies have little or no outside funding opportunities.

The town created the Sustainability Plan Implementation Reserve Account (SPIRA) in 2023 to address this issue. Due to the urgent nature of these projects, the town should consider allocating annual funding to the SPIRA. This would provide opportunities for matching grants as well as funding for projects like a town energy audit. Allocating funding for these projects now will likely save the town money in the long run. For example, completing a culvert replacement to handle more storm surge and a rising sea level will prevent costly road washouts and the emergency situation that would create. Other reserve accounts, such as the Land Acquisition Reserve, should also be reviewed.

FISCAL CAPACITY

Goal 1. Promote community discussion of Long-term Capital Projects.

Policy 1.1 Monitor the costs of delivering services to town residents.

Strategy 1.1.1. Continue Annual Review of Capital Projects. Request input from all Boards & Committees and provide opportunities for public discussion.

Strategy 1.1.2. Consider developing a ten year rolling Capital Improvement Plan.

Policy 1.2 Consider the most cost-effective ways to fund Capital Projects.

Strategy 1.2.1. Look for grant funding opportunities to support capital improvement projects wherever possible.

Strategy 1.2.2. Consider the implementation of projects that address multiple needs and maximize the impact of funds.

Strategy 1.2.3. Look at various funding options, including long term funding plans, that can help implement more costly projects.

Goal 2. Develop Fiscal Policies that account for climate change

Policy 2.1 Reduce use of fossil fuels for energy needs in public buildings.

Strategy 2.1.1. Develop a plan for solar power generation on or near town buildings.

Strategy 2.1.2. Require all new capital investments or projects to consider climate change impacts.

Policy 2.2 Address climate impacts throughout the Capital Improvement Plan.

Strategy 2.2.1. Review existing Capital Improvement Plan and incorporate climate change considerations.

Strategy 2.2.2. Add/Prioritize Capital Improvement items to address climate issues related to public buildings, infrastructure, trails, open spaces, etc.

Policy 2.3 Ensure adequate funding to support projects that increase resilience and sustainability.

Strategy 2.3.1. Consider allocating annual funding to contribute to the Sustainability Plan Implementation Reserve Account.

ECONOMY

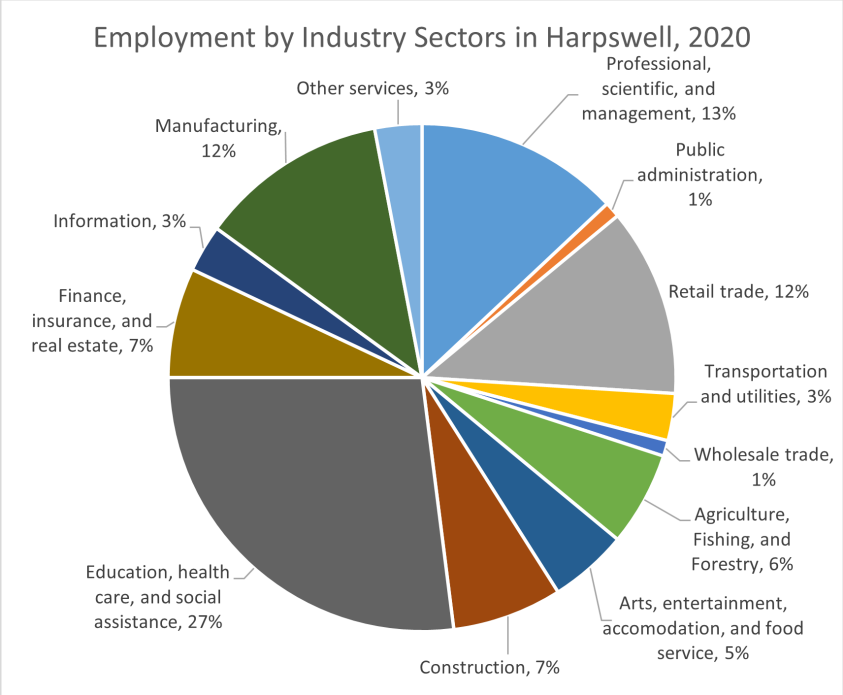
Introduction

Many of the economic factors affecting Harpswell residents and businesses are driven by regional, state, and national factors more than local conditions. Harpswell, by its geography alone, will never be a service center or a large commercial economy. The economy is also influenced by the large percentage of retirees, who are not dependent on local economic conditions for their income. Harpswell does support small businesses related to the marine economy (see the Marine Economy section), tourism, and retail. Since economic impacts do not change quickly or through a single action, it is important that the community work together over the long term to ensure that the economic development that happens is in the best interests of Harpswell.

Issues & Implications

Harpswell's economy is governed by three main factors: continued dependence on the marine economy and tourism; an increase in the percentage of residents employed outside the town in health care and social assistance; and an increase in the retirement-age population, leading to a decrease in labor force participation. As such, the economy of the town is influenced and controlled more by regional and national factors than by local conditions.

Due to its physical beauty, Harpswell will always be a desirable place to visit, so tourism will continue to be a component of the economy. Issues around the lack of affordable workforce housing may act as a constraint upon growing the local economy. The town should consider how to encourage tourism while still maintaining a high quality of life for residents. As the population ages, it may be important to consider the development of healthcare, social service, and home care support industries for local residents.



Employment in Harpswell by industry sector (source: Quarterly Census of Employment and Wages).

Note: This data does not account for self-employed people and therefore undercounts any activity with a high level of self-employed workers, such as fishing.

Goals Overview

While not a major service center, Harpswell is still the center of thriving marine industries and tourism. Supporting commercial fishing and other working waterfront industries is not only vital for the town's economy, but a key part of maintaining the town's character. As the retiree population grows, it will be important to ensure that healthcare and social services needs are met, while also attracting working age people to support local businesses. The following goals will guide the town as it navigates these issues:

- Create a balance between local business and quality of life for all residents and non-residents.
- Understand local, small-scale economic conditions and changes by gathering data.

PHOTO CREDIT: THE WILD OUTSIDERS

Action Highlights

Increase Housing Diversity to Support the Workforce

Housing is one of the most frequently mentioned barriers to attracting and keeping working-age people in Harpswell. Ensuring access to a variety of housing options, including creative seasonal worker housing, would reduce the strain on local businesses and on people who want to live and work in Harpswell. See the Housing Section for more details.

Maintain Data on Businesses

Harpswell is home to many small businesses, particularly in the marine economy sector. However, due to the size of these businesses, especially sole proprietorships, it is difficult to understand the scale and impact these businesses have on the town's economy. Better data on the current number of active businesses and sole proprietorships could inform the support that the town provides to its business community, while documenting the economic impact these businesses have. This could be done through an annual survey, or requiring business owners to contribute to a registry.

CREDIT: HARPSWELL BUSINESS ASSOCIATION

ECONOMY

Goal 1. Create a balance between local business and quality of life for all residents and non-residents.

Policy 1.1 Create policies that encourage and support local, community-scale business.

Strategy 1.1.1. Increase year-round business development that reflects community values.

Strategy 1.1.2. Work with regional economic development programs.

Strategy 1.1.3. Marketing Harpswell businesses through the town's social media

Strategy 1.1.4. Grow the marine industry and related businesses.

Strategy 1.1.5. Continue to work towards greater housing diversity to support local employment.

Strategy 1.1.6. Update, revise, and publicize the document "Business Start Up Steps"

Policy 1.2 Ensure that public infrastructure and investment exists to support local businesses.

Strategy 1.2.1. Review and address deficiencies in parking.

Strategy 1.2.2. Consider ways to finance necessary public infrastructure in order to support local business development.

Policy 1.3 Support existing tourism opportunities while balancing the needs of local residents

Strategy 1.3.1. Consider creative approaches to housing seasonal staff.

Strategy 1.3.2. Develop policies that balance short-term rentals.

Goal 2. Understand micro level economic conditions and changes through gathering data.

Policy 2.1 Collect data to understand changes in the local economy.

Strategy 2.1.1. Maintain a list of all businesses in town, including sole proprietorships and update annually.

Strategy 2.1.2. Measure and set goals for various measurable indicators (employment, receipts, licenses, etc.).

HISTORIC & ARCHEOLOGICAL RESOURCES

Introduction

What is now called Harpswell was once part of a region called Pejepscot by the Native American Anasagunticooks who lived in this area. This region also included present-day Brunswick and Topsham, and was centered on the Androscoggin River, from which the name Pejepscot comes from (likely translating to "long, rocky rapids part"). The Anasagunticooks likely used Harpswell as a summer fishing camp (Local History, 2011).

The first permanent European settler in the area was Thomas Purchase, who arrived in the 1620s. More European settlers followed, intending to trade with the Anasagunticooks, but this caused increased conflict with the local Native Americans. After a series of wars between the Native Americans and Europeans in the 1700s, the Europeans established a more permanent settlement in Harpswell. The town was incorporated in 1758, and became a center of fishing, farming, and shipbuilding.

Today, Harpswell maintains its strong ties to its fishing and maritime heritage and is increasingly known as a tourist destination. Among the notable people who have lived in Harpswell are authors Harriet Beecher Stowe and Robert P. T. Coffin, preacher Elijah Kellogg, arctic explorer Robert E. Peary, and poet Edna St. Vincent Millay (Local History, 2011).

Issues and Implications

Historic and prehistoric sites can shed light on our history, add to a community's sense of place and character, and foster understanding of the place we call home. Harpswell in particular is rich in archeological resources, and the town has taken steps to preserve them, detailed below. Challenges ahead include preparing for climate change impacts on these resources and balancing other land use needs with preservation. Protecting these resources is always a trade-off with other desires for the community. As we begin to think about the policy and practical implications of current development, it is important to think about the historic settlement patterns and how those have shaped the community.

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.

Goals Overview

The Town of Harpswell has a long history, which is integral to the current character of the town. Understanding and preserving the town's unique historical and archeological resources is an important part of honoring the past and informing present decisions. As the town moves forward, the following goals guide the stewardship of its historical and archeological resources:

- Promote knowledge and understanding of the history of Harpswell and integrate this history into town activities.
- Protect Harpswell's historic and archeological resources.
- Understand and mitigate the impacts of climate change on historic resources.

HISTORIC & ARCHEOLOGICAL RESOURCES

Action Highlights

Land Acknowledgment

Harpswell was inhabited long before European settlement by Wabanaki peoples who used the narrow peninsulas as portage between water bodies and created numerous shell middens along the shoreline. Creating an acknowledgement of these people and their stewardship of the land to use at town events could be a way to honor them and the often-untold history of the area. This acknowledgement could be used before town meetings, at the beginning of town documents and plans, and at town events.

Survey Historic Structures

While the Maine State Historic Preservation Commission maintains a database with the National Register of Historic Places, the town should document locally important historic structures for potential rehabilitation or preservation. Creating an updated inventory of historic resources could help track these resources and their condition over time, identify special places for further investment, and provide information for site plan review.

Prepare for Climate Change

Climate change will increase the frequency and intensity of storms, which could cause damage to older historic structures. Developing educational materials for owners of historic structures could help them prepare for climate change and help preserve these buildings for future generations. Basic education and assistance in weather proofing these structures could be provided by the Harpswell Historical Society or the town itself.

PHOTO CREDIT: MHPC

Goal 1. Promote knowledge and understanding of the history of Harpswell, and integrate this history into town activities.

Policy 1.1 Integrate acknowledgment of historical connections to the land as a part of all town events.

Strategy 1.1.1. At town events, incorporate a land acknowledgment of the native people who inhabited the land before European settlement.

Strategy 1.1.2. Encourage the teaching of local history at the Community School.

Strategy 1.1.3. Survey the town's historic structures (e.g. Admiral Peary House, Cribstone Bridge).

Strategy 1.1.4. Create a plaque program to identify buildings on the National Register of Historic Places.

Strategy 1.1.5. Enhance recognition of the historic importance of Route 123 & 24 with explanatory signs.

Strategy 1.1.6. Document historic cemetery locations and burial plots throughout the community.

Strategy 1.1.7. Name the Mountain Road Bridge after Malcom "Laddie" Whidden.

Policy 1.2 Integrate acknowledgment of historical connections in town documents.

Strategy 1.2.1. Add an acknowledgment of the native people who inhabited the land before European settlement to major town documents.

Strategy 1.2.2. Educate landowners on the importance and preservation of archeological sites.

HISTORIC & ARCHEOLOGICAL RESOURCES

Goal 2. Protect Harpswell's historic and archeological resources.

Policy 2.1 Protect Harpswell's archeological sites.

Strategy 2.1.1. Create an ordinance that protects archeological sites.

Strategy 2.1.2. Work with Midden Minders and others to protect and document Shell Middens.

Policy 2.2 Preserve existing historic structures.

Strategy 2.2.1. Create an informational pamphlet for owners of historic structures about resources for maintaining their homes or other historic structures.

Strategy 2.2.2. Work with cemetery caretakers and landowners to protect and restore them.

Goal 3. Understand and mitigate the impacts of climate change on historic resources

Policy 3.1 Prepare for the impacts of climate change on historic resources.

Strategy 3.1.1. Identify and document coastal archeological and historical sites which are threatened by rising sea level and storm activity.

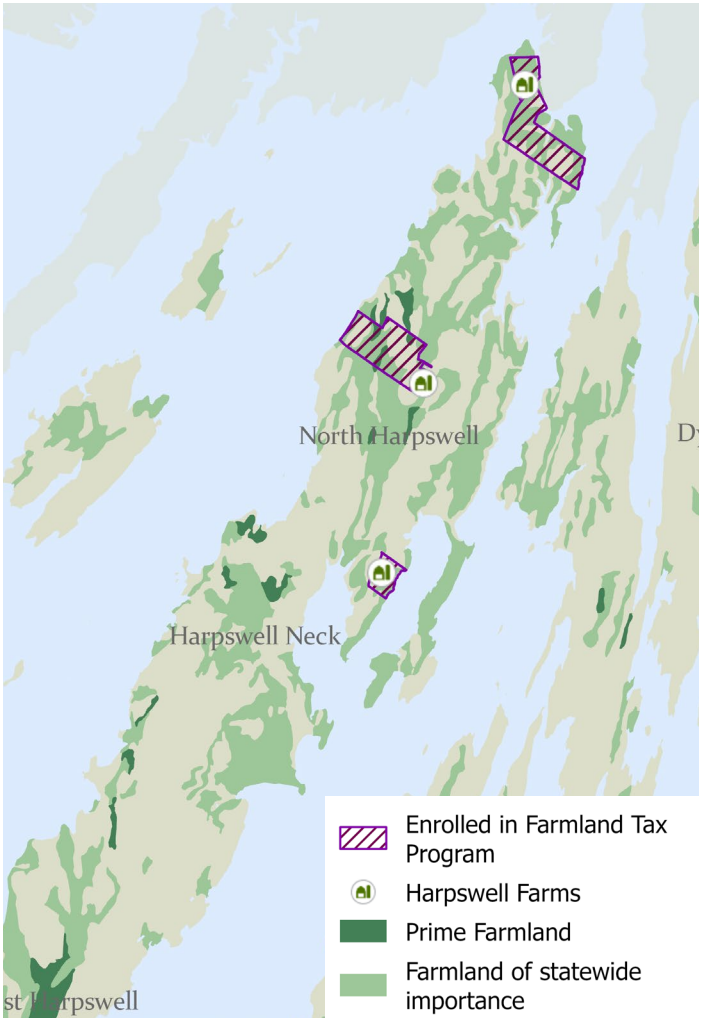
Strategy 3.1.2. Identify historic structures which may be impacted by increased storm intensity of and work with willing landowners to maintain.

AGRICULTURE & FORESTRY

Introduction

At this point in time, neither agriculture nor forestry are economically vital to the community. There are only three remaining active farms, Merriconegan Farm, Two Coves Farm, and Sunset Hill Farm, and a handful of small woodlots. That said, it does not diminish the importance of existing and potential farms and woodlots. Both activities provide other important values to the community, including but not limited to scenic resources, outdoor recreation in the forms of hiking, biking, skiing, and snowshoeing, wildlife habitat, groundwater recharge, carbon sequestration and cooling of the surrounding area as well as a reminder of historic uses of the land.


PHOTO CREDIT: HHLT



Parcels enrolled in the Farmland Current Use Tax Program as of 2022.

Issues and Implications

Programs and promotion of agriculture and forestry should be part of a larger effort within the community to protect appropriate natural, cultural, and historic areas as well as habitat and groundwater protection. It should be noted that to maintain heathy stands of trees, it is often important to plan for selective harvesting and understanding where and when that should take place. In the same way, open fields left un-mowed will rather quickly revert to their forested state. In both instances, it is valuable for the community to maintain both fields and forests in some locations and therefore, may want to review policies which impact both the protection of and the development of these lands.

Policies can be designed to help strategically plan growth for certain areas while at the same time protecting agricultural uses of the land. At the same time, policies can be developed which help to ensure that existing farms continue as well as encouraging the development of future small-scale farming within the town. There are also opportunities to better understand and support the role these lands play in carbon sequestration. Thoughtful land use guidelines and policies will help maintain the scenic and natural benefits provided by Harpswell's farms, fields, and forests.

AGRICULTURE & FORESTRY

Goals Overview

Although Harpswell is not a hub of agriculture and forestry, these activities still play a role in the rural character and scenic nature of the town. These resources could also contribute to carbon sequestration and habitat connectivity. In order to support and maintain these resources, the following goals have been developed:

- Safeguard agricultural and forest resources from development threats.
- Consider impacts of changing climate on agriculture & forestry

Action Highlights

Land Use Review

Ensure that land use regulations support and allow activities related to small scale farming and forestry businesses, such as roadside stands, greenhouses (temporary and permanent), pick your own, firewood, and Christmas tree growing. As the town reviews its land use, consider how changes may impact small agricultural and forestry-related businesses and consider the protection of prime farmland and forest land soils.

Carbon Sequestration

While Harpswell's forests may not make up a large portion of the economy, they are valuable for the carbon storage they provide the town. The town could consider this service provided to the community in its land use ordinances, perhaps adding incentives and resources to encourage landowners in rural areas to protect and manage their forests to maximize carbon sequestration.

Goal 1. Safeguard agricultural and forest resources from development threats.

Policy 1.1 Protect prime farmland and areas that can support commercial forestry to the greatest extent possible.

Strategy 1.1.1. Encourage owners of productive farms and forest lands to enroll in the current use taxation program.

Strategy 1.1.2. Ensure that land use ordinances take into consideration soils that support agriculture and forestry.

Strategy 1.1.3. Encourage land trusts and land protection programs to include protection of working farms and forest lands.

Strategy 1.1.4. Support and encourage existing farming and forestry operations.

Strategy 1.1.5. Ensure that land use regulations allow for activities related to farming such as roadside stands, greenhouses (temporary and permanent), pick your own, firewood, and Christmas tree growing.

Goal 2. Consider climate change impacts on agriculture & forestry

Policy 2.1 Consider the impacts of climate change on agriculture & forestry.

Strategy 2.1.1. Consider the carbon sequestration possibilities of forest lands in land use ordinances.

Strategy 2.1.2. Work with existing farms and commercial forests to plan for changing climate and the growing season changes.

HOUSING

Introduction

Most of Harpswell's housing stock consists of owner-occupied single-family residences, with a few two-unit homes. There has been no multi-family development within the last decade. This lack of housing diversity, paired with an influx of permanent residents and rising demand for coastal land in the state, has dramatically increased housing prices.

According to the 2020 Census data, approximately 34% of the housing units in Harpswell are either seasonal or vacation homes. Based on the town's assessing data, approximately 44% of the tax bills are sent to addresses outside of Harpswell. This includes all parcels whether or not they have a building.

At the time of the 2005 Comprehensive Plan, Harpswell was the least affordable town in the Brunswick-Bath area. As of 2022, Harpswell was no longer the least affordable but still out of reach for 78 percent of the households in the area. Despite adding a provision to the town's land use ordinance for Workforce Housing in 2010, the town has not seen any new workforce housing units developed in the past decade.

As a result, it has become difficult for several segments of the population to afford to live in Harpswell, including people working in the fishing community, essential workers, young families, and elderly residents who want to age in place.

Issues & Implications

Housing affordability is a significant issue for several key portions of Harpswell's population. There are several issues that complicate the creation of attainable housing in Harpswell, despite the existing Workforce Housing provisions.

Three key barriers exist to the development of attainable housing in Harpswell. Developers of attainable housing rely on lower cost land to make units affordable and cannot compete with those who build single-family homes and can recover the cost with higher sales prices. There is also a concern in town about the availability of groundwater that has fostered a reluctance to consider new development. Finally, the town's land use regulations are prohibitive for the creation of attainable housing, including large lot-size requirements and limitations on multi-unit housing. An increase in the number of homes used seasonally and the conversion of units into short-term rentals further restricts the availability of affordable year-round housing.

In order to create more opportunities for attainable housing, there needs to be availability of lower-cost land, provisions to protect groundwater quality in new development, and changes to the town's land use regulations relating to attainable housing. Efforts to create attainable housing must be supported by the community. To the extent possible, this should be housing for the Harpswell community created by the Harpswell community. The Town should encourage local residents to actively participate in the creation of attainable housing to meet the housing needs of our community.

The Town recognizes the need for attainable housing in Harpswell and is committed to exploring options to create housing that will attract and retain people, among whom are young families, waterfront workers, firefighters, teachers, and tradespeople. In addition, the Town will actively seek opportunities to enable older adults to stay in the community. Concerns regarding the housing situation prompted the Select Board to appoint an Affordable Housing Working Group (AHWG) to gather data and recommend possible solutions.

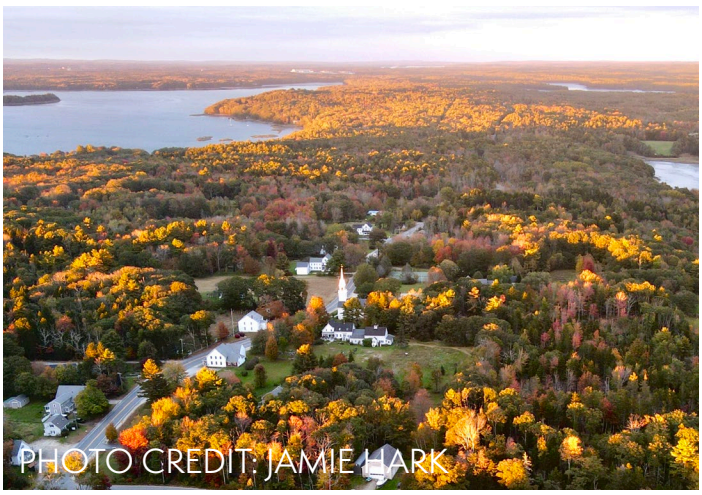


PHOTO CREDIT: JAMIE HARK

Action Highlights

Enhance Local Capacity to Create Attainable Housing

Increasing the availability of attainable housing will require the active involvement of the Town and the community. One approach would be to establish a community loan fund or housing trust fund to provide assistance and funding for the creation of attainable housing, including assisting older residents to create an ADU or to convert their home to a two-unit structure.

Encourage Use of Existing Homes to Create Attainable Housing

Existing but underutilized homes can also be part of the solution. Many of our residents find themselves in situations where one or two people reside in a home that has four or five bedrooms. Not only does this waste space and fail to make use of existing wells and septic systems, but such large older homes are expensive to heat and maintain. The following three options are simple, tried and true ways to increase housing by utilizing the unused portions of these homes:

1. Accessory dwelling units variously referred to as in-law apartments, granny flats, or ADUs.
2. House splitting, dividing a large single-family home into two or even more units.
3. Home sharing, essentially renting a room and sharing common areas

Facilitate the Construction of New Attainable Housing

Utilization of existing homes to create attainable housing can address some of the need for attainable housing. The town will also need to facilitate the construction of new attainable housing. This housing needs to be appropriate for the character and scale of Harpswell. This effort might include the following:

1. Single-family homes variously referred to as cottages, starter homes, or empty-nester homes.
2. Duplexes, whether units are side-by-side or one above the other.
3. Townhouses, with the emphasis on small and discreet.

Assist Homeowners with Energy Efficiency

There are numerous rebates available to assist Maine homeowners in making their homes more efficient. Educating homeowners about the options, as well as low-cost ways to increase the efficiency of their homes, would have an impact on the overall carbon footprint of the town.

PHOTO CREDIT: JAMIE HARK

Goal 1. Create opportunities for the development of attainable housing in Harpswell.

Policy 1.1 Enhance the Local Capacity to Create Attainable Housing

Strategy 1.1.1. Consider establishing a community loan fund or housing trust fund to provide assistance and funding for the creation of attainable housing.

Strategy 1.1.2. Explore working with conservation organizations such as the Harpswell Heritage Land Trust and others to set aside low-/no-cost buildable lots in non-shoreland areas for the construction of attainable single-family homes.

Policy 1.2 Encourage the use of existing homes to create or maintain units that are attainable for young families and older adults.

Increasing the opportunities for creating attainable housing in existing residential structures will requires specific actions related to each of the options as follows:

Strategy 1.2.1. Encourage the creation of ADUs:

- Publicize the recently approved ordinance revision that allows ADUs in non-shoreland areas of the community.
- Develop simplified but thorough "How to Build an ADU" guidelines and incorporate them into a pamphlet or brochure.
- Publicize the benefits of and support for ADUs through an informational outreach program.
- Explore a program to provide assistance to homeowners interested in creating an ADU, including a list of people who can provide structural and design assistance.
- Explore a program to provide homeowners with grants or loans for attainable ADUs.

Strategy 1.2.2. Encourage house splitting:

- Publicize the recently approved ordinance revision that allows a single-family home to be split into two units.
- Create a handout explaining the new opportunity in greater detail.
- Prepare a checklist of issues to be addressed and steps required to split the home.
- Create a list of people who can provide structural and design assistance.

Strategy 1.2.3. Promote home sharing:

- Provide ongoing information about how home sharing works and who it benefits.
- Continue to implement an outreach program to increase community awareness of the Maine Housing/Nesterly statewide home-sharing pilot program.
- Monitor the success of the Maine Housing/ Nesterly program.
- If the pilot program is not successful, explore other sponsors for a local home-sharing program.

Policy 1.3 Provide opportunities for the construction of new housing that is attainable for young families, older adults, and working people.

Increasing opportunities for the construction of new attainable housing may require creative changes to the Town's land use regulations. The intent is to facilitate the construction of single-family homes, duplexes or two-family homes, and townhouses.

Strategy 1.3.1. The process for creating opportunities for each housing type, outside of shoreland areas, is similar:

- Consider revising the Basic Land Use Ordinance to allow single-family homes restricted to "attainable" occupancy to be built on smaller lots.
- Consider revising the Basic Land Use Ordinance to allow duplexes restricted to "attainable" occupancy to be built on smaller lots.
- Consider revising the Basic Land Use Ordinance to allow townhouses with not more than four units per building, restricted to "attainable" occupancy, to be built with a reduced lot area per dwelling unit based on the size of the unit.

- Consider revising the current Workforce Housing provision to establish minimum lot area per unit requirements and to set aside at least 50% of the total area of the parcel as permanent open space.
- Establish the attainability requirements for each type of housing.
- Create simple design standards to ensure that these units are of an appropriate character for the location.
- Undertake an informational program to make landowners, community organizations, builders, and housing developers aware of these new opportunities to construct attainable housing.
- Provide assistance to interested parties to understand the attainability and design requirements.

Goal 2. Understand and mitigate the impacts of climate change on housing.

Policy 2.1 Understand the potential impacts of climate change on housing.

Strategy 2.1.1. Conduct a vulnerability analysis to understand effect of sea level rise and storm surge on housing.

Strategy 2.1.2. Conduct a vulnerability analysis to understand effect of storms and infrastructure loss (roads, electrical lines, internet, etc.) on housing.

Policy 2.2 Mitigate housing impacts from climate change.

Strategy 2.2.1. Upgrade building codes to ensure that new housing is built to withstand stronger and more frequent storms.

Strategy 2.2.2. Assist homeowners with energy efficiency and conversion to more sustainable heating/cooling systems.

Goal 3. Work with regional partners to address housing needs.

Policy 3.1 Identify & collaborate on regional solutions to increase housing diversity & affordability.

Strategy 3.1.1. Support the work of regional housing coalitions and non-profit organizations, such as the Brunswick Housing Authority or Habitat for Humanity/7 Rivers Maine.

Strategy 3.1.2. Explore the possibility of creating a regional housing trust with neighboring communities.

Strategy 3.1.3. Participate in regional housing studies or initiatives.

LAND USE

Current Conditions

In planning for the future of Harpswell, we do not start with a blank canvas. How Harpswell might change is influenced by both the natural and built environments. As noted in the Executive Summary, Harpswell consists of a long, narrow peninsula jutting into the Atlantic Ocean, three large islands connected by a state highway, and a number of small, offshore islands. Due to the glaciers eons ago, the soils are shallow overlaying bedrock and not well-suited for intensive development. Harpswell has no community water or sewerage infrastructure, so development is limited by the need for each parcel to have its own water supply and sewage disposal system. The Town does not have a true community center or village. There are a few more densely developed areas that have their roots in the community's fishing heritage. A few small businesses are scattered primarily along the main roads. The road network is linear, with a few main roads branching off into mostly dead-end roads, with few interconnections or loops. In the built-up areas, the road network is more interconnected, but these only make up a fraction of the roads in town.

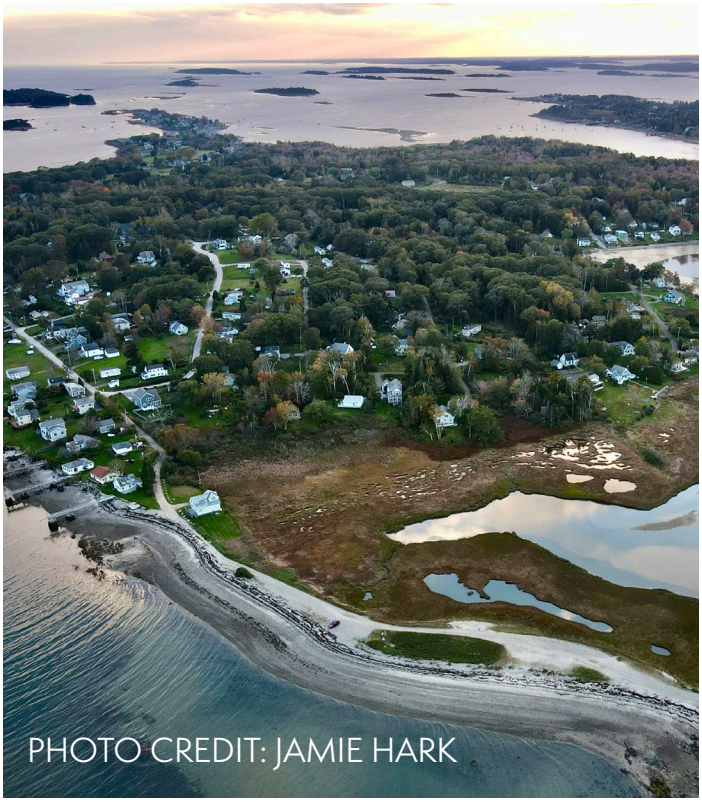


PHOTO CREDIT: JAMIE HARK

Residential and marine related uses ring the shoreline of Harpswell Neck as well as Great Island and Cundy's Harbor, Orr's Island, and Bailey Island. A few of the offshore islands have seasonal homes on them. The inland areas away from the water are predominately undeveloped. The town 's Open Space Plan provides a framework for lands that should be protected for their inherent habitat value as well as areas where it might be possible to connect open spaces.

Residential development over the past few decades has been scattered throughout the community (see map in the housing inventory section). Most of this has been lot-by-lot development with only four modest-sized subdivisions approved. Over the past twenty years, the Town has typically seen 20-25 new homes constructed each year with some year-to- year variation reflecting economic conditions. While the population of the town has not changed much over the past thirty years, there has been steady housing development. During this period, the town has seen a reduction in the average household size and an increase in the median age of the population. In addition to new construction, there is a steady pattern of older homes, particularly in the shoreland area, being torn down and replaced with larger structures. Over the past decade, Harpswell has seen a dramatic market-driven increase in housing costs and a reduction in the inventory of available properties for sale or rent. This has been driven by the increasing desirability of the community and an increase in the use of properties as short-term rentals.

This pattern of dispersed development is a reflection of the natural development potential of the land, the lack of public water supply and sewage disposal, and market forces that drive development toward the ocean. Dispersed development is likely to continue. Suitability of the soils for septic systems, groundwater availability, the lack of an existing town/community center, the desire to maintain the community's rural, scenic character, and market forces make a village/ rural pattern of future development unlikely and unsuitable for the community.

LAND USE

Land Use Objectives

This land use section is intended to lay out a road map to assure that the town changes in ways Harpswell residents want (and does not change in ways residents do not want). But where is that road map trying to take us – what do we want Harpswell to be in the future? There is not necessarily a clear direction for some of the major issues facing Harpswell. Maintaining the working waterfront, dealing with the growth in short-term rentals, managing the use of the groundwater, and addressing housing affordability will require additional study and debate. The following land use objectives attempt to define where we are trying to go:

- Maintain the value of the town's significant natural resources, including coastal and freshwater wetlands, floodplains, streams, and habitats
- Manage development in coastal floodplains to limit the impacts of future flooding as a result of anticipated sea level rise
- Improve and protect the quality of coastal waters, especially those that are harvested, by managing both the quantity and quality of runoff from the land
- Enhance the scenic character and safety of the community's public roads
- Retain and improve access to coastal waters for commercial fishing and recreation
- Protect Harpswell's deep-water ocean frontage from industrialization such as wind power projects and marine (LNG) terminals to facilitate access for commercial fishing and similar uses
- Maintain the rural character of the non-shoreland areas of the community
- Assure that open space is permanently retained when residential development occurs
- Restrict the intensification of use and groundwater withdrawal in shoreland areas especially those areas that are densely developed or have identified groundwater issues
- Encourage the creation of small businesses throughout the interior of the community
- Assure that commercial fishing uses, including home occupations can occur anywhere in the community
- Allow for the improvement and limited expansion of properties in the traditional fishing villages as long as the impact on groundwater use is not increased
- Enable the creation of attainable housing on smaller lots as long as limits for water supply and sewage disposal are not violated


PHOTO CREDIT: DANIEL HOEBEKE

LAND USE

Managing change in Harpswell will require that the Town undertake a comprehensive, interrelated program of land use activities. This section lays out the Town's general land use policies. More detailed land use policies for specific geographic areas are identified in the Future Land Use Plan.

Goal 1. Maintain the Town's Scenic and Rural Character

Policy 1.1 Maintain the character of the community's public roads

Strategy 1.1.1. Require that vegetated buffers be maintained or created along public roads when development occurs .

Strategy 1.1.2. Discourage the creation of new lots fronting on public roads by increasing the minimum lot frontage for lots with vehicular access from a public road.

Strategy 1.1.3. Require that lots in a subdivision with 5 or more lots have the required road frontage on a road or way that is not a public road when possible.

Policy 1.2 Maintain the rural, scenic character of the community

Strategy 1.2.1. Continue to work to implement the Town's adopted Open Space Plan with the Harpswell Heritage Land Trust.

Strategy 1.2.2. Undertake an inventory of the community's scenic resources and develop a program to protect those resources.

Strategy 1.2.3. Require that subdivisions with five or more lots be developed as "open space/ cluster" developments in which at least 50% of the parcel is permanently preserved as open space.

Strategy 1.2.4. Adopt design standards for both residential and nonresidential development to assure that new construction is of a scale that is appropriate for Harpswell.

Goal 2. Manage the Town's Fractured Bedrock Aquifer

Policy 2.1 Encourage the infiltration of precipitation into the ground

Strategy 2.1.1. Require new subdivisions to use Low Impact Development (LID) Best Management Practices (BMPs) to manage storm-water where feasible and maximize infiltration into the ground.

Strategy 2.1.2. Require new residential and nonresidential development, including significant expansions, to use Low Impact Development (LID) Best Management Practices (BMPs) to manage stormwater where feasible and maximize infiltration into the ground.

Strategy 2.1.3. Consider the use of LID BMPs when Town roads are improved or reconstructed.

Policy 2.2 Reduce the demand for the use of Groundwater

Strategy 2.2.1. Require the use of low water-use fixtures when an existing home or nonresidential structure is expanded or renovated

Strategy 2.2.2. Develop and implement a town-wide water conservation initiative, espe-cially in areas with identified groundwater issues

Strategy 2.2.3. Limit land use activities that increase the use of groundwater in areas with identified groundwater issues while allowing reasonable improvement of existing structures

Policy 2.3 Base decisions about the groundwater resource on the best available evidence

Strategy 2.3.1. Develop data on existing wells and their yields and quality in conjunction with the Maine Geological Survey

Strategy 2.3.2. Assure that information on new or replacement wells is reported to the state

Strategy 2.3.3. Undertake a comprehensive update of the previous groundwater studies to evaluate the ability of the bedrock aquifer to support additional development

Strategy 2.3.4. Require that new or replacement wells in areas with the potential for salt water intrusion be located a significant distance from the shoreline

Goal 3. Protect the water quality of the town's water bodies

Policy 3.1 Manage the quality of stormwater runoff

Strategy 3.1.1. Require that vegetated buffers be maintained or created along streams as defined in the state Natural Resources Protection Act (NRPA) and drainage ways when development occurs

Strategy 3.1.2. Require the use of LID BMPs for new development (see Policy 2.1)

Strategy 3.1.3. Maintain a vegetated buffer adjacent to wetlands

Strategy 3.1.4. Continue to manage the use of fertilizers and pesticides with a focus on areas adjacent to coastal and freshwater wetlands, NRPA defined streams, and drainage ways

Goal 4. Assure that the character and scale of new development is appropriate for Harpswell

Policy 4.1 Require that nonresidential uses fit the character of the community

Strategy 4.1.1. Limit the size of commercial and industrial uses other than those involved with commercial fishing and marine uses

Strategy 4.1.2. Develop design standards for new or expanded commercial and industrial uses, including provisions for buffering of adjacent roads and properties, design of parking and service areas, and the design character of the structure(s)

Policy 4.2 Encourage residential use that fits the character and scale of the community.

Strategy 4.2.1. Develop improved design standards for residential uses that are part of a subdivision, including provisions for buffering of adjacent roads and properties, design of roads and parking, and the design character of the structure(s)

Strategy 4.2.2. Develop simple design standards for residential uses that are not part of a subdivision, including provisions for the design character of the structure(s)

Goal 5. Require that new development consider the implications of climate change

Policy 5.1 Evaluate areas that may be subject to future sea level rise

Strategy 5.1.1. Update the recently adopted floodplain maps to identify areas that may be subject to future inundation at various levels of seal level rise

Policy 5.2 Manage development in areas subject to future inundation

Strategy 5.2.1. Revise the Floodplain Management Ordinance and Shoreland Zoning Ordinance to require that new construction or reconstruction be sited and elevated considering the impacts of sea level rise

Strategy 5.2.2. Increase the setback of new or replacement structures with respect to the Highest Astronomical Tide (HAT) line in areas subject to future inundation resulting from sea level rise

Strategy 5.2.3. Require that new or replacement wells in areas with the potential for salt water intrusion be located a significant distance from the shoreline

Goal 6. Facilitate the continuation of the Working Waterfront

Policy 6.1 Protect access to the waterfront

Strategy 6.1.1. Revise the zoning for the Commercial Fishing districts to merge the CF I and CF II districts and to restrict the development or redevelopment of residential uses in this zone

Strategy 6.1.2. Review the Shoreland Zoning Ordinance to evaluate if all areas that are suitable for Working Waterfront uses are included in the Commercial Fishing zone, and revise the zoning map if necessary

Strategy 6.1.3. Identify traditional points of access to the shoreline for commercial fishing and harvesting and work with the land trust, marine organizations, and property owners to permanently secure access for commercial fishing and harvesting

Strategy 6.1.4. Prohibit the industrialization of areas of the shoreline with deep water access from non-recreational and non-commercial fishing/harvesting activities, such as off-shore wind projects and marine (LNG) terminals

Policy 6.2 Protect Working Waterfront facilities

Strategy 6.2.1. Work with the owners of Working Waterfront facilities to assure the continuation of these facilities for commercial fishing and similar uses

Future Land Use Plan (FLUP)

The Future Land Use Plan or FLUP is intended to be a guide for shaping the Town's land use regulations, including the Shoreland Zoning Ordinance and Basic Land Use Ordinance. The FLUP can be thought of as a generalized framework that creates the foundation for the detailed provisions in those ordinances. The FLUP lays out general concepts for guiding growth and change. The details of these concepts will need to be developed during the implementation of the plan. The actions necessary to carry out the concepts of the Future Land Use Plan are outlined in the Implementation section. The FLUP consists of two parts: 1) narrative descriptions of a range of land use designations, and 2) a map that shows where those various designations could apply in a general sense.

Land Use Designations

The section sets out a number of land use designations to guide the review and updating of the Town's Basic Land Use Ordinance and Shoreland Zoning Ordinance. The proposed designations are grouped into four broad categories, each with somewhat similar objectives.

PHOTO CREDIT: JAMIE HARK

LAND USE

I. Natural Resource Designations

The natural resource land use designations are intended to conserve and protect the value of the community's significant natural resources, including undeveloped areas adjacent to coastal wetlands, areas adjacent to freshwater wetlands with significant habitat value, and streams as defined by the state Natural Resources Protection Act.

Coastal Resource Protection – This designation includes undeveloped areas within the 100 year floodplain as well as areas that will be flooded with future sea level rise. This designation should also include areas that have the potential for marsh migration as sea level rise occurs. The objective of this designation is to keep these areas undeveloped and in a natural stated to the extent practical. Development and use in these areas should be limited to recreation and open space and small non-intrusive facilities for community and educational use. Commercial fishing and marine related facilities that require access to the water as well as access to docks and wharves should be allowed. All development in these areas should be limited and strictly controlled. New residential uses should not be allowed, and existing residential structures should be relocated out of this area if feasible if they are reconstructed.

Inland Resource Protection – This designation includes freshwater wetlands with significant waterfowl habitat value, including an adjacent buffer, areas adjacent to wetlands previously identified by the town in the Open Space Plan as having significant resource value, and other significant freshwater wetlands. The objective of this designation is to keep these areas undeveloped and in a natural state to the extent practical. Development and use in these areas should be limited to recreation and open space and small non-intrusive facilities for community and educational use. Gear used in commercial fishing should be allowed to be stored as long as it doesn't compromise the resource value. All development in these areas should be limited and strictly controlled. New residential and commercial uses should not be allowed and existing structures should be relocated if feasible if they are reconstructed.

Stream Protection – This designation should include a strip of land on both sides of streams as defined by the Natural Resources Protection Act. Within this designation, structures including impermeable surfaces would need to be set back from the stream and a vegetated buffer maintained adjacent to the stream.

II. Shoreland Designations

These designations apply to areas subject to shoreland zoning in accordance with state law and regulations that are not addressed in the Natural Resource Protection designations. In general these are areas within two hundred and fifty feet of the Highest Astronomical Tide (HAT) line of coastal waters except for the Mitchell Field Marine Business District which extends further inland

Commercial Fishing Designation – This designation combines the existing Commercial Fishing I (CF I) and Commercial Fishing II (CFII) Districts in the Shoreland Zoning Ordinance to enhance the protection of these areas for commercial fishing and other marine-related uses. The development standards currently in place for the CF I District dealing with setbacks for uses that require direct access to the water and for impermeable surface coverage should apply throughout the designation. New residential and non-marine uses should not be permitted. The reconstruction of pre-existing residential structures should be allowed only if they cannot be relocated outside of the designation. The footprint of any allowed replacement residential or commercial structure should not be increased

Other Shoreland Designations – The land use designations for the areas currently zoned Shoreland Residential, Shoreland Commercial, and Mitchell Field Marine Business District should mirror the respective standards for these areas as set out in the Shoreland Zoning Ordinance. The Town should undertake a comprehensive review of the locations and standards for these designations within 3-5 years.

III. Existing Developed Area Designations

These designations reflect the existing development pattern in some older areas of the community that do not conform to current development standards. The core concept behind these designations is to allow reasonable expansion and replacement of structures on existing lots of record provided that the expanded or replacement structure is consistent with the character of the "neighborhood" with respect to scale, setbacks, and amount of impermeable surface.

Traditional Working Waterfront Villages – This designation should continue to allow a mix of residential and nonresidential uses. Development on newly created lots should meet "modern standards" similar to the standards for the Rural Designation. There should be "special provisions" for existing developed lots or vacant lots of record that would allow expansion or reconstruction of existing structures as well as infill development on vacant lots as long as they are in character with other properties in the immediate area, do not increase the amount of water use, and use LID BMPs to manage stormwater.

Developed Neighborhoods – The standards for this designation should be similar to the Traditional Working Waterfront Villages to allow changes to existing structures that are in keeping with the character of the neighborhood while addressing groundwater use. Consideration should be given to limiting non-residential uses other than home occupations in these areas. The standard for newly created lots should be the same as for lots in the Rural Designation

IV. Rural Conservation Designations

These designations include areas where the Town desires to control residential development to preserve the rural character of much of the interior of the community as well as off-shore islands. Within these designations the scenic nature of Harpswell should be maintained and significant areas of open space preserved. These designations include the balance of the town not included in one of the other designations.

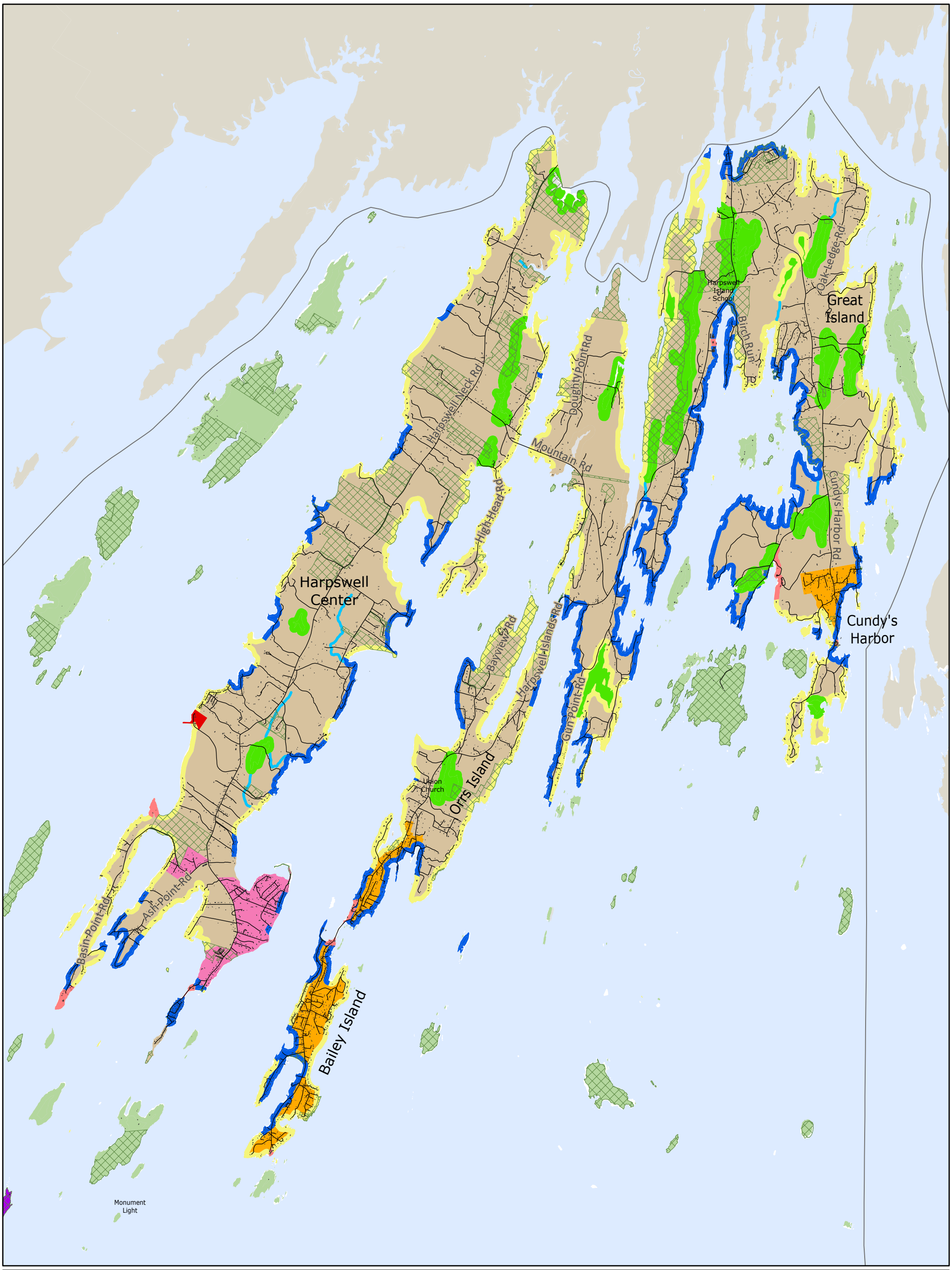
Rural Areas – This designation is intended to limit the amount of new residential development in these areas while assuring that the development that does occur maintains the rural nature of these areas, preserves significant areas of protected open space, and protects the groundwater resource. The lot area requirements for residential uses should be tied to the suitability of the site for development and groundwater considerations. Major subdivisions (five or more lots) should be designed as open space/ cluster development with a significant percentage of protected open space. The areas included in the open space should consider natural resources and the focus areas identified in the Open Space Plan. Residential and nonresidential uses should be allowed but nonresidential structures except for commercial fishing, boat building and repair, and agriculture should be limited in size. The creation of new lots on Routes 24 and 123, the Mountain Road, and other major town roads should be limited and a vegetated buffer maintained or established along the road right-of-way. Consideration should be given to creating special reduced lot area provision for smaller dwelling units that are deed-restricted to a maximum floor area to increase the diversity of housing in Harpswell.

Offshore Islands – This designation should apply to all offshore islands other than Eagle Island that do not have a motor vehicular connection to the neck or three main islands. Use of the islands should be limited to conservation and recreational activities, low intensity residential uses, and fishing and marine-related activities. The lot area requirements for residential uses should be tied to the suitability of the site for development and groundwater considerations. New structures should be required to be set back from the shoreline and a vegetated buffer maintained or established to screen the view of structures from the water.

Eagle Island Historic Designation – The designation applies to Eagle Island. The existing standards for the use of the island and the historic Peary home should be maintained.

Future Land Use Plan

The Future Land Use Plan map depicts, in a generalized sense, where the various land use designations should apply. The map is intended to guide Town revisions of its land use/zoning map. The areas depicted on the map are conceptual. When the Town implements the Comprehensive Plan, the locations and detailed boundaries of the land use/zoning districts will need to be refined. These locations and boundaries may differ somewhat from what is depicted on the Future Land Use Plan map as long as they respect the underlying concepts.



2025 Update of the Harpswell Comprehensive Plan

Draft Future Land Use

Note: Coastal Resource Protection Districts are not shown. See the Shoreland Zoning Map.

- Buildings (2023)
- Conserved Land

Draft Future Land Use (January 2025)

Natural Resource Designations
- Inland Resource Protection
- Stream Protection

Existing Developed Area Designations
- Traditional Working Waterfront
- Villages
- Developed Neighborhoods

Rural Conservation Designations
- Rural
- Offshore Island
- Eagle Island Historic

Shoreland Designations
- Commercial Fisheries
- Mitchell Field Marine Business
- Shoreland Business
- Shoreland Residential

IMPLEMENTATION PLAN

PHOTO CREDIT: JAMIE HARK

Implementation Plan

Implementation of the Comprehensive Plan will require significant commitment by the Select Board, staff, and the public. To facilitate this, the town should establish a Comprehensive Plan Implementation Committee (CPIC) as soon as possible after passage. The CPIC would not be a decision-making body but rather a conduit for information to help the Select Board and other decision-makers track progress, establish priorities and make resource decisions. Initially the CPIC would use the Implementation Grid to identify near term and ongoing actions that could be accomplished reasonably quickly. The CPIC would then work with other town boards and committees to ensure goals, policies and strategies are being addressed. Like other town boards and committees, the CPIC would provide an annual implementation report for inclusion in the town's annual report.

As part of the annual report, the committee will gather permit data from the Code Enforcement Office and map the permits issued. The report will contain at least the following information:

Residential Development

- Map of development over the past 5 years
- Total number of new housing permits issued
- Total number of tear downs/rebuilds
- Total number of housing units by number of bedrooms
- Average number of bedrooms in new housing
- Number of single family, duplex, and apartments with three or more units
- Average square foot living area
- Average lot size
- Number of attainable housing units created

Commercial Development

- Map of development over the past 5 years
- Total number of new commercial/industrial permits issued
- Average lot size
- Average gross floor area

PHOTO CREDIT: JAMIE HARK

IMPLEMENTATION PLAN

PHOTO CREDIT: JAMIE HARK

These reports will serve as information sources for the next comprehensive plan as well as provide the community with information about the effectiveness of the current land use ordinances. Knowing this information will allow the community to make any adjustments necessary to achieve the goals of this plan.

The Implementation Grid found at the end of this chapter presents all of the Goals, Policies, and Strategies developed during this comprehensive planning process. The Implementation Grid is a tool to continue the work done by the community to date. It identifies the responsible party for acting on, overseeing, or otherwise managing each strategy. The Implementation Grid also identifies the time frame in which activities should take place. There are four categories used for the timeframe column: Short (1-2 years), Medium (3-5 years), Long (>5 years), and Ongoing (a task intended to continue beyond the planning timeframe). The Grid can be used by the town to plan out tasks, keep track of what has been accomplished, and report back to the council and other related boards.

One of the key elements identified in Harpswell's vision statement is to enhance the sense of community and strengthen the tradition of volunteerism in town. This should be considered as the strategies are implemented. It may also be a way that committee structures include a broad range of people from town and that decisions are made with as many different voices as possible.

Another key to implementation is to ensure that the town has adequate funds and staffing to implement the programs and recommendations of the plan. The town will need to review the strategies and determine if they can be added to the existing staff or volunteer workload, or if additional staff and resources will be needed. The town should continue to review the capital improvement plan and ensure that any long-term spending is accounted for and understood by the citizens.

In sum, the Comprehensive Plan should be implemented using all the tools at the town's disposal. This should help the community make the best use of resources, coordinate work among the many committees and non-profits that serve the town, and ensure that the town moves forward in a clear direction defined by the Comprehensive Plan.

Abbreviations Used in the Implementation Grid

AWG	Aquaculture Working Group
BAC	Budget Advisory Committee
CC	Conservation Commission
CE	Code Enforcement
CPIC	Comprehensive Plan Implementation Committee
ETC	Energy & Technology Committee
EVC	Emergency Vehicles Committee
FD	All three fire departments
FRPV	Fire & Rescue Planning Committee
HHC	Harpswell Housing Committee
HHLT	Harpswell Heritage Land Trust
HHS	Harpswell Historical Society
HW	Harbor & Waterfront Committee
MF	Mitchell Field Committee
MR	Marine Resources Committee
PB	Planning Board
Recr. C	Recreation Committee
Recycl. C	Recycling Committee
RSC	Resiliency & Sustainability Committee
SB	Select Board
SRPTF	Short-term Rentals Policy Task Force
TC	Technology Committee
TL	Town Lands Committee
TS	Town Staff

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Chapter	Goal	Policy	Strategy	Marine Economy	*Timeframe*	*Responsible Party*	*Completion*
ME	1			Protect and enhance the ability to commercially harvest finfish, lobster, shellfish, and marine worms.			
ME	1	1		Maintain the and enhance the Working Waterfront			
ME	1	1	1	Develop a "right to fish" rule like right to farm rules in the local ordinance.	Short	MR/HW/ CPIC	
ME	1	1	2	Ensure that infrastructure meets the needs of the commercial fishing and harvesting communities.	Ongoing	CPIC	
ME	1	1	3	Review shoreland and land use ordinances to ensure that working waterfront areas are protected from residential and non-water dependent commercial development.	Short	CPIC	
ME	1	1	4	Review working waterfront checklist every two years, update information, review trends, and report to Select Board.	Ongoing	HW/MR	
ME	1	1	5	Maintain detailed information about the number of boats moored in, offloading in, or otherwise working throughout Harpswell.	Ongoing	HW/MR	
ME	1	1	6	Create an updated economic impact report for fisheries in Harpswell.	Medium	SB	
ME	1	1	7	Address lack of storage for commercial fisheries in town.	Medium	SB	
ME	1	1	8	Support necessary level of enforcement for waterfront facility use.	Medium	SB	
ME	1	1	9	Support commercial industry that is reliant on and important to the working waterfront.	Ongoing	SB	
ME	1	1	10	Identify and pursue funding sources, grants, and partnerships to implement strategies identified in the plan.	Ongoing	HW/MR	

ME	2			Preserve and expand intertidal and deep water access.			
ME	2	1		Pursue strategies to expand intertidal access and improve existing access points.			
ME	2	1	1	Work with landowners to create formal protections for informal intertidal access points, including economic incentives. Prioritize access for commercial harvesters.	Medium	MR/HW	
ME	2	1	2	Maintain and improve existing commercial fishing access points.	Medium	HW	
ME	2	1	3	Maintain and improve existing recreational access points.	Medium	HW	
ME	2	1	4	Review Shoreland Zoning and land use ordinances to protect existing access from incompatible development.	Short	CPIC	
ME	2	1	5	Develop commercial access and facilities at Mitchell Field.	Medium	SB/MF	
ME	2	1	6	Work with local realtors to educate new homeowners on existing formal and informal access points.	Short	HW	
ME	2	1	7	Ensure that unbridged islands continue to have access to the shore.	Ongoing	HW	
ME	2	2		Harbor Management			
ME	2	2	1	Update 2011 Harbor Management Plan/complete recommendation to develop management plans for each individual harbor.	Short	HW	
ME	2	2	2	Prioritize commercial fishing boats and un-bridged island residents for mooring space.	Ongoing	HW	
ME	2	2	3	Maintain/expand harbormaster and shellfish warden capacity to manage and address needs in the nearshore environment.	Medium	SB/HW/MR	
ME	2	2	4	Review fees for moorings/access, collect fee structure in surrounding communities for a comparison	Medium	HW	
ME	3			Support maritime-related tourism.			
ME	3	1		Encourage maritime tourism in the town.			
ME	3	1	1	Promote restaurants, motels and waterfront activities whenever possible.	Ongoing	MR	

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ME	4			Integrate aquaculture initiatives with traditional fishing in a collaborative fashion.			
ME	4	1		Support "smart", non-intrusive aquaculture development.			
ME	4	1	1	Work through the recently established Aquaculture Working Group and the Maritime Resources Committee to develop beneficial approaches to aquaculture development.	Ongoing	MR/AWG	
ME	5			Understand and mitigate the impacts of climate change on the Marine Economy			
ME	5	1		Understanding the impacts of climate change on fisheries.			
ME	5	1	1	Monitoring landings over time, identify changes in quantity, quality, size, effort related to catch.	Ongoing	MR	
ME	5	1	2	Stay informed of statewide projects or research related to creating resilient fisheries.	Ongoing	MR	
ME	5	2		Understand impacts on access.			
ME	5	2	1	Review water access points under various sea level rise models, prioritize access preservation and acquisition accordingly.	Medium	HW /MR	
ME	5	2	2	Plan to adapt other infrastructure related to commercial fisheries (e.g., landings, docks, storage, etc.) to sea level rise and changes to storm intensity.	Short	HW/MR/ CPIC	
ME	5	2	3	Plan to adapt mooring fields based on sea level rise and increased storm intensity.	Short	HW	
ME	5	2	4	Incorporate climate change considerations into harbor management planning.	Short	HW	
ME	6			Work with neighboring communities and regional partners to understand and protect marine economic concerns.			
ME	6	1		Work with regional partners to understand and protect marine resources.			
ME	6	1	1	Build on existing and develop new relationships with regionally based organizations and efforts related to commercial fisheries and the marine economy.	Ongoing	MR	
ME	6	1	2	Identify opportunities to work with other communities, regional organizations, and the state to develop climate adaptation efforts.	Ongoing	MR	
ME	6	1	3	Continue to work with state agencies to participate in marine related programs.	Ongoing	MR	

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Chapter	Goal	Policy	Strategy	Marine Resources	*Timeframe*	*Responsible Party*	*Completion*
MR	1			Maintain and improve water quality in nearshore and deep water marine environments.			
MR	1	1		Understand existing marine water quality and future water quality			
MR	1	1	1	Maintain data on date and length of closures caused by rain and paralytic shellfish disease.	Ongoing	MR	
MR	1	1	2	Collect/Update/Maintain data on septic systems on coastal properties, including building on data from previous plans, updated tank and leach field locations, and date of installation.	Short	MR/CC	
MR	1	1	3	Develop a plan to conduct more frequent and consistent shoreline surveys	Medium	MR	
MR	1	1	4	Follow & understand statewide and regional data collection on the presence of PFOA and PFAS levels in its marine waters and respond efficiently.	Medium	MR	
MR	1	2		Institute measures to improve marine water quality.			
MR	1	2	1	Encourage the removal of overboard discharges where possible	Medium	MR/CC	
MR	1	2	2	Support regulation/inspection of coastal septic systems and overboard discharge systems on a 5 year basis.	Long	MR/CC	
MR	1	2	3	Add new and improve existing pump-out stations	Medium	HW	
MR	2			Enhance and maintain the marine ecosystem			
MR	2	1		Understand existing species and habitats.			
MR	2	1	1	Sample and map existing mudflats to determine distribution, density, and type of species present.	Medium	MR	
MR	2	1	2	Continue to map location and density of eel grass	Medium	MR	
MR	2	1	3	Create a detailed map of the shoreline including topography, vegetation, uses, etc.	Medium	MR	
MR	2	2		Protect the marine environment from harm.			
MR	2	2	1	Limit the number of private docks and the size of floats in order to protect eel grass meadows.	Medium	CPIC/PB	

MR	3			Understand and mitigate the impacts of climate change on marine resources.			
MR	3	1		Understand & mitigate climate change-related shifts in marine species & habitats.			
MR	3	1	1	Monitor mudflats for changes in intertidal species distribution, density, type, and predation.	Medium	MR	
MR	3	1	2	Monitor mudflats for changes in tidal exposure time, elevation, and sediment distribution.	Medium	MR	
MR	3	1	3	Follow research being done by Manomet, Wells Reserve, University of Maine, etc. on species and habitat changes relevant to Harpswell.	Ongoing	MR	
MR	3	1	4	Install appropriately sized culverts to allow salt marsh migration.	Short	CC/TS	
MR	4			Work with neighboring communities and regional organizations to protect shared resources.			
MR	4	1		Work with regional partners to understand and protect marine resources.			
MR	4	1	1	Build on existing and develop new relationships with regionally based organizations and efforts related to marine resources.	Ongoing	MR	
MR	4	1	2	Work collaboratively with regional groups and nearby communities working on advocacy around marine resource protection.	Ongoing	MR	
MR	4	1	3	Identify opportunities to work with other communities, regional organizations, and the state to develop climate adaptation efforts.	Ongoing	MR	

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Chapter	Goal	Policy	Strategy	Freshwater Resources	*Timeframe*	*Responsible Party*	*Completion*
W	1			Understand and protect groundwater resources to support the current and future needs of the community.			
W	1	1		Develop a better understanding of groundwater resources and how they are currently being used.			
W	1	1	1	Collect/Update/Maintain data on current wells - build on the data from previous plans to create a database of well locations, capacity, and depth.	Short	CC/TS	
W	1	1	2	Collect/Update/Maintain data on current septic systems - building on data from previous plans, update tank and leach field locations, and date of installation.	Short	CC/MR/TS	
W	1	1	3	Develop a groundwater study to update the existing groundwater capacity study, including consideration of new well and subsurface disposal technology.	Short	CC	
W	1	1	4	Encourage homeowners to test private well water and provide results to the town. Or, help cover the costs of private well testing and require results are provided to the town.	Medium	CC	
W	1	2		Preserve the quantity and quality of groundwater resources			
W	1	2	1	Continue efforts through the WaterWise program to educate property owners on the importance of water conservation. Fully fund the Water Wise program to support the development of professional outreach materials and engagement activities.	Medium	CC	
W	1	2	2	Ensure that citizens understand the importance of proper hazardous waste disposal and continue to provide hazardous waste collection opportunities.	Long	CC	
W	1	2	3	Create an outreach program to educate community members on the necessity of maintaining septic systems and guidance on maintenance best practices.	Medium	CC	
W	1	2	4	Develop a septic pumping program to encourage regular maintenance. This could include postcards to remind people or create a fund to help residents pay to have their septic pumped, on a rotating basis.	Long	CC/TS	
W	1	2	5	Follow best practices for salt use on roads, limiting salt runoff while maintaining roadway safety.	Long	CC/TS	

W	2			Understand and protect the health of surface water resources to support ecosystem and community health.			
W	2	1		Develop a better understanding of surface water quality.			
W	2	1	1	Conduct stream water quality study to create a baseline for improving water quality.	Long	CC	
W	2	1	2	Develop a plan to conduct regular water quality monitoring of key surface water resources.	Medium	CC	
W	2	2		Strengthen measures to improve and protect the health of surface water resources.			
W	2	2	1	Continue to require the use of Low Impact Development BMPs and expand the requirement to include a specific percentage of renovations that expand impervious surfaces.	Long	CPIC	
W	2	2	2	Inventory & create regulation to protect all streams (perennial & ephemeral) that impact marine water quality.	Medium	CC	
w	2	2	3	Develop culvert regulations that require or encourage the use of Coastwise and/or Stream Smart guidelines in culvert installation on both public and private roads.	Medium	CC/RSC/PB	
W	2	2	4	Continue enforcement of erosion control regulations for all public and private construction. Create a working group to review erosion control and water run off related rules.	Long	CC/TS/SB	
W	2	2	5	Continue to provide educational materials to homeowners on best management practices for yard maintenance	Ongoing	CC	
W	3			Understand and mitigate the impacts of climate change on water resources.			
W	3	1		Study and address climate change impacts on potable water and subsurface disposal.			
W	3	1	1	Conduct a groundwater study to understand the threat of saltwater intrusion, greater storm intensity, and drought on potable water resources and the effectiveness of subsurface disposal.	Short	CC	
W	3	1	2	Plan for future development of alternative potable water systems and/or subsurface waste disposal.	Long	SB	
W	3	1	3	Consider the location of buried hazards and storage tanks, and how sea level rise may increase the risk of these hazards contaminating water resources.	Medium	SB	
W	3	1	4	Work with town and school officials to develop conservation policies for water use in public and school buildings.	Long	CC	

W	3	2		Study and address climate change impacts on surface water quality.			
W	3	2	1	Develop regulations to require culverts on public roads to be designed to handle 100+ year storms.	Short	CPIC/PB/ SB	
W	3	2	2	Require stormwater management measures in site review and subdivision rules to account for 100+ year storms.	Medium	CPIC/PB/ SB	
W	3	2	3	Educate homeowners along private roads to encourage properly sized and designed culverts for 100+ year storms. Include details about the risks and costs of not implementing proper sizing.	Long	CC	
W	4			Work with neighboring communities and regional organizations to protect shared resources.			
W	4	1		Work with regional partners to understand and protect groundwater and surface water resources.			
W	4	1	1	Build on existing and develop new relationships with regionally based organizations and efforts related to water resource protection.	Ongoing	CC	
W	4	1	2	Work collaboratively with regional groups working on advocacy around water resource protection.	Ongoing	CC	
W	4	1	3	Identify opportunities to work with other communities, regional organizations, and the state to develop climate adaptation efforts.	Ongoing	CC	

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Chapter	Goal	Policy	Strategy	Natural Resources	*Timeframe*	*Responsible Party*	*Completion*
N	1			Steward the Town's network of open space and the environmental, scenic, cultural, or recreational values they provide.			
N	1	1		Protect and steward open spaces of community importance, especially those that provide key benefits to the community.			
N	1	1	1	Continue to implement the Open Space Plan.	Short	CC	
N	1	1	2	Continue to track changes to the quality and quantity of Open Space over time. Map any resources or special habitats that have limited or missing data, such as vernal pools.	Short	CC	
N	1	1	3	Support community efforts to manage invasive species through educational initiatives, especially in high value environments.	Medium	CC	
N	1	1	4	Consider designating Town-owned land within the Focus Areas outlined in the Open Space Plan for permanent conservation.	Long	CC/TL	
N	2			Protect terrestrial habitats, wetlands, and rare & endangered species.			
N	2	1		Conserve Harpswell's existing natural beauty, habitats, wetlands, wildlife, scenic vistas, and unique natural areas.			
N	2	1	1	Encourage the preservation of important wetlands and saltwater marshes to support fisheries and maintain shoreland buffers.	Long	CC	
N	2	1	2	Identify data gaps for determining most valuable habitats.	Long	CC	
N	2	1	3	Gather and maintain natural resources, habitat, and scenic data in the town's GIS for continued access, updates, and use by town committees.	Medium	CC	
N	2	1	4	Develop scenic inventory to identify important viewsheds that need protection.	Short	CC	
N	2	1	5	Develop habitat map to identify properties with greatest value for habitat preservation.	Medium	CC	
N	2	1	6	Identify and delineate critical habitats for rare and endangered species.	Medium	CC	
N	2	1	7	Protect important habitats through public/private partnerships to purchase land or easements.	Long	CC/HHLT	

N	2	2		Educate the Public about Natural Resources, Critical Habitats, Rare and Endangered Species.			
N	2	2	1	Ensure that citizens understand the presence of critical habitats and rare/endangered species.	Long	CC	
N	2	2	2	Ensure that citizens living in or near critical habitat understand current use taxation programs as well as regulations.	Long	CC	
N	2	2	3	Encourage the planting of native plants in order to maintain locally important habitats.	Short	CC	
N	3			Direct growth to minimize impacts on natural resources			
N	3	1		Review Land Use Ordinances.			
N	3	1	1	Continue to use Beginning with Habitat and other Critical Habitat data as part of the review process for all projects including capital improvements.	Ongoing	CC	
N	3	1	2	Develop Site Plan Review Standards to include scenic views and resources.	Long	CPIC	
N	3	1	3	Ensure that future development maintains open spaces to the greatest extent possible.	Short	CPIC	
N	3	1	4	Regularly review LUOs to maintain consistency with applicable Federal, State, and Local rules.	Ongoing	CC/CPIC	
N	4			Understand and mitigate impacts of climate change on open space in order to protect terrestrial habitats and species			
N	4	1		Provide protection for habitat and species migration due to climate change			
N	4	1	1	Identify areas where marsh migration inland is likely and work with public/private partnerships to preserve these areas.	Medium	CC/HHLT	
N	4	1	2	Consider locations of wildlife corridors to assist in species migration and work to protect these areas.	Long	CC/HHLT	
N	4	1	3	Develop invasive species management plans for those species which pose a direct threat to otherwise healthy habitats.	Long	CC/TL/ HHLT	
N	5			Work with neighboring communities and regional organizations to protect shared resources.			
N	5	1		Work with regional partners to conserve regionally important habitats.			
N	5	1	1	Build on existing and develop new relationships with regionally based organizations and efforts related to natural resource protection.	Ongoing	CC	
N	5	1	2	Work collaboratively with regional groups working on advocacy around natural resource protection.	Ongoing	CC	

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Chapter	Goal	Policy	Strategy	Recreation & Community Services	*Timeframe*	*Responsible Party*	*Completion*
RCS	1			Provide high quality parks and recreational facilities and programming that meets the needs of all of the Town's residents and fosters a healthier, more connected community.			
RCS	1	1		Continue to offer a variety of recreational programs and opportunities for residents of all ages.			
RCS	1	1	1	Support the Recreation Department in programming and facility needs.	Short	SB	
RCS	1	1	2	Continue to identify recreational programming needs and opportunities for young and school-aged children.	Medium	TS	
RCS	1	1	3	Continue to partner with community organizations to offer special programming, such as Harpswell Aging at Home.	Ongoing	TS	
RCS	1	1	4	Continue to update the Guide to Outdoor Recreation as the town's recreational spaces and opportunities change.	Ongoing	TS	
RCS	1	2		Identify opportunities to enhance or expand recreational opportunities to better meet the evolving recreational needs of the community.			
RCS	1	2	1	Identify improvements and additions to recreational facilities for young and school-aged children, such as tot lots, playgrounds, and story walks.	Long	TL/TS	
RCS	1	2	2	Create spaces for community gatherings and events, such as a performance space, picnic area, or other amenities that support community building.	Long	TL	
RCS	1	2	3	Involve the community in any plans to expand facilities or add recreational programming.	Ongoing	TL/TS	
RCS	1	2	4	Plan and allocate funding for the expansion of active recreation facilities at Trufant-Summerton Field.	Medium	TL/TS	
RCS	1	2	5	Identify improvements to passive recreation facilities to support the needs and abilities of older adults.	Long	TL/CC/TS	
RCS	1	2	6	Seek creative ways to combine recreation with education.	Medium	Recr.C	
RCS	1	2	7	Continue to foster a close working relationship with Brunswick to ensure access to facilities at the former NAS, the YMCA, and People Plus.	Ongoing	SB/Recr.C	

RCS	2			Create a robust network of water access points to support recreational boating, fishing, and other water activities, as well as commercial fishing activities.			
RCS	2	1		While ensuring the needs of the commercial fishery industry are met, enhance the amenities and facilities at existing water access points to support the recreational needs of the community.			
RCS	2	1	1	Ensure that existing water access facilities can support increasing demands and traffic, especially in areas that are used for both commercial fishing and recreational uses. Identify opportunities to expand parking, provide restrooms, and improve existing amenities.	Short	HW	
RCS	2	1	2	Create signage at water access points to inform recreational users on how these spaces are also used for commercial fishing, to reduce potential conflict.	Medium	HW	
RCS	2			Protect existing and add additional water access points to support increasing demand for water access.			
RCS	2	2	1	Identify at-risk access points and develop a plan to secure key access points, in collaboration with local land trusts and other organizations.	Short	HW	
RCS	2	2	2	Create a water access fund to support projects to improve or secure water access points. Provide incentives for private landowners to formalize access to the water with a priority of access for commercial fishermen and harvesters.	Medium	HW/MR	
RCS	3			Support and maintain Harpswell's local Community Services Department and its impact on the community.			
RCS	3	1		Maintain support for and growth of local Community Services.			
RCS	3	1	1	Continue to fund staff positions to provide Community Services.	Ongoing	SB	
RCS	3	1	2	Evaluate needs of the community at least bi-annually to determine programming and staffing needs.	Ongoing	TS/SB	
RCS	3	1	3	Consider partnering with HAH to look for additional opportunities.			
RCS	4			Create a more resilient network of recreational facilities.			
RCS	4	1		Plan and prepare for the potential effects of climate change on open spaces by adopting management strategies that build resilience.			
RCS	4	1	1	Identify water access points or facilities that are at risk because of climate change and develop a plan to improve or adapt facilities where possible.	Short	HW/MR	
RCS	4	1	2	Identify recreational facilities that are at risk due to climate change and develop a plan to adapt or replace facilities where possible.	Medium	TL/TS	

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Chapter	Goal	Policy	Strategy	Public Facilities	*Timeframe*	*Responsible Party*	*Completion*
PF	1			Provide the necessary facilities for the function of local government.			
PF	1	1		Ensure adequate municipal facilities and technology.			
PF	1	1	1	Review facility needs and staff needs to ensure that the town offices are maintained, and town departments are appropriately staffed.	Ongoing	SB	
PF	1	1	2	Continue to have and support a Technology Committee to ensure that the town maintains adequate technology for sharing information with the public.	Ongoing	SB/ETC	
PF	1	1	3	Continue to support the town office as a warming center/cooling center in case of emergencies.	Ongoing	ETC/TS	
E	1	2		Ensure that town resources and public engagement are inclusive & accessible.			
E	1	2	1	Continue to offer both online and in-office resources and services so that all members of the public can access them.	Ongoing	SB/TS	
E	1	2	3	Ensure that public engagement continues to have an online component so that those who may not be able to attend meetings, such as people with young children and non-resident land-owners, can add their voices to projects.	Ongoing	SB/TS	
E	1	2	2	Continue to hold the non-resident Select Board meeting in the Summer.	Ongoing	SB	

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PF	2			Provide for the public safety needs of the community.			
PF	2	1		Maintain adequate fire and ambulance services to protect the people and property in Harpswell.			
PF	2	1	1	Support the continued needs of the volunteer Fire & Rescue Organizations in town and ensure adequate funding.	Ongoing	SB	
PF	2	1	2	Work with the three volunteer organizations to ensure that adequate coverage is always available. It will be necessary to boost volunteer recruitment while also increasing support for staffing.	Ongoing	SB	
PF	2	1	3	Consider upgrading the facilities in Cundy's Harbor.	Medium	FD	
PF	2	1	4	Develop a plan to update all communications infrastructure to be digitally compatible, in order to interface with regional dispatch.	Long	FD	
PF	2	1	5	Consider the need for a central Fire & Rescue building on the Mountain Road and continue to gather information.	Short	FRPC	
PF	2	1	6	Plan for adequate capital for the future purchase of trucks, equipment, and building maintenance.	Ongoing	EVC	
PF	2	1	7	Continue to support mutual aid agreements.	Ongoing	FD	
PF	2	1	8	Promote town-wide coordination of services among all the Fire & Rescue volunteers and staff.	Ongoing	FD	
PF	2	1	9	Consider a cost/benefit analysis be conducted before building a central fire station.	Short	FD	
PF	2	2		Maintain adequate police services to protect the people and property in Harpswell.			
PF	2	2	1	Continue to contract policing services of the Cumberland County Sheriff's Department.	Ongoing	SB	
PF	2	2	2	Continue to contract with Cumberland County Sheriff's Department for Marine Patrol Officers.	Ongoing	SB	
PF	2	2	3	Conduct at least an annual review of policing services to ensure that the policing needs of the town are met.	Ongoing	SB	

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PF	3			Plan for the Town's waste management needs.			
PF	3	1		Continue to recycle to the greatest extent possible.			
PF	3	1	1	Provide opportunities for recycling of items not normally available to residents.	Short	Recycl.C	
PF	3	1	2	Budget for public outreach to educate residents about current recycling plans and protocols.	Medium	Recycl.C	
PF	3	1	3	Continue and expand the existing composting program at the Recycling Center.	Medium	Recycl.C	
PF	3	1	4	Continue to track Recycling Rates and evaluate the Extended Producer Responsibility program (stewardship program for packaging) to determine the most sustainable approach to recycling.	Ongoing	Recycl.C	
PF	4			Support and maintain the quality of education in local schools.			
PF	4	1		Maintain support for and growth in the Harpswell Community School.			
PF	4	1	1	Continue to work with MSAD 75 to maintain an excellent school.	Ongoing	SB	
PF	4	1	2	Promote/create ways to leverage the educational value of the Schiller Coastal Studies Center, Quahog Bay Conservancy, as well as HHLT to benefit town school programs.	Medium	CPIC/SB	
PF	5			Support and maintain the quality of services and offerings of the local libraries.			
PF	5	1		Maintain support for and growth of the two local libraries.			
PF	5	1	1	Increase financial support when advised by local library boards.	Medium	SB	
PF	5	1	2	Continue the relationship with Curtis Memorial Library in addition to the offerings of local libraries.	Ongoing	SB	
PF	7			Develop policies to adapt and mitigate the impact of climate change on the Town's public facilities.			
PF	7	1		Increase energy efficiency in all public buildings.			
PF	7	1	1	Conduct an energy audit of public buildings and develop a comprehensive strategy to update the energy efficiency of all public buildings.	Medium	ETC	
PF	7	1	2	Convert public buildings to the most efficient heat/cooling systems that are feasible.	Long	ETC	
PF	7	2		Reduce the use of fossil fuels within the town.			
PF	7	2	1	Continue to purchase electric power from renewable energy resources for municipal uses.	Ongoing	ETC/SB/TS	

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Chapter	Goal	Policy	Strategy	Transportation	*Timeframe*	*Responsible Party*	*Completion*
T	1			Maintain a transportation system that is safe and promotes mobility for the entire community.			
T	1	1		Ensure that land use ordinances relating to transportation and roads are not hindering development of appropriate housing types.			
T	1	1	1	Maintain and improve existing public roads.	Ongoing	SB/TS	
T	1	1	2	Prioritize road funding in town budgets and capital planning.	Ongoing	SB/TS	
T	1	1	3	Ensure that funding, staffing, and equipment exists for all maintenance activities, including ditches, culverts, drainage.	Ongoing	SB/TS	
T	1	1	4	Work closely with MDOT to ensure that projects support town goals.	Ongoing	SB/TS	
T	1	2		Promote public health and sustainability though public transportation, pedestrian and bike access.			
T	1	2	1	Work with regional transportation planning efforts to create opportunities for public transportation.	Long	SB/TS	
T	1	2	2	Develop plans for off-road bicycle and pedestrian trails where possible.	Long	CC/TS/SB	
T	1	2	3	Work with regional planning agency to fund projects.	Ongoing	TS/SB	
T	1	2	4	Provide bike racks at all public gathering locations.	Medium	RSC	
T	1	2	5	Protect the scenic character of Harpwell's Road system.	Ongoing	RSC	
T	2			Reduce the contribution of transportation to climate change.			
T	2	1		Incorporate impacts of climate change into transportation planning.			
T	2	1	1	Improve infrastructure related to electric vehicles, such as charging stations.	Medium	ETC	
T	2	1	2	Adopt Stream Smart Crossing Guidelines for all new public culverts to promote water flow and terrestrial fauna movement. Work to replace existing public culverts to conform to these guidelines.	Medium	CPIC/PB/SB	
T	2	1	3	Increase alternative transportation options; including pedestrian, bicycle, and public transportation when & where feasible.	Long	TS/SB	

T	3			Understand and mitigate the impacts of climate change on the transportation system.			
T	3	1		Understanding Impacts on the transportation system			
T	3	1	1	Identify and prepare preliminary engineering designs for areas where sea level rise or increased storms will impact roads and trails.	Medium	RSC	
T	3	1	2	Plan to incorporate Stream Smart and Coastwise guidelines in any future culvert replacement projects.	Medium	RSC/TS	
T	3	1	3	In all capital improvement projects, ensure they are engineered to account for increased storm surge and sea level rise.	Short	RSC	
T	3	1	4	Ensure that current road standards for public and private roads also account for climate change impacts.	Medium	RSC	

IMPLEMENTATION PLAN

Chapter	Goal	Policy	Strategy	Fiscal Capacity	*Timeframe*	*Responsible Party*	*Completion*
FC	1			Promote community discussion of Long-term Capital Projects.			
FC	1	1		Monitor the costs of delivering services to town residents.			
FC	1	1	1	Continue annual review of Capital Projects. Request input from all Boards & Committees and provide opportunities for public discussion.	Ongoing	TS/BAC/SB	
FC	1	1	2	Consider developing a ten-year rolling Capital Improvement Plan.	Medium	TS/BAC/SB	
FC	1	2		Consider the most cost-effective ways to fund Capital Projects.			
FC	1	2	1	Look for grant funding opportunities to support capital improvement projects wherever possible.	Ongoing	TS/SB	
FC	1	2	2	Consider the implementation of projects that address multiple needs and maximize the impact of funds.	Ongoing	TS/SB	
FC	1	2	3	Look at various funding options, including long term funding plans, that can help implement more costly projects.	Ongoing	TS/SB	
FC	2			Develop Fiscal Policies that account for climate change			
FC	2	2		Reduce use of fossil fuels for energy needs in public buildings.			
FC	2	2	2	Develop a plan for solar power generation on or near town buildings.	Medium	ETC/SB	
FC	2	2	3	Require all new capital investments or projects to consider climate change impacts.	Medium	TS/SB	
FC	2	3		Address Climate Impacts throughout the Capital Improvement Plan			
FC	2	3	1	Review existing Capital Improvement Plan and incorporate climate change considerations.	Short	TS/SB	
FC	2	3	2	Add/Prioritize Capital Improvement items to address climate issues related to public buildings, infrastructure, trails, open spaces, etc.	Medium	TS/SB	
FC	2	4		Ensure adequate funding to support projects that increase resilience and sustainability.			
FC	2	4	1	Consider allocating annual funding to contribute to the Sustainability Plan Implementation Reserve Account.	Medium	TS/SB	

IMPLEMENTATION PLAN

Chapter	Goal	Policy	Strategy	Economy	*Timeframe*	*Responsible Party*	*Completion*
E	1			Create a balance between supporting local business and the quality of life for all community members.			
E	1	1		Create policies that encourage and support local, community-scale business.			
E	1	1	1	Increase year-round small business development that reflects community values.	Medium	SB	
E	1	1	2	Work with regional economic development programs.	Ongoing	SB	
E	1	1	3	Marketing Harpswell business through the town's social media.	Short	TS	
E	1	1	4	Grow the marine industry and marine-related businesses.	Ongoing	SB	
E	1	1	5	Continue to work towards greater housing diversity to support local employment.	Ongoing	HHC	
E	1	1	6	Update, revise, and publicize the document "Business Start Up Steps"	Short	TS	
E	1	3		Ensure that public infrastructure and investment exists to support local businesses.			
E	1	3	1	Review and address deficiencies in public parking spaces.	Medium	SB	
E	1	3	2	Consider ways to finance necessary public infrastructure in order to support local business development.	Ongoing	SB	
E	1	4		Support existing tourism opportunities while balancing the needs of local residents			
E	1	4	1	Consider creative approaches to housing seasonal of staff.	Medium	HHC	
E	1	4	2	Develop policies that balance short-term rentals, regulating the impact of rentals on the community.	Short	SRPTF	
E	2			Understand micro level economic conditions and changes through gathering data.			
E	2	1		Collect data to understand changes in the local economy.			
E	2	1	1	Maintain a list of all businesses in town, including sole proprietorships and update annually.	Ongoing	TS	
E	2	1	2	Measure and set goals for various indicators (employment, receipts, licenses, etc.)	Ongoing	SB	

IMPLEMENTATION PLAN

Chapter	Goal	Policy	Strategy	Historic & Archaeological Resources	*Timeframe*	*Responsible Party*	*Completion*
HR	1			Promote knowledge and understanding of the history of Harpswell and integrate this history into town activities.			
HR	1	1		Integrate acknowledgment of historical connections to the land as a part of all town events.			
HR	1	1	1	At town events, incorporate a land acknowledgment of the native people who inhabited the land before European settlement.	Medium	CPIC	
HR	1	1	2	Encourage the teaching of local history at the Community School.	Medium	HHS	
HR	1	1	3	Survey the town's historic structures (e.g. Admiral Peary House, Cribstone Bridge).	Long	CPIC/HHS	
HR	1	1	4	Create a plaque program to identify buildings on the National Register of Historic Places.	Long	CPIC	
HR	1	1	5	Enhance recognition of the historic importance of Route 123 & 24 with explanatory signs.	Long	HHS	
HR	1	1	6	Document historic cemetery locations and burial plots throughout the community.	Long	HHS	
HR	1	1	7	Name the Mountain Road Bridge after Malcom "Laddie" Whidden.	Medium	HHS	
HR	1	2		Integrate acknowledgment of historical connections in town documents.			
HR	1	2	1	Add an acknowledgment of the native people who inhabited the land before European settlement to major town documents.	Medium	CPIC	
HR	1	2	2	Educate landowners on the importance and preservation of archeological sites.	Long	RSC	

HR	2			Protect Harpswell's historic and archeological resources.			
HR	2	1		Protect Harpswell's archeological sites.			
HR	2	1	1	Create an ordinance that protects archaeological sites.	Long	CPIC	
HR	2	1	2	Work with Midden Minders and others to protect and document Shell Middens.	Ongoing	RSC	
HR	2	1		Preserve existing historic structures.			
HR	2	1	3	Create an informational pamphlet for owners of historic structures about resources for maintaining their homes or other historic structures.	Long	HHS	
HR	2	1	4	Work with cemetery caretakers and landowners to protect and restore them.	Long	HHS	
HR	3			Understand and mitigate the impacts of climate change on historic resources			
HR	3	2		Prepare for the impacts of climate change on historic resources.			
HR	3	2	1	Identify and document coastal archeological and historical sites which are threatened by rising sea level and storm activity.	Long	RSC	
HR	3	2	2	Identify historic structures which may be impacted by increased storm intensity and work with willing landowners to maintain.	Long	CPIC	

IMPLEMENTATION PLAN

Chapter	Goal	Policy	Strategy	Agriculture & Forestry	*Timeframe*	*Responsible Party*	*Completion*
AF	1			Safeguard agricultural and forest resources from development threats.			
AF	1	1		Protect prime farmland and areas that can support commercial forestry to the greatest extent possible.			
AF	1	1	1	Encourage owners of productive farms and forest lands to enroll in the current use taxation program.	Ongoing	TS	
AF	1	1	2	Ensure that land use ordinances take into consideration soils that support agriculture and forestry.	Long	CPIC	
AF	1	1	3	Encourage land trusts and land protection programs to include protection of working farms and forest lands.	Ongoing	CC/HHLT	
AF	1	2		Support and encourage existing farming and forestry operations.			
AF	1	2	1	Ensure that land use regulations allow for activities related to farming such as roadside stands, greenhouses (temporary and permanent), pick your own, firewood, and Christmas tree growing.	Medium	CPIC	
AF	2			Understand and mitigate the impacts of climate change on agriculture and forestry.			
AF	2	2		Consider the Impacts of climate change on agriculture and forestry.			
AF	2	2	1	Consider the carbon sequestration possibilities of forest lands in land use ordinances.	Long	RSC	
AF	2	2	2	Work with existing farms and commercial forests to plan for changing climate and the growing season changes.	Long	RSC	

IMPLEMENTATION PLAN

Chapter	Goal	Policy	Strategy	Housing	Timeframe	Responsible Party	Completion
H	1			Create opportunities for the development of attainable housing in Harpswell.			
H	1	1		Enhance the local capacity to create attainable housing.			
H	1	1	1	Consider establishing a community loan fund or housing trust fund to provide assistance and funding for the creation of attainable housing,	Short	HHC/CPIC	
H	1	1	2	Explore working with conservation organizations such as the Harpswell Heritage Land Trust and others to set aside low-/no-cost buildable lots in non-shoreland areas for the construction of attainable single-family homes	Medium	HHC	
H	1	2		Encourage the use of existing homes to create or maintain units that are attainable for young families, older adults.			
H	1	2	1	Encourage the creation of Accessory Dwelling Units (ADU)s.	Short	HHC/CPIC	
H	1	2	2	Encourage house splitting.	Short	HHC	
H	1	2	3	Promote home sharing.	Short	HHC	
H	1	3		Provide opportunities for the construction of new housing that is attainable for young families, older adults, and working people.			
H	1	3	1	Consider revising the Basic Land Use Ordinance	Short	HHC/PB	
H	1	3	2	Establish the attainability requirements for each type of housing	Short	HHC/SB	
H	1	3	3	Create simple design standards	Medium	HHC/PB	

H	2			Understand and mitigate the impacts of climate change on housing.			
H	2	1		Understand the potential impacts of climate change on housing.			
H	2	1	1	Conduct a vulnerability analysis to understand effect of sea level rise and storm surge on housing.	Medium	RSC	
H	2	1	2	Conduct a vulnerability analysis to understand effect of storms and infrastructure loss (roads, electrical lines, internet, etc.) on housing.	Medium	RSC	
H	2	2		Mitigate housing impacts from climate change.			
H	2	2	1	Upgrade building codes to ensure that new housing is built to withstand stronger and more frequent storms.	Medium	CPIC/RSC	
H	2	2	2	Assist homeowners with energy efficiency and conversion to more sustainable heating/cooling systems.	Medium	RSC	
H	3			Work with regional partners to address housing needs.			
H	3	1		Identify & collaborate on regional solutions to increase housing diversity & affordability.			
H	3	1	1	Support the work of regional housing coalitions and non-profit organizations, such as the Brunswick Housing Authority or Habitat for Humanity/7 Rivers Maine.	Ongoing	HHC	
H	3	1	2	Explore the possibility of creating a regional housing trust with neighboring communities.	Ongoing	HHC	
H	3	1	3	Participate in regional housing studies or initiatives.	Ongoing	HHC	

IMPLEMENTATION PLAN

Chapter	Goal	Policy	Strategy	Land Use	Timeframe	Responsible Party	Completion
LU	1			Maintain the town's scenic and rural character.			
LU	1	1		Maintain the character of the community's public roads.			
LU	1	1	1	Require that vegetated buffers be maintained or created along public roads when development occurs.	Medium	HCC/PB	
LU	1	1	2	Discourage the creation of new lots fronting on public roads by increasing the minimum lot frontage for lots that get vehicular access from a public road.	Medium	CPIC/PB	
LU	1	1	3	Require that lots in a major subdivision with 5 or more lots have the required road frontage on a road or way that is not a public road when possible.	Medium	CPIC/PB	
LU	1	2		Maintain the rural, scenic character of the community			
LU	1	2	1	Continue to work to implement the Town's adopted Open Space Plan in conjunction with the Harpswell Heritage Land Trust.	Ongoing	HCC	
LU	1	2	2	Undertake an inventory of the community's scenic resources and develop a program to protect those resources as development and change occurs.	Medium	HCC	
LU	1	2	3	Require that major subdivisions with five or more lots be developed as "open space/cluster" developments in which at least fifty percent of the parcel is preserved as permanent open space.	Short	CPIC/PB	
LU	1	2	4	Adopt design standards for both residential and nonresidential development to assure that new construction is of a scale that is appropriate for Harpswell.	Medium	CPIC/PB	

LU	2			Manage the town's fractured bedrock aquifers.			
LU	2	1		Encourage the infiltration of precipitation into the ground.			
LU	2	1	1	Require new subdivisions to use Low Impact Development (LID) Best Management Practices (BMPs) to manage stormwater where feasible and maximize infiltration into the ground.	Short	PB	
LU	2	1	2	Require new residential and nonresidential development, including significant expansions, to use Low Impact Development (LID) Best Management Practices (BMPs) to manage stormwater where feasible and maximize infiltration into the ground.	Short	PB	
LU	2	1	3	Consider the use of LID BMPs when Town roads are improved or reconstructed.	Short	Road Commissioner	
LU	2	2		Reduce the demand for the use of groundwater.			
LU	2	2	1	Require the use of low water-use fixtures when an existing home or nonresidential structure is expanded or renovated.	Short	CE/PB	
LU	2	2	2	Develop and implement a town-wide water conservation initiative, especially in areas with identified groundwater issues.	Short	CPIC/RSC	
LU	2	2	3	Limit land use activities that increase the use of groundwater in areas with identified groundwater issues while allowing reasonable improvement of existing structures.	Short	PB	
LU	2	3		Base decisions about groundwater resources on the best available evidence.			
LU	2	3	1	Develop data on existing wells and their yields and quality in conjunction with the Maine Geological Survey.	Short	HCC/RSC	
LU	2	3	2	Assure that information on new or replacement wells is reported to the state.	Short	HCC/RSC	
LU	2	3	3	Undertake a comprehensive update of the previous groundwater studies to evaluate the ability of the bedrock aquifer to support additional development.	Short	RSC/SB	
LU	2	3	4	Require that new or replacement wells in areas with the potential for salt water intrusion be located a significant distance from the shoreline.	Short	CE/PB	
LU	3			Protect the water quality of the town's water bodies.			
LU	3	1		Manage the quality of stormwater runoff.			
LU	3	1	1	Require that vegetated buffers be maintained or created along streams as defined in the state Natural Resources Protection Act (NRPA) and drainage ways when development occurs.	Short	HCC/PB	
LU	3	1	2	Require the use of LID BMPs for new development (see Policy 2.1).	Short	PB	
LU	3	1	3	Maintain a vegetated buffer adjacent to wetlands.	Short	PB	
LU	3	1	4	Continue to manage the use of fertilizers and pesticides with a focus on areas adjacent to coastal and freshwater wetlands, NRPA defined streams, and drainage ways.	Short	HCC	

LU	4			Assure that the character and scale of new development is appropriate for Harpswell.			
LU	4	1		Require that nonresidential uses fit the character of the community.			
LU	4	1	1	Limit the size of commercial and industrial uses other than those involved with commercial fishing and marine uses.	Short	CPIC/PB	
LU	4	1	2	Develop design standards for new or expanded commercial and industrial uses, including provisions for buffering of adjacent roads and properties, design of parking and service areas, and the design character of the structure(s).	Medium	CPIC/PB	
LU	4	2		Encourage residential use that fits the character and scale of the community.			
LU	4	2	1	Develop improved design standards for residential uses that are part of a subdivision, including provisions for buffering of adjacent roads and properties, design of roads and parking, and the design character of the structure(s).	Medium	CPIC/PB	
LU	4	2	2	Develop simple design standards for residential uses that are not part of a subdivision, including provisions for the design character of the structure(s).	Medium	CPIC/PB	
LU	5			Require that new development consider the implications of climate change.			
LU	5	1		Evaluate areas that may be subject to future sea level rise.			
LU	5	1	1	Update the recently adopted floodplain maps to identify areas that may be subject to future inundation at various levels of seal level rise.	Short	RSC/PB	
LU	5	2		Manage development in areas subject to future inundation.			
LU	5	2	1	Revise the Floodplain Management Ordinance and Shoreland Zoning Ordinance to require that new construction or reconstruction be sited and elevated considering the impacts of sea level rise.	Medium	CPIC/PB	
LU	5	2	2	Increase the setback of new or replacement structures with respect to the Highest Astronomical Tide (HAT) line in areas subject to future inundation resulting from sea level rise.	Short	CPIC/PB	
LU	5	2	3	Require that new or replacement wells in areas with the potential for salt water intrusion be located a significant distance from the shoreline (See Strategy 2.3.4).	Short	CE/PB	

LU	6			Facilitate the continuation of the working waterfront.			
LU	6	1		Protect access to the waterfront.			
LU	6	1	1	Revise the zoning for the Commercial Fishing districts to merge the CF I and CF II districts and to restrict the development or redevelopment of residential uses in this zone.	Medium	CPIC/PB	
LU	6	1	2	Review the Shoreland Zoning Ordinance to evaluate if all areas that are suitable for Working Waterfront uses are included in the Commercial Fishing zone, and revise the zoning map if necessary.	Medium	CPIC/PB	
LU	6	1	3	Identify traditional points of access to the shoreline for commercial fishing and harvesting and work with the land trust, marine organizations, and property owners to permanently secure access for commercial fishing and harvesting.	Short	CPIC/PB	
LU	6	1	4	Prohibit the industrialization of areas of the shoreline with deep water access from non-recreational and non-commercial fishing/harvesting activities, such as off-shore wind projects and marine (LNG) terminals.	Ongoing	CPIC/PB	
LU	6	2		Protect working waterfront facilities.			
LU	6	2	1	Work with the owners of working waterfront facilities to assure the continuation of these facilities for commercial fishing and similar uses.	Ongoing	CPIC/PB	

IMPLEMENTATION PLAN

Chapter	Goal	Policy	Strategy	Future Land Use	*Timeframe*	*Responsible Party*	*Completion*
FLU	1			Implement the Future Land Use Plan.			
FLU	1	1		Revise the Shoreland Zoning Ordinance.			
FLU	1	1	1	Merge the current CF I and CF II zones into a new Commercial Fishing Zone.	Short	CPIC/PB	
FLU	1	1	2	Create revised standards for the new Commercial Fishing Zone.	Short	CPIC/PB	
FLU	1	1	3	Revise the Resource Protection Zone to create new Coastal and Inland Resource Protection Zones.	Short	CPIC/PB	
FLU	1	1	4	Revise the zoning map to designate the Offshore Islands Zone and amend the ordinance to establish the standards for the new zone.	Short	CPIC/PB	
FLU	1	2		Revise the Basic Land Use Ordinance.			
FLU	1	2	1	Revise the zoning map to designate the Traditional Working Waterfront Village Zone and amend the ordinance to establish the standards for the new zone.	Short	CPIC/PB	
FLU	1	2	2	Revise the zoning map to designate the Developed Neighborhoods Zone and amend the ordinance to establish the standards for the new zone.	Short	CPIC/PB	
FLU	1	2	3	Revise the zoning map to designate the Stream Protection Zone and amend the ordinance to establish the standards for the new zone.	Short	CPIC/PB	
FLU	1	2	4	Revise the zoning map to designate the Rural Zone and amend the ordinance to establish the standards for the new zone.	Short	CPIC/PB	

2025
Harpswell Comprehensive Plan
Part 2: Background Information - Inventories

Developed by the Comprehensive Plan Task Force
September 10, 2025

LAND ACKNOWLEDGMENT

Harpswell begins this plan by recognizing the stewardship of the Abenaki people, part of the Wabanaki Confederation, who lived in what is now Harpswell before the arrival of Europeans.

We acknowledge that these lands are the unceded territory of the Abenaki people.

We are dedicated to developing a deeper understanding of those who came before us and to repairing our relationship with this land.

PHOTO CREDIT: JAMIE HARK

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PART II

INVENTORY INTRODUCTION

Relevant Plans

Mitchell Field Master Plan (2007)

The Mitchell Field Committee developed the Master Plan to create a comprehensive vision for Mitchell Field, incorporating public feedback from extensive outreach and site review. The resulting plan laid out recommendations to balance a variety of interests, including public waterfront access, passive recreation opportunities, a deepwater boat launch, a mixed-income housing development, and opportunities for marine businesses. View the Mitchell Field Master Plan on Harpswell's website, here.

Open Space Plan (2009)

The Open Space Plan was developed by the Harpswell Conservation Commission (HCC) as part of the implementation process for the 2005 Comprehensive Plan. It made recommendations to improve recreational opportunities, guide residential development, and support the health of the marine economy. The plan identifies five key resources to protect: fresh, salt, and groundwater; high value habitats, scenic splendor, recreation, and cultural/historic/civic locations. Using these priorities and an inventory of open space, the HCC identified focus areas for conservation. View the Open Space Plan on Harpswell's website, here.

Coastal Waters Management Plan (2011)

The Harbor and Waterfront Committee developed this plan with the Harbormaster as a working document to guide goals for the next 10-15 years. This plan included a resource inventory of the 14 major harbor areas, documenting mooring areas, public access points, harbor uses, and environmental conditions. Based on the inventory, a water classification system was developed to help identify the different needs of harbor areas. The final section of the plan identified nine issues affecting Harpswell's harbors and actions to address them. View the Coastal Waters Management Plan on Harpswell's website, here.

Economic Development Plan (2013)

Harpswell hired a consultant to develop an economic strategy for the town, based on public feedback and an economic analysis. This plan discussed what residents hoped economic development would mean in Harpswell, including more employment opportunities for residents, increased incomes, attracting new, year-round families, and maintaining community character, heritage, and environmental quality. The plan describes an approach to support existing businesses and encourage new businesses of an appropriate scale for the community. Four focus areas came out of this process: (1) Strengthen the fishing, aquaculture, and marine-related businesses, (2) Support local business, (3) Promote tourism and the arts, and (4) Build marine research capacity. View the Economic Development Plan on Harpswell's website, here.

Housing For Harpswell Report

In 2022, the town established an Affordable Housing Working Group (AHWG) to study and address housing affordability. Housing for Harpswell sets out a series of proposals to increase the opportunities for expanding the supply of attainable housing that is consistent with the scale and character of Harpswell. The proposals address the use of existing housing as well as proposals to facilitate the construction of smaller single-family homes, duplexes and townhouses. Many of the strategies identified in the report are incorporated into this Comprehensive Plan. View the full report of the AHWG, "Housing for Harpswell" on Harpswell's website, here.

INVENTORY INTRODUCTION

A Snapshot of Harpswell

At the beginning of the planning process, the planning team, in collaboration with town staff, community members, committees, and many others, gathered background information on a range of topics important to the community. These topics were based on the State's Comprehensive Plan Checklist, with a few additional topics specific to Harpswell. These included:

- Demographics
- Marine Economy
- Marine Resources
- Freshwater Resources
- Natural Resources
- Recreation & Community Services
- Public Facilities
- Transportation
- Fiscal Capacity
- Economy
- Historical & Archaeological Resources
- Agriculture & Forestry
- Housing
- Land Use

These data and information were brought together to create as complete of a picture of Harpswell as possible. The team relied on existing data sources, such as data from State agencies, data and reports collected by municipal staff and committees, and federal data (such as the US Census). However, there were some gaps, such as a lack of data on sole proprietorships (which account for a number of the marine fisheries businesses in Harpswell). Where data was lacking, the team identified it as a potential need, and drew on alternative sources when possible. In addition to data, information on the activities, plans, and priorities of the town and committees were also incorporated into the inventories.

The inventories were shared with the community at the Inventory Open House. They were also referenced as the Task Force developed goals, policies, and strategies for each topic.

These inventories are the foundation of the Comprehensive Plan, and also serve as a snapshot of Harpswell for future reference. During the implementation process, the inventories may be useful to the town or committees as supporting information and to add context to the intention behind certain recommendations.

POPULATION & DEMOGRAPHICS

Introduction

An understanding of the population growth and change occurring within Harpswell and the region is essential to developing a realistic plan for the future. In a reversal of the trend highlighted in the last Comprehensive Plan (2005), the population of Harpswell is slightly increasing. While it is difficult to predict lasting demographic trends, especially considering the dramatic changes seen during the COVID-19 pandemic, taking stock of trends from the past is a starting point to inform Harpswell's priorities. The age distribution, income, and other demographic characteristics of the population can inform what type of services Harpswell should provide and how the town prioritizes investment and land use to best serve the community.

Issues & Analysis

Harpswell's population has grown over the past few years, due to new residents moving in and seasonal homeowners establishing full-time residency. The proportion of the population over 65 years old is increasing, while the proportion of children and young adults continues to shrink. The middle-aged population is now starting to decline slightly as well. As the population shifts to older adults, Harpswell may need to prioritize access to healthcare services, transportation alternatives, walkability, and accessibility of public facilities. There is also an opportunity to incorporate more spaces or facilities that serve intergenerational needs, such as accessible parks or community centers.

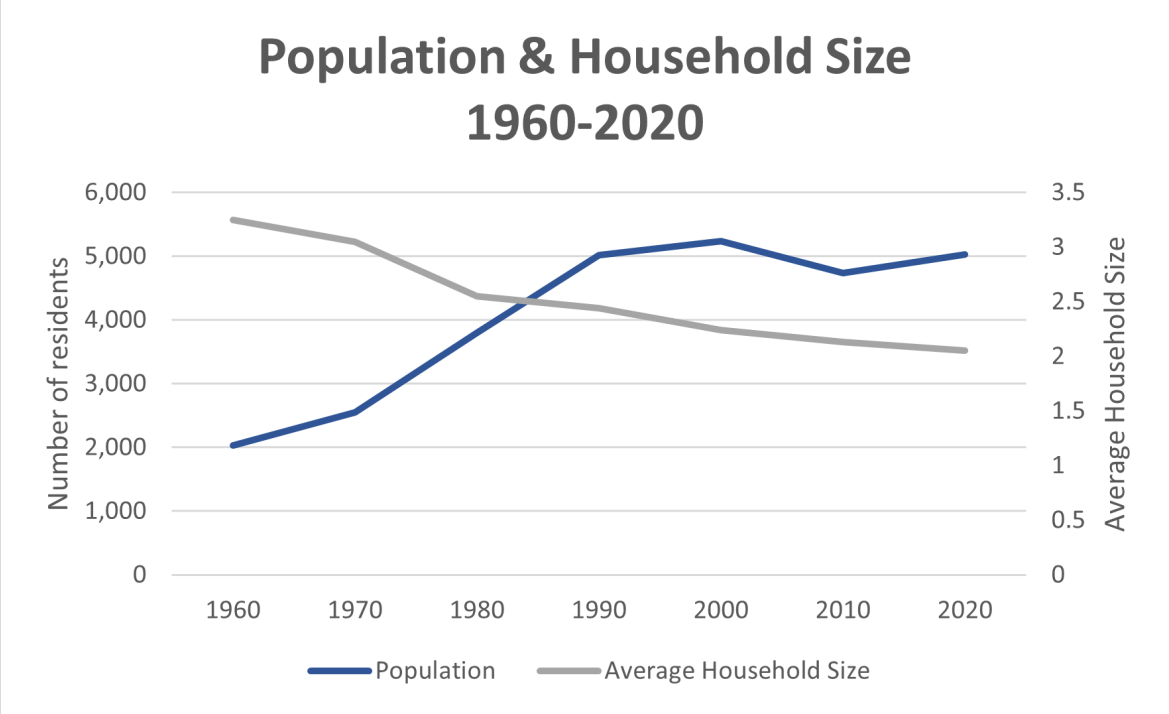


Figure 1: Harpswell population and household size totals from 1960-2020 (Source: U.S. Census 1960, 1970, 1980, 1990, 2000, 2010, 2020).

POPULATION & DEMOGRAPHICS

Year-Round Population

The decades of the 1950's and 1960's saw a dramatic change in Harpswell's year-round population as substantial growth occurred in the community (Figure 2). 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 Harpswell gaining over 1,200 full-time (6 months + 1 day) residents. From 1990 to 2000, Harpswell's year-round population increased from 5,012 to 5,239 people, an increase of 4.5%. Between 2000 and 2010, Harpswell's population decreased by 9.5%, to 4,740 people.

From 2010 to 2020, Harpswell's population increased to 5,031 people, an increase of 6.1% (Table 1). According to the Maine Department of Health and Human Services, 298 children were born in Harpswell and 598 residents died between the years of 2010-20, resulting in a natural decrease of 300. Therefore, the population growth in Harpswell during this period 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) grew by 6.7%. During the same period, Cumberland County's year-round population rose from 281,674 to 303,069 people, an increase of 7.6%, while the State of Maine grew at a rate of 2.6%.

Geographic Designation	2010	2020	Net Change	% Change
Harpswell	4,740	5,031	291	6.1%
Brunswick	15,175	17,033	1,858	12.2%
Bath-Brunswick Area	50,264	53,667	3,403	6.8%
Cumberland County	281,674	303,069	21,395	7.6%
Maine	1,328,361	1,362,359	33,998	2.56%

*Figure 2: Population of Harpswell compared to the region (Source: Census 2010, 2020). *The American Community Survey estimate for 2023 estimates Harpswell's population to be 5,034.*

The projection of future population growth in Harpswell, as in any community, is at best an educated guess about the future. Maine's State Economist produced population projections in 2021 for Harpswell, as well as all other towns in Maine. Based on the data available at the time (which was from before the COVID-19 pandemic and the updated 2020 Census), Harpswell was projected to lose 50 residents between 2018 and 2028.

However, the initial data from the 2020 Census show a reversal of the population decline in the first decade of the 21st century. Between 2010-2020, the population increased by 6.1%. The COVID-19 pandemic may have influenced the rapid increase of Harpswell's population between 2010 and 2020, most likely due to the adoption of remote work and the resulting in-migration. However, long-term impacts of the pandemic remain to be seen, and population predictions should be used with caution.

Seasonal Population

Harpswell's population dramatically increases during the summer season. In 2020, the Maine Housing Authority used American Community Survey Data to identify approximately 1,469 seasonal homes in the community, which together make up 34% of the total housing units. The number of seasonal housing units increased by 2.7% in comparison to the 2015 figure of 1,430. The parcel and accessing data can give a more complete picture of property ownership in Harpswell. Based on this, in 2022 there were a total of 648 vacant parcels and 1,623 built parcels owned by non-residents (2,271 lots total), making up 43% of the total parcels in the town. This is a decrease from 2017, when there were 2,332 lots owned by non-residents, making up 46% of Harpswell's total parcels. This decrease could be due to people with seasonal homes establishing permanent residency in Harpswell.

Age Distribution

In 2020, 13% of Harpswell's year-round population was under 18 years old, down from 15% in 2010 and 20% in 2000 (Table 2). In 2020, 18% of the population was in the 18 to 44 years old age group, while almost 32% were middle aged (45 to 64 years old.) This is a decrease from 2010, when 22% of the population was in the 18-44 age group and 37% were middle aged. In 2020, almost 37% of Harpswell's population was 65 and older. In comparison, Cumberland County's middle-aged group composed only 28% of the total population in 2020, and those 65 and older accounted for 18.5%.

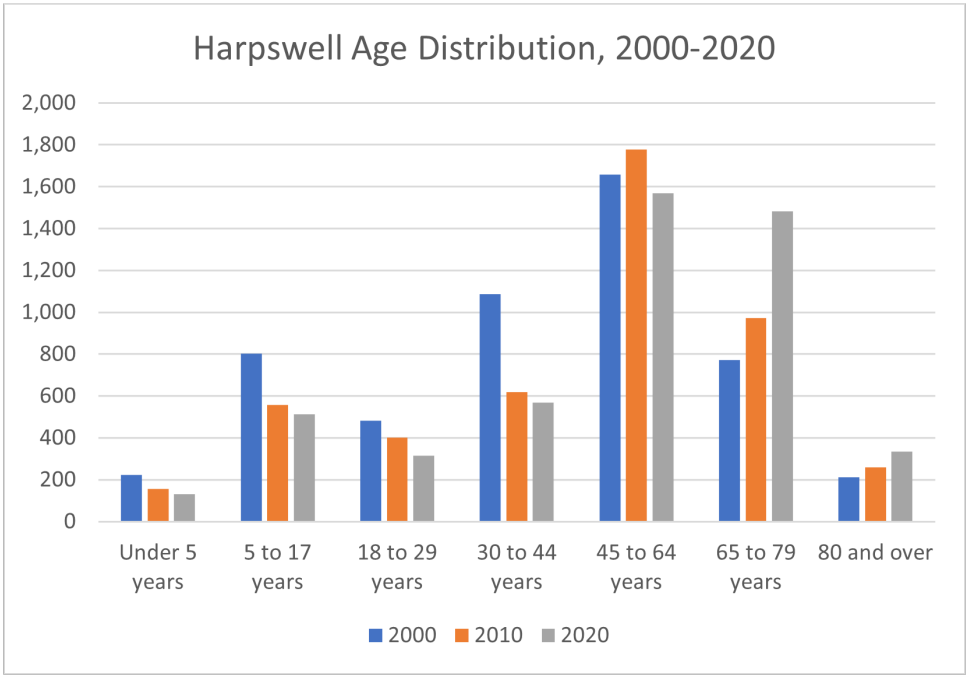


Figure 3: Harpswell's age distribution from 2000-2020 (Source: U.S. Census 2000-2020).

Figure 4: Age distribution in Harpswell, Cumberland County, and Maine as a whole, in 2010 and 2020 (Source: U.S. Census 2010, 2020).

	2010			2020		
Age Ranges	**Harpswell**	**Cumberland County**	**Maine**	**Harpswell**	**Cumberland County**	**Maine**
Under 5 years	3.27%	5.24%	5.23%	2.67%	4.81%	4.77%
5 to 17 years	11.73%	15.67%	15.43%	10.44%	13.83%	13.95%
18 to 29 years	8.48%	15.25%	14.21%	6.41%	15.50%	14.01%
30 to 44 years	13.06%	19.72%	18.32%	11.56%	19.18%	17.48%
45 to 64 years	37.51%	29.86%	30.92%	31.95%	28.22%	29.16%
65 to 79 years	20.49%	9.85%	11.41%	30.16%	13.97%	15.72%
80 and over	5.46%	4.41%	4.48%	6.82%	4.48%	4.91%

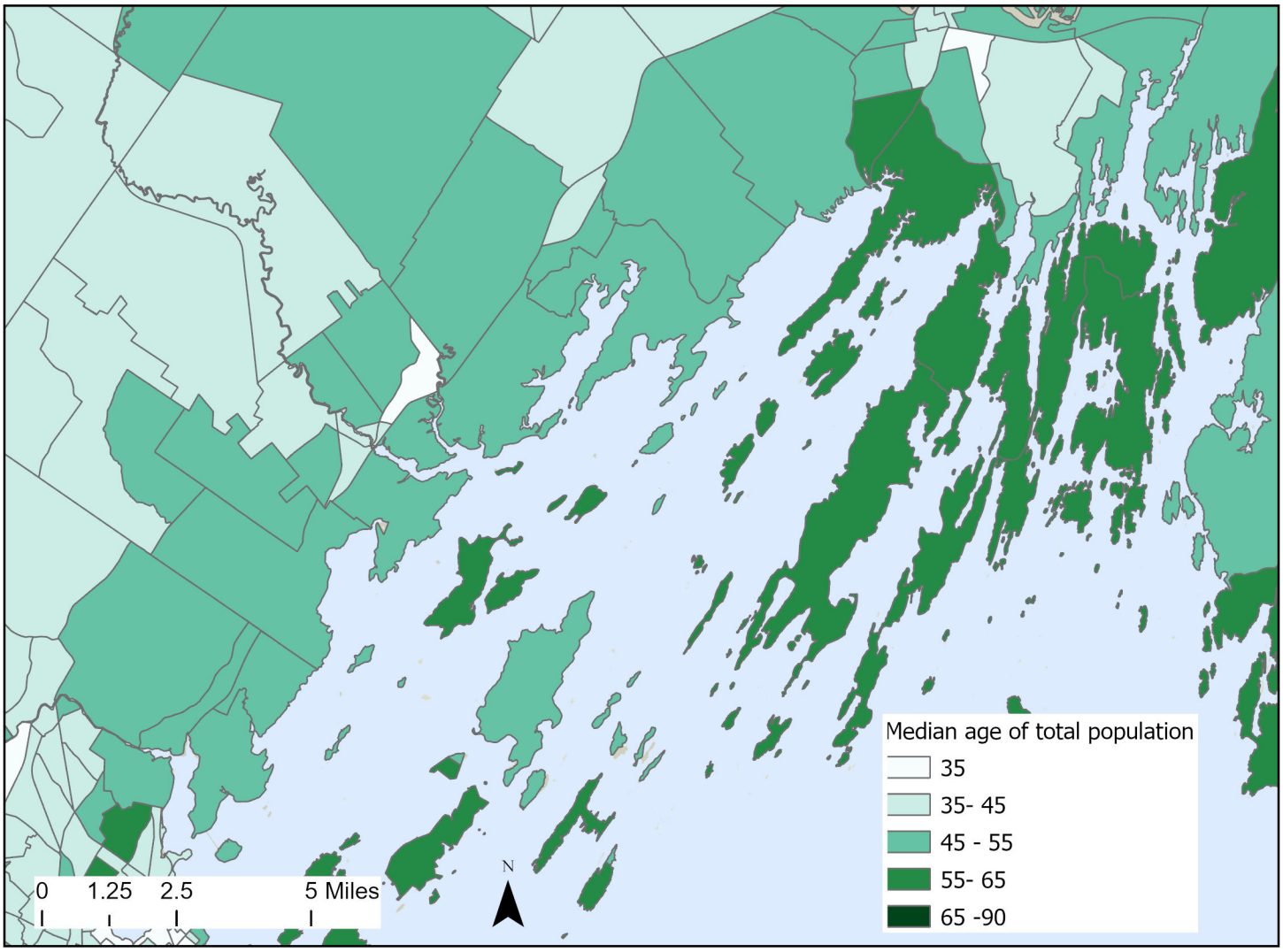


Figure 5: Median age of population by census block in 2020.

The aging population, reduction in school-aged children, and decrease in younger households is due to a variety of factors. Harpswell has a growing number of older adults, either moving to Harpswell for the first time or establishing permanent residence at a seasonal home. The lack of affordable housing and rising property values are also making it more difficult for young/working families to move to or continue living in Harpswell.

Educational Attainment

The percentage of adults with a bachelor's degree or higher in Harpswell is significantly higher than that in the region. In 2020, 54% of Harpswell's population had a bachelor's degree or higher, compared with 48% in Cumberland County and 33% in the State of Maine. In 2020, the percentage of Harpswell residents with high school diplomas was 96%, compared with 95% in Cumberland County and 93% in the State of Maine.

Commuter Patterns

In 2020, approximately 43% of the Harpswell's work force reported commuting over 30 minutes to work. Only 23% of employed residents reported working less than 15 minutes from home. The mean travel time to work decreased from 31.5 minutes in 2000 to 28.7 minutes in 2020, but this is still significantly above county and statewide figures of 23 minutes and 24.3 minutes respectively.

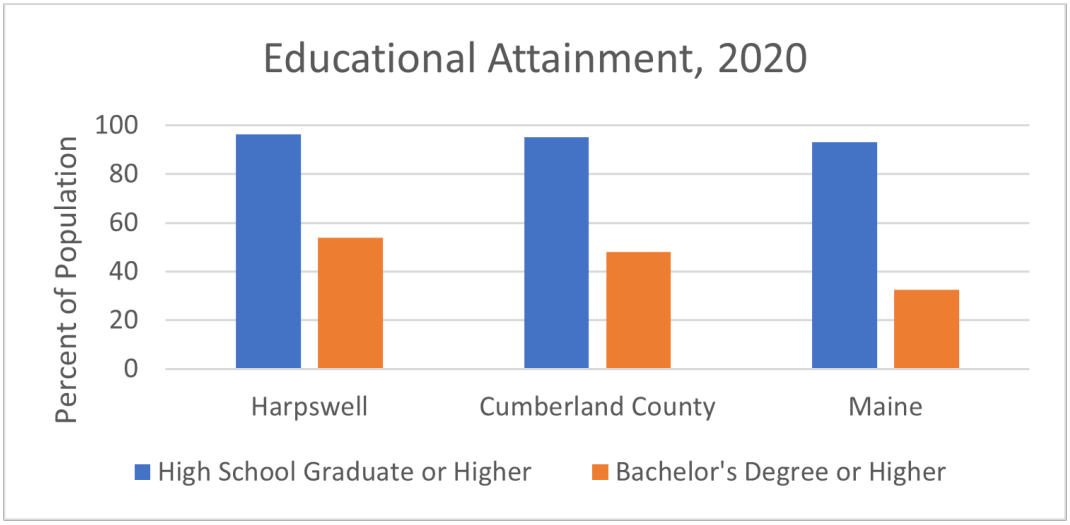


Figure 6: Educational attainment in Harpswell (Source: American Community Survey 2020).

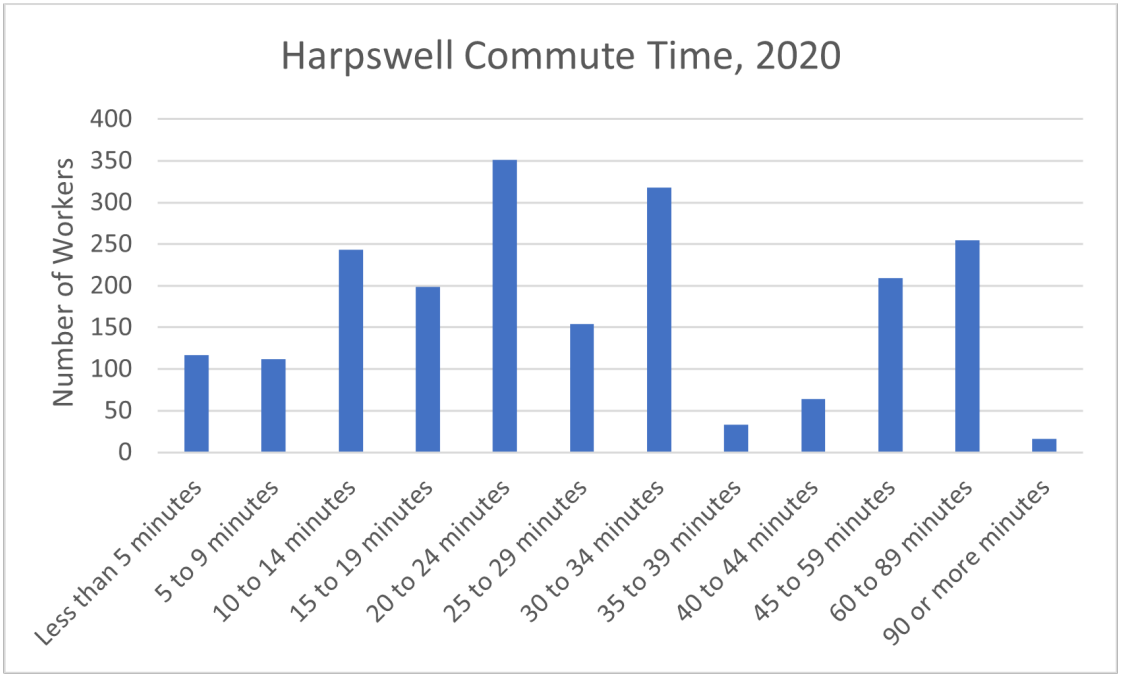


Figure 7: Commute times in Harpswell (Source: American Community Survey 2020).

Household Income

Harpswell had a median household income of $81,702 between 2016-2020, which was considerably higher than the statewide median of $59,489. This is significant when combined with a relatively low level of residents in the labor force (56%), indicating that income among non-retired households may be even higher than represented by the median.

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 Harpswell's contribution to the school district, SAD#75.

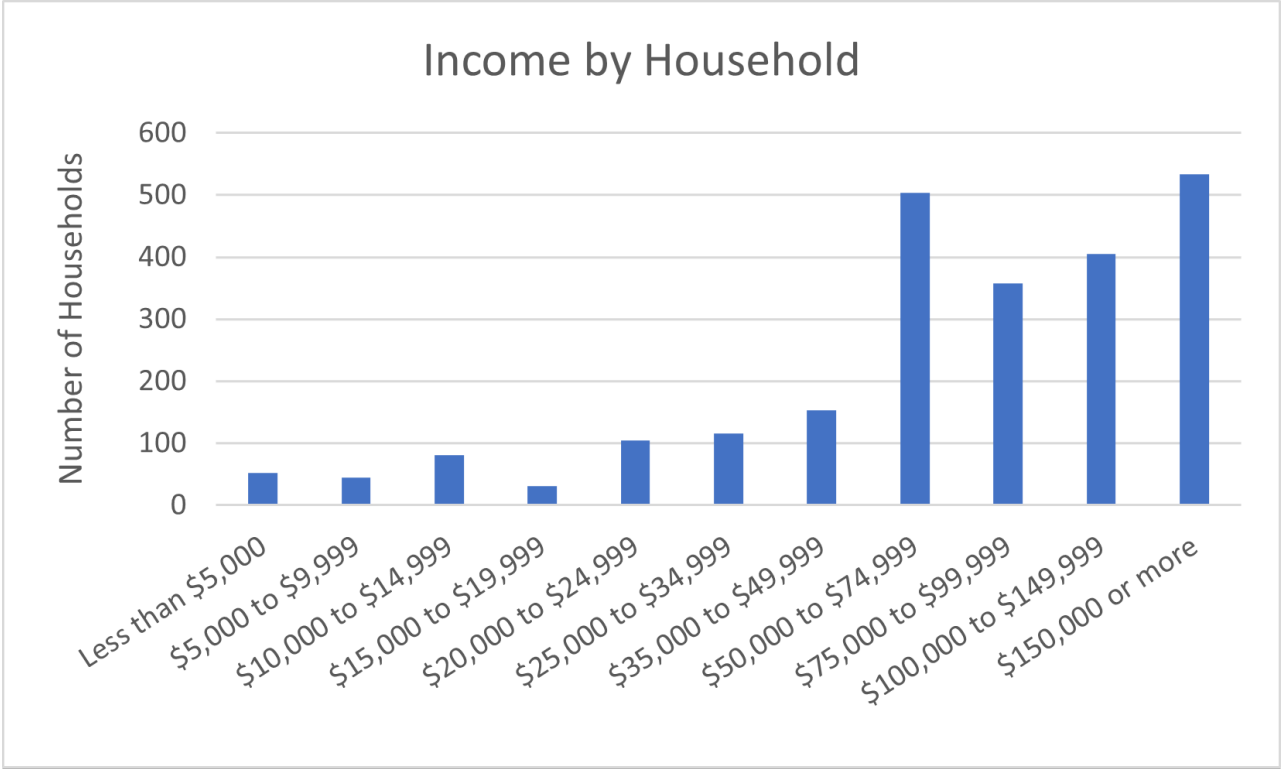


Figure 8: Income by household in Harpswell (Source: American Community Survey 2020).

Resources

United States Census, 2000, 2010, 2020.

American Community Survey, 2020.

Maine State Economist, Maine State and County Population Projections 2038 based on 2018 American Community Survey estimates.

Town of Harpswell Accessing Data, 2022.

MARINE ECONOMY

Introduction

Many Harpswell residents throughout the history of the town have relied on the sea for their livelihood. This has included fishing, lobstering, harvesting shellfish, shipbuilding, and tourism drawn by the town's scenic water views. The town's culture is still closely tied to its relationship with the water, and marine-dependent industries play an important role in Harpswell's economy.

Issues & Implications

While numerous changes are posing challenges to the marine industries, it's important to recognize that the marine economy remains a crucial aspect of Harpswell's economy and culture, with promising opportunities for the future. The commercial fishing industry's growing dependence on a single species, such as lobster, heightens its vulnerability to fluctuations in stock and demand. This underscores the imperative for the community to address both challenges and opportunities to secure a future for commercial fishing and the marine economy as integral components of Harpswell's identity. There is a lack of specific employment and economic data on this industry on the town-level, which makes it difficult to pinpoint challenges or changes.

Access to the water to support commercial fishing, recreation, and tourism, will continue to be a key issue for the marine economy, especially maintaining and building the infrastructure needed to support these activities. These include moorings, parking for access points, shore side storage, boat building, charter boats, boat maintenance, towing, wharf and float construction, hauling and boat moving, crane truck operations, storing fishing gear, welding, fueling activities, marine engine sales, bait, and various other waterfront-related uses. Understanding and balancing a diversity of uses in the marine environment will also be increasingly important, as the commercial fishing industry, aquaculture, marine recreation/tourism, among others, utilize the working waterfront.

Figure 1: Cook's Wharf (photo credit: Jamie Hark)

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 on Orr's Island, Mackerel Cove, Harpswell Harbor, Merriconeag Sound, Harpswell Sound, Potts Harbor, Garrison Cove, and Lookout Point.

Figure 2: Significant harbors in Harpswell

Marine Related Economy

Commercial Fishing

The 1999 "Town of Harpswell Fishing Industry Profile" commissioned by the town remains the most in-depth look at the economic impact of commercial fishing at the local level in Harpswell. The study utilized state and county data on landings and revenue to estimate the value of fishing to Harpswell's local economy. The study found that $12-14 million of value from the statewide landings were attributable to Harpswell, and estimated the total economic impact of commercial fishing for the town to be between $20-23 million. The study also estimated that fishing in Harpswell created an additional 238-280 jobs in other economic sectors. Commercial fishing has historically been a major source of employment for Harpswell, and a large part of its community identity.

Presently, there are 385 fishing vessels in Harpswell that sustain the marine economy. In 2021, the commercial fishing industry brought approximately $68 million worth of gross revenue into the town, by far the largest industry by this measure. In terms of net revenue, the commercial fishing industry brought in approximately $21 million, again the largest industry, but followed closely by rentals and other forms of property ownership.

However, the 2013 Harpswell Economic Development Plan acknowledged issues facing commercial fishing. Between 2000 and 2018, commercial licenses declined from 707 to 478, and Harpswell fishing had become more concentrated on one species (lobster). In 2012, 58% of commercial licenses in Harpswell were for lobster, compared to 41% in the state. By 2018, that had increased to 62%, compared to 53 percent in the state. According to that study, changes affecting the industry and price volatility for lobster would present economic challenges for Harpswell because of decreasing species diversity. In 2021, lobster landings in Harpswell represented at least $35 million dollars. The value has increased nearly 45 percent since 2008, even after correcting for inflation, while the total catch has nearly doubled (in pounds).

Figure 3: Harpswell lobster boats (photo credit: Allen's Seafood)

Employment in the Commercial Fishing Sectors

Employment data for the commercial fishing sector can be challenging to find, as the majority of individuals engaged in fishing are self-employed, and therefore not covered by the Quarterly Census of Employment and Wages, published by the Maine Department of Labor (QCEW). However, by using a combination of data from the QCEW and the County Business Patterns (CBP), we can get an idea of how employment in that sector has changed over time.

The QCEW data indicate that there are approximately 35-38 establishments located in Harpswell that are in the agricultural, forestry, and fishing industrial category, employing an average of 30 to 70 people in any given year from 2018-2021. However, those numbers do not include self-employed individuals that are not incorporated. Data from IMPLAN, an economic impact analysis firm, indicate that proprietor employment stands at around 1,200 annually. This includes both part-time and full-time employment. Together, these data indicate that the commercial fishing industry is still a dominant source of employment in Harpswell. Moreover, the marine economy extends beyond commercial fishing to include tourism, seafood restaurants, marinas, and boatyards.

MARINE ECONOMY

Fishing and Shellfish Licenses

There are two notable trends in fishing licenses by state and town as monitored by the Maine Department of Marine Resources as suggested in the table on page 17. The table shows licensing data collected for the last comprehensive plan (2004), the economic development plan (2012), and the most recent data available (2018). The number of licenses issued to individuals listing Harpswell addresses or anchorages has decreased slightly over time.

Figure 5 (on the next page) shows that lobster and crab licensing has decreased, while Class 3 and non-commercial licenses have increased significantly. Despite increasing from 549 to 587 between 2004 and 2012, total licenses decreased to 478 by 2021. It is not currently clear what is causing this trend or what it could mean for Harpswell's commercial fishing industry. This should be followed up with a more in-depth study.

Shellfish licenses, including for mussels, mahogany quahogs, scallops, and sea urchins have all decreased since 2006. (When looking at just commercial clam harvesting license numbers from 2006-2022, there has been a slight rebound since 2020 (Figure 4).

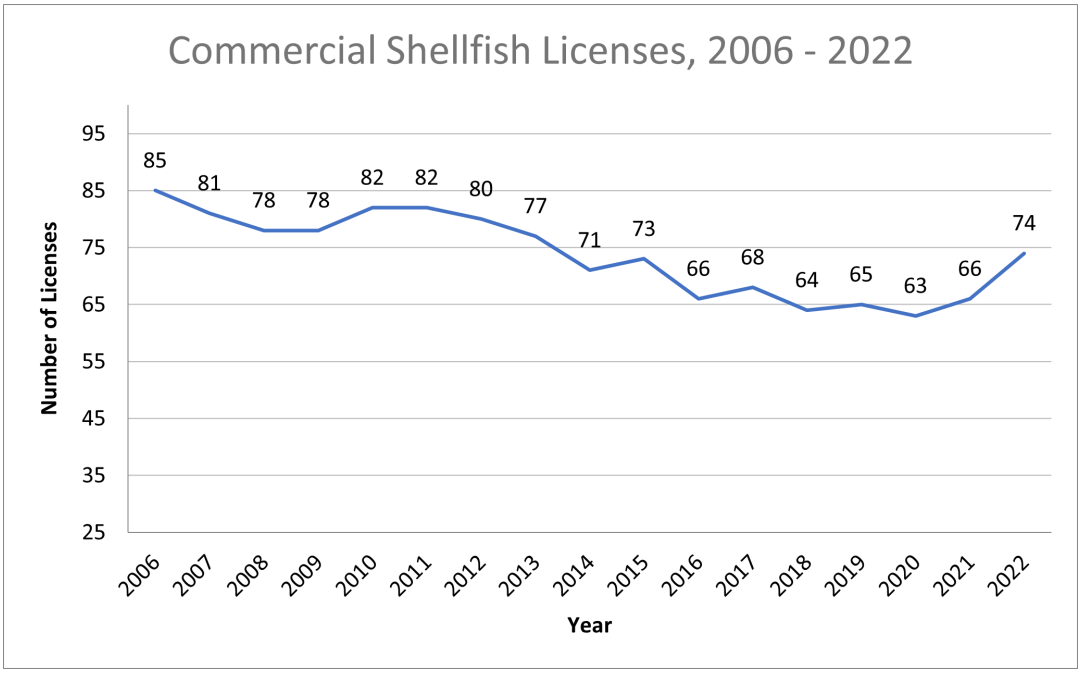


Figure 4: Commercial shellfish licenses in Harpswell from 2006 through 2022.

	2004	2012	2018	Change from 2004 to 2018	Percentage Change
Aquaculture (AL)	N/A	N/A	4	N/A	N/A
Commercial Fishing Crew (CFC)	47	46	34	-13	-27.66%
Commercial Fishing Single (CFS)	16	20	20	4	25.00%
Commercial Pelagic and Anadromous Crew (CPC)	N/A	13	34	N/A	N/A
Commercial Pelagic and Anadromous Single (CPS)	N/A	9	13	N/A	N/A
Commercial Shellfish (CS)	77	61	61	-16	-20.78%
Demo Lobster (DL)	N/A	1	1	N/A	N/A
ALL EEL and ELVER	7	12	8	1	14.29%
Lobster/Crab +70 (LA)	18	15	12	-6	-33.33%
Lobster/Crab Apprentice	N/A	4	7	N/A	N/A
Lobster/Crab Class 1 (LC1)	93	67	50	-43	-46.24%
Lobster/Crab Class 2 (LC2)	145	111	79	-66	-45.52%
Lobster/Crab Class 2 +70 (LC2O)	N/A	16	14	N/A	N/A
Lobster/Crab Class 3	54	58	76	22	40.74%
Lobster/Crab Class 3 +70	N/A	5	6	N/A	N/A
Lobster/Crab Non-commercial	30	71	72	42	140.00%
Lobster/Crab student	N/A	38	52	N/A	N/A
Lobster/Crab under 18	8	2	1	-7	-87.50%
Marine Worm Digging	10	8	4	-6	-60.00%
ALL MUSSELS	6	2	2	-4	-66.67%
Quahog Mahogany	3	0	2	-1	-33.33%
Recreational Saltwater Fishing Operator	N/A	4	2	N/A	N/A
Recreational Saltwater Registry	N/A	0	2	N/A	N/A
ALL SCALLOP	24	18	14	-10	-41.67%
ALL SEA URCHIN	6	5	3	-3	-50.00%
Seaweed	5	1	2	-3	-60.00%
TOTAL	**549**	**587**	**575**	**26**	**4.74%**

Figure 5: Harpswell Fishing Licensing 2004-2018

MARINE ECONOMY

Recreational Boating & 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. There has been an increase in the total number of moorings between 2021 and 2025 (Figure 6). A new mooring tracking system has been implemented; as of 2025, there are 2,273 residential and 74 non-residential moorings.

Tourism and recreational boating are increasing the burden on marine and waterfront infrastructure, including parking and boat ramps, which are also relied upon by the commercial fishing industry. Harpswell may need to develop coordinated strategies to alleviate overcrowding and support the needs of both uses.

The tourism industry (comprising accommodation and food service and retail) is the largest source of wage and salary employment (i.e., not self-employment) in Harpswell. Much of that can be attributed to Harpswell's scenic location and fishing culture.

Aquaculture

Aquaculture data were not available prior to 2018, but the 2013 economic development plan stated that only two aquaculture sites existed in town: one experimental lease for oysters that would expire in 2013, and a limited purpose lease that had been in operation for five years. The data show that aquaculture leases increased to four by 2018, and to six active or pending leases by 2022. The 2013 economic development plan recommends diversifying Harpswell's fishing industry by taking advantage of aquaculture as a growing industry.

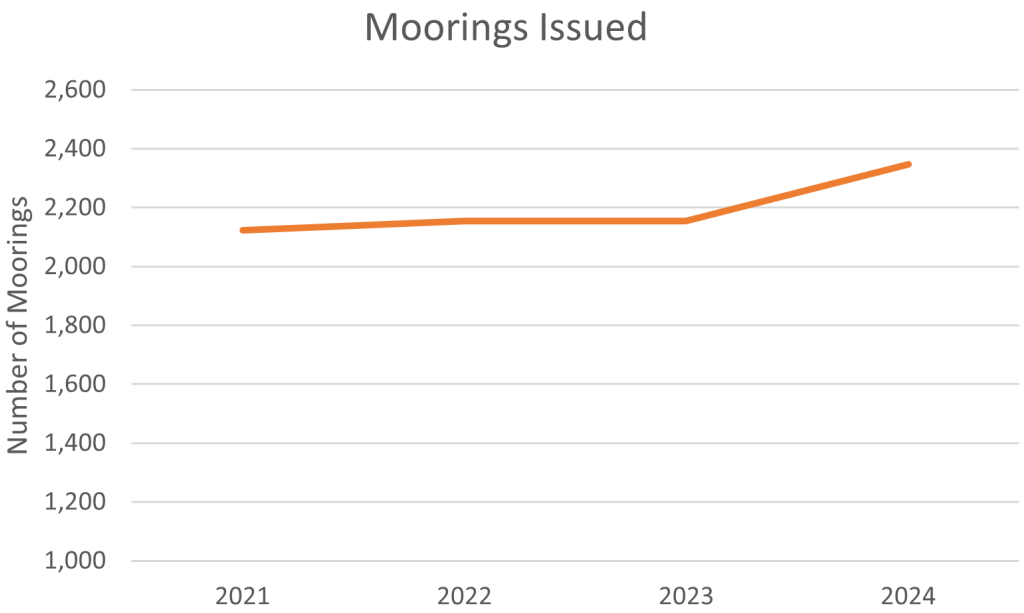


Figure 6: Residential and nonresidential moorings in Harpswell from 2021 to 2024.

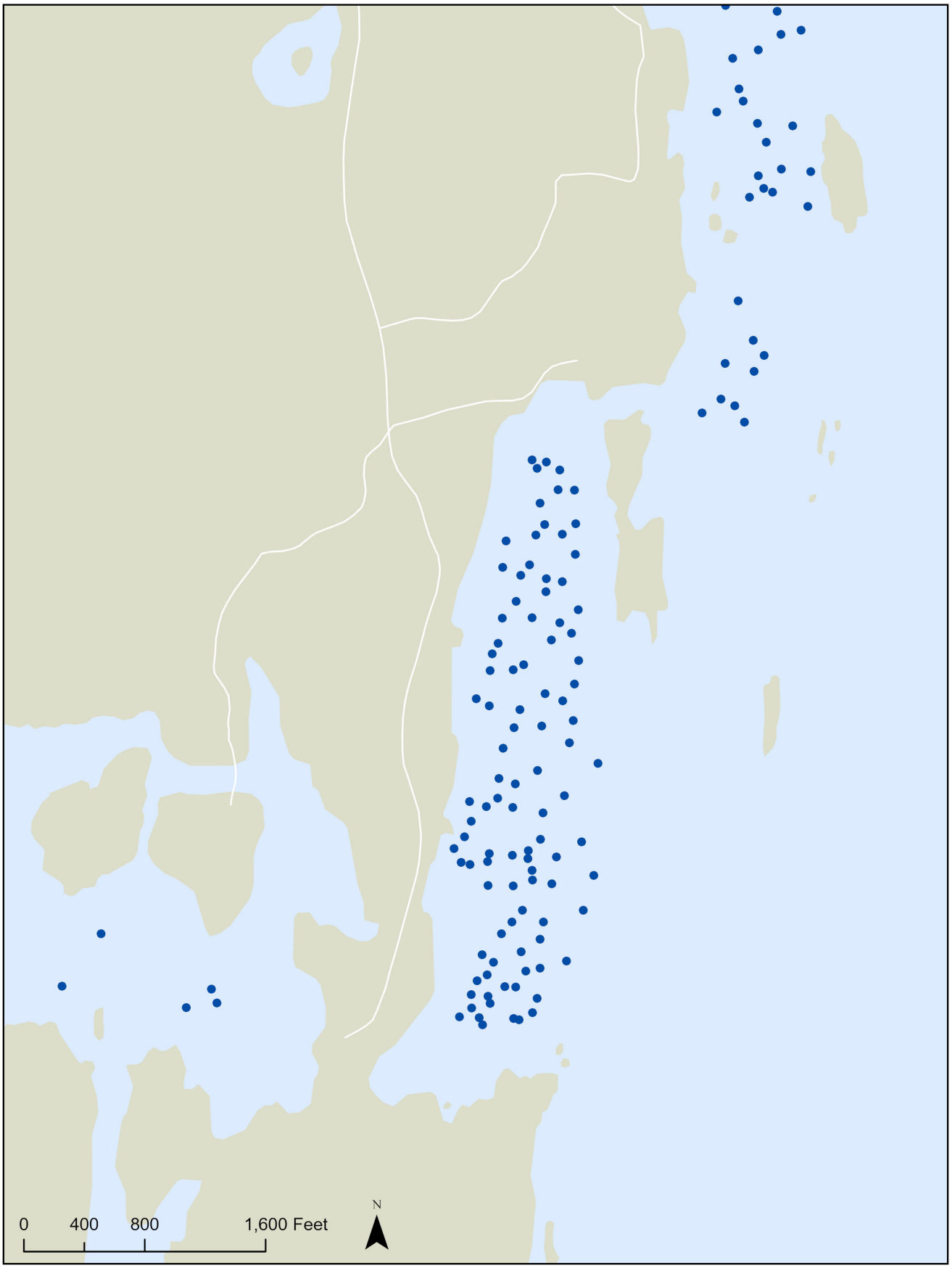


Figure 7: Moorings in Cundy's Harbor, as of 2020

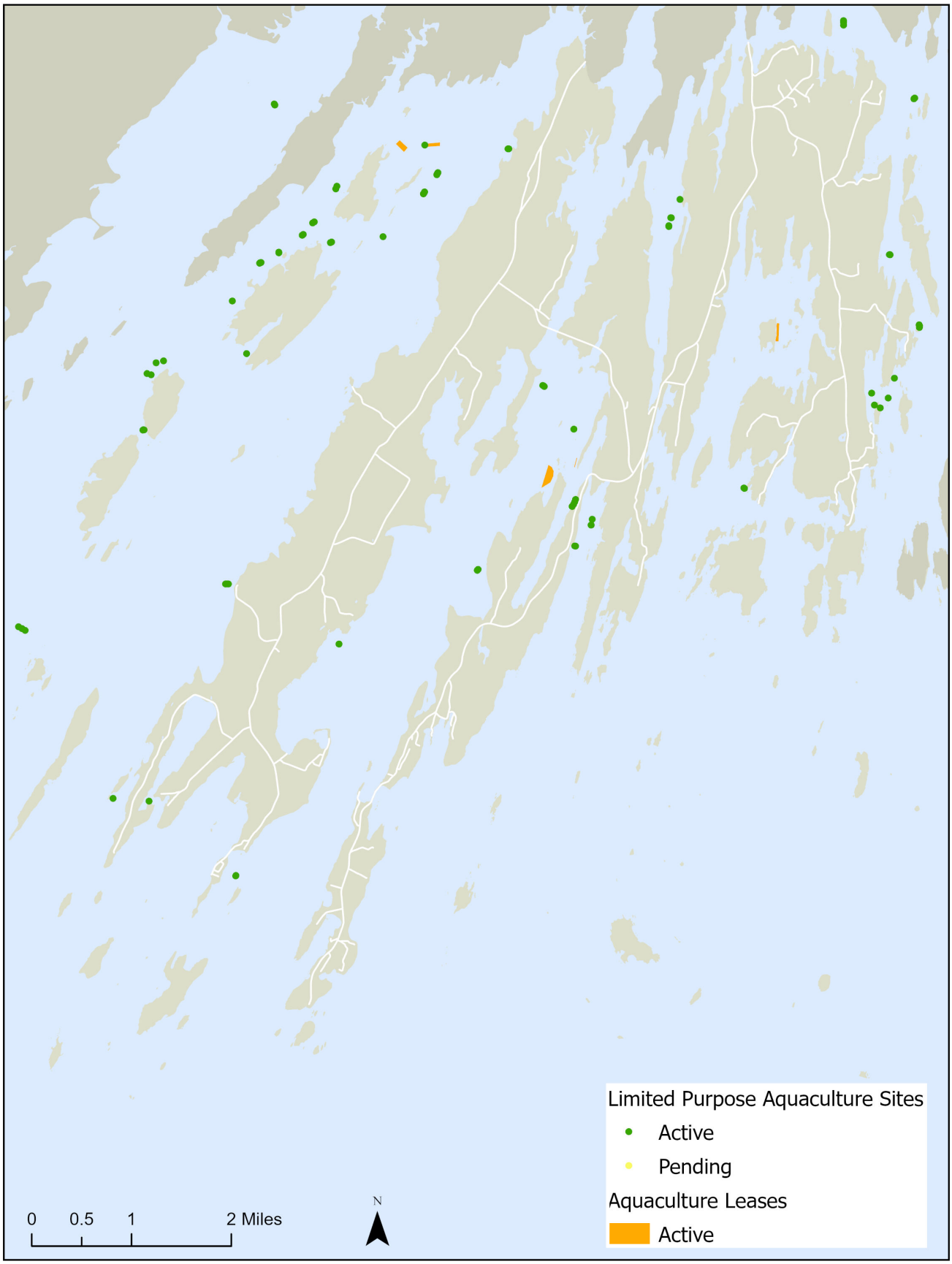


Figure 8: Aquaculture leases (orange) and Limited Purpose Aquaculture leases (green circles) in Harpswell as of 2023.

Public Access to Water

The following information was provided principally by Manomet (Farr, 2023):

Overland access to the intertidal for shellfish harvesting, among other uses, is being lost at an increasing rate on both private and public land, driven by several factors including changes in property ownership, gentrification pressure, limited parking, and sea level rise. Shore access is a statewide issue, but the drivers and rate of change differ between towns. To identify strategies to preserve or improve intertidal access, it is important to understand the current landscape of access points (including the type of access, ownership, priority or importance, legal status, and other pertinent information).

In Harpswell, as in many towns along the coast, most access points are through informal agreements with private landowners, putting them at risk of being lost if properties change hands or landowners change their minds about allowing access. Harpswell's Marine Resources Committee partnered with Manomet in 2022 to inventory intertidal access, funded by the Maine Shellfish Restoration and Resilience Fund.

Eighty-three (83) total access points in Harpswell were identified through this project. Most of these access points are made up of informal agreements between harvesters and private landowners, and as a result, some of the data gathered are sensitive in nature and require confidentiality. Of 83 total access points identified in Harpswell, 57 are on private property, 17 are on municipal property, 6 are on property owned by land trusts, and 3 are on state property (Figure 9). Forty-one (41) access points are informal agreements with private landowners, 29 are secured access points (either on public property, through a formal right of way, or at private businesses with public parking), 12 are access points that have been lost (largely due to changing agreements with private landowners), and 1 location is worth further investigation to determine whether access exists (Figure 9).

The Maine Coastal Program's Shore and Harbor Planning Grant is supporting a second phase of this project that will build on the initial inventory to assist towns in protecting or acquiring priority access points, identifying vulnerability of access points to sea level rise and coastal flooding, and developing a replicable process for other towns to use.

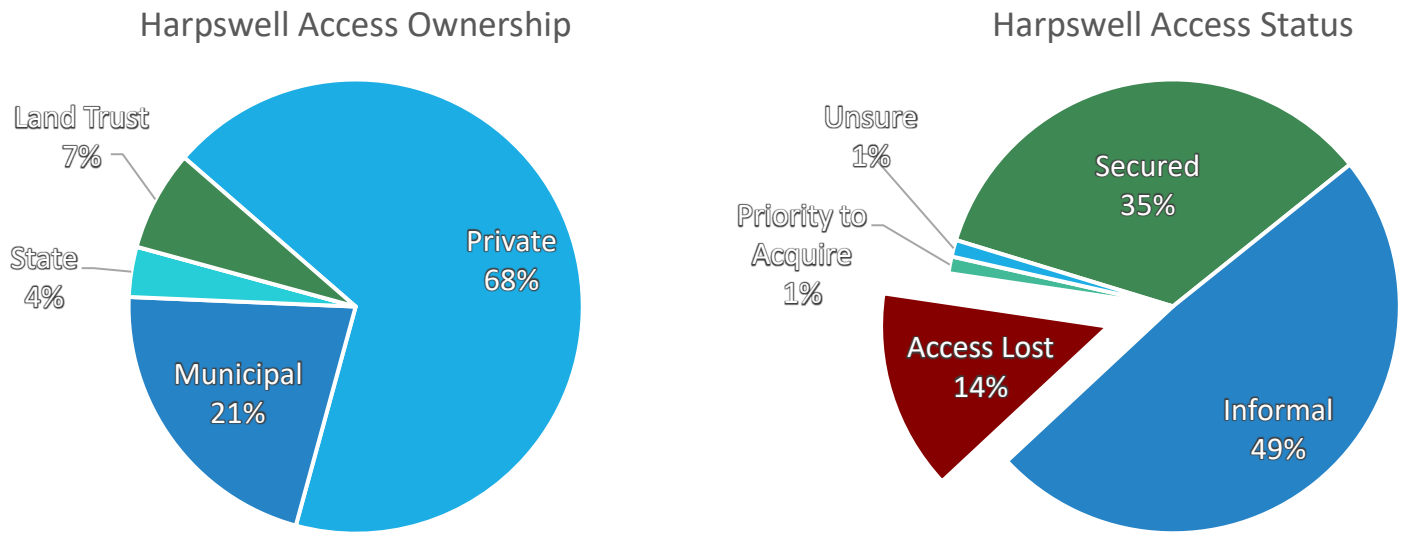


Figure 9: Ownership (left) and status (right) of access points in Harpswell, according to a study conducted by Manomet in 2023.

Access for Commercial Fishing

In 1999, the Fishing Industry Profile of Harpswell acknowledged that, "ultimately, the continuity of the fishing industry depends on adequate waterfront access." It noted increased pressure from the expansion of recreational and tourist-driven boating activities, and from real estate development demand for higher valued waterfront property. These factors threaten to reduce access for commercial fishing. Harpswell has land-use regulations protecting its waterfronts, such as exclusive zoning for commercial fishing. Harpswell has six zoning districts: the Interior District, Resource Protection, Shoreland Residential, Shoreland Business, Commercial Fisheries I and Commercial Fisheries II. Exclusive zoning is one of the most effective ways to protect waterfront access. Nevertheless, Harpswell will have to continue its efforts to protect access to the waterfront due to its cultural and economic importance to the town.

The issue of access for commercial fishing continued to arise in the decades after the 1999 profile. In 2017, the issue of access was identified as one of six "core needs" in a fishing needs assessment for Harpswell. The "Beyond the Bow" study, completed by the Maine Coast Fishermen's Association, interviewed more than 80 members of the fishing community, including those engaged in businesses that are supported by or supportive of Harpswell fishing, and community members linked to fishing by historic, familial or geographic connections. Nearly 70 percent of these interviewees identified "access on and off the water" as a top priority, making it the most universally identified priority in the study. Fifty-two percent of participants specifically cited a lack of commercial points of access to the waterfront as the top barrier for the fishing industry in Harpswell. The study cited input from the Harpswell Harbormaster, who counted 9 public landings with capacity for commercial vessels in Harpswell and 79 wharves zoned for commercial use.

Figure 10: Allen's Seafood on Middle Bay (photo credit: Paul VanDerWerf)

MARINE ECONOMY

Access for Recreational Boating

While recreational boating adds traffic and use to some access points needed for commercial fishing, it is also a critical asset on its own. The 2013 economic development plan included "increase sales to tourists" as one of its goals. It also encouraged a focus on supporting local businesses. Harpswell's unique location and connection to the water is an asset for tourists and seasonal residents, especially those looking to access the water for recreational boating. A recent informal survey of the number of docks in Harpswell found approximately 800 private docks, one public dock, and 24 commercial docks.

Mitchell Field

This waterfront property on Harpswell Neck is the former U.S. Navy fuel depot. Ownership was transferred to Harpswell from the U.S. Government in 2001. The site includes 120 acres of land, over 2500 feet of beach/shoreline, and existing infrastructure. It also included a deepwater access pier, which had to be removed in 2018 after partially collapsing. Because of its location and water access points, it was cited in the Coastal Waters Management Plan as a potential location for expanding recreational boating access, marine businesses and a boat launch. The 2013 Economic Development Plan called the site "an excellent site for aquaculture."

The town has been taking input on how to best utilize the property since its acquisition, and engaged in a visioning and master planning process that produced the Mitchell Field Master Plan in 2007. The plan made recommendations for an area of higher density residential development, as well as open space, outdoor recreation and walking trails, but also highlighted the opportunity for a new public access boat ramp and a floating dock system. Acknowledging the poor structural condition of the pier, it recommended deferring maintenance costs until a use for the pier and/or funds were identified. However, by 2018, the pier had deteriorated further and had to be removed, as mentioned above.

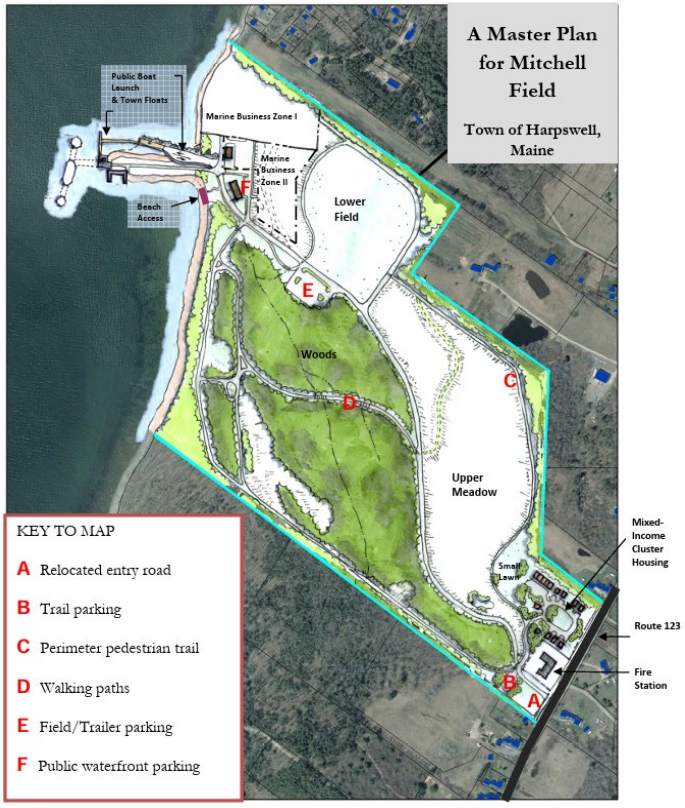


Figure 11: Overview map of from the Mitchell Field Master Plan

Also in 2018, the Maine Coast Fishermen's Association surveyed 54 Harpswell community fishermen and fishing license holders on their perceptions of what should be done with Mitchell Field. The group overwhelmingly supported improvements that would increase access to commercial and recreational boaters. When asked if a boat launch is needed for recreational boaters, 83.3% strongly agreed that it was. When asked the same question about commercial fishing, 77.8% strongly agreed that a boat launch was needed. The respondents unanimously (100% of those surveyed) agreed that they would like to see a mooring field at Mitchell Field, and 98.1% said that there is a need for moorings there.

Mitchell Field presents opportunities to address many of the town's commercial fishing issues, but it is not without complications. A Select Board member called it "the most priceless piece of real estate that the town has," and it has been cited for its marine economy-expanding potential if infrastructure costs can be managed and investment attracted to the site.

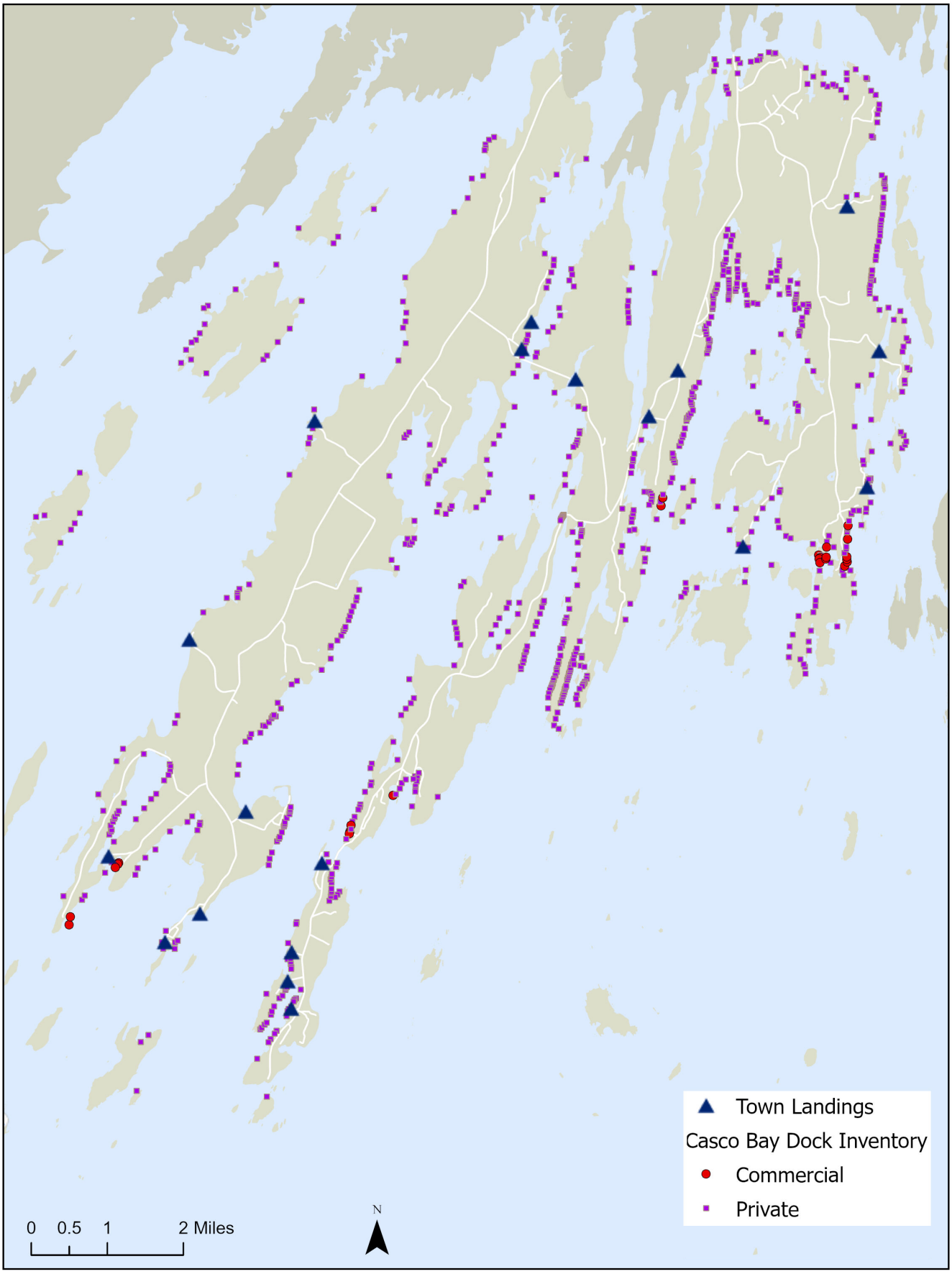


Figure 12: Private docks (purple), commercial docks, (red), and town-owned access points (blues).

Issues Facing the Fishing Industry

The Fisheries Needs Assessment of Harpswell conducted by the Maine Coast Fishermen's Association (MCFA) in 2017 generated recommendations and community-based solutions to help support Harpswell commercial fishing. The report concluded that "the needs of Harpswell's fishing community are not being fully met despite the efforts of the town, state and local partners to dedicate time and resources to the sustainability and growth of the fishing community." Based on input from interviews with individuals engaged in commercial fishing, or otherwise connected to commercial fishing in Harpswell, the following recommendations were developed:

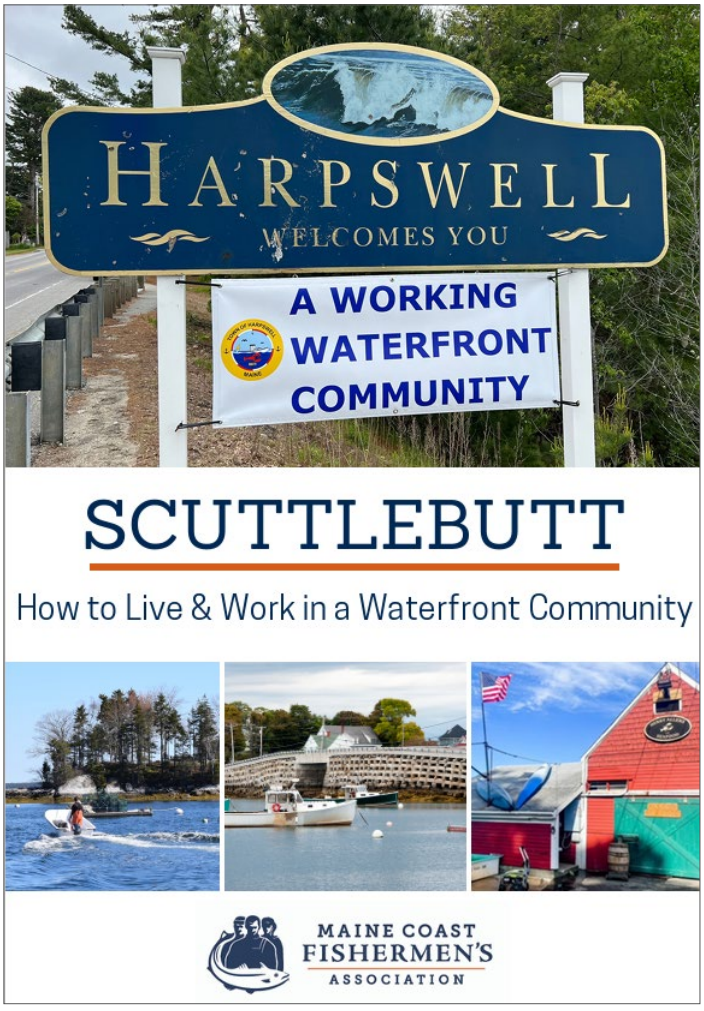


Figure 13: The cover of Scuttlebutt, an informational handout about living in a working waterfront community.

Town-owned Storage

The lack of "storage units and available space to continue off-water work, such as cleaning, fixing and building fishing gear" makes it more difficult for the fishing industry to continue working in Harpswell. One interviewee suggested that the town could help fill this need for space at Mitchell Field.

Updated Visitor Information

As noted above, tourists, recreational boaters and commercial fishing crews will all contribute to growth in Harpswell's local economy, but as the study acknowledges, navigating conflict between these different groups can present challenges. The study's recommendation is for outreach and information, utilizing counts and media tools (print and other communication methods) to spread information about activities, fishing and water access in Harpswell.

Maine Coast Fisherman's Association, in partnership with the Harpswell Heritage Land Trust (HHLT), the Holbrook Community Foundation, the Harpswell Anchor, and the Cundy's Harbor Library, has since published a guide, called Scuttlebutt, to educate community members and newcomers alike about living in a fishing community. MCFA and HHLT have also put on a community discussion and learning series to help community members learn about the working waterfront and the issues facing fishermen in their community.

Youth Engagement

There must be a "next generation" of commercial fishermen in order for the industry to continue. Those interviewed, both in and outside the fishing industry, saw the need, and expressed concern about the future of fishing if there is no new workforce willing to take it on. Suggestions included a summer immersion program, and also engaging the school system.

MARINE ECONOMY

Commercial Moorings

At the time of the study, there was no way to track how many of the town's 2,187 moorings were commercial. Since then, the town began tracking the number of commercial moorings permitted for both resident and non-resident applicants. The study also recommended taking steps to preserve commercial access to moorings.

Economic Impact Report

The 1999 Fishing Industry Profile is the most comprehensive look at the economics of fishing in Harpswell, but it is becoming outdated. The survey of the fishing industry suggested that a complete economic impact report could help the town's decision-making on waterfront access issues and town resource allocation.

Fisheries Liaison

According to many of the interviewees, communication between the local government and the commercial fishing community was lacking. The study felt a connector between the two was needed to bridge the "disconnect in communication between the fishing community and the community-at-large in Harpswell." The position, they said, could be newly created at Town Office, employed by a local industry-focused organization, or added as an update to an existing position.

Marine Water Quality

Marine-related water quality is of course essential for the marine economy. Please see chapters entitled "Estuarine and Marine Resources" and "Freshwater and Groundwater Resources."

MARINE ECONOMY

Resources

Town of Harpswell Fishing Industry Profile (1999)
Economic Impact Analysis for Planning (IMPLAN)
Quarterly Census of Employment and Wages (Available through Maine Department of Labor)
Economic Development Plan for the Town of Harpswell, Maine (2013)
Maine Marine Commercial Landings
Maine Department of Marine Landings (2004-2018)
Beyond the Bow (Study by Maine Coast Fishermen's Association)
Harpswell Marine Resources Committee, Manomet
Cundy's Harbor Working Waterfront Study (2004)

MARINE RESOURCES

Introduction

Harpswell has a culturally and economically important relationship with the sea, relying on it to support fishing industries and tourism. However, the conditions needed to support marine life and human uses (both recreational and commercial) are threatened by pollution, climate change, and human activities. Harpswell is taking actions to address these issues and maintain the quality of the town's marine resources for all those who depend on them.

Issues & Implications

Surrounded by the ocean on nearly all its borders, Harpswell has some of the most extensive marine resources in the state. Seabird nesting islands, tidal wading bird and waterfowl habitat, and eelgrass beds are just a few of the important marine resources in Harpswell. In addition to the environmental and aesthetic benefits of these resources, several economies rely upon them as well. However, these resources, particularly the shellfish industry, have faced closures and negative impacts from high bacteria levels and other sources of pollution. Eelgrass and shellfish populations are declining and threatened by impacts of climate change and invasive species. Harpswell has begun taking steps to remediate these negative impacts, from removing overboard discharges (OBDs) to monitoring water quality and embarking on a study to restore eelgrass beds through more sustainable moorings. To continue supporting the ecological and economically significant uses supported by marine waters, Harpswell will need to continue to make progress in addressing these water quality threats.

Figure 1: Pebble Beach, Harpswell

MARINE RESOURCES

Marine Waters

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

Water Quality

Two sources for better understanding water quality in coastal Maine are Maine Department of Environmental Protection's (DEP) surface water classification system and testing conducted by the Maine Department of Marine Resources (DMR) as a part of the National Shellfish Sanitation Program (NSSP). These programs, also with a snapshot of Harpswell's marine water quality, are detailed next.

Surface Water Classification

The DEP classifies surface waters according to their desired use and water quality necessary to support that use. Most tidal waters in Harpswell are designated Class SB. Class SB waters are to be:

> *"...suitable for the designated uses of recreation in and on the water, fishing, aquaculture, propagation and harvesting of shellfish, industrial process and cooling water supply, hydroelectric power generation, navigation, and as habitat for fish and other estuarine and marine life. The habitat shall be characterized as unimpaired. .... Discharges to Class SB waters may not cause adverse impact to estuarine and marine life in that the receiving waters must be of sufficient quality to support all estuarine and marine species indigenous to the receiving water without detrimental changes in the resident biological community. There may be no new discharge to Class SB waters that would cause closure of open shellfish areas by the Department of Marine Resources."*

These waters are rated as Category 3, 5-B-1, or Category 2 based on whether the water quality is good enough to support the above uses.

Category 3 waters have insufficient water quality data to determine whether designated uses are supported. Dingley Island, Lookout Point, Harpswell Sound, Harpswell Neck, and the New Meadows River are all listed as Category 3 (Maine Department of Environmental Protection, 2022).

Category 5-B-1 waters have bacteria levels that are too high to support shellfish harvesting. These include Laurel Cove, Merepoint Bay, Ash Point, Long Reach, Spruce Cove, Morgan Cove, and Doughty Cove.

Category 2 waters have sufficient water quality to support shellfish harvesting. Two segments that are partially located in Harpswell (Stockbridge Point, Freeport to Potts Point, Harpswell and Potts Point, Harpswell to East Cundy Point, Cundy's Harbor) are listed as Category 2.

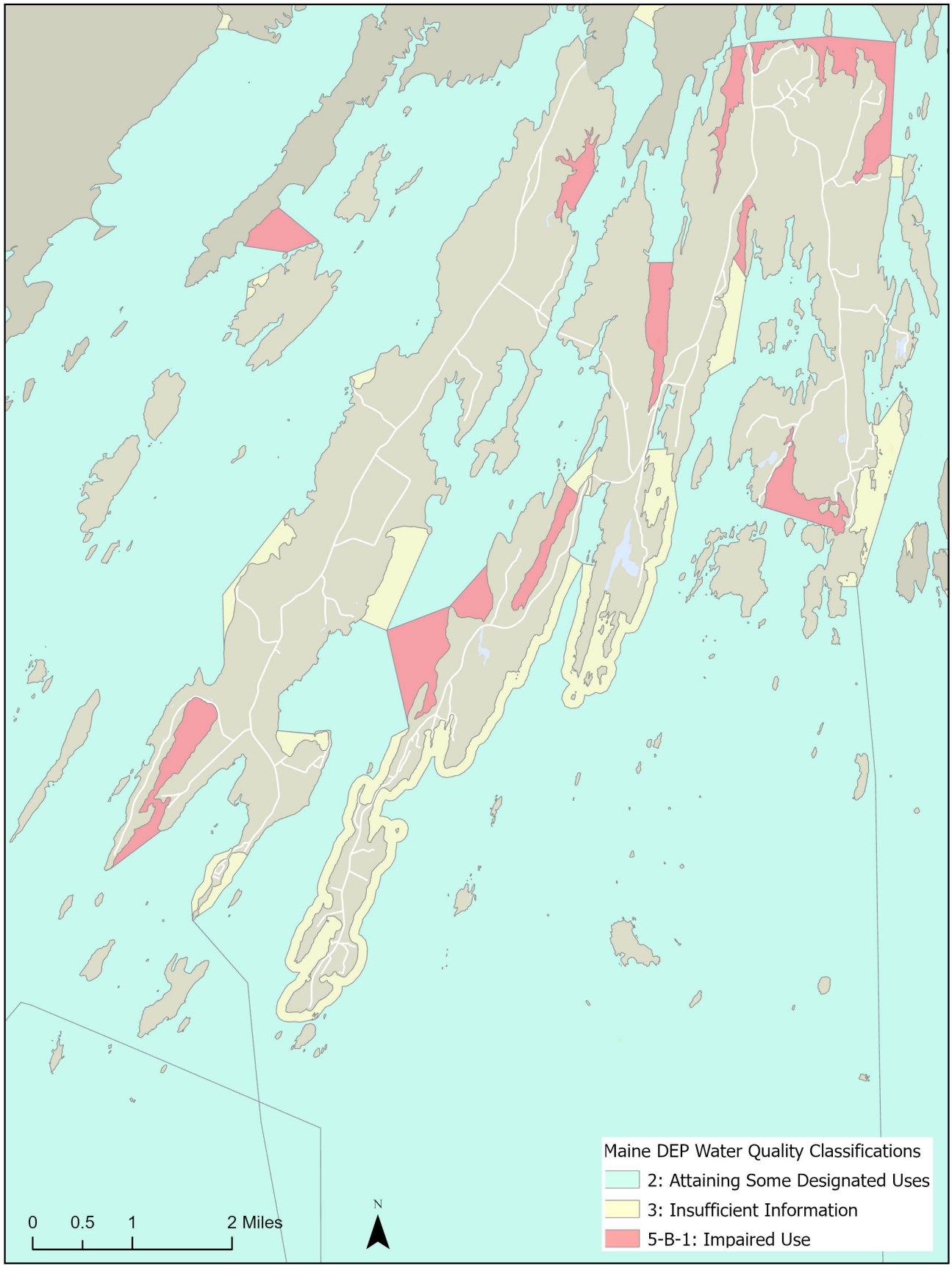


Figure 1: Maine DEP water classifications in Harpswell.

MARINE RESOURCES

Shellfish Sanitation

The Department of Marine Resources (DMR) oversees the implementation of the National Shellfish Sanitation Program (NSSP) to ensure harvested shellfish are safe for human consumption (Maine Department of Marine Resources, 2022). Monitoring is conducted by the DMR year-round at nearly 1,400 stations along the Maine coast for fecal coliform bacteria, 77 of which are in Harpswell (see Figure 2). Fecal coliform counts are an indicator of the presence of human waste in the water. The results from the 30 most recent samples, along with visual surveys for pollution sources, determine whether areas are approved for shellfish harvesting. Areas must have a geometric mean of 14 colony forming units (CFU) per 100 mL of water or less and no sample greater than 31 CFU or less (P90) to be classified as Approved. The standards for Restricted are 88 CFU or less (geomean) and 163 CFU or less (P90). The standards for Prohibited are greater than 88 CFU (geomean) and greater than 163 CFU (P90). These standards are set by the NSSP. (Maine Department of Marine Resources, 2023).

Harpswell is split among three commercial shellfish Growing Areas as described by the Maine DMR: WJ, WK, and WL (Lewis, 2021). Each Growing Area, or section within a Growing Area, is assigned a classification based on the results of the bacteria P90 and geomean scores as described above, sanitary surveys, and analysis of the effects of tides, currents, and other weather conditions that may affect pollutant transport. Classifications categories are Approved, Conditionally Approved, Restricted, Conditionally Restricted, or Prohibited. Among the three Growing Areas, fourteen sections in Harpswell currently prohibit shellfish harvesting due to Overboard Discharges (OBDs) or other unresolved contamination issues. An additional section in Spruce and Morgan Coves was classified as Restricted in June 2021. Ten sections are Conditionally Approved for harvest with varying schedules of seasonal closures. The remaining sections are classified as Approved as of the end of 2022.

town staff and the Harpswell Marine Resource committee plan to further study the local sources of pollution in estuarine and tidal waters in the coming years. In 2022, Harpswell acquired a Maine Shellfish Restoration and Resiliency Fund Grant through the University of Maine to establish investigative water quality monitoring in Morgan Cove and Spruce Cove, Doughty Cove, and the areas adjacent to Hopkins and Sheep Islands. These areas were identified as the highest priority for investigation because they encompass a significant portion of the shellfish flats in Harpswell that suffer from pollution that restricts or limits shellfish harvesting. Preliminary results from 2022 suggest that there are likely sources of human, avian, and canine fecal waste entering marine waters via freshwater streams and tributaries (FB Environmental, 2022). Further investigation is necessary to identify the source of this fecal waste on the landscape, but efforts to remediate it would likely have an important impact on marine resources.

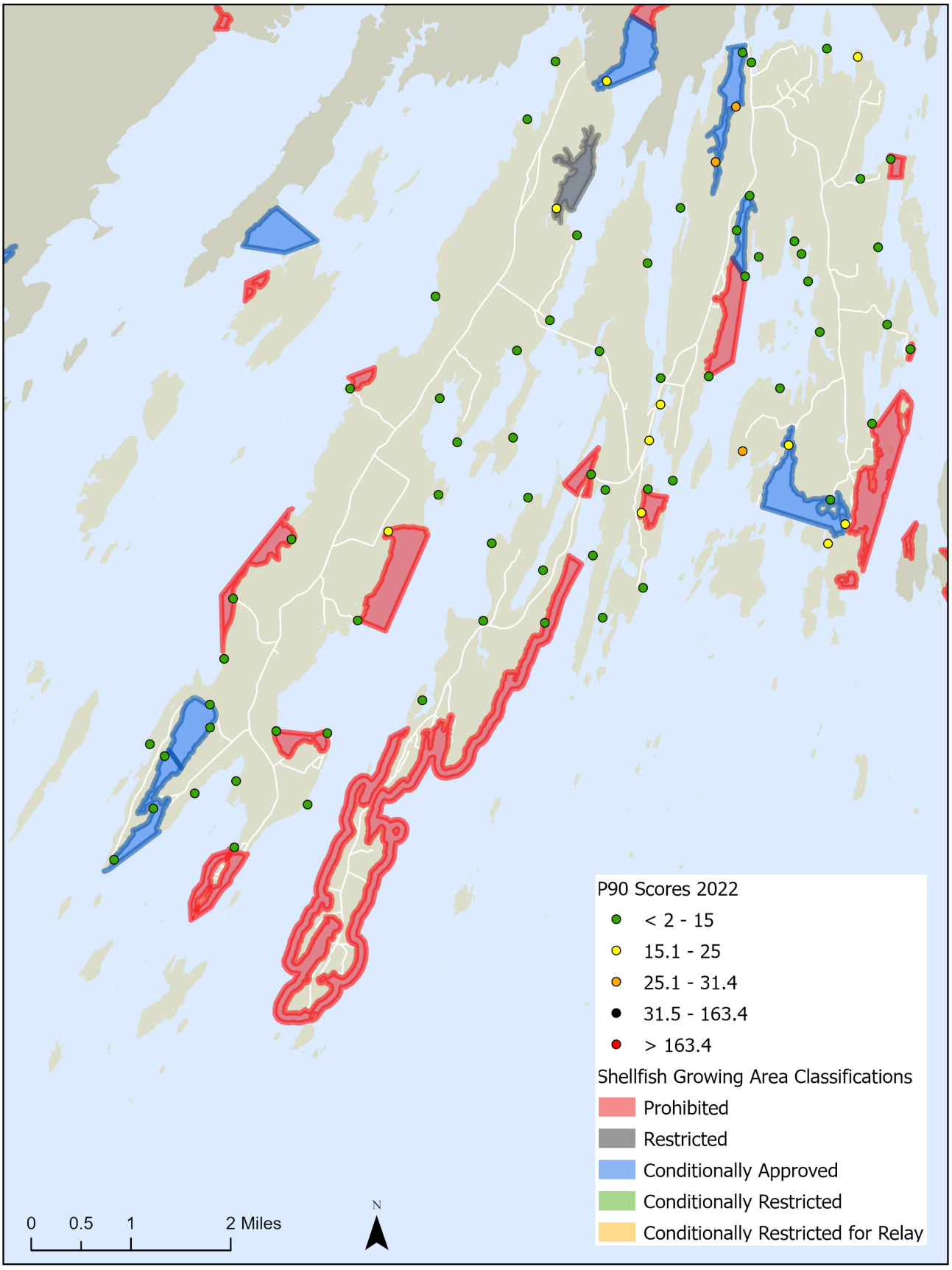


Figure 2: Maine DMR fecal coliform monitoring stations and shellfish closures in Harpswell

MARINE RESOURCES

Threats to Marine Water Quality

Two of Harpswell's marine waters are included on the latest Nonpoint Source Impaired Marine Waters Priority List by the Maine DEP: Basin Cove for negative water quality indicators and Oakhurst Island as a Casco Bay Estuary Partnership priority water (contains high or moderate value shellfish beds and/or has a high to moderate harvester interest) (Maine Department of Environmental Protection, 2023). Harpswell'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.

Stormwater Runoff

Stormwater runoff carries sediment, bacteria, nutrients, fertilizers, pesticides, herbicides, oil, grease, and other automotive chemicals into marine waters. 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. Threats from stormwater runoff may increase in the future as impacts from climate change bring more frequent severe storms to the Maine coast. Intense precipitation in a short period of time is not able to infiltrate into the ground and thus causes more surface erosion and may carry additional pollutants into nearby water bodies. Stormwater runoff has the potential to threaten the important shellfish industry in Harpswell. Organisms such as shellfish are filter feeders, meaning that they ingest these materials, making the shellfish unsafe for human consumption. This same principle may provide an improvement in water quality as the shellfish and other organisms filter pollutants from the water through their feeding.

The Maine DEP has developed a Stormwater Best Management Practices (BMPs) Manual to guide residents, municipalities, and contractors on limiting pollution in stormwater runoff from several sources including agriculture, timber harvesting, erosion from construction sites, and stormwater from development (Maine Department of Environmental Protection, 2016). These BMPs serve to manage stormwater in accordance with Maine's Chapter 500 Stormwater Management rules. 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. BMPs for agriculture are generally required with large livestock herds but are otherwise voluntary. Timber harvesting BMPs are generally applied voluntarily.

Harpswell requires BMPs to be implemented in new development projects reviewed under its site plan review ordinance, subdivision ordinance, or shoreland zoning, all of which were last updated in 2021 (Town of Harpswell, 2021). To mitigate stormwater impacts for construction or expansion of more than 2,500 sq. ft. of impervious surface in the shoreland zone, the town requires Low Impact Development (LID) BMPs, according to standards set by the DEP BMP Manual. Harpswell also requires that drainage ways in the shoreland zone be designed to handle at least a 25-year storm. Site Plan review does not list any specific requirements for LID or storm size flow requirements. A runoff analysis based on a 25-year storm may be required under a Subdivision application, as determined by the Planning Board.

However, Harpswell has no regulations requiring the application of BMPs to manage the impacts from existing development. If not maintained properly, existing development can be a significant source of pollutants to marine waterways. 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 best management practices in performing road and ditch maintenance and reconstruction projects.

Septic Systems

Septic systems located directly adjacent to marine bodies of water will have the greatest impact on marine water quality. Septic system leaks or failures can cause high bacteria loads to enter waterways. This may cause closure of shellfish beds and can be expected to have impacts on aquaculture as that industry continues to expand. (See the Freshwater and Groundwater Resources Chapter for more information.)

Overboard Discharges

Overboard discharges (OBDs) involve the treatment and release of effluent into surface water, typically with a septic tank using a sand filter bed and/or a chlorination tank. This contrasts with a septic system, which uses a leach field with soil microorganisms to treat and percolate the wastewater into the groundwater (Maine Department of Environmental Protection, 2018). Typically, OBD treatment processes can remove 85% or more of pollutant levels from raw wastewater. When there are one or more OBD systems adjacent to a shellfish growing area, this automatically triggers a regulatory closure. This precaution occurs whether there is evidence of contamination or not, as OBDs have the potential to discharge bacteria and other pathogens if not properly maintained.

The DEP has an Overboard Discharge Program where these systems are monitored and licensed for use. New OBD permits are no longer granted, and those installed in the 1970s and 80s 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.

To date, Harpswell property owners have reduced the total number of OBDs from 127 to 38. The program is 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 Figure 4 for the locations of remaining OBD systems and Table 1 for summary information about the remaining OBD systems.

The overall success of the OBD removal program may depend to a substantial extent on how well Harpswell also addresses problems with septic systems and stormwater runoff. Any source of fecal coliform bacteria, even non-human sources such as domestic animals, can be sufficient grounds for the Maine DMR to close a shellfishing 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.

Type of OBD	Number Active in Harpswell
Seasonal	20
Year-Round	18
Commercial	2
Residential	36

Figure 3: Active overboard discharge permits by type in 2024.

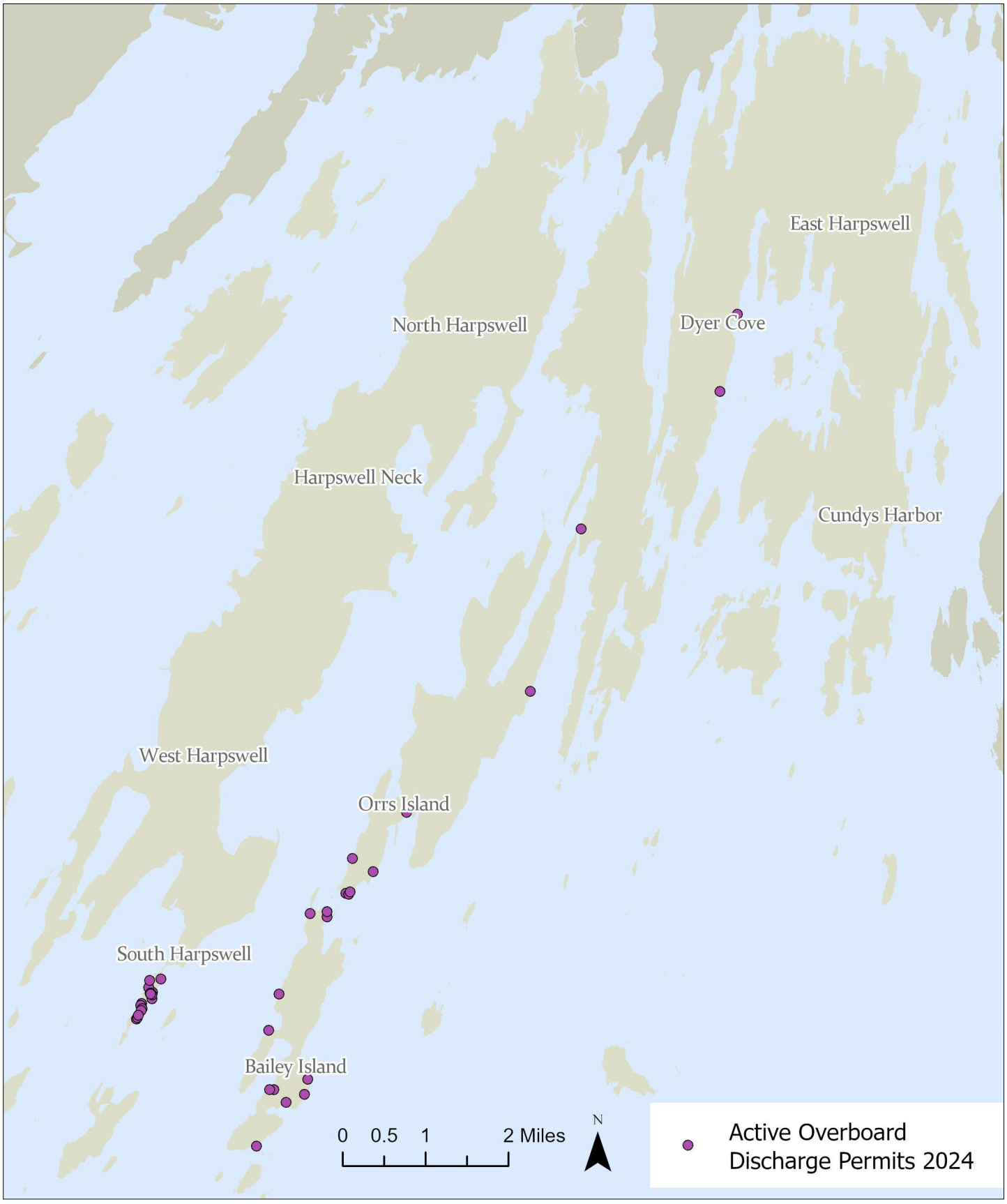


Figure 4: Active overboard discharge permits in 2024

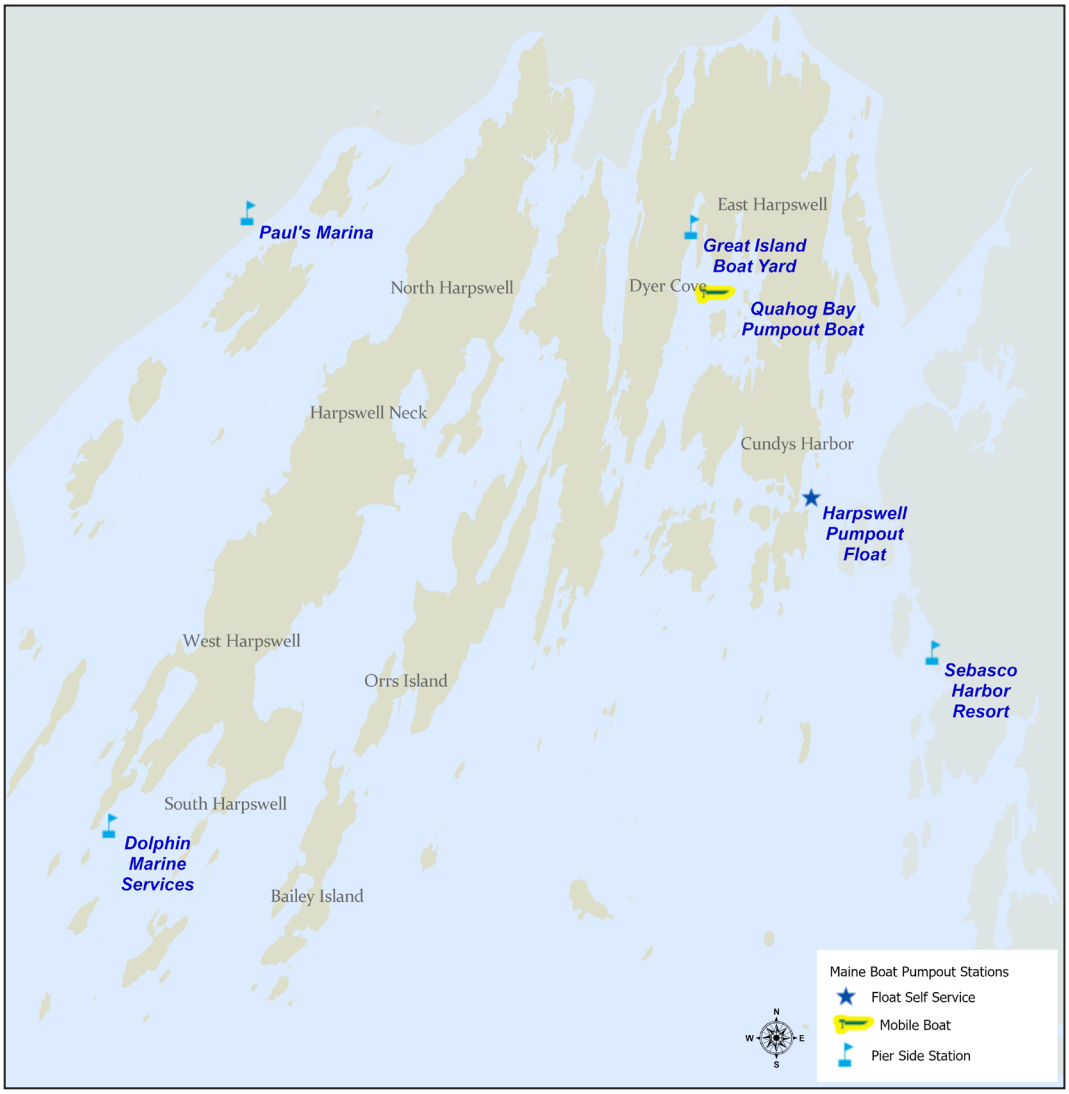


Figure 5: Boat pump-out stations in Harpswell

Marine Sanitary Waste

Discharge from boats poses another threat to marine ecosystems and human health when onboard holding tanks are emptied into marine waters instead of being pumped out at licensed marine sanitary pump out stations. The marine waters around Harpswell are all designated as Maine No Discharge Areas. Ensuring there are sufficient pump-out stations to meet local needs along with education to boat owners on the locations and importance of pump-out stations will be vital to protecting marine water quality from this potential source of pollution.

Pump-out stations exist at Dolphin Marine Services in South Harpswell and Safe Harbor, Great Island (formerly Great Island Boat Yard) in Quahog Bay. There is also a pump-out station at Paul's Marina on Mere Point in Brunswick, adjacent to Birch Island in Harpswell. A free self-service pump-out float also exists in Cundy's Harbor as well as a free on-call pump-out boat in Quahog Bay. The Friends of Casco Bay also operate a seasonal on-call pump-out service, though this extends from South Portland to Freeport and has an associated charge.

Nutrients & Dissolved Oxygen

The most common limiting nutrient in marine waters are nitrates; this means that the addition of nitrates to the marine system is the most significant limiting factor for expanded growth of many plant and algae species. Excessive nitrates in marine waters can stimulate overgrowth of marine algae, which in turn consumes dissolved oxygen during mass decomposition of this algae. Algae blooms can also be caused or exacerbated by warm water temperatures. These blooms may become more frequent in the future as climate change brings stronger storms (and therefore increased stormwater runoff) and rising air and sea temperatures to Harpswell.

In addition to the environmental impacts of algal blooms, some can be harmful to human health. The phenomenon known as red tide is one such example (Maine Department of Marine Resources, 2022). Red tide is produced by algae in the genus Alexandrium. These algae produce a toxin that causes paralytic shellfish poisoning (PSP) in humans that consume contaminated shellfish. Other potential biotoxin concerns include Diarrhetic Shellfish Poisoning (DSP), produced by Dinophysis algae, and Amnesic Shellfish Poisoning (ASP), produced by the genus Pseudo-nitzschia. The table below details the number of closures experienced in Harpswell over the past five years (2016-2021) due to these harmful biotoxins.

Year	Closure Cause	# Days of Closure	Species Affected
2016	PSP	63	Mussels, European oysters, carnivorous snails
2017	PSP	130	Mussels, European oysters, carnivorous snails
2017	PSP	40	Clams (all species, varying duration)
2017	PSP	43	American oysters
2017	ASP	16	Mussels, clams, oysters, and carnivorous snails
2018	ASP	11	Mussels, clams, oysters, and carnivorous snails
2018	PSP	244	Mussels, European oysters, carnivorous snails
2018	PSP	7	Clams (all species, varying duration)
2018	PSP	44	Razor clams
2018	PSP	11	American oysters
2019	PSP	195	Mussels and carnivorous snails
2019	PSP	103	European oysters
2019	PSP	188	Clams (all species, varying duration)
2019	PSP	53	American oysters
2020	PSP	73	Mussels, surf/hen clams, razor clams, European oysters, and carnivorous snails
2020	ASP	3	Mussels, clams, oysters, and carnivorous snails
2021	PSP	60	Mussels, surf/hen clams, razor clams, European oysters, and carnivorous snails

Figure 6: Biotoxin closures in Harpswell 2016-22, recorded by Maine DMR

MARINE RESOURCES

Per- & Polyfluoroalkyl Substances

Per- and polyfluoroalkyl substances (also known as PFAS or forever chemicals) are widely used and potentially harmful chemicals that do not break down in the environment. The effects and impacts of these chemicals are still not fully understood, but studies have shown that exposure can lead to harmful health effects such as increased risk of cancer, hormone disruptions, and developmental delays in children. PFAS can be found in several household products, firefighting foams, cleaning products, and more. Another potential source of PFAS is sludge and septage spread as fertilizers. The State of Maine issued several permits for these spreads, primarily in the 1980s and 90s. One such site is in Harpswell, near Skofield Cove. Ash, pulp, and paper mill sludge were spread on three fields totaling 46.5 acres with known stockpile areas (Putnam, 2022).

The former Naval Air Base in Brunswick, which drains to Mare Brook and ultimately into Harpswell Cove, is another local site of potential concern. Testing of drinking water, surface water, and shellfish tissue has been conducted to determine the extent of the problem, resulting in several detections above interim state and federal guidelines reported. A Maine DEP study in 2016 found low levels of perfluorooctane sulfonamide (PFOS) in blue mussels at two of four sampling sites and no detections in softshell clams at nearby sites (Maine Department of Environmental Protection, 2017). A follow-up study by David Page in 2020 detected higher levels in ribbed mussels at the head of Harpswell Cove, Brunswick. Further investigation is being undertaken to understand the full impacts in Harpswell (Page, 2020). The Maine Center for Disease Control does not currently have safe consumption or action levels for PFAS levels in marine fish or shellfish, though it has developed standards for freshwater fish (Maine Center for Disease Control and Prevention, 2022).

Other

The Maine DEP maintains a database of hazardous areas or events (Maine Department of Environmental Protection, 2023). Table 3 below details these sources for Harpswell, of which there are eighteen different types. Hazards include spills of varying sources, storage of potentially hazardous materials, and past spreading of potentially hazardous materials, such as sludge as described in detail in the above section. The potential toxins and pollutants from these sources vary widely in type, effect, and longevity. Further investigation is needed to understand the water quality impacts from these sources.

Figure 7: Potentially hazardous site types in Harpswell, recorded by Maine DEP.

Type	Number in Harpswell
Ash utilization site	1
Landfill municipal	6
Large bulk fuel storage/distribution facility	6
Leaking aboveground storage tank	25
Leaking underground storage tank	11
Marina/boatyard	7
Marine	79
Mystery spill	1
RCRA (resource conservation and recovery act) medium quantity generator	5
RCRA small quantity generator	4
Sand/salt storage	2
Sludge utilization site	1
Small bulk fuel storage/distribution facility	2
Surface spill	6
Swat (surface water ambient toxics) - marine	11
Transfer station	1
Uncontrolled site, DoD	6
Underground injection site	8

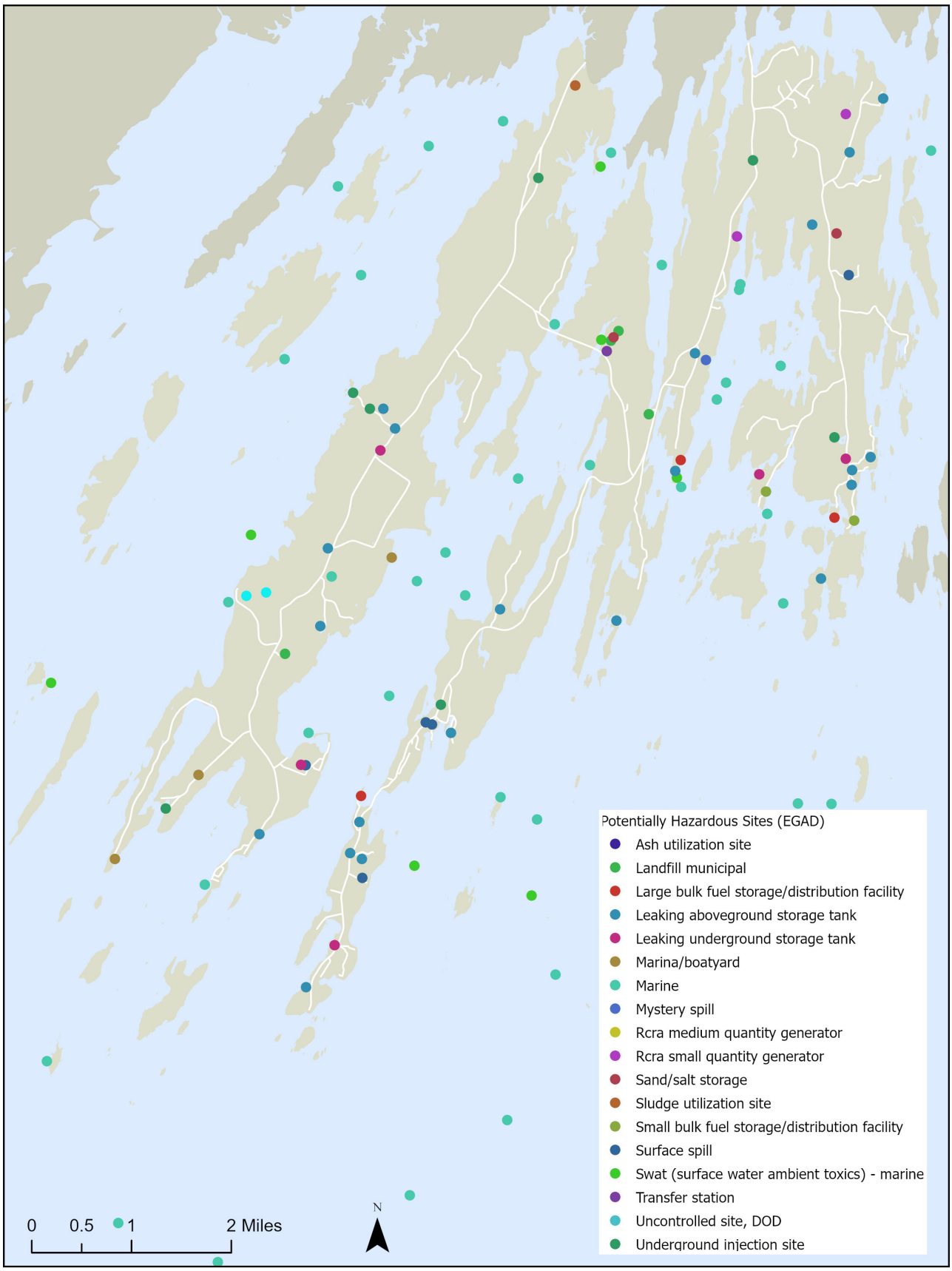


Figure 8: Potentially hazardous site types documented in Maine DEP's EGAD database.

Existing Measures to Protect Marine Water Quality

Measures in Harpswell town ordinances that help to protect estuarine and marine water quality include Shoreland Zoning setbacks of 75' (250' in the Resource Protection District) and strict limitations on clearing for development and vegetation removal within the 75' setback (Town of Harpswell, 2021). The Plumbing Code also requires a minimum setback from the normal high-water line for new septic systems (100') (International Association of Plumbing and Mechanical Officials, 2020). The Conservation Commission and the Harpswell Heritage Land Trust conduct and promote community outreach initiatives surrounding water quality such as stormwater management and protecting the bays and working waterfront.

Harpswell Water Classification System

Harpswell also approved a four-tier classification system for harbor and waterfront waters in 2020 to assist with management of resources and a balance between commercial and recreational use with natural resource protection. These classifications were first proposed in the 2011 Coastal Water Management Plan (CES, Inc., 2011). The types of waters are listed below.

Type 1 Waters – Low Intensity Use Areas

Type 1 Waters or Low Intensity Use Areas have a high scenic value and often only low intensity residential development. The waters in these areas support fish and wildlife habitat which is valuable to commercial fishing activities, recreation, and environmental quality. Shallow waters, mud flats, exposed shoreline, or undeveloped shorelines are common. Land Use Zoning is typically Resource Protection or residential. Possible uses include seasonal moorings associated with individual waterfront properties, transient anchorage areas, docks/piers associated with residential uses, high value shell fishing areas, recreational uses and aquaculture.

Type 2 Waters – Multi-purpose Waters

Type 2 Waters are the most common throughout town. These areas support a variety of commercial and recreational activities. They are important areas for marine resources, lobster fishing and aquaculture. Land uses adjacent to these waters can vary but are generally residential in nature with some home-based businesses related to waterfront activities. Common uses include small independent commercial fishing operations, recreational boating, sport fishing, small mooring areas, aquaculture areas, and residential docks/piers.

Type 3 Waters – High Intensity Boating

High Intensity Boating areas are characterized by dense concentrations of boating activity. Mooring fields are large, often considered at capacity, and associated with heavily used points of access (either private or public). The dominant type of boating activity (commercial or recreational) depends largely on the adjacent land use and use at the access point. Land uses might include marinas, commercial fishing wholesalers, boat yards, town landings, and water dependent businesses.

Type 4 Waters – Commercial and Recreational Harbors

Harbors support the maximum variety of uses within a confined geographic area. Most of the harbors developed around the Harpswell's historic fishing villages. Within these harbor waters, moorings and the mooring fields are congested and include commercial fishing vessels and recreational boats. Landside these harbors can be considered mixed use with residential homes, commercial fishing businesses, and other uses co-existing and sharing the limited space. The visual quality of these harbors is important, and tourism is supported in these areas.

Figure 9: Maine Healthy Beaches monitoring stations

Maine Healthy Beaches

Several beaches are also part of the Maine Healthy Beaches (MHB) Program which provides seasonal water quality monitoring services. Between 2018 and 2022 these locations included Mackerel Cove, Mitchell Field Beach, and Stover's Point Preserve. Figure 10, below, details the bacteria exceedances, advisories, and closures experienced by each beach from 2018-2022 (Maine Healthy Beaches, 2019, 2020, 2022). Mackerel Cove Beach has experienced the most frequent and most extreme number of bacteria exceedances of the three sampling locations.

	% Enterococci Exceedances (>104 MPN/100mL)					# Days Beach Closures/Advisories				
Year	2018	2019	2020	2021	2022	2018	2019	2020	2021	2022
Mackerel Cove Beach	30.8	0	20	10.7	13.3	10	0	6	4	7
Mitchell Field Beach	0	7.1	6.7	0	6.7	0	1	0	0	2
Stover's Point	0	0	0	0	0	0	0	0	0	0

Figure 10: Maine Healthy Beaches monitoring data, 2018-2022

Marine Resources

The significance of protecting water quality on an ongoing basis is not only aesthetic and environmental, but also economic. Commercial fisheries, marine businesses, restaurants, and tourism-related businesses depend on a continuing high quality marine environment. As detailed in the Economy Chapter, employment in the agriculture, forestry, and fishing sectors account for approximately 5% of the jobs within Harpswell's boundaries. Three hundred and eighty-five (385) fishing vessels in Harpswell depend on a clean marine environment for producing abundant and clean lobsters.

Shellfish

Softshell Clams

Softshell clams (Mya arenaria) are regulated by the DMR and Harpswell's shellfish conservation ordinance (Town of Harpswell, 2019), which was last amended on March 9, 2019. Harpswell softshell clam landings dropped dramatically from a peak of 426,970 pounds in 2011 to a low of 97,940 pounds in 2016 (Maine Department of Marine Resources, 2022). This coincides with periods of mandated clam harvesting closures due to fecal coliform and other pollutants, but also with the surge in the invasive European green crab (Carcinus maenas) and milky ribbon worm (Cerebratulus marginatus) populations which are a predatory threat to softshell clams. Harpswell softshell clam landings improved after 2016, reaching above 200,000 pounds in 2019, but dipped back to approximately 173,000 pounds in 2020. Softshell clam landings in 2021 jumped back up to 213,484 pounds. Landings for softshell clams statewide followed the same approximate trend.

Quahogs

Quahogs (Mercenaria mercenaria), also known as hard-shell clams, have experienced population growth in the last decade and a significant increase in landings in Harpswell since 2016. With their harder shells, quahogs are more resistant to predation by the European green crab and milky ribbon worm which have severely impacted populations of softshell clams (Conkerton, Thiet, Tyrrell, Medeiros, & Smith, 2017). Their thicker shells also make them more resilient to changes in ocean acidification, impacts of which are already being felt in the Gulf of Maine and are expected to worsen as climate change impacts continue. Their populations have also been moving northward as ocean temperatures have risen, further explaining their population growth along the Maine coast. Quahog landings in Harpswell nearly doubled annually from 2012-2016. Fishermen brought in over 200,000 pounds of quahogs in 2018, and have continued to do so every year since, peaking at 350,425 pounds in 2019.

Eastern American Oysters

Production of Eastern American oysters (Crassostrea virginica) statewide has exploded since 2011, going from 596,000 pounds to almost 4 million pounds in 2020. Harpswell's share of this has remained mostly flat, producing between 10,000 and 50,000 pounds per year, except for one anomalous year where Harpswell's production reached nearly 160,000 pounds (2017). However, 2021 was a record-setting year for Harpswell Eastern American oyster production, bringing in 178,654 pounds. The statewide growth also coincides with the proliferation of aquaculture; oyster is a commonly grown species in Maine aquaculture operations. However, successful aquaculture leases are dependent on good water quality. Other species of oysters harvested in Harpswell include European oysters (Ostrea edulis). Shellfish landing data from the past 10 years are provided in Figure 12 are from Harpswell, except for lobster landings which also include those from Cundy's Harbor and Bailey Island (Maine Department of Marine Resources, 2022).

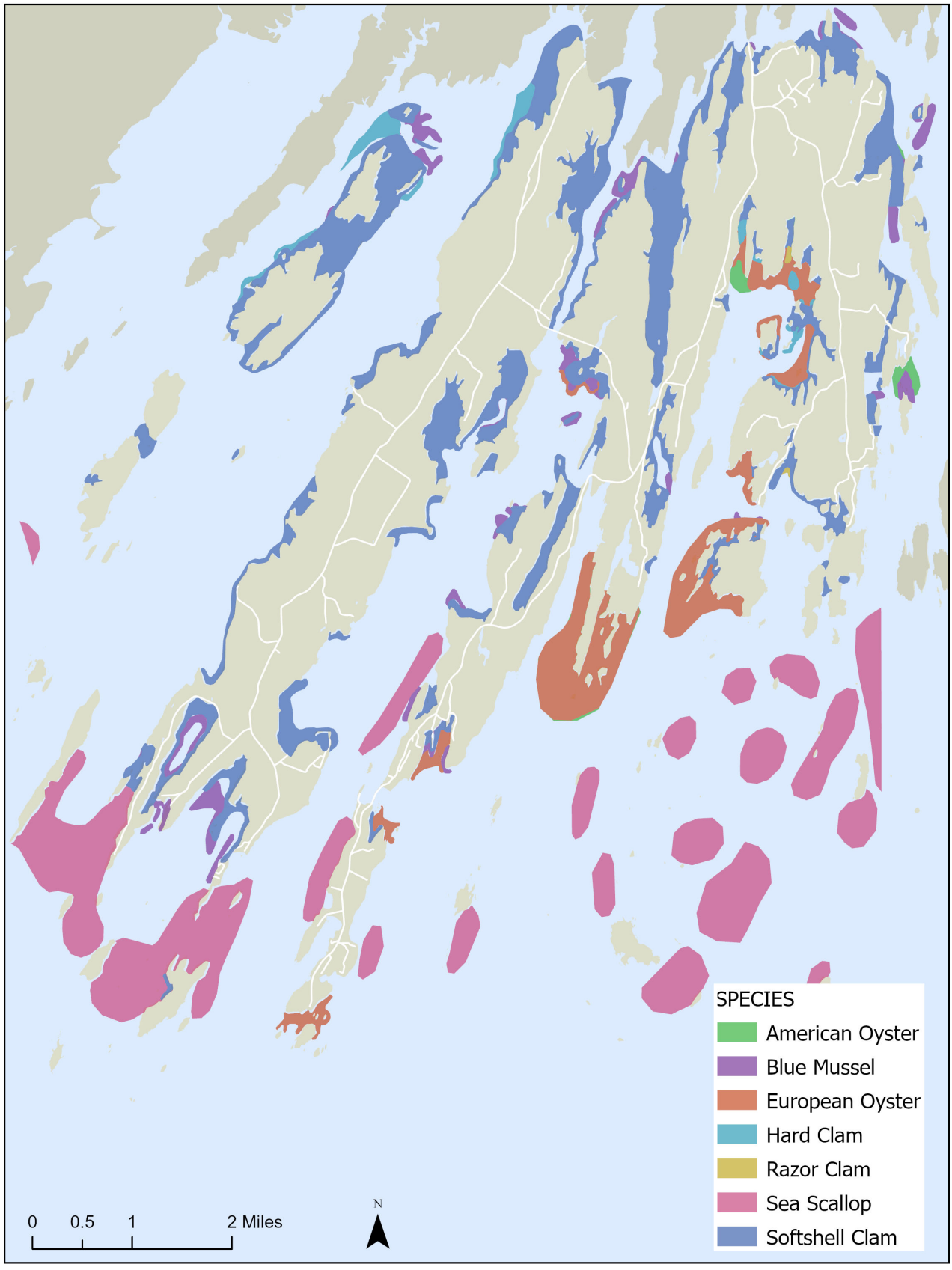


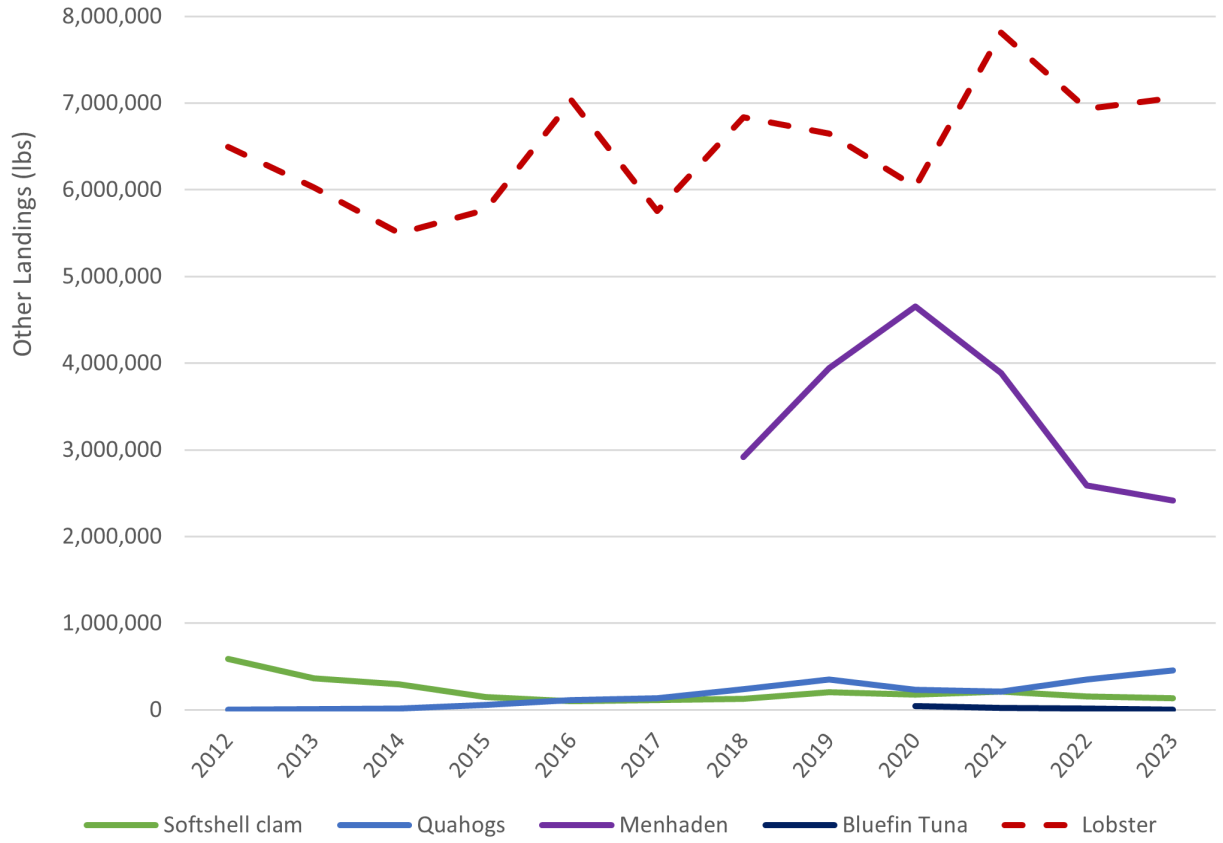
Figure 11: Shellfish habitat areas

MARINE RESOURCES

Lobster

The American lobster (*Homarus americanus*) is another vital economy for Harpswell. Over the last decade (2012-2021), the average lobster landings for Harpswell were over six million pounds (6,390,470 pounds) (Maine Department of Marine Resources, 2022). The Maine DMR values this catch at $24,388,560.

Figure 12: Shellfish landings in Harpswell from 2012-2023



Aquaculture

Aquaculture is the managed production of aquatic organisms such as fish and shellfish. It is a potential solution to meeting future food needs and reducing threats from over harvesting wild organisms. Harpswell currently has eight active aquaculture leases and one pending lease (Maine Department of Marine Resources, 2025). There are an additional 91 approved Limited Purpose Aquaculture (LPA) licenses in Harpswell. An LPA license is good for one year and permits the licensee 400 square feet for the growth of certain shellfish and algae species.

Approved aquaculture sites in Harpswell are for the following species (in order of prevalence): Eastern American oysters, quahogs, sea scallops (Placopecten magellanicus), algae or kelp (various species), softshell clams, blue mussels (Mytilus edulis), European oysters, and bay scallops (Argopecten irradians). Aquaculture tends to perform best in areas where ocean depth is between eight and 20 feet at low tide. These depths may also compete with space needed for moorings and docks. Harpswell has many coves and areas around the offshore islands that exist as suitable depths for aquaculture. An Aquaculture Working Group formed in 2024 is exploring ways for aquaculture to co-exist with traditional fishing activity.

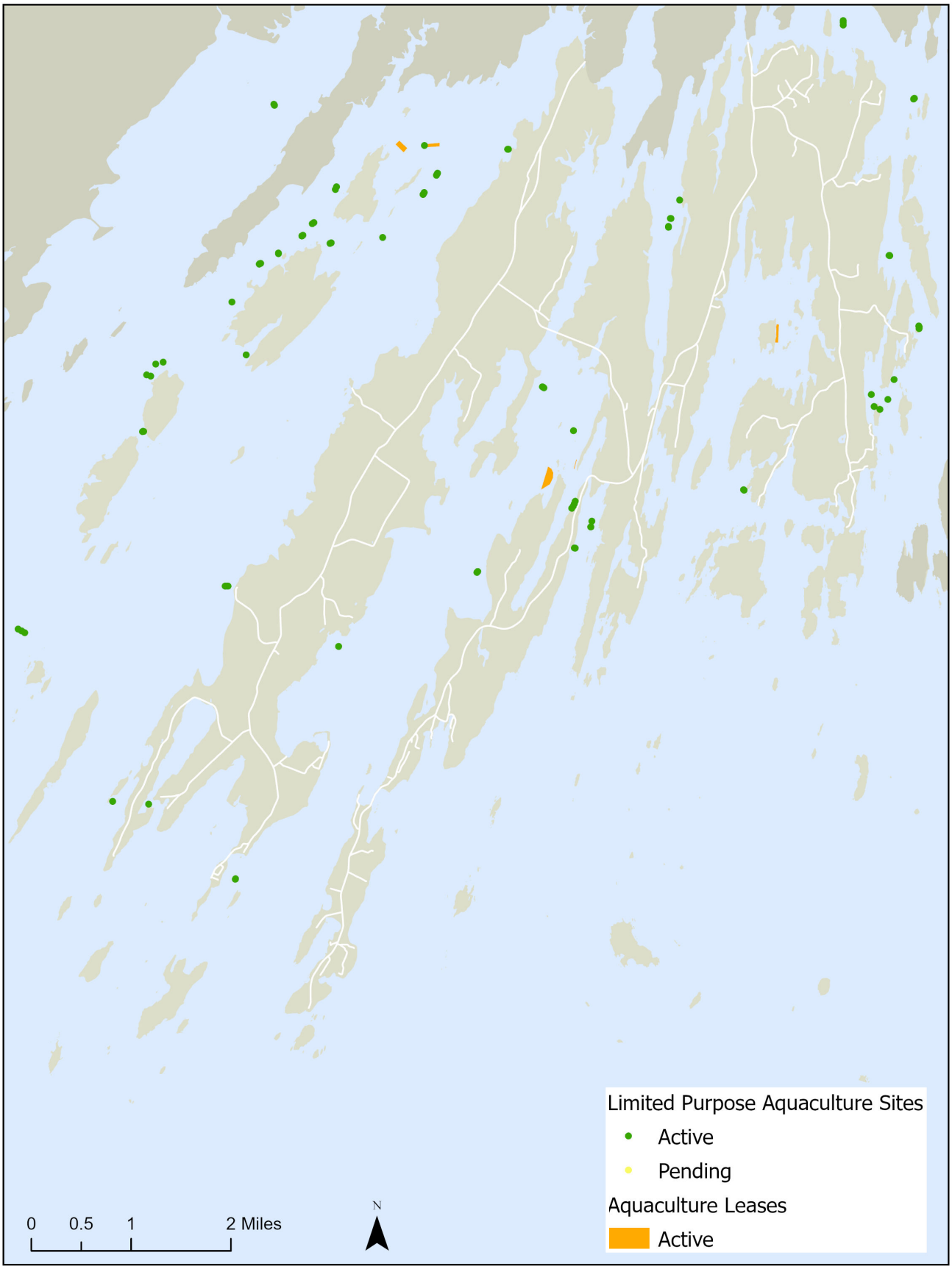


Figure 13: Limited Purpose Aquaculture sites in Harpswell

MARINE RESOURCES

Eelgrass

In shallow, near-shore areas, eelgrass (Zostera marina) can grow in large meadows, trapping the sediment that creates shellfish beds and serving as nursery areas for several species of fish and shellfish (Casco Bay Estuary Partnership, 2021). 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. 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.

In 2013, the Casco Bay Estuary Partnership and Maine Department of Environmental Protection conducted an aerial photography survey of Casco Bay to determine the growth/recession of eelgrass over time. A similar study had been conducted in 2001. The study found 8,789 acres of eelgrass in 2001, but only 3,650 acres in 2013. Specifically in the northern quadrants of Casco Bay (including and abutting Harpswell) the study found that eelgrass had reduced from 6,678 acres to 1,528.4 acres – a 77% reduction in eelgrass acreage. The Maine DEP likewise conducted an eelgrass survey in 2018, which identified 1,178.98 acres of eelgrass in Harpswell. All eelgrass beds in Harpswell are categorized in either the 0-10% or 70-100% coverage classes. Per personal communication with Paul Plummer, Harpswell Harbormaster, a 2022 study by the DEP indicates that eelgrass beds have further been reduced by 75% of their size compared with the 2018 survey.

One cause of eelgrass reduction is the threat from invasive European green crabs. First recorded in Casco Bay in 1905, green crabs are now the most abundant species of crab along Maine's coast (Casco Bay Estuary Partnership, 2021). Green crabs uproot eelgrass in their quest for softshell clams. Eelgrass beds may also be threatened by increasing turbidity and silt deposits from freshwater runoff which can smother the plants. This threat may become more prevalent as climate change increases strong storm events and therefore promotes increased erosion and runoff.

Eelgrass beds are also threatened by traditional mooring tackle which scars and damages the ocean floor when the chain is dragged due to tides and wind. New moorings in eelgrass beds are not currently permitted. In 2022, Harpswell received a Maine Natural Resource Conservation Program (MNRCP) grant to study the effectiveness of helical (or conservation) moorings in eelgrass habitats (Town of Harpswell, 2021). In contrast with traditional moorings, helical moorings are held in place by a "screw anchor" with a set of rods that lead to the mooring tackle and buoy, keeping the tackle off the ocean floor. Installation was intended to be in 2022. However, work on the grant was temporarily suspended due to severe reductions in eelgrass habitat shown in the summer 2022 eelgrass surveys. If approved to continue, the grant will fund installation of 20 helical moorings in Curtis Cove, Stover's Cove, and Dipper Cove which will be studied over the next five years to investigate if these moorings promote healthy eelgrass habitat. If successful, Harpswell will update mooring regulations to prohibit conversion of helical moorings back to traditional moorings and will encourage replacement of additional traditional moorings.

Figure 14: A mudflat in Harpswell (photo credit: Jamie Hark)

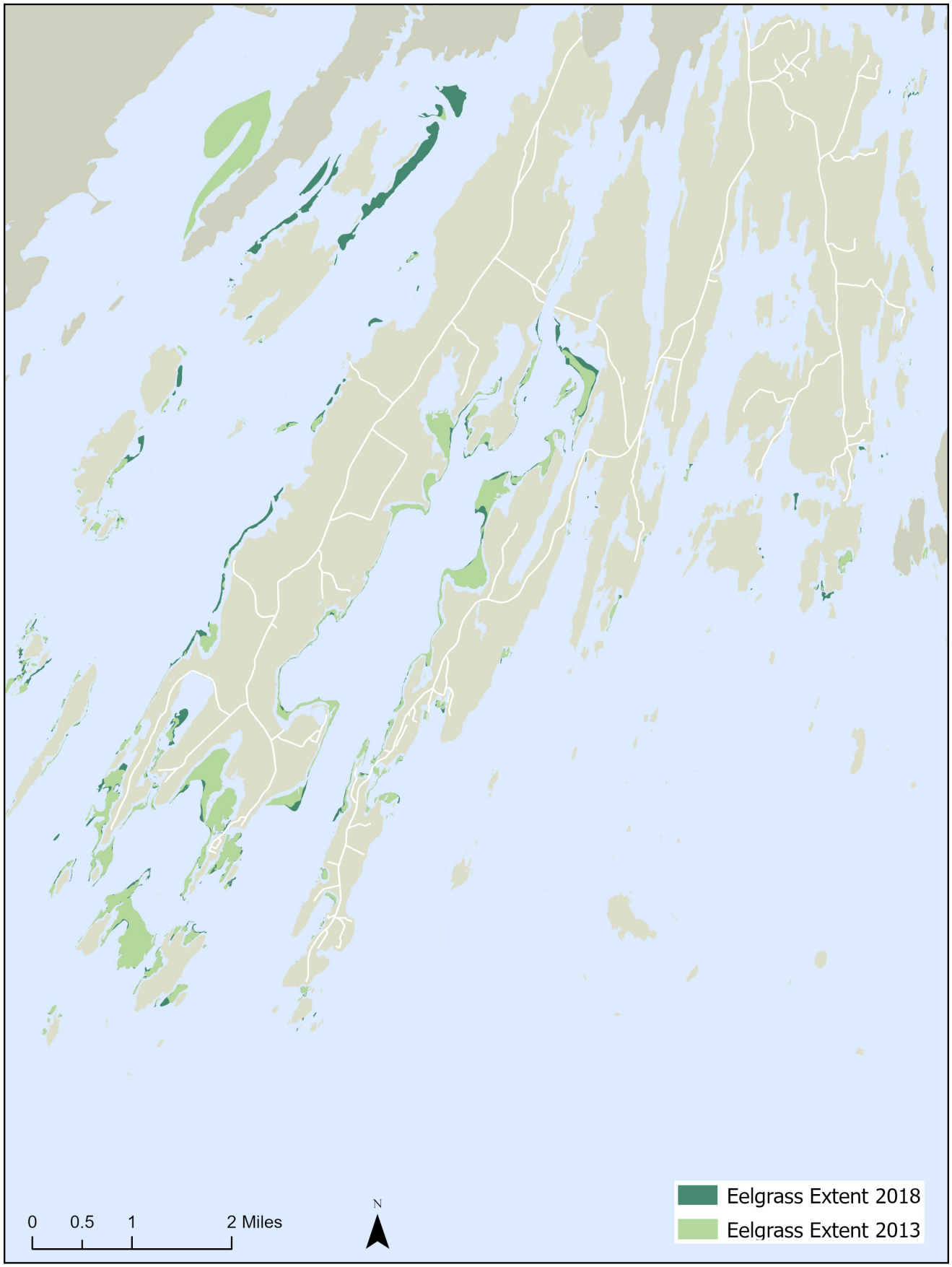


Figure 15: Eelgrass coverage in Harpswell waters as of 2022

Coastal Wading Bird & Waterfowl Habitat

In addition to supporting shellfish, intertidal flats also support 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. The Maine Department of Inland Fisheries and Wildlife has mapped Coastal Wading Bird and Waterfowl Habitat, including that within Harpswell. See Figure 16 for specific locations.

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 to afford some security for the birds. Vegetative screening enhances this sense and 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 Harpswell 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 (Beginning with Habitat, 2022). 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. See the Natural Resources chapter for more information on this habitat type.

Figure 16: Seabird nesting island (photo credit: Jamie Hark)

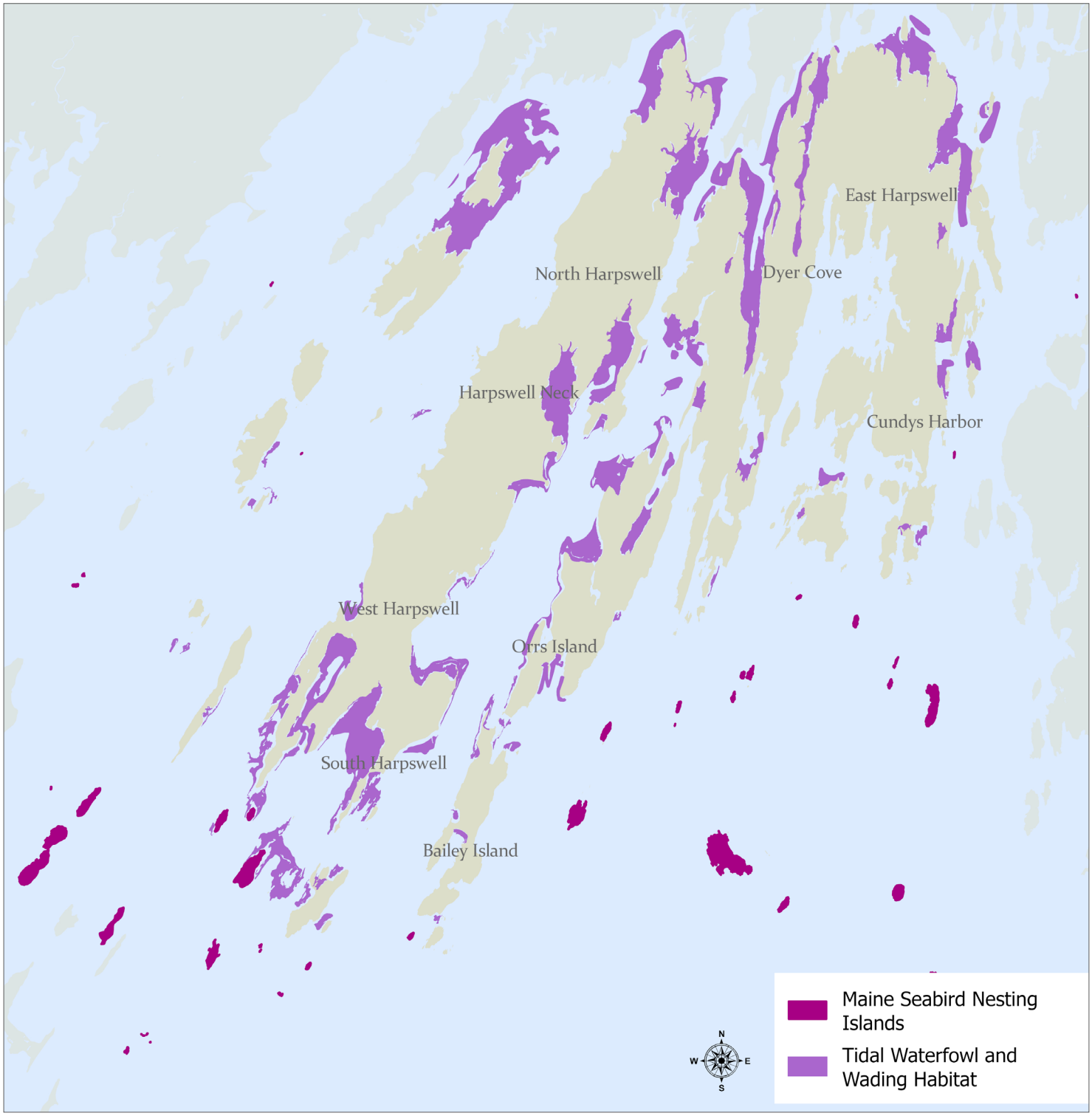


Figure 17: Seabird nesting islands in Harpswell

Regional Coordination

Regional watershed management efforts, such as the Casco Bay Estuary Partnership, 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 is also involved in the Casco Bay Regional Shellfish Working Group. These organizations offer monitoring, data and technical options, and programs for working on these issues. Harpswell may wish to consider using these resources for educational purposes and/or for the development of more effective town ordinances.

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FRESHWATER RESOURCES

Introduction

Potable groundwater availability is a critical issue for Harpswell. Each home and business must drill a well for their own water supply. Almost all wells need to be drilled through bedrock in order to access the water contained in small fissures and cracks.

Surface water also plays an important role in Harpswell through its impact on natural systems. The streams and ponds in town support wildlife, help to replenish groundwater, and flow into the marine environment, all of which are important functions.

Issues & Implications

The freshwater resources of Harpswell include groundwater, a small number of streams, three large embayments, several smaller ponds, and freshwater wetlands. Little is known about the water quality of many of these resources. Some smaller streams are unregulated, yet they may be important contributors to potable water sources. As the town moves ahead it may wish to consider mapping smaller streams and placing setbacks and other regulations on development in order to protect water quality.

Groundwater resources are limited by the island's rocky topography and shallow depth to bedrock. Residents rely exclusively on private wells for drinking water and private septic systems for sanitary waste disposal. Some wells in Harpswell are 200 feet or more in depth.

Despite being surrounded by water, freshwater is a scarce resource in Harpswell and may be threatened by impacts from climate change such as changes in precipitation and saltwater intrusion. Major threats to water quality include stormwater runoff, erosion, septic and overboard discharge system malfunctions, and overboard discharges. Harpswell has made efforts to reduce threats to groundwater, particularly through the conversion of overboard discharge systems to septic systems and ordinances to control stormwater runoff and erosion.

When intending to conserve the quantity and quality of surface and groundwater, maintaining trees and their understory is key. A healthy mix of native vegetation slows the movement of surface water, thereby enhancing its infiltration into the groundwater.

As the town moves ahead these and other threats will continue to challenge the community. These threats are linked to many other threats the town faces and will continue to be key areas of engagement for the community.

FRESHWATER RESOURCES

Groundwater

Groundwater Resources

Groundwater is subsurface water that is recharged by precipitation percolating into the soil. Harpswell has no public water supply, nor does it have any significant sand and gravel aquifers. Instead, all residents depend on bedrock wells for drinking water. The Maine State Wells Database reports 1,159 wells in Harpswell, and though they are required to be reported upon construction, the data is incomplete (Maine Geological Survey, 2023). Of these, 1,120 are registered for domestic use, eight for commercial use, eight for municipal use, five for institutional use, two for industrial use, two for geothermal use, five for other uses, and nine with no listed use. All are located within bedrock and range from 20 – 805 feet in depth. Yields from groundwater wells in Harpswell range from 0 to 150 gallons per minute.

Threats to Groundwater

Groundwater resources are threatened by several impacts of climate change, including changes in precipitation patterns and saltwater intrusion from sea level rise. A 2015 study in Harpswell indicated that although increased precipitation rates from climate change would somewhat mitigate the effects of future well failure, predicted sea level rise will increase the risk of saltwater intrusion for some private wells (Guiang, 2015). This study was conducted in the middle of Great Island, which may not be representative for the remainder of Harpswell. Deep wells close to the shore are considered the most vulnerable. Even in model results without sea level rise, a percentage of wells were predicted to fail given changes to pumping rates and groundwater recharge. These constraints, along with those presented by the soils and topography in Harpswell, may limit the areas in town that are available to drill for wells, which may limit development.

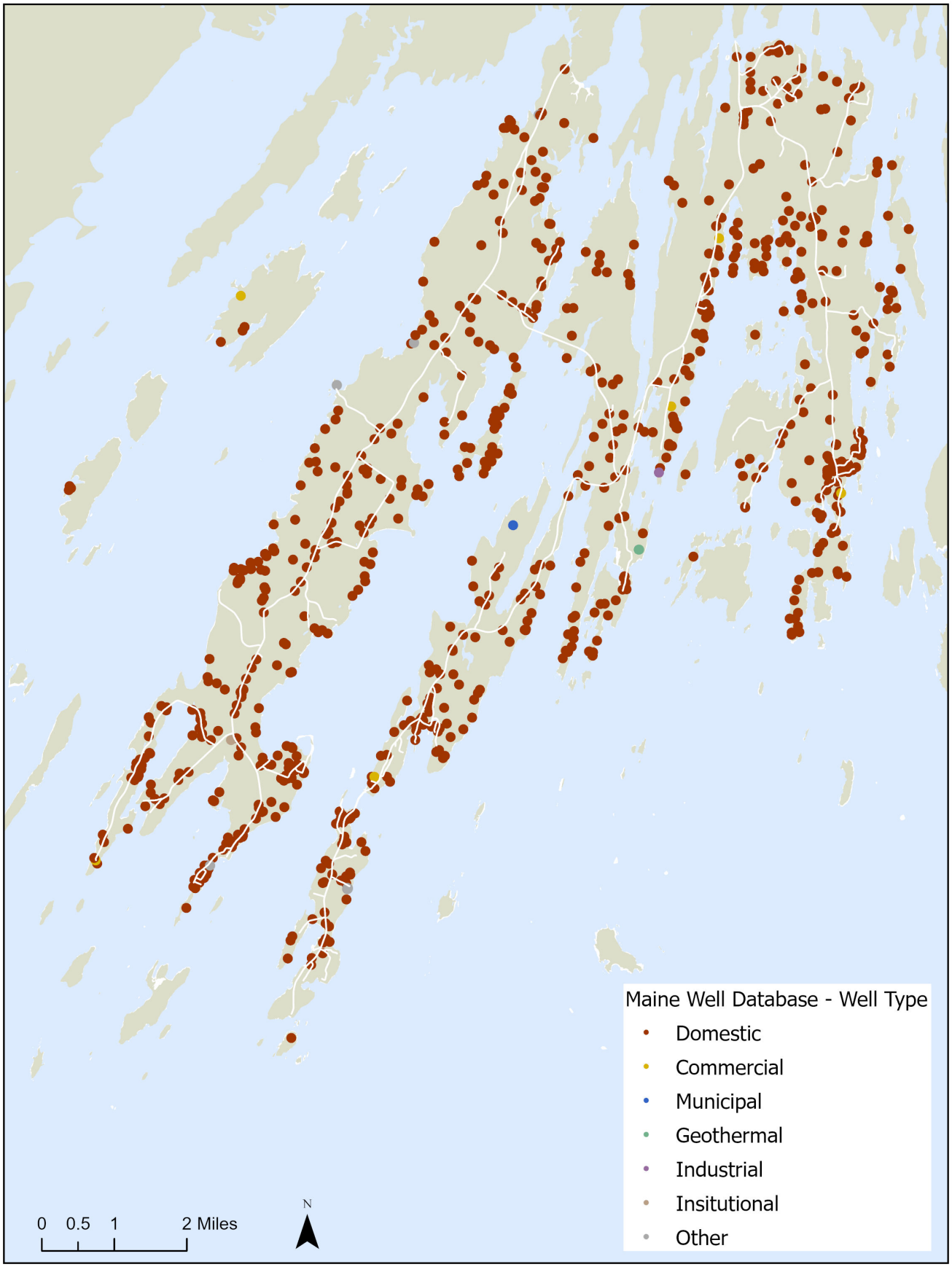

Figure 1: Wells in Harpswell that are recorded in the Maine State Wells Database, shown by use type.

Groundwater is also threatened due to potentially toxic levels of a number of substances including naturally occurring or anthropogenically sourced metals (lead, copper, iron, etc.), hydrocarbons, chloride, arsenic, uranium, *E.coli*, and more. Data from the Maine Environmental Public Health Tracking Network on private well water quality in Harpswell is presented in the table below (Maine Tracking Network, 2019). These results are based on private well water samples tested between 1999 and 2013.

A 2008 update to the Drinking Water and Sanitary Septic Study completed by Ransom Environmental Consultants found that ground-water impacts were primarily the result of naturally-occurring metals, metals from plumbing infrastructure, hydrocarbons from historic oil releases, malfunctioning septic systems, and road salt (Ransom Environmental Consultants, Inc., 2008).

Negative groundwater trends were not found in a particular section of Harpswell, except for the more densely populated areas, which may point to septic system contamination. Although fecal coliform bacteria and *E.coli* have been detected in Harpswell drinking water sources, nitrate, an indicator of septic system waste, has generally not been detected in amounts exceeding state guidelines. Additional testing may be required to determine the source of high bacteria.

PFAS

See the Marine Resources chapter for an overview of PFAS contamination concerns in Harpswell. While PFAS is a cause for concern across all freshwater resources, the main concern in Harpswell is contamination in Harpswell Cove from the former Naval Air Base in Brunswick. However, the town should be proactive in addressing any PFAS contamination identified in freshwater resources.

Parameter	Arsenic	Fluoride	Manganese	Nitrate	Nitrite	Uranium
# Wells Tested	301	335	282	373	373	218
% Exceeding Maximum Exposure Guidelines	5.3	1.2	21.3	0.3	0	2.8
Maximum Exposure Limit	10 ug/L	2 mg/L	0.3 mg/L	10 mg/L	1 mg/L	30 ug/L
Maximum Level Detected	47 ug/L	3.7 mg/L	4.8 mg/L	11 ml/L	0.080 mg/L	180 ug/L

Figure 2: Toxic substance test results for Harpswell groundwater, as reported by the Maine Environmental Public Health Tracking Network in 2019.

FRESHWATER RESOURCES

Surface Water

Ponds

There are 15 freshwater waterbodies identified in the National Hydrography Dataset categorized as "Lakes or Ponds" in Harpswell, however, most of them are very small. Gun Point Ice Pond is a 43.6-acre impoundment located behind a dam between Gun Point Cove and Quahog Bay. Goddard Pond on Dingley Island is the second largest waterbody, at 9.6 acres, and the third largest is Wilson's Pond on Orr's Island, at 9.3 acres (also referred to as Impoundment Pond, MIDAS #8887 in the Maine DEP database). Harpswell has numerous smaller freshwater ponds, freshwater wetlands, and springs. Eight of these ponds are used for emergency water supplies 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 in Harpswell, mostly unnamed. A few of the more prominent streams include Otter Brook, which runs north from Mountain Road into the southern end of Harpswell Cove, and Strawberry Creek, which flows into Harpswell Sound.

Stream and Pond Water Quality

The Maine Department of Environmental Protection (DEP) 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) (State of Maine, 2021).

This classification system is based on the premise that more natural freshwater ecosystems are more resilient to water quality threats. A class AA waterbody is typically one that is more natural and likely more resilient to degradation. Each classification has water quality criteria that ensure waterbodies in that class can support their 'designated uses.'

All the streams in Harpswell are designated as Class B. According to 38 M.R.S § 465, "Class B waters must be of such quality that they are suitable for the designated uses of drinking water supply after treatment; fishing; agriculture; recreation in and on the water; industrial process and cooling water supply; hydroelectric power generation... ; navigation; and as [unimpaired] habitat for fish and other aquatic life."

Ponds have one designation, GPA. The designated use of GPA waters is the same as Class B streams.

There is no available water quality sampling data for Harpswell streams to identify whether these streams are attaining their present water quality classification, and none of Harpswell's freshwater streams or ponds are listed in the Maine DEP Integrated Water Quality Monitoring and Assessment Report.

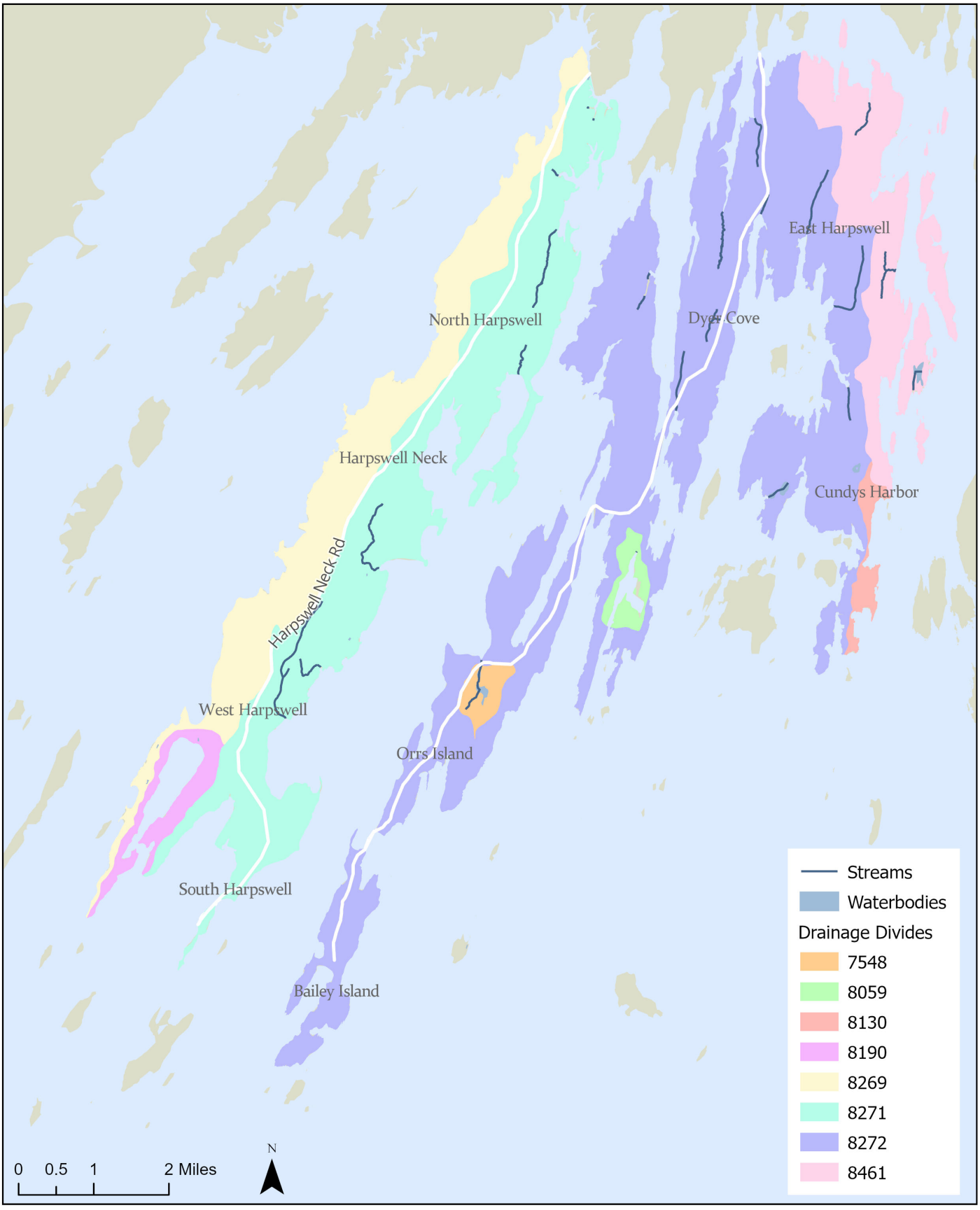

Figure 3: Streams and ponds in Harpswell. Drainage divides are shown in pastel colors.

FRESHWATER RESOURCES

Threats to Water Quality

Erosion & Sedimentation

Some of the most significant threats to water quality in Harpswell streams are erosion and sedimentation from clearing for development, construction sites, timber harvesting, and ditches. When areas are cleared of vegetation, stormwater runoff can erode sediments and deposit them into streams. Areas with poorly designed roads, paths, or ditches can also be prone to erosion. In developed areas with more impermeable surfaces and less vegetation, stormwater is less likely to filter into the ground, exacerbating stormwater runoff. Sediment can carry pollutants, such as automotive contaminants, fertilizers, and herbicides into streams, multiplying the impact of erosion on water quality.

Phosphorus is one of the biggest concerns in freshwater ecosystems, which can come from fertilizers carried in runoff. When there is too much phosphorus in a waterbody, it can fuel algae blooms and result in depletion of dissolved oxygen, decreased visibility within the water, and increased temperature. Nitrogen is the limiting nutrient in marine water bodies but can also be a concern in freshwater and surface runoff. These threats from erosion and nutrient pollution may be exacerbated by climate change impacts, particularly the increase in strong storm events and the rising air and water temperatures.

Bacteria

Another prevalent threat to freshwater resources is pollution from bacteria, which can come from both natural (e.g., wildlife) and human (e.g., septic system malfunctions, pet/livestock waste) sources. Bacterial pollution in streams can limit their uses for recreation and consumption. These bacteria may also flow from streams into coastal waters, which will have additional impacts on shellfish harvesting and recreation (see the Marine Resources chapter for more details).

Septic systems may not always be properly sited, constructed, or maintained, which can lead to negative impacts on freshwater. Particularly in older, more dense areas of development, outdated septic systems may allow polluted effluent to contaminate surrounding waters.

New septic systems must be designed to conform with the Maine State Plumbing Code and the minimum setback in Harpswell's Shoreland Zoning and Subdivision ordinances. Harpswell's Subdivision ordinance requires new septic systems to adhere to the following setbacks: 250 feet from upland edge of moderate or high value wetlands, 75 feet from the high-water mark of waterbodies, and the upland edge of coastal and freshwater wetlands, and 25 feet from the upland edge of forested wetlands (Town of Harpswell, 2021). Leach fields for new septic systems within the shoreland zone must be located at least 100 feet from a waterbody, stream, coastal or freshwater wetland.

Existing systems are not required to be upgraded until a problem becomes evident, whether they were constructed according to the above requirements or not. Sometimes there is no suitable site for a replacement system on a property that needs it. In such circumstances, the Plumbing Code allows for replacement system variances (International Association of Plumbing and Mechanical Officials, 2020).

Harpswell's septic systems were mapped and evaluated in the *2001 Wright-Pierce Drinking Water and Sanitary Septic Study – Phase I Report*, which was updated in 2008 (Ransom Environmental Consultants, Inc.). The updated report evaluated the amount of land needed to support a septic system to maintain water quality. Based on 2008 septic technology, the majority of Harpswell soils can support one septic system per three to four acres. As noted below, septic systems have become more efficient since then.

The options for new and replacement systems have broadened considerably in recent years, due to more efficient wastewater disposal and treatment technologies that are now accepted by the Plumbing Code. This could be an opportunity for improving groundwater conditions in some older or more densely developed areas. The same improved efficiency may also make development possible in some locations that were previously not developable.

Figure 4: Septic systems mapped for the Wright-Pierce Drinking Water and Sanitary Septic Study in 2001.

FRESHWATER RESOURCES

Existing Measures to Protect Surface Water Quality

Harpswell has long been aware of the important relationship of stormwater runoff and stream water quality and their impacts on estuarine and marine water quality. Accordingly, Harpswell has adopted strong standards limiting non-point source pollution from new development.

Erosion and Sedimentation Controls

Erosion and sedimentation control plans are required under the Basic Land Use, Shoreland Zoning, Subdivision, and Site Plan Review Ordinances. Shoreland zoning requires at least a 75' setback from the maximum high-water line of a stream, tributary stream, HAT of a coastal wetland or the upland edge of a freshwater wetland (Town of Harpswell, 2021). Minimum setbacks in the Resource Protection District are 250 feet unless specifically allowed to meet the 75-foot requirements. Nearly all streams in Harpswell are not required under State Shoreland Zoning standards to have a 75' Stream Protection District of undisturbed buffer. However, for most uses, the Maine Natural Resources Protection Act rules will require a 75' setback (State of Maine, 2007).

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 Harpswell's Subdivision Ordinance references the general review criteria of the subdivision statute, the town has 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 Shoreland Zoning require new development to limit the amount of stormwater discharge post-development to as close to pre-development volumes as possible (Town of Harpswell, 2022). Where possible, stormwater runoff is required to be directed into vegetative buffers, swales, or other natural or built features that will help to filter out pollutants. Shoreland Zoning additionally requires low impact development (LID) stormwater management practices as described in the Maine Stormwater Management Design Manual to be utilized and the creation of a stormwater management plan for any activity involving the construction or expansion of more than 2,500 sq. ft. of impervious surface (Town of Harpswell, 2021). The Site Plan Review Ordinance allows the Planning Board authority to regulate the quality of stormwater runoff from buildings and parking lots (Town of Harpswell, 2021). The Subdivision Ordinance also regulates stormwater amounts and quality within subdivisions (Town of Harpswell, 2021).

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

The Casco Bay Estuary Partnership (CBEP) has been completing annual monitoring at the Long Reach Lane Culvert crossing over Doughty Cove since the culvert was replaced with an open bottom road crossing in 2014 (Craig, 2019). CBEP has been monitoring salinity levels, vegetation, and channel morphology to understand the longstanding hydrologic modifications to the marsh, and the ecological impacts of the tidal marsh restoration after the previous culvert was replaced. CBEP has also been monitoring an open bottom crossing on Wallace Shore Road since 2014.

FRESHWATER RESOURCES

Wetlands

Wetlands are vital natural resources that have both ecological and economic importance. Wetlands include swamps, marshes, and bogs. Wetlands provide a unique habitat for a broad spectrum of organisms, including waterfowl, shellfish, fish, insects, reptiles, amphibians, and many mammals. Wetlands are important in the hydrologic cycle because they slow down and store stormwater runoff, which is then slowly released into brooks and other surface waters, reducing flood hazard downstream. Wetlands also serve as water purifiers, with their diverse and dense vegetation absorbing nutrients and sediment 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 in Figure 5. 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 (Maine State Planning Office, 2001). This 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.

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 point for that category.

This rating system provides a systematic approach to prioritizing which wetlands are most important for providing each type of wetland function.

Harpswell Conservation Commission Wetland Study

In 1995, the Harpswell Conservation Commission, with professional wetland scientist assistance from Woodlot Alternatives, Inc., 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.

In 2009, Harpswell's Open Space Plan recommended that the town consider changing the resource protection zoning for selected wetlands and consider expanding resource protection zones. The Plan recommends that four wetlands that are currently zoned as Shoreline Residential should have Resource Protection zoning applied to them. Those include Coastal Wetland #29 along Middle Bay Cove, Coastal Wetland #19 in North Harpswell, Freshwater Wetland #6 east of Cranberry Horn Hill, and Great Pond Wetland #23 Dan's Ice Pond in Gun Point. These recommendations have not been enacted. However, one property containing part of wetland #19 has been placed under a conservation easement held by the Harpswell Heritage Land Trust with an adjacent property under consideration. A portion of the north shore of Dan's Ice Pond is also under consideration for a conservation easement.

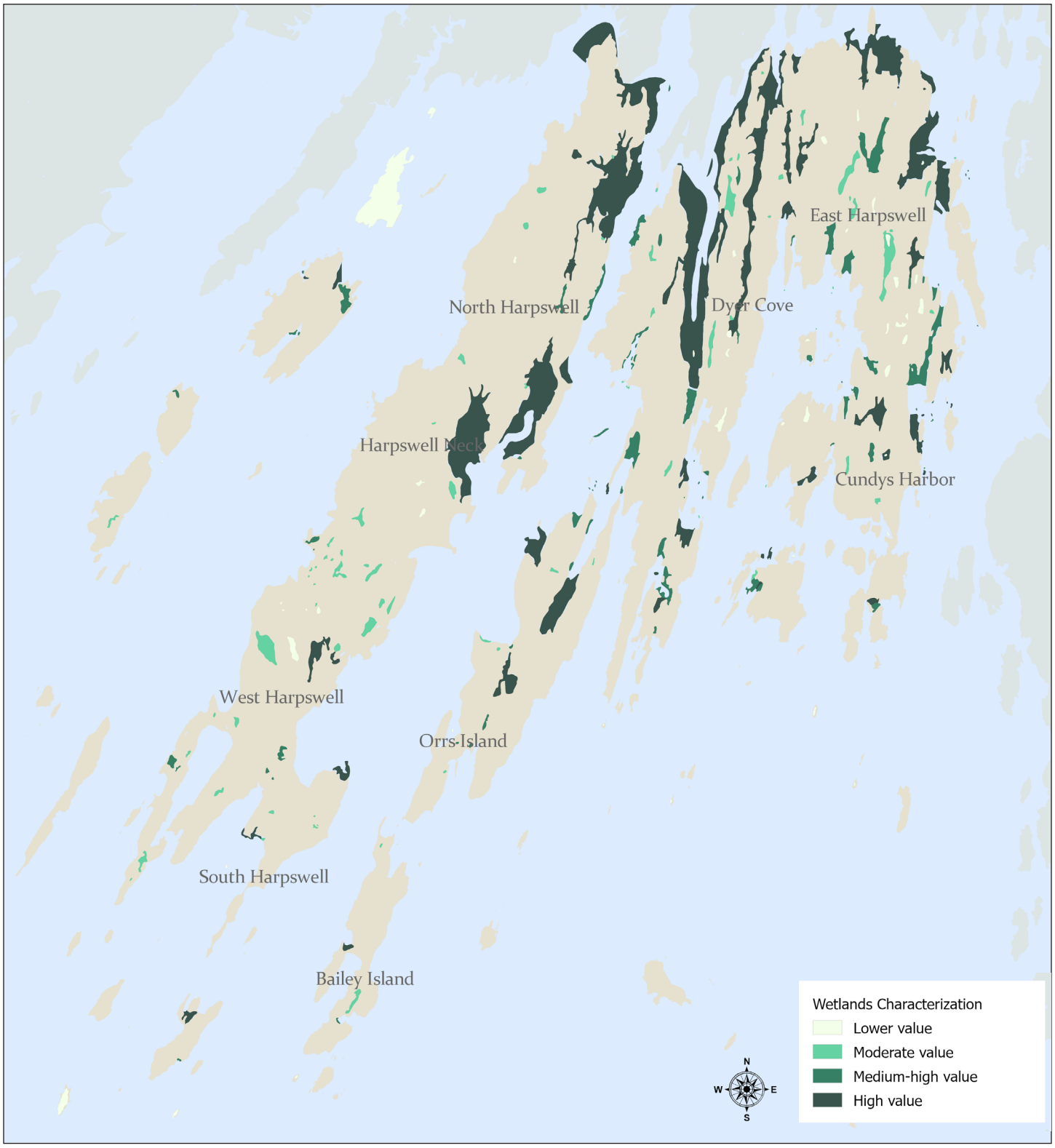

Figure 5: Wetlands mapped based on their Wetlands Characterization System score, which indicates a wetland's ability to serve different ecological functions.

FRESHWATER RESOURCES

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 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.

The State's Subdivision statute requires that all wetlands, regardless of size, must be shown on proposed subdivision plans (State of Maine, 2013). Harpswell, pursuant to the State Shoreland Zoning statute, has placed a Shoreland Zone around unforested wetlands of 10 acres or more or those associated with lakes, rivers, or streams (Town of Harpswell, 2021). Wetlands in the Shoreland Zone that are deemed as high or moderate value habitat by the Maine Department of Inland Fisheries and Wildlife (IF&W) must be placed in Resource Protection. Where wetland habitat values are low or "indeterminate" according to the IF&W, 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 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 on another property. This is accomplished through Maine's In Lieu Fee Compensation Program (Maine Department of Environmental Protection, 2023). Fees are allocated for use in wetland restoration projects within the same biophysical region they were collected (not neccessarily the same watershed), via the Maine Natural Resource Conservation Program (MNRCP). This provides a balance to Maine's overall ecosystems, but may result in a loss or degradation of Harpswell's wetlands. To date, five MNCRP restoration projects have been awarded in Harpswell: Basin and Curtis Coves (2010), Middle Bay Wetlands Partnership: Liberty Farm West (2013), Wallace Shore Road Tidal Restriction (2013), Strawberry Creek (2020), and Conservation Mooring and Eelgrass Restoration (2022) (Maine Natural Resources Conservation Program, 2022).

Saltwater Marsh Migration

In 2013 the Casco Bay Estuary Partnership (CBEP), one of 28 National Estuary Programs nationwide, was formed as a collaborative effort of people and organizations interested in protecting and restoring Casco Bay. The CBEP looked at ten of the fourteen municipalities that line Casco Bay to identify potential areas of marsh migration and possible impacts to existing development due to sea level rise (Casco Bay Estuary Partnership, 2013). Marsh migration can be challenging to predict and is dependent upon a number of factors, such as the rate of sea level rise, rate of sediment accumulation in upland areas, and elevations of upland habitat.

In Harpswell, the CBEP has identified fourteen primary areas as either being at risk of conflict between rising seas and existing developed areas, and/or areas where there is potential marsh migration. These areas include Basin Cove, Potts Point Road, Stover's Point, Mackerel Cove, Wills Gut and Lowell Cove, Long Point Island, Long Point Road, Card Cove, Mill and Widgeon Cove, Middle Bay and Skolfield Cove, West Sebascodegan Island, Wallace Shore Road, Hen Cove, Ridley Cove Road

Two maps were produced for each of the areas. The maps show existing infrastructure and how these resources are likely going to be impacted by a 1 foot and then 3-foot rise in sea level. The Maine Coastal Program, Maine Geological Survey, and the Maine Department of Agriculture, Conservation and Forestry have been working with regional councils, communities, and regions along the Maine coast to address issues of sea level rise and develop local responses. To date, some of these municipal responses include revising floodplain ordinance language, conservation actions to allow marsh migration, adoption of Highest Annual Tide elevation from the LiDAR data and identifying tidal restrictions.

FIGURE 10: Ha4 **Mackerel Cove Area: 3 ft. Sea Level Rise**

Figure 6: Casco Bay Estuary Partnership developed a map for Mackerel Cove showing the potential impacts of 3 feet of sea level rise to marshes.

Vernal Pools

Vernal pools are small wetlands formed by natural depressions in the forest floor. They are inherently temporary, lasting for only a few weeks each year in the spring and fall. These pools are fed by melting snow or rain at the times 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. A significant vernal pool is determined by the number and type of breeding amphibian egg masses, the presence of fairy shrimp, or use by endangered or threatened species.

In 2006, legislation was passed in Maine to regulate significant vernal pools as Significant Wildlife Habitat under the state's Natural Resources Protection Act. In 2007, Maine passed legislation regulating development activities within 250 feet of significant vernal pools.

To date, 14 vernal pools have been mapped within Harpswell. Of these, 11 are considered not significant by the Maine DEP, two are categorized as potentially significant, and one is identified as significant (Maine Department of Inland Fisheries and Wildlife, 2023). Seven of the identified vernal pools, including the sole significant vernal pool, are located within conserved lands. Due to their temporary nature, it is likely that additional vernal pools exist in Harpswell that have not been identified.

Figure 7: Vernal Pools of Significance in Harpswell, from Beginning with Habitat Data.

FRESHWATER RESOURCES

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 October 2020, Harpswell developed a Climate Resilience Task Force committee to assess vulnerabilities to climate change. Using the Maine Flood Resilience Checklist prepared by the Maine Department of Agriculture, Conservation and Forestry, the Task Force reviewed Harpswell's constructed, natural, and social environments to understand what areas have the greatest vulnerability to flooding and sea level rise (Town of Harpswell, 2020). Members of the Task Force assessed coastal flood and storm surge vulnerability and its possible impact on Harpswell's critical infrastructure and facilities, natural environment, and social and economic community. The Checklist process has the potential to help Harpswell integrate sea level rise and flooding considerations into its Emergency Operations Plan (EOP), reconsider its local floodplain ordinance, and incorporate resilient activities into the town's capital road and improvement plans.

Harpswell's critical infrastructure includes town buildings, landings, boat launches, piers, wharves, recreation fields, non-developed land, and roads, which make up the largest sector. The current inventory of town-owned landings and boat launches should be regularly monitored and documented with special attention paid to extremely high tides as well as storm surges. The committee should keep photographic documentation to help monitor changes over time. Rising sea levels will impact the lowest lying areas in Harpswell. These include septic and leach fields. The committee will analyze these low-lying developable areas to identify septic systems that will be vulnerable to rising sea levels of 1-3 feet.

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

1. Areas that are flooded 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. shows the approximate locations of the 100-year floodplains in Harpswell, as designated by the Federal Emergency Management Agency (FEMA) from 2020. According to the Maine Flood Hazard Q3 data layer derived from flood insurance rate maps from the Maine Office of GIS from February 16, 2021, most of Harpswell is within FEMA flood hazard areas AE, which are areas within the 100-year floodplain determined by detailed methods, and VE, which are areas within the 100-year floodplain that are subject to additional storm hazards. Additionally, there are a few areas inland that are within the 500-year floodplain. Most of these areas are located along Cundy's Harbor Road and Harpswell Islands Road in the northeast section of the town. These designations are subject to change and must be used carefully in planning for the community.

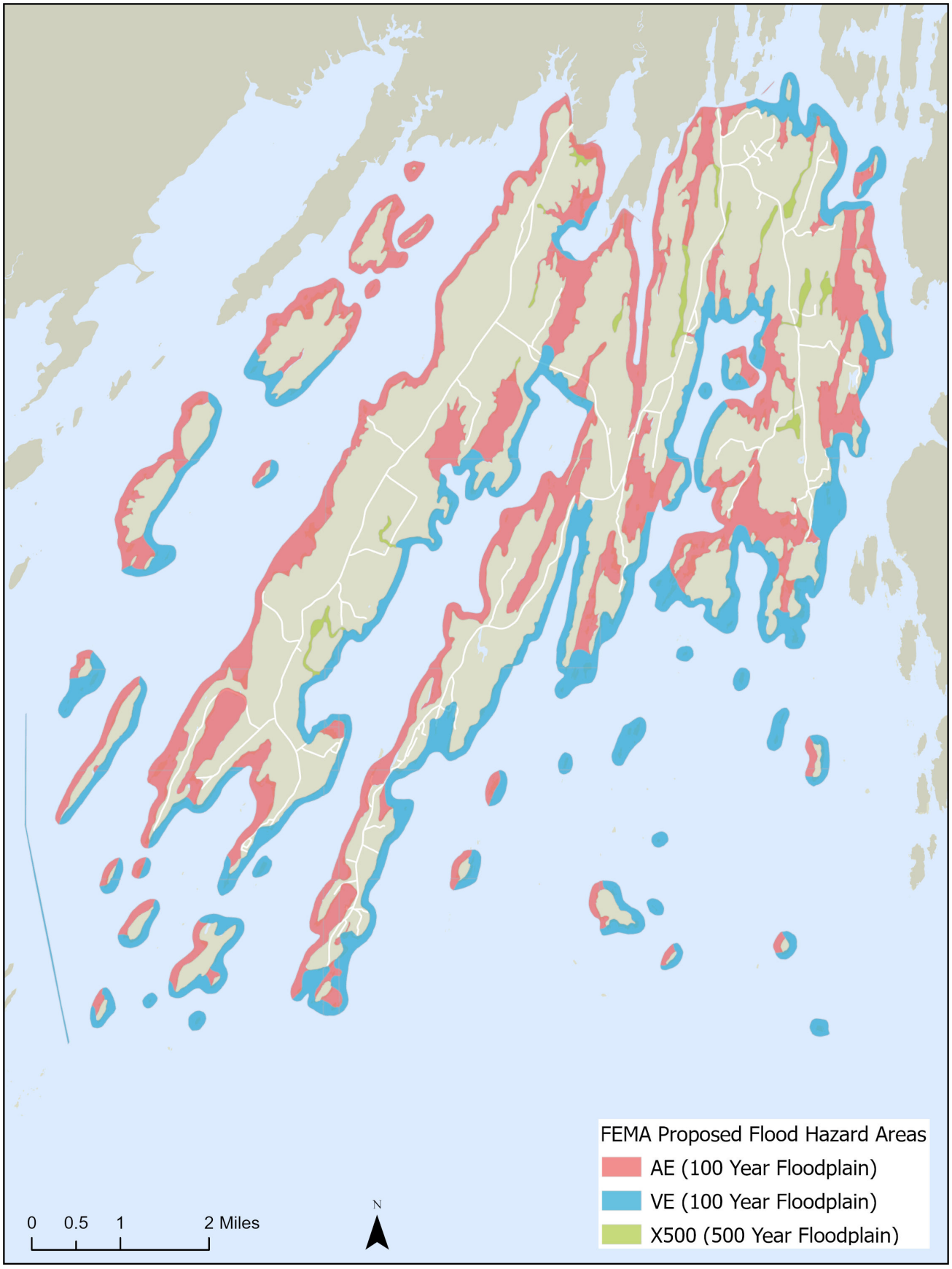

Figure 8: Flood hazard areas in Harpswell, as designated by the Federal Emergency Management Agency.

FRESHWATER RESOURCES

At the time of this plan Harpswell had recently received FEMA's new proposed flood hazard maps. There is a level of public interest in the adoption and use of floodplains including:

1. **Minimization of risk of private property loss**

   For Harpswell's property owners to remain eligible for federal flood insurance, the town must continue to maintain consistency between its floodplain management ordinance and the 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**

   Harpswell 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 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, the future safety of public safety personnel can be impacted by proper consideration of property owners and town staff when considering new development.

Figure 9: Docks and landing locations compared to 3.9 feet of sea level rise, shown at Garrison Cove.

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NATURAL RESOURCES & OPEN SPACE

Introduction

Harpswell has valued and cared for its unique natural resources for a long time. These words opened the discussion of natural resources in the 1981 Comprehensive Plan, and though our knowledge of these resources has since improved, the values are still relevant today:

> *"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 [216 miles of] 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."*

The town's natural beauty has long been managed and stewarded by the members of this community, exemplified by the adoption and implementation of an Open Space Plan in 2009. This plan was created "to enhance and preserve the natural and scenic qualities of the town's rural landscape while allowing future residential growth." The continued and thoughtful management of these resources will be a key part of the town's future.

Issues & Implications

Harpswell's natural resources provide bountiful environmental, economic and aesthetic benefits. However, given the growth pressures expected in the next decade, the community will have to consider its priorities related to open space and other important values like affordable housing. These ideas are not necessarily in opposition to one another but should be considered together. 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.

Finding the balance between protecting vital natural resources and open space with sustainable development will be key to the future success of both its residents and its beloved natural resources.

Topography

Harpswell is comprised of a long narrow peninsula and island clusters, resembling a great hand print stamped on the northern reaches of Casco Bay. The ground commonly rises rapidly up from the ocean shore front, to reach inland elevations as high as 200 feet above sea level on Long Reach Mountain, Great Island. For long stretches of coastline and in numerous coves and harbors, the rocky shore front drops off into water deep enough for all-tide docks and mooring grounds.

The shape of the town is directly related to the southwest trending fabric of the layered bedrock formations from 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. Over 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. Slopes greater than eight to 15 percent significantly constrain the construction of water management measures, buildings, and roads for most soil types. Inland areas with significant slope constraints include the area between Lombos Hole and Long Reach, sections on the northern end of Orr's Island and the portion of Great Island enclosed by Route 24, Cundy's Harbor Road, and the head of Quahog Bay (Ransom Environmental Associates).

According to a 2020 study by the Maine Geological Survey (MGS), Harpswell contains approximately 164 miles of coastal bluff shoreline. Bluff shorelines are defined as "a steep shoreline slope formed in sediment (loose material such as clay, sand, and gravel) that has three feet or more of vertical elevation just above the high tide line." Of the classified bluff shoreline, approximately 75% of this area (122.4 miles) was categorized as stable bluffs. Stable bluffs are typified by a gentle slope and continuous vegetated cover of grass, shrubs, or trees. To be classified as stable, bluffs need a wide zone of ledge or sediment at their base.

In contrast, 38.2 miles (23%) were categorized as unstable bluffs and the remaining 3.6 miles (2%) were categorized as highly unstable bluffs. Unstable or highly unstable bluffs are vulnerable based on their slope, vegetation cover, sediment type, and erosion rate. In this same study, approximately 185 miles of shoreline were categorized as non-bluff and five miles were not mapped.

Unstable bluffs in Harpswell are generally interspersed with stable bluffs. A few specific areas, such as Laurel Point and the point west of Rich Cove, represent a few areas with highly unstable bluffs. Some of Harpswell's islands, such as Upper Goose Island, Birch Island, and White Island also have significant sections of unstable bluffs.

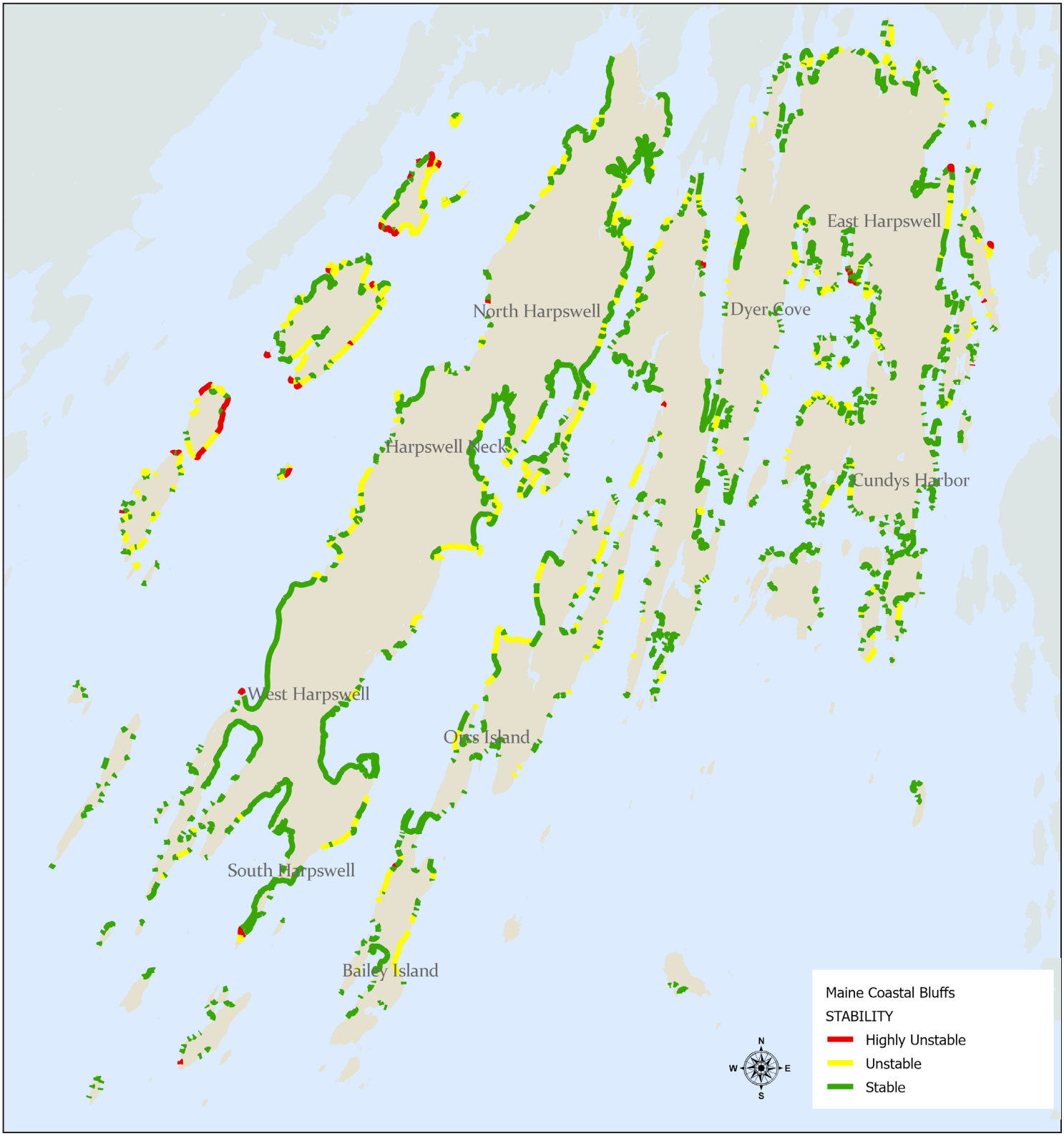


Figure 1: Coastal bluffs in Harpswell, mapped by stability (Maine Geological Survey)

Soils

Soils in Harpswell are characteristic of the geologic history of the area. Nearly 70% of the soils across the town are part of the Lyman soil series or a Lyman series complex. The Lyman series is typically composed of shallow to bedrock soils formed in loamy supraglacial till from melt out and flow at the front of receding glaciers. As a result of their development, these soils are classified as somewhat excessively drained (high saturated conductivity), meaning water moves through them quickly. As presented in the Table below, the Lyman soils in Harpswell range from 3-15% slope and can be found on both the sides and tops of steep slopes. Excessively drained soils pose a serious challenge for septic system siting and design, as the depth of soil for adequate infiltration of leachate is limited. High saturated conductivity soils present a significant threat for groundwater pollution.

Of the 52 total soil types present in Harpswell, 17 of them cover more than 100 acres of land. Within those 17, only two soil types are not well-drained. These are Walpole fine sandy loam and the Lyman-Abram complex. Walpole fine sandy loams are almost exclusively found across the Harpswell Neck peninsula. Lyman-Abram complex soils are primarily found on the islands: Whaleboat, Little Whaleboat, Little Birch, Upper Flag, Haskell, and Eagle Islands. This further suggests that the predominant drainage classes on the mainland are well- drained soils. The five most prevalent soil types in Harpswell are presented in the table below.

Areas on the mainland with a high seasonal water table and poorly drained soils are typically found across the northeastern part of Harpswell Neck and on Great Island from Strawberry Creek northward. Narrow valley bottoms throughout town also contain these thick deposits of glacial-marine clay-silt, known as the 'blue clay' of southern Maine. Excessively well-drained shallow-to-bedrock soils as well as poorly or excessively poorly drained soils both present challenges for septic system siting.

All subsurface wastewater disposal systems must be installed to conform with the State of Maine Subsurface Wastewater Disposal Rules. These rules require 12 to 24 inches between the bottom of the septic disposal area and a limiting factor (e.g., seasonally high-water table or bedrock). This allows for the treatment of the waste, via breakdown from microorganisms, in the native soil zone. In significant portions of Harpswell, these soil conditions required by the Plumbing Code do not exist.

Figure 2: Common Soil Types in Harpswell

Soil Type	Abbreviation	Drainage
Lyman loam, 8-15% slopes, very rocky	LzC	Somewhat excessively drained
Lyman loam 15-35% slopes, very rocky	LzE	Somewhat excessively drained
Lyman loam, 3-8% slopes, rocky	LyB	Somewhat excessively drained
Lamoine silt loam, 3-8% slopes	BuB	Somewhat poorly drained
Lyman loam, 3-8% slopes, very rocky	LzB	Somewhat excessively drained

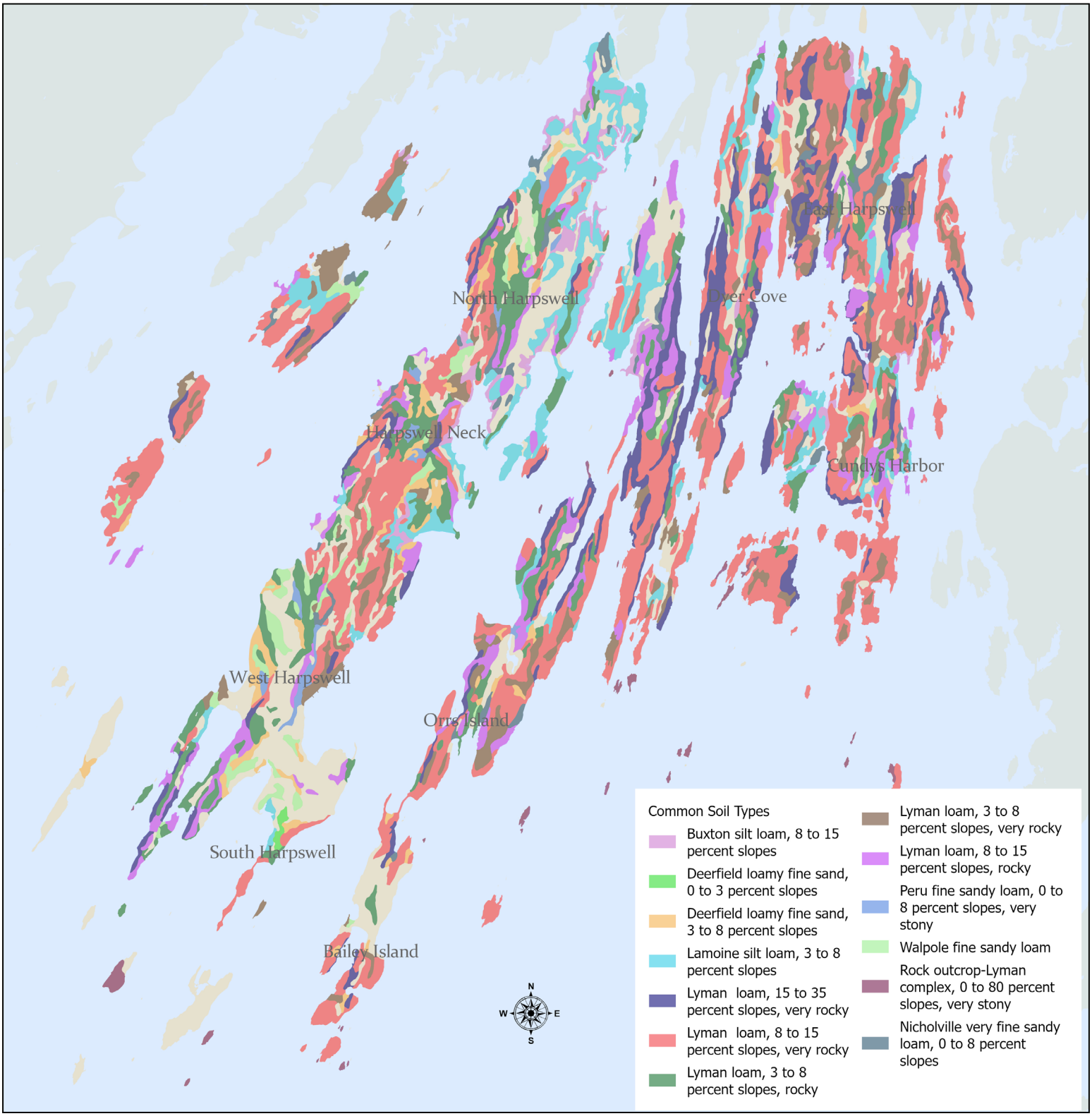


Figure 3: Soil types in Harpswell, based on data from the Natural Resources Conservation Service.

Critical Wildlife Habitats & Natural Areas

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.

Waterfowl/Wading Bird Habitat

Waterfowl includes birds such as ducks, geese, and occasional migrant swans. Eighteen species breed in Maine every summer and another 20 species spend winter months off the coast. Many waterfowl species nest on the ground next to wetlands, streams, or lakes with some nesting in tree cavities. Wading birds are a diverse group that include herons, egrets, bitterns, coots, moorhens, and rails. These 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. Waterfowl depend on wetland habitat for survival. Both the Atlantic Northern Forest Bird Conservation Plan and the North American Waterfowl Management Plan have identified the loss of wetlands from draining, dredging, and filling as the primary threat to water birds in Maine. By protecting the quality of wetlands, nesting success for breeding waterfowl will be greatly improved (Beginning with Habitat Data).

Seabird Nesting Islands

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. Most of these sites are located on the offshore islands. 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 Flag 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, purple sandpiper
- Jenny Island: roseate tern nesting site
- Mark Island: heron (great blue, green, and night crown) rookery
- Brown Cow Island: purple sandpiper
- White Bull Island: purple sandpiper
- Ragged Island: great blue heron, harlequin duck

While several of the offshore islands are 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. Between 2000-2001, the town gave all the shoreland zone portions of state-designated Seabird Nesting Islands Resource Protection status. However, even though Seabird 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.

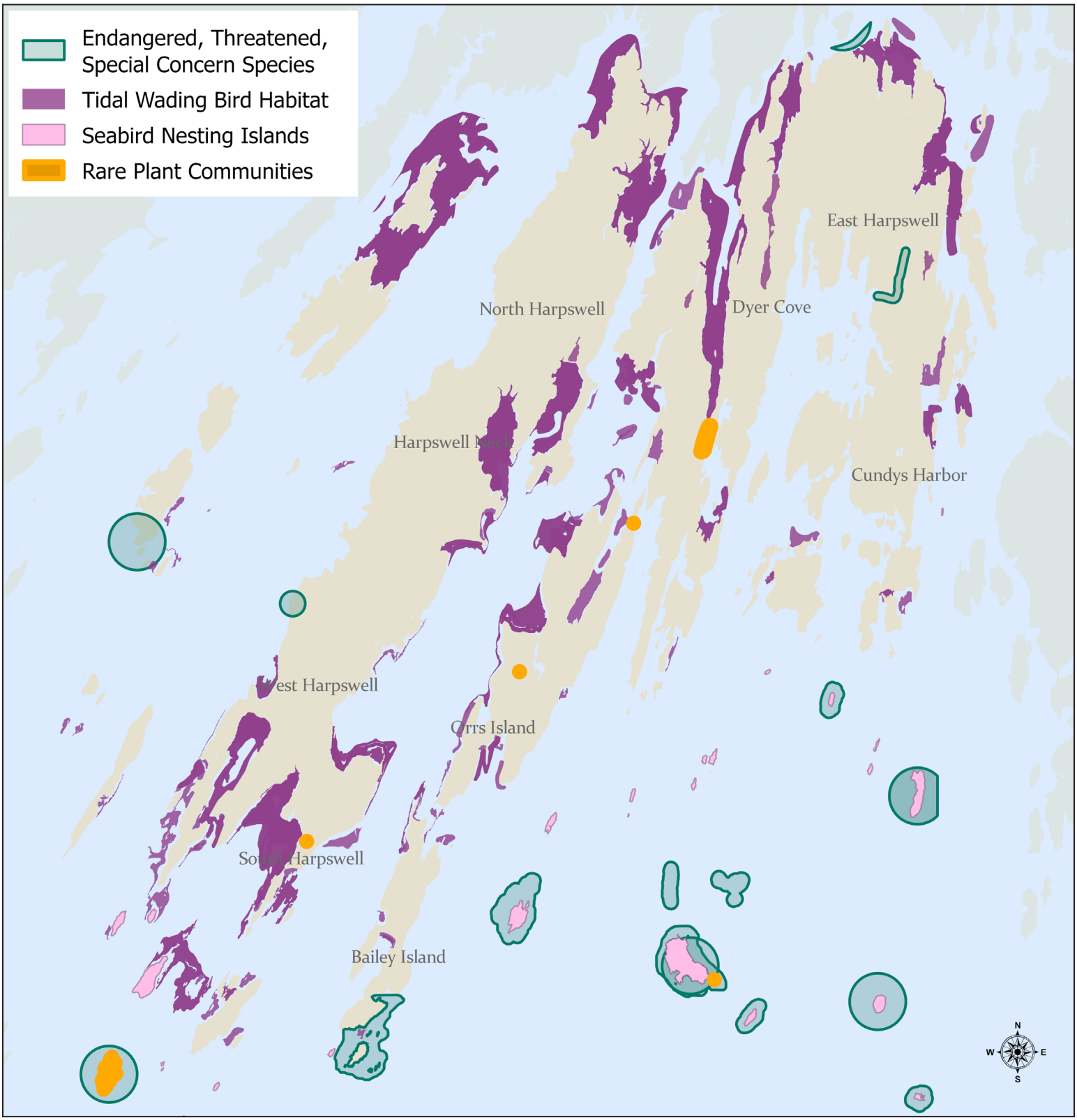


Figure 4: Significant habitats in Harpswell.

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 can disturb nesting and habitat areas. For example, this is already a concern on the islands of 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 shoreland area, and sewage and petroleum discharges from both recreational and commercial vessels. (See the Freshwater Resources and Marine Resources Chapters for additional information on water quality.)

Undeveloped Habitat Blocks & Habitat Fragmentation

Harpswell 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 Harpswell, 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 occurred 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 narrower or interrupted and less able to function effectively as wildlife travel corridors between habitat areas.

The following map 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, many undeveloped wildlife travel corridors are not protected from fragmentation due to development or isolation by development.

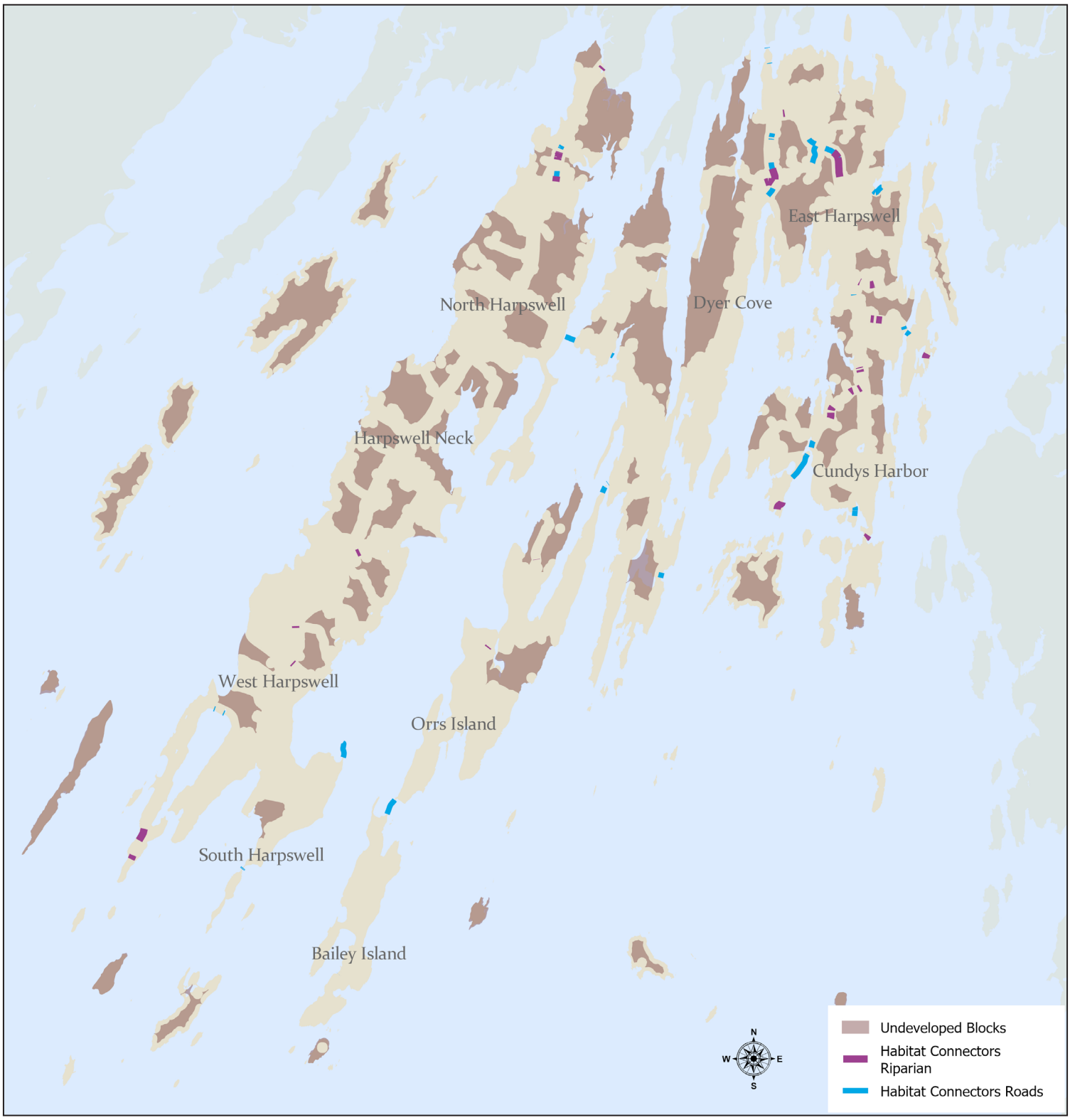


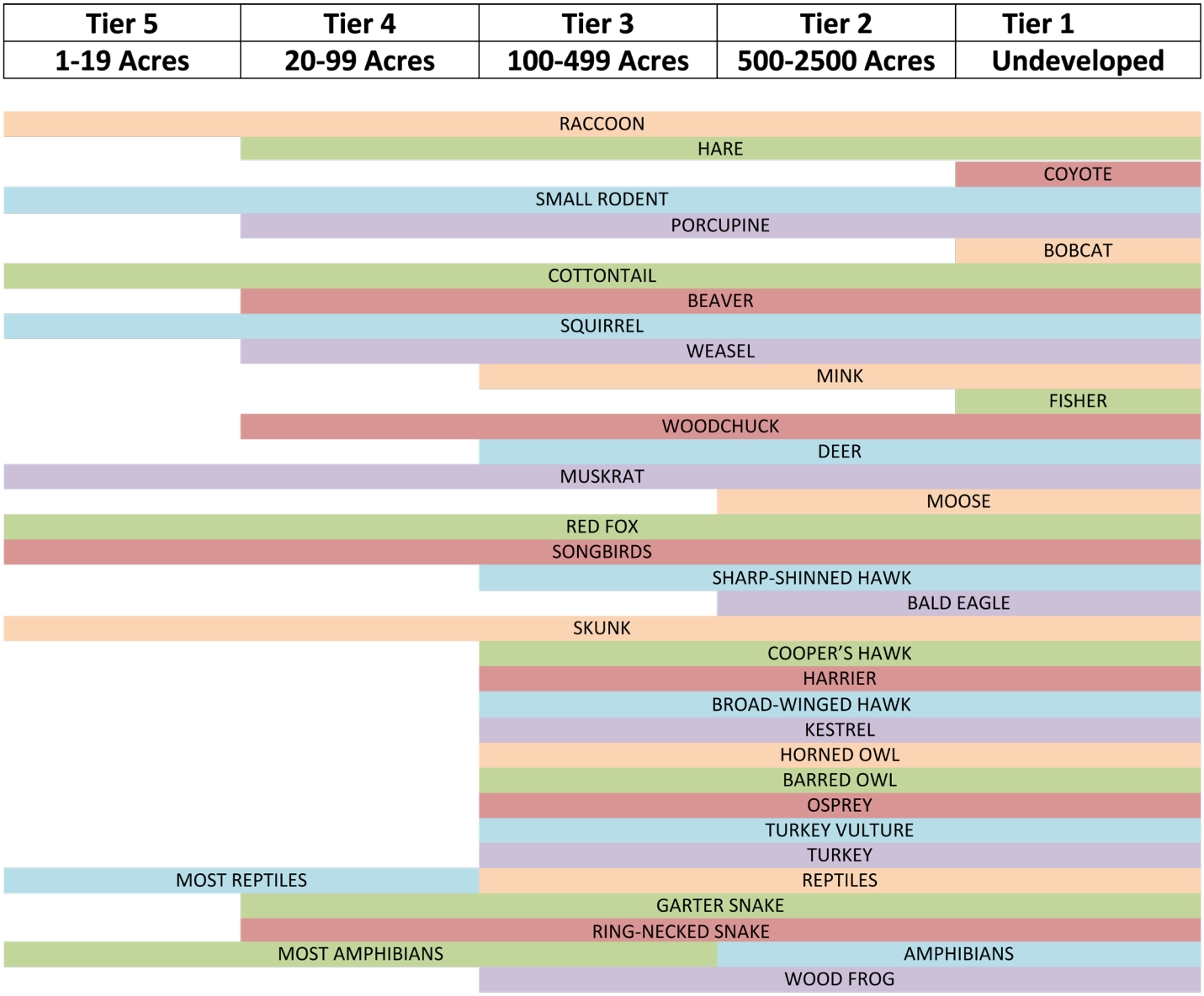
Figure 5: Blocks of undeveloped habitat, shown in brown, connected by road and riparian areas.

NATURAL RESOURCES & OPEN SPACE

Figure 6 shows the typical effects of shrinking undeveloped habitat block size on the diversity of wildlife species supported in Maine. While occasional instances of seeing wildlife species on smaller undeveloped habitat blocks do occur, overall, as the density of development moves from Tier 1 to Tier 5 over time, the diversity of species decreases. Harpswell's approach to mapping undeveloped habitat blocks has been modeled after 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.

Efforts are underway throughout Maine to improve road-stream crossings and connectivity for wildlife. With proper stream crossing sizing and installation, streams can function naturally, fish and wildlife can migrate freely, and roads can be improved. Good road-stream crossings simulate the upstream and downstream characteristics of the natural stream channel, use natural substrate within the crossing, match the natural water depths and velocities, and are wide and high relative to their length. Helping wildlife access stream corridors will improve fishing and the marine economy in Harpswell (Stream Smart).

Figure 6: Habitat area required for different species of wildlife.



Rare & Vulnerable Species

In Harpswell, there are several species of plants and animals that are listed as Special Concern, Threatened, or Endangered under either state or federal Endangered Species Acts.

Rare or Exemplary Natural Communities

The Maine Natural Areas Program (MNAP) tracks plant species that are rare in Maine. Rare plant species found in Harpswell are listed in Figure 7 below and are mapped in Figure 5. These locations have been field verified within the last five years. See the Freshwater Resources section for information on wetlands.

Community Type	State Rarity	Associated Rare Plants	Associated Rare Animals
Salt-Hay Saltmarsh (Spartina saltmarsh)	S3 – Vulnerable in Maine	• Dwarf glasswort • Lilaeopsis • Saltmarsh bulrush • Saltmarsh false-foxglove • Slender blue flag	• Big bluet • Black-crowned night-heron • Laughing gull • Least tern • Saltmarsh sharp-tailed sparrow • Short-eared owl
Low-elevation Bald (Three-toothed cinque-foil – blueberry low summit bald)	S3 – Vulnerable in Maine	• Alpine blueberry • Mountain sandwort • Smooth sandwort	N/A
Rose Maritime Shrubland (Rose – bayberry maritime shrubland)	S4 – Apparently Secure in Maine	N/A	N/A

Figure 7: Rare community types in Harpswell, as identified by MNAP.

Threatened & 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 are listed below.

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.

Species Name	**State Status**	**Federal Status**
Bald Eagle (Haliaeetus leucocephalus)	Threatened	Least Concern
Roseate Tern (Sterna dougallii)	Endangered	Endangered
Black-Crowned Night-Heron (Nycticorax nycticorax)	Endangered	Least Concern
Harlequin Duck (Histrionicus histrionicus)	Threatened	Least Concern
Arrowhead Spiketail (Cordulegaster obliqua)	Species of Special Concern	Least Concern
Purple Sandpiper (Calidris maritima)	Species of Conservation Need	Least Concern
Great Blue Heron (Ardea herodias)	Species of Special Concern	Least Concern
Northern Brownsnake (Storeria dekayi)	Species of Special Concern	Least Concern
Great Rhododendron (Rhododendron maximum)	Threatened	N/A
Large Toothwort (Cardamine maxima)	Special Concern	N/A
Wild Leek (Allium tricoccum)	Special Concern	N/A

Figure 8: Species that are Threatened, Endangered, or of Special Concern (according to the State of Maine)that may be present in Harpswell.

Open Space

Much of Harpswell is undeveloped and the open space that exists is a major factor in the town's character. In Harpswell's Open Space Plan, open space is defined as

"*land in a predominantly undeveloped condition. It may be preserved or managed in order to maintain the natural, scenic, ecological, cultural, hydrological or geological properties of the land. In addition, while not strictly open space, the [Open Space] Plan includes areas that provide cultural, historic, and recreational resources that contribute to Harpswell's quality of place and are part of its seafaring and rural heritage.*"

While most of this land is owned privately, the town, the State, federal agencies, and conservation organizations own several tracts. As of December 2022, there were a total of 3,369 acres of open space in Harpswell, of which the town owned and managed 375 acres. In a study done by the Harpswell Conservation Committee in 2008, Harpswell had approximately the same amount of permanently protected land and land with limited protection as the median of six other peer communities in Midcoast Maine (2009 Open Space Plan, Appendix 14A).

Town-Owned Open Space

Harpswell owns 375.02 acres of land for town landings, parks, and other recreational spaces. Notable spaces include Mitchell Field, Devil's Back Trail, the Cliff Trail, and Giant's Stairs. The town's open space also includes several tracts that provide water access, such as Mackerel Cove and Lookout Point.

Harpswell also owns several islands, including the Elm Islands, Uncle Zeke Island, Flash Island, and Jenny Island. Due to their designation as migratory bird habitat, these islands are not accessible to the public between May 15th and August 15th.

Figure 9: A waterfall along the Cliff Trail in Harpswell (photo credit: Jamie Hark)

State-Owned Open Space

Significant portions of five offshore islands, Haskell, Little Birch, Pond and Mouse Islands are managed for wildlife purposes. Eagle Island, a historic site, and Mark Island are also held by the State, in addition to a conservation easement over the southern half of privately-owned Whaleboat Island. The State owns land at the Great Island marsh on either side of Doughty Cove and at Allen Point along the shoreline. While both of these are publicly accessible, 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.

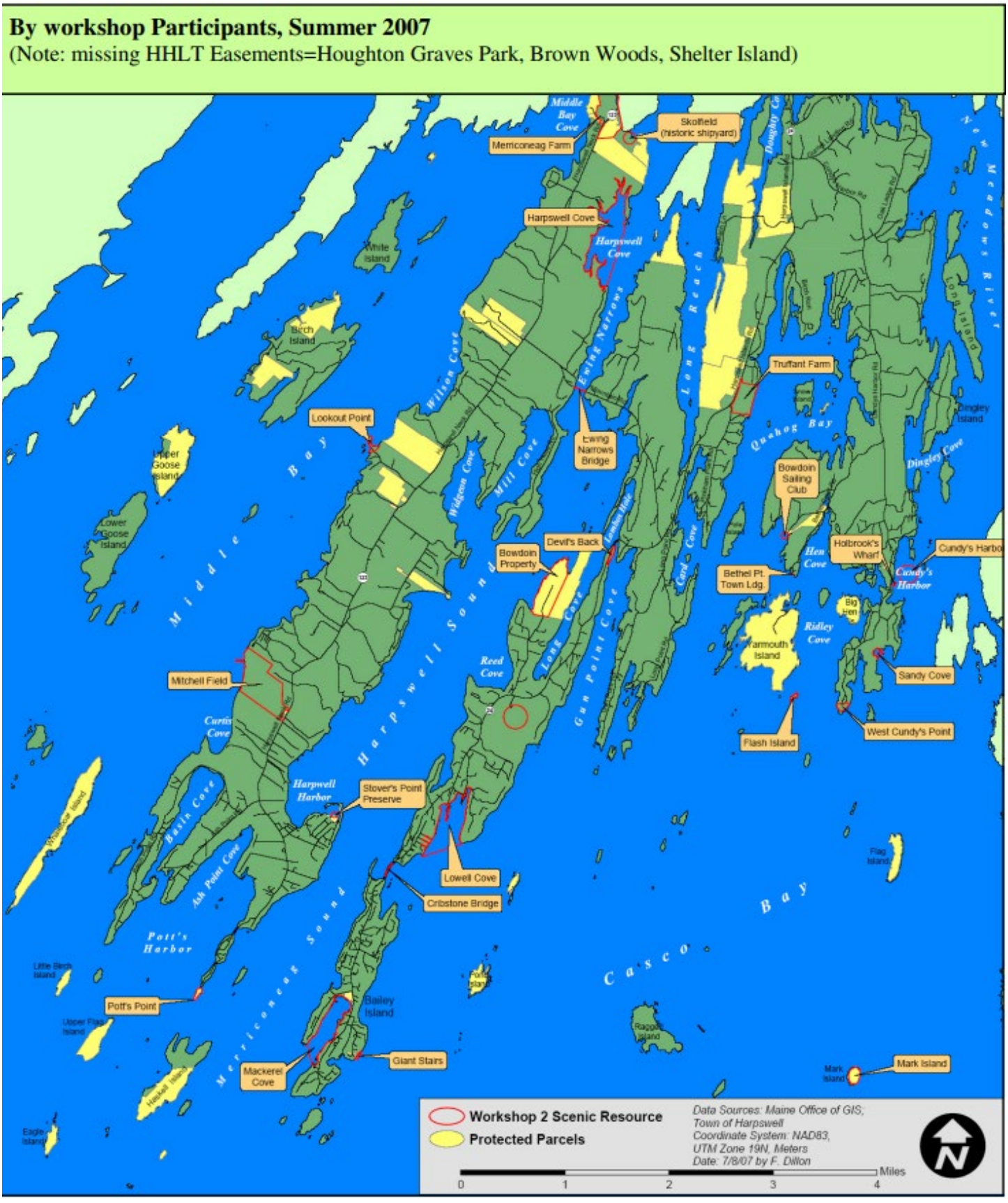


Figure 10: A map produced during outreach for the Open Space Plan, showing scenic resources identified by participants in red.

Federal Land

The federal government controls Little Mark Island as well as Ram Island and the southern tip of Whaleboat Island which have navigational aides.

Nature Conservancy Land

The Nature Conservancy, a national conservation organization, has an easement on 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.

Harpswell Heritage Land Trust

As of December 2022, the Harpswell Heritage Land Trust owned 19 parcels totaling 528.4 acres. Ten of these have trails open to the public to recreate. These sites include 43 acres on Birch Island, the 3.46 acre Johnson Field on Mackerel Cove, 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 1,120 acres of other private land.

Private Land

Harpswell's fields and forests have long been areas for recreation: hunting, hiking, snowshoeing, skiing, sledding, snowmobiling, etc. 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.

Open Space Focus Areas

Harpswell's 2009 Open Space Plan created a framework for understanding the functions open spaces provide and prioritizing areas for conservation. This planning process included the development of an official town definition of open space, below.

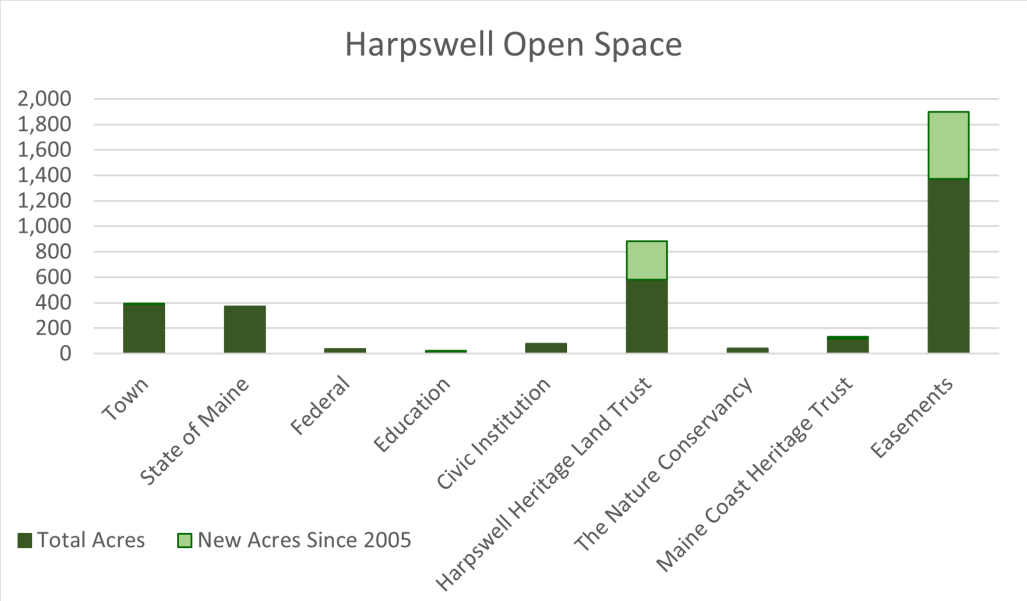
> *"Open space, also known as natural areas or green space, is an area of land in a predominantly undeveloped condition. It can include forests, fields, wetlands and/or water bodies. Open space can be improved land, such as a ball field or cemetery, or unimproved land, such as a wildlife preserve or other natural area, or just an undeveloped parcel of land. Open space land may be preserved, enhanced, or restored in order to maintain or improve the natural scenic, ecological, cultural, hydrological or geological values of the land."*

The Conservation Commission identified 12 focus areas and 19 islands in Harpswell for conservation. These focus areas were based on the quality of natural, scenic, recreational, and cultural resources in these areas. Public input, level of development, wildlife corridors, and size of habitat blocks in these areas were also incorporated. See Map 7 from the Open Space Plan to view the focus areas. Incorporating this information into future land use planning and conservation priorities could be a first step in preserving the scenic quality of the town.

Scenic Resources

Harpswell's identity is rooted, for many, in the beauty and diversity of its natural spaces. The unique geography and development pattern of the town offers a variety of landscapes, creating a distinct visual character. A drive through Harpswell presents scenic views of forests, coves, villages, open fields, and harbors at every turn. The town has not undertaken an inventory of scenic resources beyond a mapping activity completed by participants at a workshop for the Open Space Plan. Formally inventorying scenic views with significance for the community could encourage the preservation of these views.

Figure 11: Harpswell Open Space by ownership



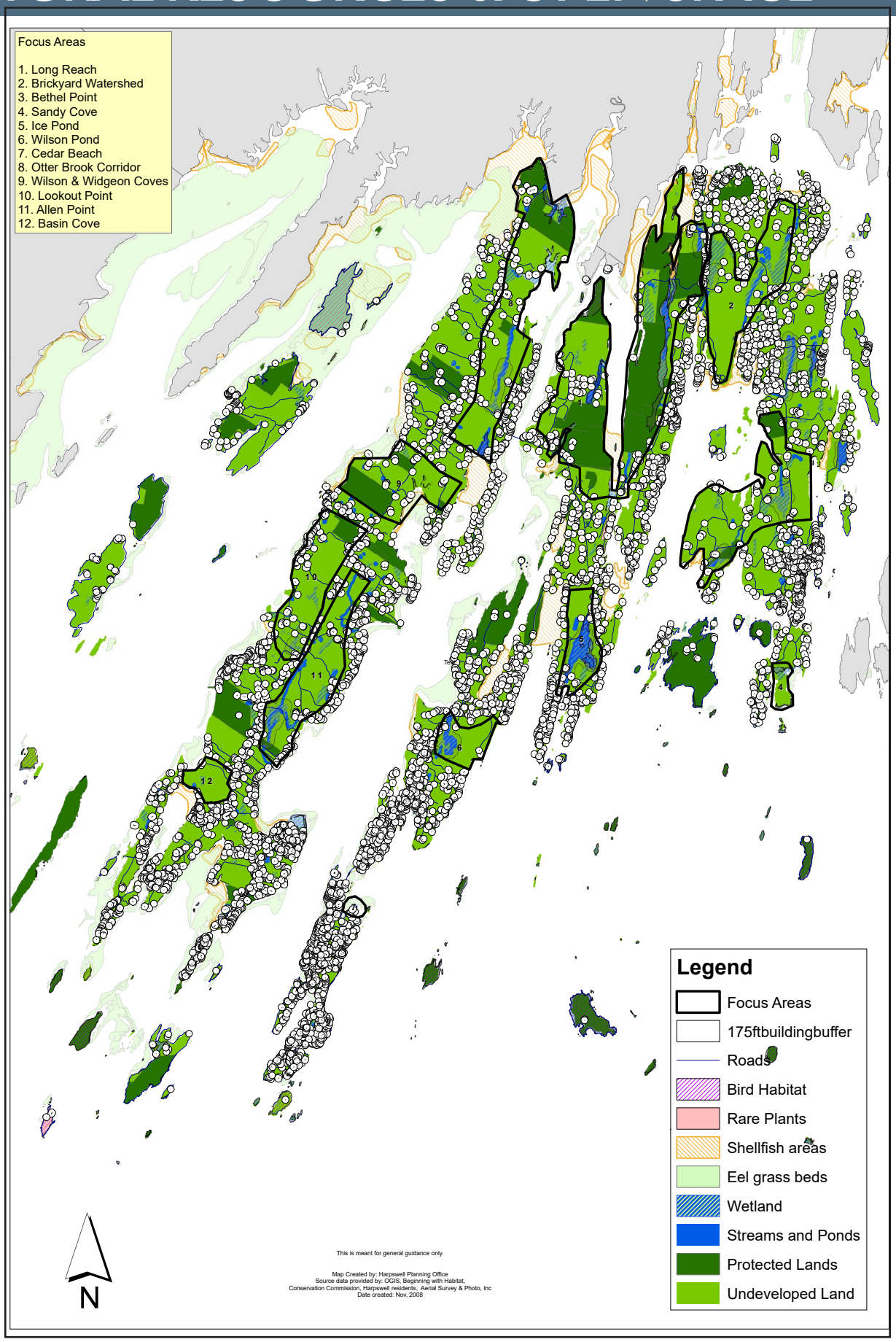


Figure 12: Focus Areas identified in the Open Space Plan

References

2005 Harpswell Comprehensive Plan

2009 Harpswell Open Space Plan

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Town of Harpswell 2022 Basic Land Use Ordinance

RECREATION & COMMUNITY SERVICES

Introduction

Harpswell has a rich variety of outdoor recreational spaces and has developed excellent organized recreational opportunities through the town's Recreation Department. Much of the activity in Harpswell is focused on access to water, both for views while hiking, biking, and other land-based recreation and water-based activities. Community members enjoy an abundance of passive recreation opportunities, such as trails on town land and preserves. Access to nature and scenic views are plentiful, offering health benefits to community members and visitors alike.

Figure 1: A recreation event at the Harpswell Bandstand by the Sea at Mitchell Field.

Issues & Implications

Harpswell faces several significant issues as it considers the current and future recreational needs of the community.

Access to the water continues to be an important issue in the town, as changes in land ownership and a lack of proper facilities (such as parking) create obstacles for recreational boaters and fishermen. The ongoing water access study will provide more data to support and guide town actions to preserve water access and improve water facilities, if needed.

As Harpswell grows, the average age of a Harpswell resident is projected 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 needed. Adult programming is available through Merrymeeting Adult Education in Topsham, but traveling to these evening recreational and social events is a barrier for participation. Providing programming for both youth and adult populations in Harpswell is a priority.

Harpswell's recreational programs and activities are wide-ranging and involve an amazing variety of municipal, educational, religious, private and civic properties and facilities. However, there is no central recreational facility that can host multiple programs and activities where they will be equally accessible for all community members. The lack of recreational facilities for organized activities is significant, limiting the scale, kind, and accessibility of recreational programming and activities offered. An indoor space with a gym, kitchen, and meeting spaces is needed to support local programming. Areas such as Mitchell Field and the town-owned land of Upland Lane may provide options, depending on the size and type of facility desired.

Recreational Facilities & Programs

Harpswell has a variety of recreational offerings through town programs as well as other activities. At the time of the previous Comprehensive Plan, the town had just hired a part-time Youth Program Coordinator. That role was transitioned to the role of Program Coordinator in 2023. The Recreation Director became a full-time position in 2023, when the Recreation Department undertook providing additional community services.

This has increased the level of programming provided to the community and the number of people taking part in those activities. The department usually runs at least 10 programs per year, excluding special events. The Recreation Department also oversees the Recreation Committee, the Bandstand Committee, and the Community Garden.

Current Recreation Offerings

Adult Offerings: Friends Together (partnered with Harpswell Aging at Home)

Community Events: Hiking Challenge, Snow Day, Fall Carve and Craft, Light up the Bandstand, Free Concert Series @ Bandstand (12 concerts in the series)

Family Activities and Sports: Community Swim (2 offerings)

Youth Sports: Harriers Cross Country (2 offerings), Baseball, T-ball, Softball, Peewee Soccer, Kayaking, Basketball

Clinics and Camps: Red Cross Swim Lessons, Ski/Snowboard at Lost Valley

Harpswell youth also have access to recreational activities in nearby communities. Students in SAD #75 can participate in some of Topsham's recreational programs. Harpswell's young people participate in regional soccer and Babe Ruth baseball programs. There are also a few scouting troops in the town. Access to the Bowdoin College pool is also available at various times throughout the year.

Figure 2: A youth recreation program at the Trufant Summerton Athletic Field

RECREATION & COMMUNITY SERVICES

Figure 3: T-ball at the Trufant Summerton Field.

Active Recreation Locations

Harpswell has several public or quasi-public locations for recreation, either through ownership or agreements with civic institutions. Trufant-Summerton Field has two ball fields, a batting cage, and a garage. Parking is shared with the Harpswell Heritage Land Trust. The field may be updated with additional facilities in the near future.

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 craft building. There is a summer camp held there each July. The association is not affiliated with the town's Recreation Department, but the facilities are open to the community.

In Brunswick, the Midcoast Athletic & Recreation Complex is under construction, which is intended to serve the region. This facility will include courts, multi-purpose fields, a playground, and a skate park. Bowdoin College also provides access to its swimming pool at various times of the year.

Mitchell Field is the Harpswell's largest potential recreation area. It is a large parcel which the town received from the Navy when Brunswick Naval Air Station closed. The town has developed and updated the master plan for Mitchell Field. This plan has detailed recommendations about how the area can be developed to meet the needs of the community and can be found on the town website. The area offers numerous recreational opportunities, such as swimming at the beach, kayaking, snowshoeing, cross-country skiing, bird watching, and kite flying, among others. Currently there are trails, a bandstand which is used for concerts in the summer, and a community garden on the property.

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. Many 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. The town had 2,312 legal moorings in 2021: 2,040 Resident, 83 Non-resident, 91 Rental. This is a decline from 2,383 moorings in 2006: 2,148 Resident, 115 Non-resident, and 120 Rental. There were 1,353 boats registered in Harpswell in 2021, down from 1,457 in 2019. There are approximately 800 private docks along the shoreline.

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. There are currently 24 public access points with varying degrees of accessibility and amenities.

There is an ongoing project to inventory access points in Harpswell, with a focus on shellfishing access. The preliminary findings identified 83 total access points in Harpswell, of which 57 are on private property, 17 are on municipal property, 6 are on property owned by land trusts, and 3 are on state property. The inventory phase of this project was funded by the Maine Shellfish Restoration and Resilience Fund. The Maine Coastal Program's Shore and Harbor Planning Grant is supporting a second phase of this project that will build on the initial inventory to assist towns in protecting or acquiring priority access points, identifying vulnerability of access points to sea level rise and coastal flooding, and developing a replicable process for other towns to use.

The Town Lands Committee produced a report in 2004 making recommendations for improvements to the access points at the time. Following is a list of improvements that have been made. The ongoing project to inventory access points is gathering data on existing amenities and conditions at access points, which may be helpful in planning for future improvements or acquisitions.

Figure 4: A kayak ready to launch (photo credit: Jamie Hark)

Public Access Point Improvements:

- Mackerel Cove Town Landing: New boat launch was installed in 2018, with concrete planking.
- Graveyard Point Town Landing: Parking and launch signs have been added, but there is no current intention to widen.
- Hildreth Road Landing: Road widened, and parking spots and signage have been added.
- Lookout Point, Harpswell Center: Very little work has been done since the last Comprehensive Plan. May need to address shoreline erosion and a new boat launch installation.
- Potts Point Ramp: Upgraded in 2019 with a design intended to prevent beach sand wash over and a longer paved ramp.
- Potts Point Wharf: There are ongoing safety improvements being added in 2023, in addition to the additional floats added since the last Comprehensive Plan.
- Tide Mill Cove Town Landing: Redesigned in 2021 to include a new kayak launch, granite stairs, fencing along the town's property, and new signage.
- Bethel Point Town Landing: Parking signage and painted lines have been added, to accommodate permit, non-permit, and trailer parking.
- Mitchell Field: Hand carry launch site added for kayaking and wind surfing.

There are also private points of access to the shoreline that serve specific groups, including homeowners' associations, boat yards, marinas, lobster dealers, informal agreements with landowners, and yacht clubs.

Recreational Transportation & Trails

Harpswell's geography creates narrow and winding roads which are not conducive to biking. Many roads have rights-of-way that are too narrow to support adding bike lanes.

In 2021, 161 snowmobiling licenses were issued in Harpswell. However, there are no formal or ITS snowmobile trails in Harpswell and there is no snowmobile club listed on the state Snowmobile Association website. Most snowmobilers create their own trails on private property. Similarly, there are no known public or formal ATV trails. ATV registrations have been on an overall decline since 2017.

There are 14 preserves that have walking trails. These include the Cliff Trail, Mitchell Field, Giant's Stairs Trail, and Devil's Back Trail Area. The Recreation Department received funding in 2021 to update the first half mile of the Cliff Walk to make it more accessible to users with limited mobility and mobility devices.

Figure 5: The barrier-free portion of the Cliff Trail (photo credit: Harpswell Recreation & Community Services)

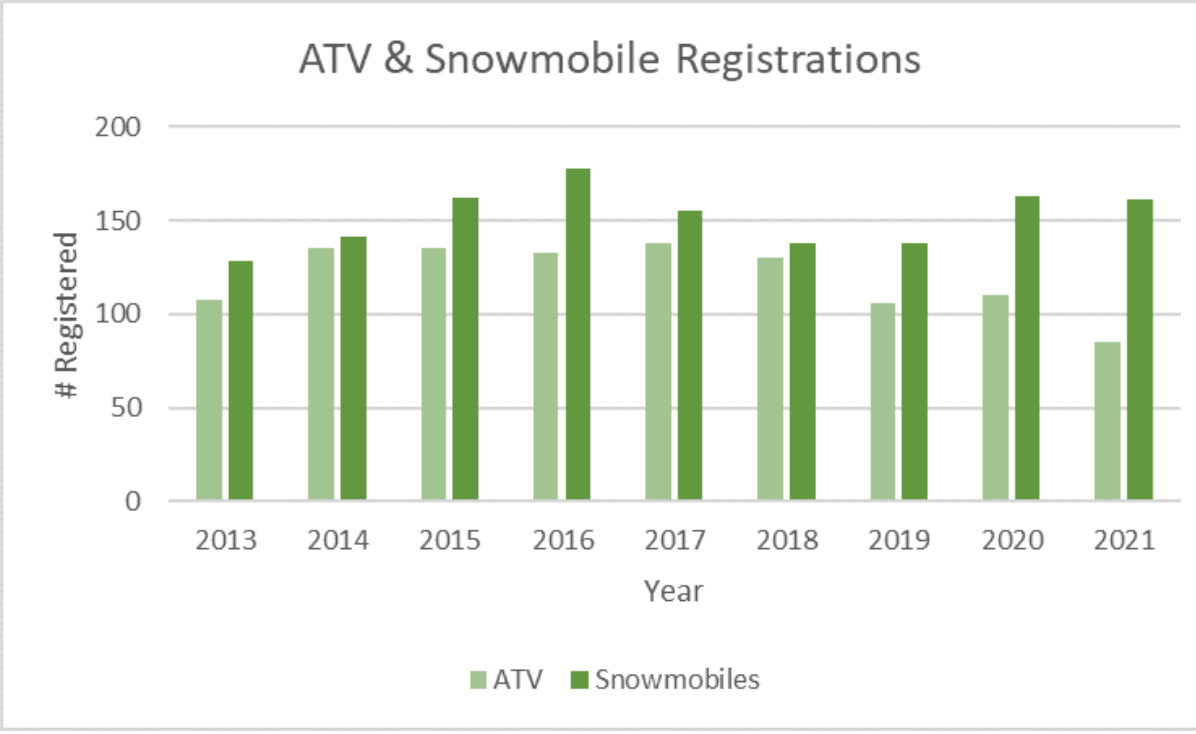

Figure 6: ATV and snowmobile registrations in Harpswell

RECREATION & COMMUNITY SERVICES

Community Services

The Recreation Department became the Recreation & Community Services Department in 2022. The department provides General Assistance, Harpswell Heating Assistance and serves as a point of contact for Harpswell Aging at Home. Beyond connecting Harpswell residents to resources, the department also serves as an information hub for the community, answering questions about town services, community connections, and volunteering opportunities. Another important role of staff is helping people find additional services they may qualify for through other agencies.

General Assistance

Like all municipalities, Harpswell provides immediate aid for those who cannot provide for basic necessities, including rent, heat, electricity, certain household/personal items, and food. As long as Harpswell is deemed compliant by the Maine Department of Health and Human Services, the town receives reimbursement of 70% of these expenses. In 2023, Harpswell saw a decrease in applications for these services in from the previous year. Applicants are required to provide documentation of income and how this income was spent in the last 30 days to qualify for assistance.

Heating Assistance

Established in 2008, this locally-administered program is intended to aid people who may not qualify for the General Assistance Program, but still need help with heating costs. To be eligible, household income must be below 200% of the Federal Poverty Level. The program provided assistance to 126 applicants in 2023, providing up to 200 gallons of fuel oil or propane per household, or the equivalent value of wood or electric heat during the winter season. In 2023, the fund included $35,903 in donations, $33,388 from the prior year, and $20,000 in appropriations. Expenditures in 2023 were $51,555.

Community Outreach

Youth mental health was a primary concern expressed by residents when the town solicited input on how to allocate American Rescue Plan Act funds. In response, staff from the Recreation & Community Services Department held a series of meetings with Select Board member Jane Covey and former State Representative Jay McCreight (both have a background in mental health). These meetings led to a lot of information exchange including conversations with other groups in the Midcoast area. New department goals were created as a result of these partnerships to help the next generation of Harpswell be mentally and emotionally resilient and feel supported by the greater community.

Community Garden

Harpswell Community Garden celebrated 10 years of organic gardening at Mitchell Field in 2022. All of the plots were rented out, allowing Harpswell residents to grow a range of produce. The volunteer-led Common Garden project planted, tended and harvested nearly 1700 pounds of fresh organic produce, most of which was donated through Harpswell Sharing Tables. Harpswell Heritage Land Trust's (HHLT) Nature Day Campers visited the garden to learn and lend a hand. The Harpswell Community Garden is funded through a grant awarded by HHLT and supported by the Recreation & Community Services Department.

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Input from Town staff.

PUBLIC FACILITIES

Introduction

This section summarizes the major public facilities of the town and the services provided to the residents of Harpswell. The section also examines the capacity of these facilities and services to accommodate projected growth over the coming decade. Recurring themes regarding the long-term viability of the public safety infrastructure and services (specifically fire protection and ambulance services) in the town include the declining number of volunteers and the aging of the general population in Harpswell.

Issues & Implications

Harpswell is facing several ongoing changes, such as a declining school enrollment rate, lingering impacts from the COVID-19 pandemic on work and emergency services, an aging population, rising housing costs, and challenges from various climate change impacts. All these shifting dynamics have implications for the demands on the town's emergency services, schools, libraries, roads, and waste services.

Fire and emergency medical services are facing issues recruiting volunteers to provide support to paid staff, especially as the volunteer base ages or moves away. It is also a challenge to recruit paid firefighters and EMTs due to the shortage of qualified workforce in the region. These issues are intensified by the increasing number of emergency calls for medical help and an aging population that requires a higher level of care. To continue to provide high quality service, the town will probably need to increase its support for emergency services.

This may require adjustments to how the town plans for and resources its public facilities and services. These issues also relate to several topics covered in other inventory sections (e.g., Housing, Economy, and Demographics).

General Government

The principal administrative functions of the town are located in an expanded and modernized Town Office building located on the Mountain Road. The building was built in 1986. Expansion and modernization were completed in 2003. Currently, this facility is adequate to meet the town's basic administrative needs, although enhanced communications technology to enable better hybrid/remote meetings is desirable.

The building provides space for the following town departments and staff:

- Select Board
- Town Administrator & Deputy
- Town Clerk
- Tax Collector
- Assessor
- Codes Enforcement
- Town Planner
- Harbormaster
- Fire Administrator
- County Sheriff's Patrol & Marine Patrol Substation
- Recreation Director & Community Services Coordinator
- Administrative Offices
- Meeting facilities for town boards and committees with Cable TV cameras
- Public Restrooms
- Internal space for additional offices as needed.

Figure 1: Harpswell's Town Office building.

PUBLIC FACILITIES

Figure 2: The Emergency Communications Tower on Orr's Island (credit: Pam Berry)

Public Safety

Public safety services in Harpswell are provided by several independent organizations, some in partnership with the town, some under contract to the town, and a small subset by the town itself. The Cumberland County Sheriff's Department provides law enforcement services on a contractual basis. Fire and ambulance services are provided by local volunteer organizations, now supplemented with a few staff contracted by the town.

Emergency Communications

Harpswell contracts with the Cumberland County Regional Communications Center (CCRCC) for 911 calls and dispatch services. The town appoints one member to the CCRCC's Board of Directors. CCRCC uses National Emergency Dispatch Protocols approved by the state for call taking services, and Computer Aided Dispatch to assign units to calls. The County currently operates and maintains three county-wide radio frequencies: one for the Sheriff's Office and two for major incidents. They are currently in the process of moving communications from analog to digital equipment.

The town operates and maintains two frequencies for use by Fire & EMS which are supported by repeater equipment located on three towers in Harpswell. One tower, located behind the Orr's & Bailey Island Fire Station was demolished in 2022 due to structural issues but was replaced by the town in 2023. The town also owns one tower and uses another privately-owned tower, both located on Mountain Road.

The current radio repeater equipment is no longer supported by the manufacturers and is not digitally compatible. Consequently, the town is in the process of replacing the radio repeater system for one frequency and expanding it to the new tower at Mitchell Field. This is expected to take effect in 2024 and will be digitally compatible with some additional equipment. At that point, the effective range of the radio repeater system will be evaluated for coverage in all areas of town. In the future, it may be necessary to expand the radio repeater system to improve communications to the north and east sides of Great Island, and to upgrade the second frequency.

The town also owns radios for use by town employees. The current radios are not digitally compatible and will need to be replaced. As the County transitions from analog to digital communications, the town will need to upgrade its infrastructure including repeaters, mobiles, and portables. Additionally, the Fire Departments will need assistance replacing all their mobile and portable radios and pagers to be compatible.

Fire & Ambulance Services

Fire and ambulance services are provided to the town by three independent volunteer fire departments, which were formed because of the town's unique geography. The Cundy's Harbor Volunteer Fire Department serves Great Island, except for the most southern sections. The south part of Great Island is served by the Orr's & Bailey Islands Fire Department, with a station on each island. Harpswell Neck is covered by Harpswell Neck Fire and Rescue, which serves its district from a station in South Harpswell. The three fire departments also have a verbal mutual aid agreement with the Brunswick, Topsham, and West Bath fire departments to provide support when required.

Evolution in Town Support of Fire and Ambulance Services

In recent years, the local fire departments have been faced with financial issues, a lack of qualified volunteers, and coverage challenges. Since 2007, the town has been providing an increasing share of the personnel and funding needed to support fire and ambulance service.

2007

The town began purchasing all new fire and rescue vehicles which are leased to the three departments. From 2007-2023, the town expended $2.5 million on these vehicles, covered by annual appropriations of between $150-200K. The vehicles needed to support the town include 13 fire vehicles, 3 ambulances, and a fly car with Advanced Life Support (ALS) equipment.

2012

The town began contracting a paramedic intercept service, which operates 24 hours a day, year-round. A paramedic provides ALS on all EMS calls in Harpswell, using the fly car with ALS. They are met at the scene by volunteers who bring an ambulance and a local EMT from the nearest station. The town budgeted $367K for this service in 2023.

2017- Present

The town began funding two municipal firefighters and a fire administrator to manage firefighting coverage weekdays from 6am-6pm, when volunteer availability was limited. They assist in investigating alarms and performing emergency rescue, as well as with recruiting and onboarding new responders, station maintenance duties, and various fire prevention activities. Staff currently respond 3 days a week from Orr's Island Station and 2 days a week from the Harpswell Neck Station. The Cundy's Harbor and Bailey Island Stations are not suitable for staffing. The town budgeted $233K in 2023 to provide this support. However, firefighting operations still require a substantial volunteer turnout.

Figure 3: From the top, Orr's and Bailey Islands Fire Station (credit: Phil Taylor), Cundy's Harbor Fire Station, and the Irving F. Chipman Station.

Response Data

In 2022, municipal fire staff responded to a total of 137 incidents. Including EMS incidents, there were a total of 565 emergency incidents in 2022 (Figure 4).

Challenges Facing Fire & Emergency Medical Services

The most significant issue facing the fire and rescue companies is the recruitment of new volunteers willing to contribute the significant time required to become an Emergency Medical Technician or Qualified Interior Firefighter, sufficient to replace those that have moved away, and the older volunteers that should have earned the opportunity to stand down after many years of service to their community. A lack of volunteer firefighters and EMTs will drive the need for more paid staff coverage, which cannot replace all the roles that the volunteers perform; and/or greater reliance on mutual aid, increasing response times.

Additional paid Firefighter-EMTs may be necessary in the future to supplement the volunteers. However, the ability to hire additional paid Firefighter-EMTs will be impacted by limited availability of qualified personnel in the region (staffing shortage).

Emergency calls continue to increase year-over-year. Emergency calls for an ambulance continue to be the most common calls for service by the fire companies. This is being driven by the community's aging population, and the desire to live independently as late into life as possible. The level of care needed on these calls continues to increase, demanding more skilled services and more sophisticated, and expensive, equipment.

Adequate funding of the fire companies is of concern. Billing for ambulance transports has provided a measure of income that has delayed the need for greater town financial support for the fire departments; but the need to fundraise ever higher amounts each year has become unsustainable and increasing town support will be needed.

In 2023, the town put out a request for proposals to conduct an initial study of the costs and design of a central emergency services station. Using this information, the town will explore the benefits of a central station and the potential effects on the delivery of emergency services to the community.

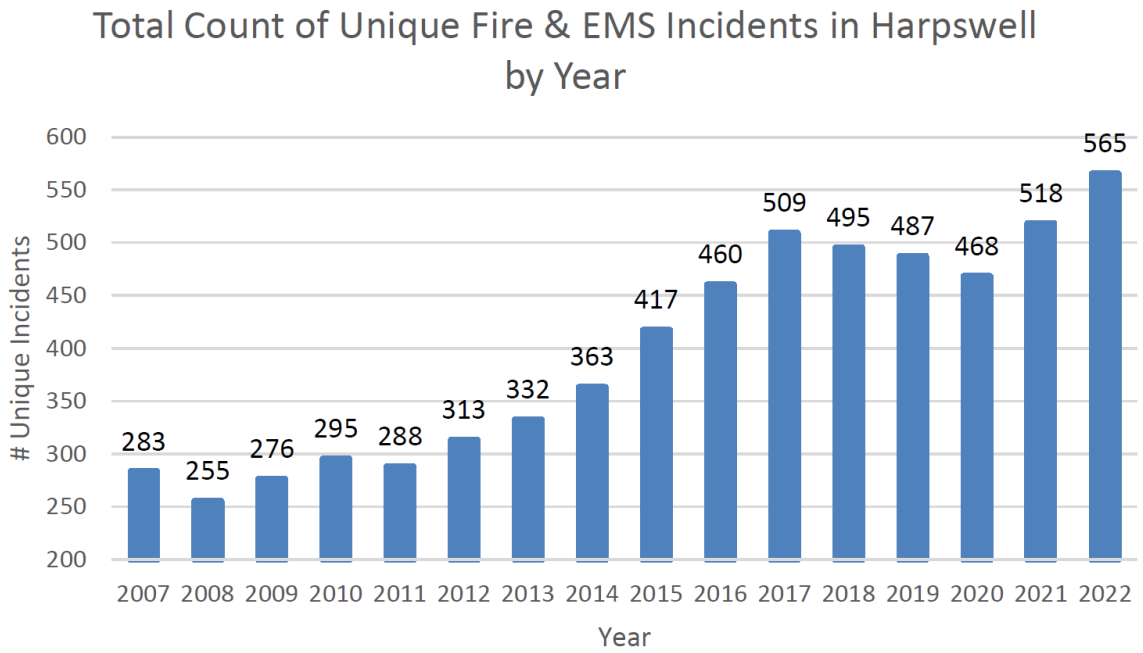


Figure 4: Total Fire & Emergency Medical Services incidents in Harpswell, 2007-2022.

Law Enforcement

The Cumberland County Sheriff's Department, under a contract with the town, provides law enforcement 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 Select Board oversees the Harpswell town Patrol and provides office space at the town Office. Three deputies cover the town in l0-hour shifts. Harpswell pays for three deputies and their cruisers, as well as two Marine Patrol deputies who can be available for general calls as needed. With the current staffing there is 20 hours of coverage each day. Additionally, there is one county-wide deputy who can respond to Harpswell calls at night. However, due to Harpswell's geography, response time to a call can be long.

From July 1, 2021 through June 30, 2022, the number of calls went up by 1.8%, for a total of almost 3,400 incidents. Traffic stops made up 360 of the calls and property checks made up 850 calls, making up the largest proportion of incidents that officers responded to.

Marine Patrol

The town has contracted with the Cumberland County Sheriff's Department to provide two full-time marine patrol officers to enforce shellfish regulations. Initially there were problems with high turnover, but adjustments to the contractual arrangements appear to have addressed this problem. Marine Patrol officers, also called Shellfish Wardens, work on shifts that follow the tides. They are also fully licensed law enforcement officers, so they can be called into duty if needed.

Roads Department

The Road Commissioner oversees contractual services with the town for summer and winter road maintenance on town roads. State-aid roads are maintained by the Maine Department of Transportation in the summer and the town in the winter. The Road Commissioner also regularly notes areas that have required repeated maintenance for the town and provides input on town road improvement projects. Road improvement projects make up most of the capital improvements projects undertaken by the town. Harpswell has a Capital Improvement Plan that is used to prioritize and budget for investments and is updated continuously.

The town's policy has been to allow new roads in residential developments to be private roads. Any roads that are to be offered to the town for acceptance as town roads must meet the minimum specifications set out in the Roads Ordinance and require a vote at Town Meeting.

The subject of roads is discussed in more detail in the Transportation Inventory section of this Plan.

Figure 5: Harpswell's Shellfish Wardens during a shellfish inventory survey in 2018.

Solid Waste and Recycling

The recycling center opened in 1979 - the first such center in the state. The recycling/transfer department makes up the largest segment of town staff. Through a rigorous cost recovery program, it reduces its draw on town funds and represents less than 2% of the town budget. The department has met most of the goals set out in the 2005 Comprehensive Plan. Some say that the Recycling Center is the real center of the town, as over 2,000 vehicles visit it every week in the summer (about 1,000 in the winter), with many people stopping to talk to neighbors and recycling staff.

Background

The Strawberry Creek Recycling Center opened to the public on April 23, 1979 (in 2005 the name was changed to A. Dennis Moore Recycling Center and Transfer Station). The current operations include single stream recycling (a wide array of recyclables deposited together), household solid waste, compostables, recycling for small metal wastes, returnables, and a separate transfer station for most other waste including larger items and construction materials.

The center accepts all kinds of paper and cardboard, glass, tin, metals, plastic, batteries (not car batteries), paint cans and oil. A full list of accepted items is available on the town website. Since 2017, the center has contracted with Garbage to Garden to collect food waste for composting. The center also offers home composting bins for sale.

The "trash" hopper at the facility accepts non-bulky household waste that cannot be recycled, with certain exceptions. There are also twice-yearly Household Hazardous Waste (HHW) Collection Days in Bath and Brunswick at which residents are encouraged to participate.

The transfer station accepts bulk materials for a fee, including construction & demolition debris, furniture, a variety of electronics and universal waste, large metal items, propane tanks, tires, large batteries, ashes, brush, wood, leaves and yard wastes.

Figure 6: Sumner Ricker and Recycling Center employee Richard Griffin demonstrate how the compost drop off site operates.

The center is currently in the process of capital plan upgrades to improve the facility. In 2021-22, compacting hoppers were replaced and the parking area was expanded. There are plans to rebuild the building in 2024-25 and upgrade the power supply as CMP installs 3-Phase power and improves the infrastructure on Mountain Road. The design will also be more compatible for working with commercially available waste disposal.

Harpswell has been fortunate to have dedicated employees who manage and run the facility, minimizing operating costs and maximizing potential revenue available from recycling. This puts Harpswell in a position to realize potential reimbursements from the future development of the State's Extended Producer Responsibility (EPR) program, described later in this section.

Some residents pay for a hauler to collect and dispose of their solid waste and recycling material at the facility. Commercial Trash Hauler Rules were updated in 2018.

Household waste is compacted and shipped by contract to out-of-town recycling and landfills. Currently, the town has a 3-year contract with Casella Waste Systems for this service. Costs per ton have continued to increase due to rising trucking costs, high inflation, increased labor and retention costs, and lack of workers in general.

PUBLIC FACILITIES

Trends

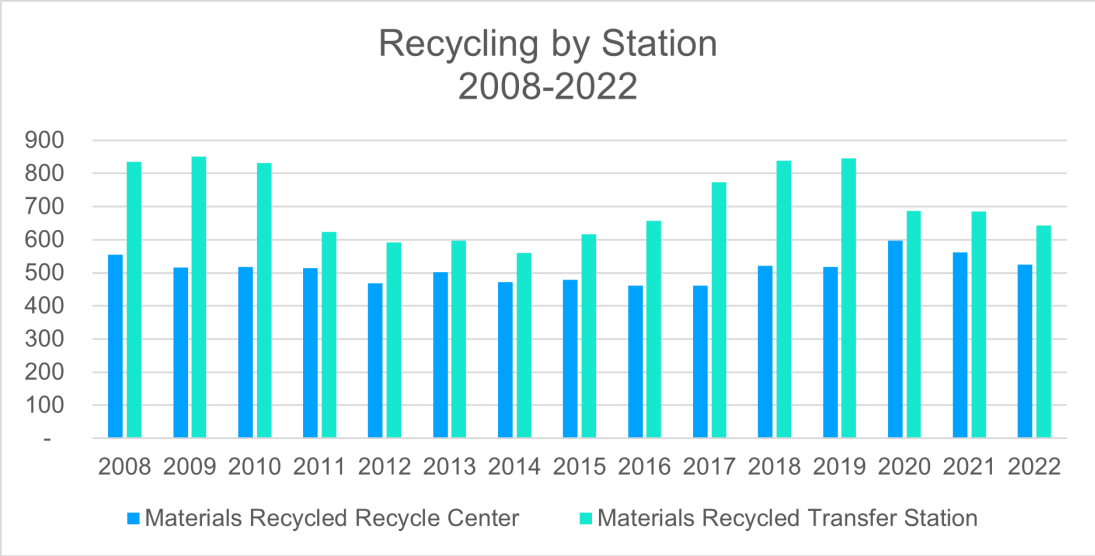
Over the last ten years, recycling has kept over 11,000 tons of material from the landfill (see Figure 7). Harpswell has continued its recycling program despite the increasing costs of outside vendors, in support of environmental and sustainability principles. These increasing costs are an issue that might require changes to the program in the future.

In 2003 Harpswell's recycling rate reached a record 75% of the town's municipal solid waste stream, well above the State goal to reach a 50% recycling rate by 1994. In recent years, the town has seen a decrease in recycling percentage, in line with a statewide trend.

The cost of managing recycled materials through the contract has increased, due to both changes in what is accepted and other market changes. For example, pressure-treated wood is no longer accepted for recycled wood.

The first three years of the fifteen-year period beginning in 2008 had recycling rate of 48%. The period closed out in 2022 with a three-year average of 41% - this is a 15% overall drop in the rate of recycling.

In 2013, the facility transitioned from separated recycling streams to single stream recycling, which reduced the space needed for operation. An uptick of 7% in recycling was seen over the first year of single stream.



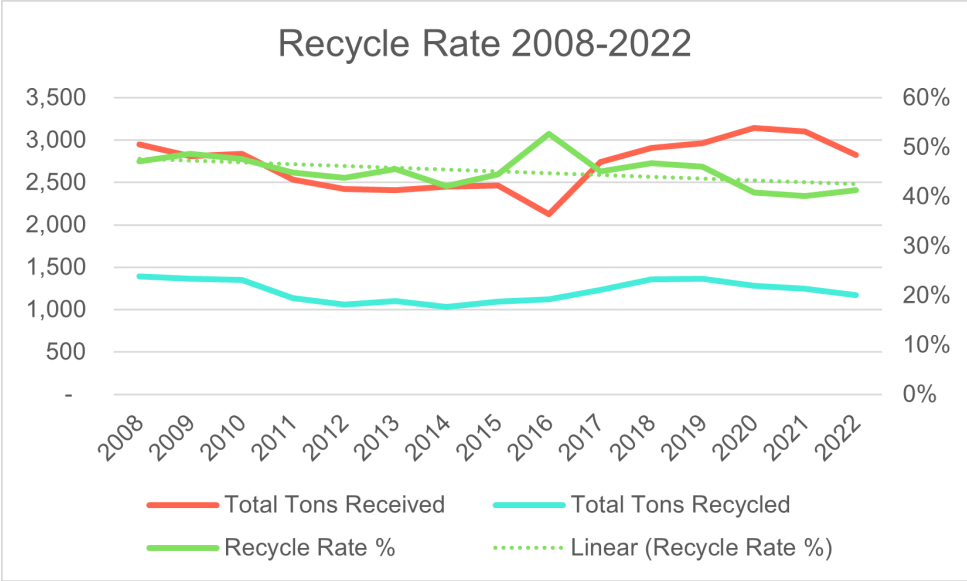


Figure 7: Above, recycling in tons received at each station. Right, the recycling rate in Harpswell from 2008-2022.

The first annual shredding occurred in 2017. Recent years' shredding events have removed over 2 tons each year from the waste stream.

Composting is important to the costs at the facility since it is currently far less expensive to process than other household solid waste; and it produces a useful by-product: compost. It is estimated that over 21% of household trash is food waste. The amount of composted waste sent to the Garbage to Gardens program has increased in recent years from approximately 37 tons in 2018 to over 60 tons in 2022. Considering that our household waste amount is over 1000 tons/year, there is potential to increase this amount significantly by encouraging more participation from residents.

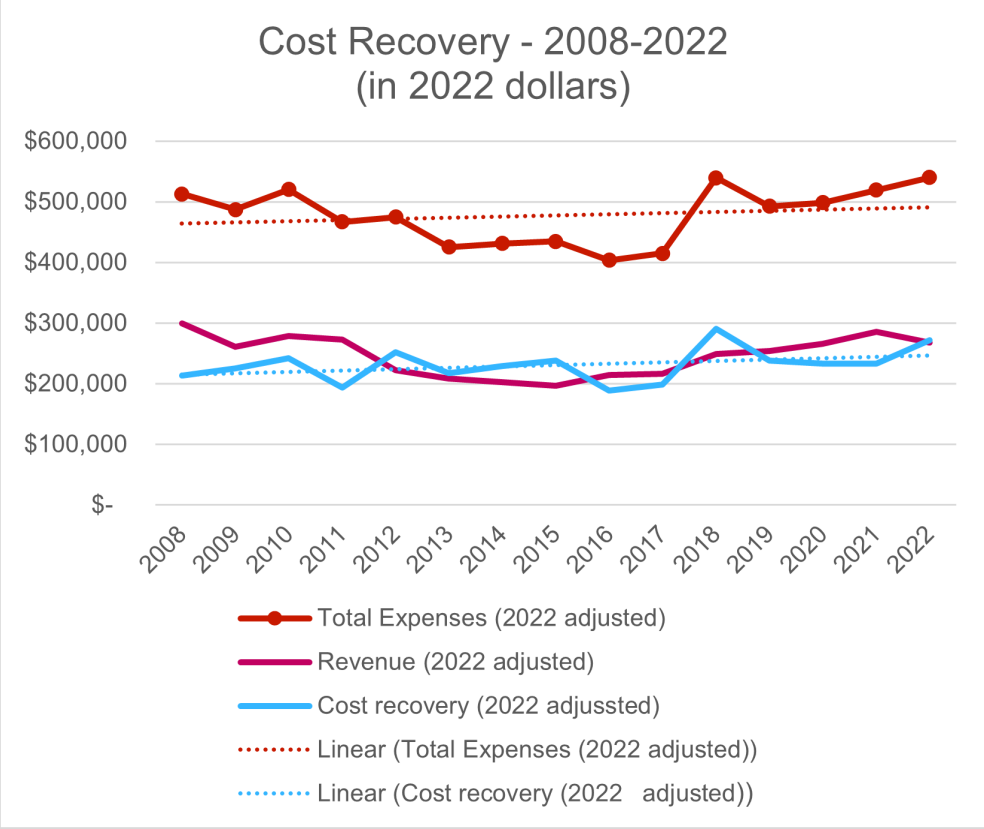
In July 2021, the Maine legislature passed a law establishing a stewardship program for packaging, which is intended to reduce the volume and toxicity of packaging while increasing its recyclability. Producers will pay into a fund based on the amount and the recyclability of packaging for products distributed in Maine. These funds will be used to reimburse municipalities for eligible recycling and waste management costs, make investments in recycling infrastructure, and help Maine citizens understand how to recycle.

Municipalities like Harpswell will have the option of participating in the Extended Producer Responsibility (EPR) program. If they participate, some reporting will be required to receive reimbursements for municipal costs associated with solid waste management.

Implementation of the EPR program will take several years, to allow for coordination with programs in other states and for manufacturers to adjust packaging. At the time of writing, municipalities could receive payments as early as 2027.

The chart below indicates that the blue dotted trend line of cost recovery has risen roughly in parallel to the rise in expenses (red dotted line). This is good news and a testament to careful management of the center.

Figure 8: Cost recovery by Harpswell's Recycling and Solid Waste Department, based on the yearly expenses and revenues.



Considerations

There are possible storm clouds on the horizon. The sale of recyclable material has historically offset operational costs to some degree, but this cost differential has varied with changes in market demand and price, as well as the design of packaging. When there is a reduced market for recycling, the cost of handling and separating single stream recycling exceeds the cost of sending waste to a landfill. Maine's EPR legislation has been enacted to address some of these issues and will hopefully provide Harpswell and other participating Maine towns with revenue to offset the costs of disposing of packaging materials.

It is clear that recycling costs will increase in the future as former recycling options such as the transport of recyclables to China are closing down. This presents two consequences for the people of Harpswell: the cost recovery progress of the last decade will slow and reverse, adding to town costs, and a higher percentage of solid waste will not be recycled but end up in landfill.

The increasing difficulty in finding cost effective recycling and solid waste disposal needs to be addressed. The solution will lie outside the boundaries of Harpswell and require cooperation to address the scale and costs of technical solutions.

Harpswell, the first town in Maine to establish a recycling center, should develop a plan to reach out to nearby communities and organizations in Maine with shared concerns. These discussions should explore technical solutions and financing to solve the challenge of decreasing trends in recycling and the resulting increase in disposal costs. These discussions may require scaling up beyond southern and mid-coast Maine to include surrounding states and even federal involvement.

Library Services

The town partially finances the operation of two local libraries, 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 three days each week. Orr's Island and Curtis Memorial welcomed 267 new cardholders in the fall of 2022 alone. Cundy's Harbor Library is in the final phase of renovations to update the interior and exterior of the building as well as ADA accessibility.

Cundy's Harbor offers books and resources (print, audio, and digital), laptops and audio-visual equipment, and "things," such as life jackets and flashlights for check-out. Both libraries offer Wi-Fi onsite, 24 hours a day. Orr's Island Library has an online catalog now, allowing members to browse and reserve books online. Homebound residents can request book delivery as well.

In addition, the town has a three year agreement with Curtis Memorial Library in Brunswick, which provides Harpswell residents with full access to the library and its services. The Curtis Library's new bookmobile regularly visits the Harpswell Town Office. Harpswell is represented on the library's board of directors and on the board of the Friends of the Curtis Memorial Library. Harpswell provides 9.96% of the municipal funding for the library.

Figure 9: Clockwise from above, the Curtis Memorial Library's new electric bookmobile in front of Orr's Island Library for a special exhibit, Orr's Island Library sitting area, Cundy's Harbor Library.

PUBLIC FACILITIES

Education

Public education in Harpswell is provided by School Administrative District #75. The SAD#75 serves students residing in Harpswell, Topsham, Bowdoin, and Bowdoinham. Harpswell primary students may attend Kindergarten through 5th grade at the Harpswell Community School. 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.

In 2004, the district had an enrollment of 3,345 students of which 598 students (17.9%) were Harpswell residents. As of 2023, the district had a total enrollment of 2,328, of which 342, or 14.69% were Harpswell residents. Over the past five years, Harpswell's total enrollment in the district has continued to slowly decline, as shown in the chart below.

Enrollment at the Harpswell Community School has mostly declined in recent years as well. It seems very likely that the rising cost of land and housing in Harpswell may be forcing younger households from Harpswell to relocate 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.

Figure 10: Harpswell Community School

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 on the state valuation of property in each community and the number of students in that 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 the price of land and housing continues to rise.

In the School Board Report for 2021-22, the Harpswell representatives highlighted that the school district faced staffing shortages for administrative and teaching roles, particularly for substitute teachers and bus drivers.

A new initiative by the high school principal, "Community Pathways," seeks to connect students with community partners and explore potential career opportunities while building new skill sets.

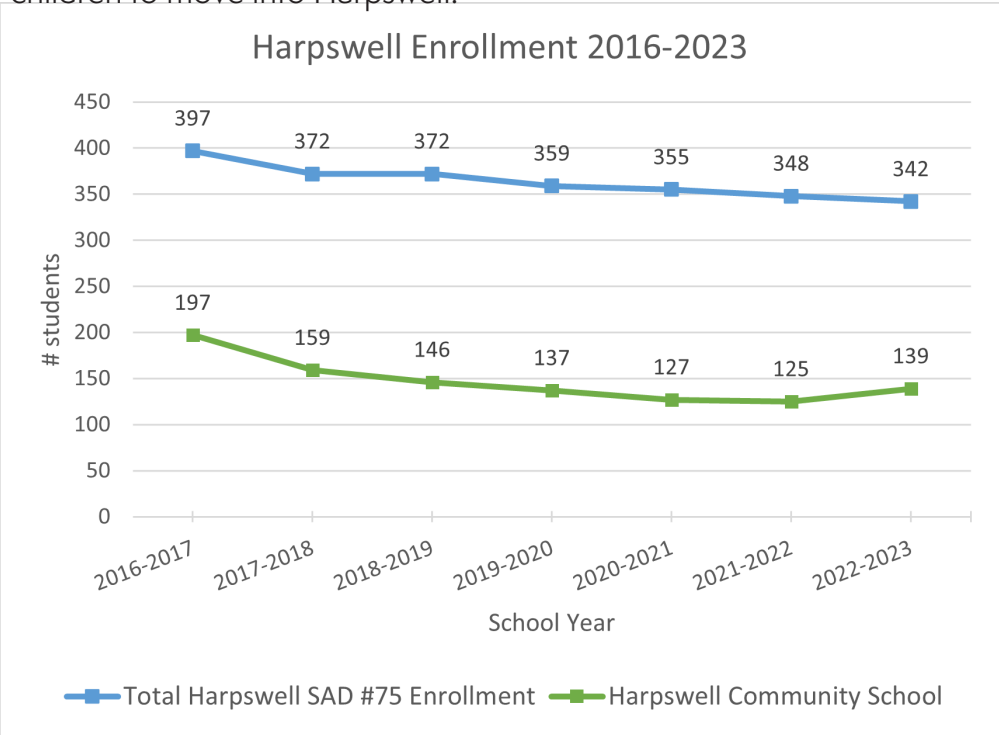


Figure 11: Harpswell's total enrollment in SAD#75 (blue), compared to student enrollment in the Harpswell Community School (green).

TRANSPORTATION

Introduction

Harpswell has two main routes , Route 123 and 24, which provide the only land access to neighboring towns. A third road, Cundy's Harbor Road, connects the village of Cundy's Harbor from Route 24. From their intersections with Brunswick's town line, Route 123 is 9.5 miles long, and 24 measures 11.6 miles. Cundy's Harbor Road is 4.6 miles long. Traffic volumes as measured by DOT have remained steady over the past decade. It is likely that traffic patterns have changed as a result of shifts occurring before the pandemic and, certainly, since then.

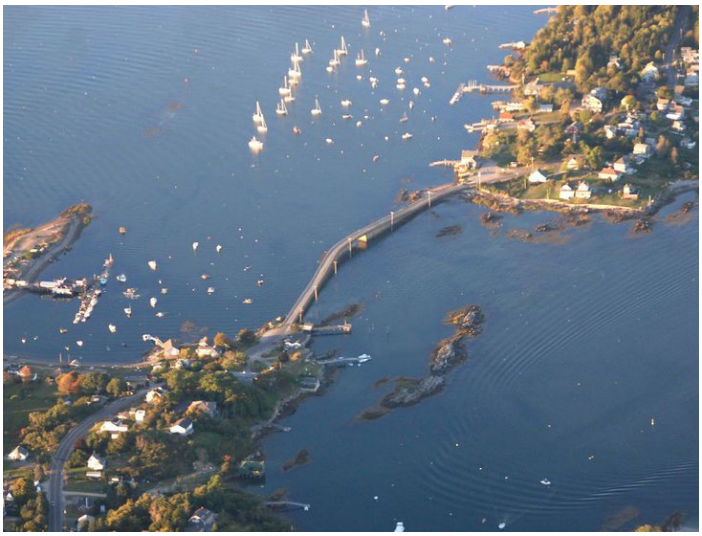


Figure 1: Cribstone Bridge from the air (credit: Mike Timberlake).

Issues & Implications

Harpswell is a mostly car-dependent community, especially since the neighborhoods and village centers are distributed along the town's long peninsulas and islands. Despite many residents commuting over 20 minutes to get to work and seasonal pressures due to tourism, the available data on traffic in Harpswell have shown varied amounts of traffic in recent years. Routes 123 and 24 continue to be important as the sole access points for the town.

Town roads will need to be studied as more data is available on sea level rise impacts, especially as a part of any capital improvement projects. While it is not clear yet what impacts conversion to electric vehicles will have on driving patterns and road conditions, the town should consider how it will build the infrastructure for charging electric vehicles.

Pedestrian and bicycle access and safety continue to be a concern for community members, and as demonstrated by recent community efforts to develop more off-road paths and infrastructure for these types of travel. Increased walkability will benefit families and older adults as they age in place. Since public transportation opportunities are nonexistent, support will continue to be needed to ensure vulnerable populations are able to get to medical appointments, groceries, and other resources.

Roads & Highways

According to the Maine Department of Transportation's (MDOT) 2019 road data, Harpswell has 28.5 miles of State-Aid highways and 29.7 miles of town roads. State-Aid highways are usually connectors between local roads and the State Highway System. These roads are maintained by MDOT in the summer and by the town in the winter.

Neither the town nor the MDOT keep data on private roads, though Enhanced 911 (E-911) addressing data can give an approximation of how many private roads there are. According to E-911 data, as of March 2023 there were about 99 miles of private roads in Harpswell. The length of State-Aid highways has not changed since the last comprehensive plan in 2005, and there are only 1.9 additional miles of town roads since 2005. However, private roads have increased by about 7 miles.

Traffic Volume

The MDOT classifies roads into functional classes based on the type/character of service they are designed to provide. In Harpswell, most of the State-Aid highways are classified as major collectors (23.8 miles) and almost 5 miles are classified as minor collectors. These collector roads are designed to accommodate moderate speeds, lower traffic volumes, and mostly travel within the county. The rest of the public roads in Harpswell (29.7 miles) are classified as local roads, which are designed for lower speeds, lower traffic volumes, and shorter travel distances.

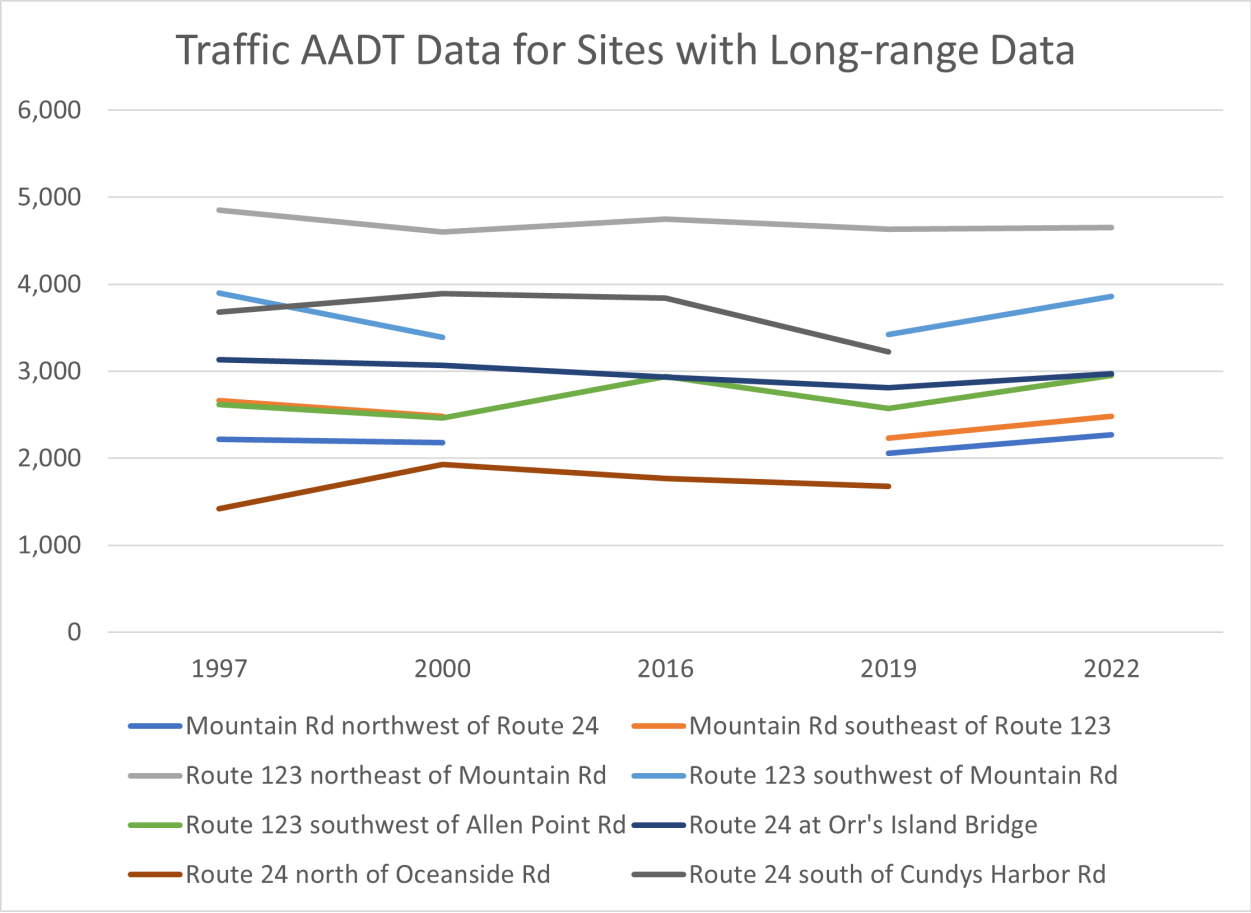


Figure 2: Chart showing the AADT for several key points in Harpswell, where long-term data has been collected. (Maine DOT)

TRANSPORTATION

Traffic counts are collected at three-year intervals in Harpswell by the MDOT, which then calculates Annual Average Daily Traffic (AADT) counts. It can be difficult to compare trends over time, as some of the locations of the counts have changed over time. The most recent AADT was released in 2022. When comparing the counts from 1997 through 2022, there is a decrease between 1997 and 2000, followed by small increases and decreases in 2016 and 2019. In 2022, most areas reached 1997 levels of traffic.

The more northern points along Routes 24 and 123 have more traffic, likely because they are the only routes in and out of town for commuters. The addition of a count on Route 24 above Cundy's Harbor Road in 2016 reinforces this point, as it has had the highest AADT of any location in Harpswell. At almost all locations where counts were taken 1997 through 2019, there is a slightly negative trend in the amounts of traffic. This could be due to a growing retiree population that is not commuting out of town for work.

Name	1997	2000	2016	2019	2022
Mountain Rd at the Ewing Narrows Bridge	-	-	2,280	2,200	2,320
Mountain Rd northwest of Route 24	2,220	2,180	-	2,060	2,270
Mountain Rd southeast of Route 123	2,660	2,480	-	2,230	2,480
Dingley Island Rd at bridge	-	-	-	90	120
Laurel Cove Rd southeast of Oak Ledge Rd	-	-	-	180	180
Ash Point Rd southwest of Route 123	-	-	1,200		1,220
Ash Point Rd southwest of Basin Point Rd	-	-	460	400	440
Bailey Island Rd south of Washington Rd	-	-	770	760	
Cundys Harbor Rd east of Route 24	-	-	2,720	2,500	3,140
Cundys Harbor Rd south of Laurel Cove	-	-	-	1,190	1,150
Oak Ledge northeast of Laurel Cove	-	-	-	310	380
Route 123 north of Ash Point Rd	-	-	2,320	1,910	2,150
Route 123 northeast of Mountain Rd	4,850	4,600	4,750	4,630	4,650
Route 123 northeast of Hurrincane Rdg			390	330	460
Route 123 southwest of Mountain Rd	3,900	3,390	-	3,420	3,860
Route 123 southwest of Allen Point Rd	2,620	2,460	2,940	2,570	2,950
Route 24 at Orr's Island Bridge	3,130	3,070	2,930	2,810	2,970
Route 24 north of Oceanside Rd	1,420	1,930	1,770	1,680	
Route 24 north of Cundys Harbor Rd	-	-	6,720	6,150	6,370
Route 24 northeast of Lane Rd	-	-	2,650	2,440	2,650
Route 24 northeast of Mountain Rd	-	-	2,870	2,660	2,970
Route 24 south of Cundys Harbor Rd	3,680	3,890	3,840	3,220	3,590

Figure 3: AADT in Harpswell from 1997-2022 for all points. Where data was not collected, "-" (Maine DOT).

In 2020, nearly 68% of Harpswell commuters were estimated to travel at least 20 minutes or more to work, and 13% travel an hour or more to get to work (Figure 4). This is a slight increase from 2015 commuting estimates, when only 66.4% of commuters were estimated to travel 20 or more minutes to work (American Community Survey).

The COVID-19 pandemic likely had an impact on traffic patterns since many workers who were able shifted to working from home. While many workplaces may be returning to in-person work, there could be a lasting impact on the proportion of the workforce with either remote or hybrid working options. In 2019, the American Community Survey estimated that 8-17.8% of the workforce worked from home, and in 2021, 12.6-21.9% of the workforce was estimated to work from home.

These ranges are not perfect but give an idea of how the prevalence of remote work may be changing. In the case of hybrid work, this may cause shifting volumes of traffic on days when people commute or work remotely. The flexibility of remote and hybrid work may also allow people to commute at different times, which could change the traffic volume at different times of day.

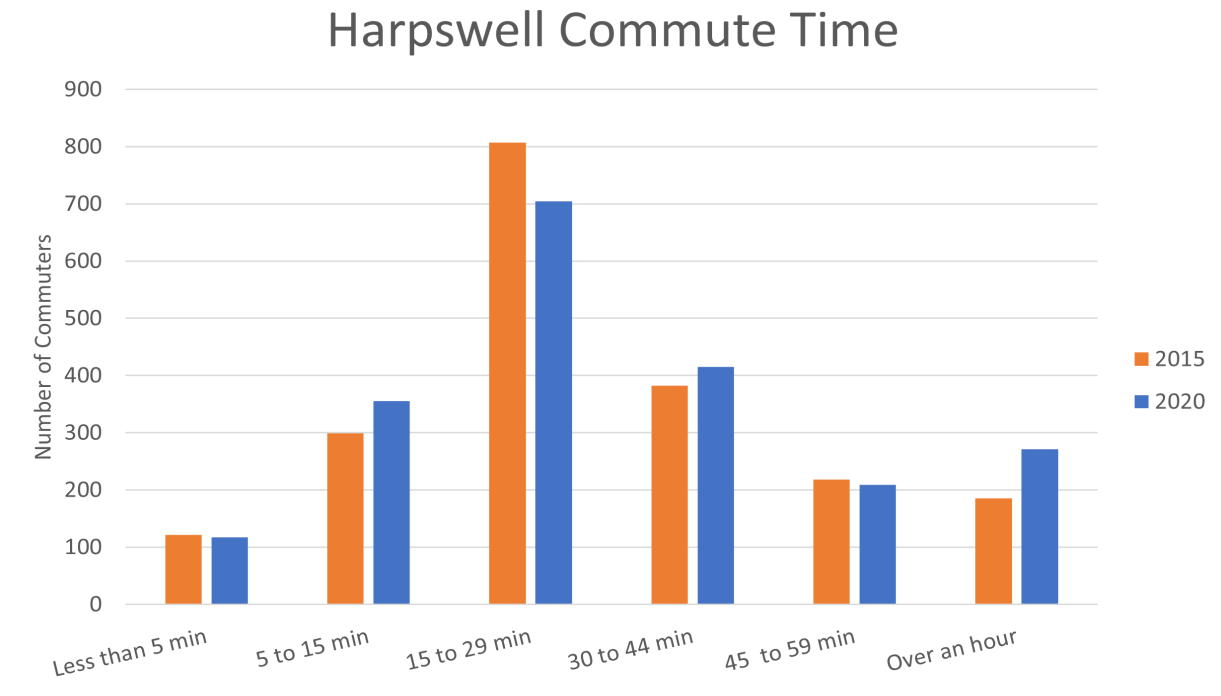


Figure 4: Commute time for workers who do not work from home in Harpswell.

Road Maintenance & Improvement

The Maine Department of Transportation's Work Plan for 2023-2025 involves planned capital and maintenance work at Mitchell Field (the construction of a boat landing in 2024-25) and on Ewing Narrows Bridge on Mountain Road (bridge painting in 2023 and resurfacing in 2024-25).

The town has a list of planned road improvements developed in 2013, that has since been updated as projects are completed or added. There is ongoing work being done on Basin Road, including resurfacing and implementation of traffic calming measures.

According to the Roads Commissioner, one issue impacting road safety is a lack of coordination among the different entities responsible for road maintenance and the cutting of precarious tree limbs. This sometimes involves coordination among landowners if the tree is outside the right-of-way, MDOT, and utility companies that maintain areas around power lines.

Safety

The MDOT keeps records of motor vehicle accidents on public roads. The total number of accidents on Harpswell roads from 2003 to 2022 are show in Figure 5, below. The number of crashes peaked in 2005 at 78 incidents, and then the annual number of accidents sharply declined until 2008. Since 2008, the number of accidents has generally increased (except for a few years), with 2021 having the highest number of accidents since 2006, at 71 incidents.

The MDOT also keeps records of road sections that qualify as High Crash Locations. In both 2021 and 2022, the stretch of Harpswell Neck Road between Skassen Lane and Lookout Point Road was designated as a High Crash Location, with 18 total accidents in those two years. Since 2012, only two other sections of road qualified as High Crash Locations: Mountain Road between Wharf Road and Upland Road in 2012 and Harpswell Islands Road between Mountain Road and Orr's Island Bridge Road in 2015, with 12 and 9 crashes, respectively.

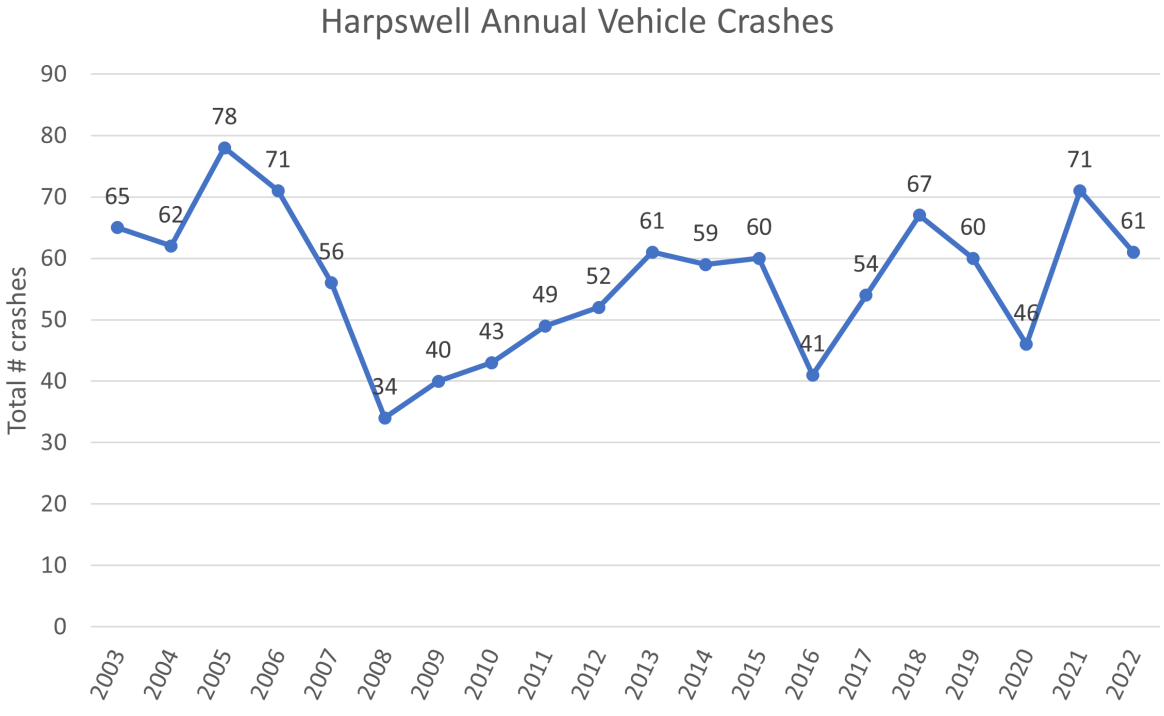


Figure 5: Vehicle accidents in Harpswell from 2003 through 2022.

Sea Level Rise Impacts

The Maine Climate Council advises communities to plan to manage 1.5 feet of sea level rise over 2000 levels by 2050 and 4 feet of sea level rise by 2100. The Maine Geological Survey developed sea level rise inundation data for planning purposes, ranging from low to high scenarios.

In 2020, Harpswell's Climate Resilience Task Force worked with the Midcoast Economic Development District (now the Midcoast Council of Governments) to conduct a climate vulnerability analysis, which included an assessment of roads that may be inundated under different sea level rise scenarios. At two feet of sea level rise, the study identified eight sections of town roads and nine sections of private roads that are at risk of becoming inundated. At 3.3 feet of sea level rise, eleven public and ten private road sections were identified as at-risk (Figure 6 and Figure 7).

Public Roads Affected by Rising Tides and Storm Surge

Public Roads	1 foot	2 feet	3.3 feet	6 feet
Harpswell Neck				
Lookout Point Road (Lower End)	X	X	X	X
Basin Point Road (Head of Basin Cove)		X	X	X
Harpswell Neck Rd. Rte.123 (Causeway to Potts Point)			X	X
Harpswell Neck Rd. Rte.123 (Skofield Cove, Near town line)			X	X
Great Island				
Long Point Road (Near intersection with Dirigo Lane)			X	X
East Harpswell/Cundy's Harbor				
Dingley Island Road (Bridge)		X	X	X
Bethel Point Road (Bridge)		X	X	X
Oakhurst Island Road (Either side of bridge)			X	X
Bethel Point Road (Culvert near Little Ponds Road)				X
Orr's and Bailey Islands				
Lowell's Cove Road (Orr's Island)	X	X	X	X
Abner Point Road/Lube Lane (Bailey Island)		X	X	X
Garrison Cove Road (Near Garrison Cove landing)		X	X	X
Harpswell Islands Rd. Rte.24 (Bridge b/t Great & Orr's Islands)				X
Harpswell Islands Rd. Rte.24 (Cribstone Bridge)				X
Rev 05.10.2023				

Figure 6: Table of public roadways that are predicted to be inundated under different sea level rise scenarios, from Harpswell's Climate Resilience Task Force's vulnerability study.

TRANSPORTATION

The map on the next page (Figure 8) shows a map comparing where the Maine Geological Survey's 1.6-foot (pink) and 3.9-foot (purple) scenarios overlap with sections of roads in Harpswell. This may give a general idea of areas that could be at risk of inundation.

In the Two-Year Action Plan within the draft Sustainability Plan prepared by the town's Resiliency and Sustainability Committee, one of the two highest priority activities was "identifying the need for future improvements to town roads." This activity includes identifying the two highest priority roads impacted by sea level rise, conducting a more detailed study of potential impacts and remedies, and including these sea level rise considerations in any future capital improvement projects involving these roads.

Private Roads Affected by Rising Tides and Storm Surge

Private Roads	1 foot	2 feet	3.3 feet	6 feet
Harpswell Neck				
High Head Road (Bridge)		X	X	X
Stucarro Drive (Lower end)			X	X
Intervale Road			X	X
Great Island				
Long Reach Lane (each end of causeway)	X	X	X	X
Long Point Road at Little Crow Point	X	X	X	X
Tuttle Road/Long Point Road/Little Crow Point		X	X	X
Gun Point Road (near intersection with Long Point Road)			X	X
East Harpswell/Cundy's Harbor				
Wallace Shore Road (before and after bridge)	X	X	X	X
Shore Road		X	X	X
Hopkins Island Road			X	X
Cundy's Point Road				X
Sailor's Way				X
Orr's and Bailey Island				
Johnson Point Road (Orr's Island, Beals Cove)				X

Rev 05.10.2023

Figure 7: Table of private roads that are predicted to be impacted under different sea level rise scenarios, from Harpswell's Climate Resilience Task Force's vulnerability study.

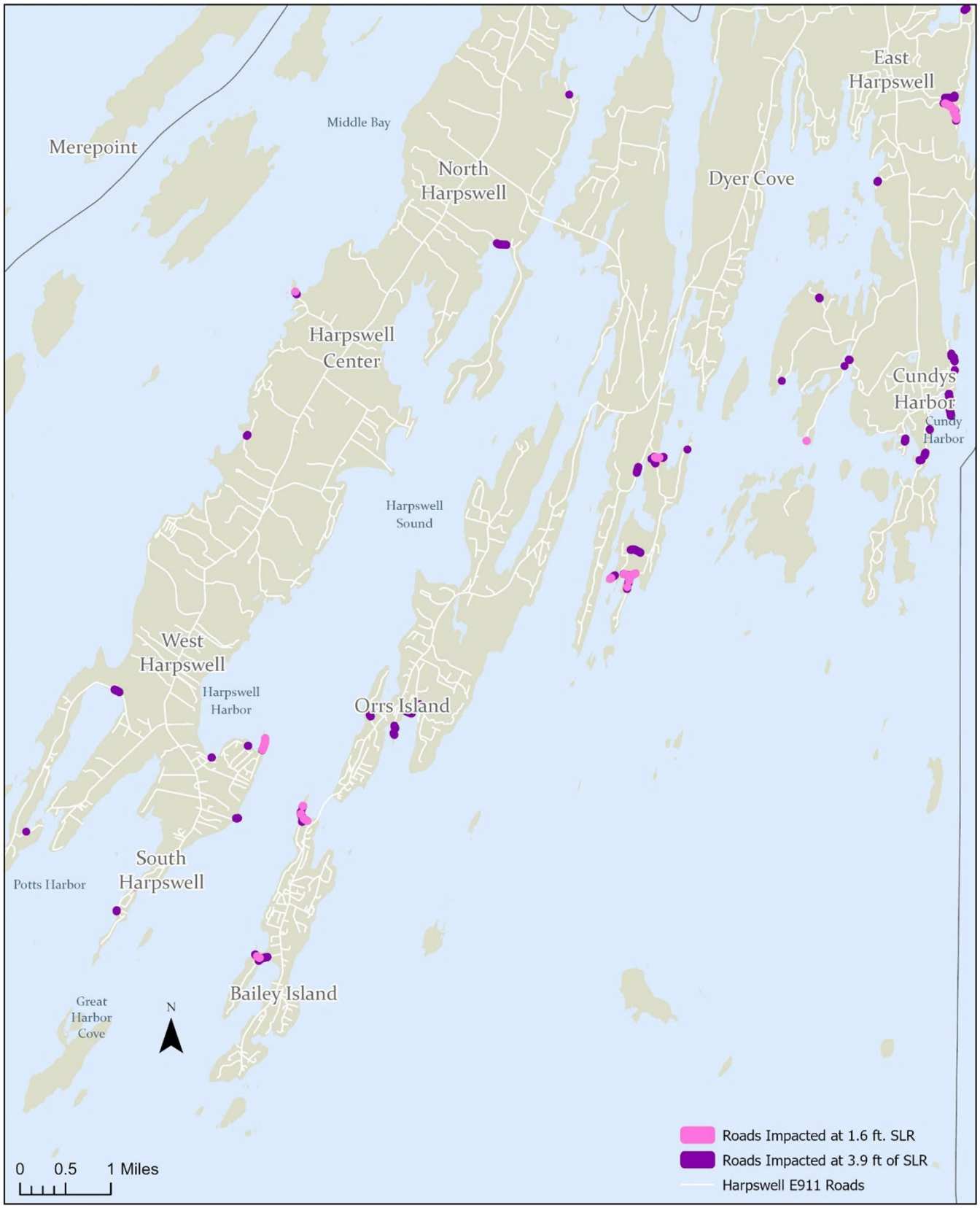


Figure 8: Roads in Harpswell at risk of being inundated under a 1.6 ft sea level rise scenario (pink) or a 3.9 ft scenario (purple).

Bicycles & Pedestrians

As of Harpswell's Rural Active Living Assessment Report conducted in 2014, there were no sidewalks in Harpswell. There are paved shoulders on State Route 24 from Brunswick to Mountain Road that have increased the safety for biking and walking in this area. The shoulders are being maintained by Maine DOT. In some areas, there is enough of a gravel shoulder for pedestrians to walk, though this poses a safety hazard, especially in areas or weather conditions with poor visibility (curves in the road, fog, etc.).

There are no bike lanes in Harpswell, though there are five bike routes identified in the Harpswell Guide to Outdoor Recreation, four along existing roads (Allen Point, Stover's Point, Basin Point, and Potts Point roads) and one on the grounds of Mitchell Field. Public bike racks are currently available at Giant's Stairs Trail, Mackerel Cove, Mitchell Field, Trufant-Summerton Athletic Field, the Cliff Trail, and the Devil's Back Trail Area.

In the Route 24 Corridor Management Plan developed by the Midcoast Council of Governments in 2013, Harpswell town staff identified the lack of a paved shoulder on the portion of Route 24 south of Mountain Road as an issue for bicyclist and pedestrian safety, especially since this stretch of the highway is popular for walking and biking. Since 2005, there have been 2 accidents involving a bicyclist or pedestrian, both on this stretch of Route 24. There is an opportunity to explore the creation of a bike/pedestrian path along Mountain Road as there is a wide right-of-way from State Route 24 to the Ewing Narrows Bridge.

An informal community group of Harpswell bicyclists has been working with Harpswell Heritage Land Trust (HHLT) to piece together rights-of-way, easements, and ownership to create areas where walking and/or biking paths can be developed. The group is currently working with HHLT and landowners to connect these areas and develop trails. Eventually, the group hopes to potentially widen and pave paths (given funding and community interest).

Figure 9: A bicyclist on Harpswell Islands Road (photo credit: Fit Maine)

Public Transportation

Harpswell does not have any regular public transportation services. Casco Bay Lines no longer offers their seasonal summer service from Portland to Bailey Island, as of 2020. Harpswell does not have any public or commercial bus service, rail service, or airports.

For people who are unable to drive, the Volunteer Transportation Network is available by appointment for grocery shopping, medical appointments, personal needs (salon, bank, post office). Harpswell Aging at Home (HAH) partners with People Plus of Brunswick to organize this service. In 2023, 23 Harpswell residents took 620 trips covering 10,699 miles. This volunteer service is vital to many in the community, and is only possible with volunteer support from HAH volunteer drivers. HAH drivers provided 730 trips in 2023, driving a total of 11,927 miles.

MaineCare members can also schedule transportation to medical appointments ahead of time through MidCoast Connector Non-Emergency Transportation.

Figure 10: HAH volunteer driver, Hugh Hardcastle, with rider Brenda Bonney (Harpswell Aging at Home, 2023).

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FISCAL CAPACITY

Introduction

The fiscal capacity of Harpswell is an important consideration in the planning process. Harpswell's ability 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.

Since the 2005 Comprehensive Plan, the trend of increasing property values has remained, and is expected to continue. In addition, Harpswell's current bond obligations have continued to decrease, staying well below both the legal (15% of state valuation) and the town's target debt level (1% of state valuation).

2016	$1,852,450,000
2017	$1,862,850,000
2018	$1,896,600,000
2019	$1,931,200,000
2020	$1,992,700,000
2021	$2,101,500,000
2022	$2,155,150,000
2023	$2,264,250,000

Figure 1: State valuation data for Harpswell from 2016-2023.

Issues & Implications

Harpswell has been a good steward of its fiscal resources. There is very low debt, property value increases allow for increased services, and Harpswell has a low tax rate compared to other municipalities with a similar valuation. As with most municipal services, there is usually a stepped cost rather than a straight linear expansion. In its capital planning, Harpswell will need to consider where those stepped increases may occur and if there are needs in the town for services that can only be addressed by raising tax rates.

Raising tax rates has implications both in the types of services which can be offered and the impacts on the citizens who bear that cost. Communication with taxpayers around any new/increased expenses is important for community awareness, and should be consistent and clear.

Harpswell already uses capital reserve accounts to set aside funds for large investments, including completing the Basin Point Road Project, emergency vehicle purchases, and the ongoing renovation of the Recycling Center. Capital reserve funds can also be a tool to enable quick responses to grant opportunities, such as for Resiliency & Sustainability Projects. In this way, having some matching funds on hand can lower the total amount the town ends up spending on a project.

As the town considers necessary projects and service improvements to maintain the quality of life in Harpswell, the budget should also reflect the staff capacity needed to support this work.

FISCAL CAPACITY

Tax Base

Harpswell is predominantly a residential and seasonal community. The town does not have any significant commercial or industrial sectors to support the cost of municipal government. The presence of many 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 Harpswell.

In 2022, the State set the full market value of all real estate and taxable personal property in Harpswell at almost $2.16 billion. This represents an increase of over $302 million since 2016, reflecting the substantial escalation in property values that has expanded the tax base. The total valuation used by the town for property tax purposes (real estate and personal property) in 2022 was $2,370,239,300 (which was greater than the State figure). The town is currently assessed at 100% value. The 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.

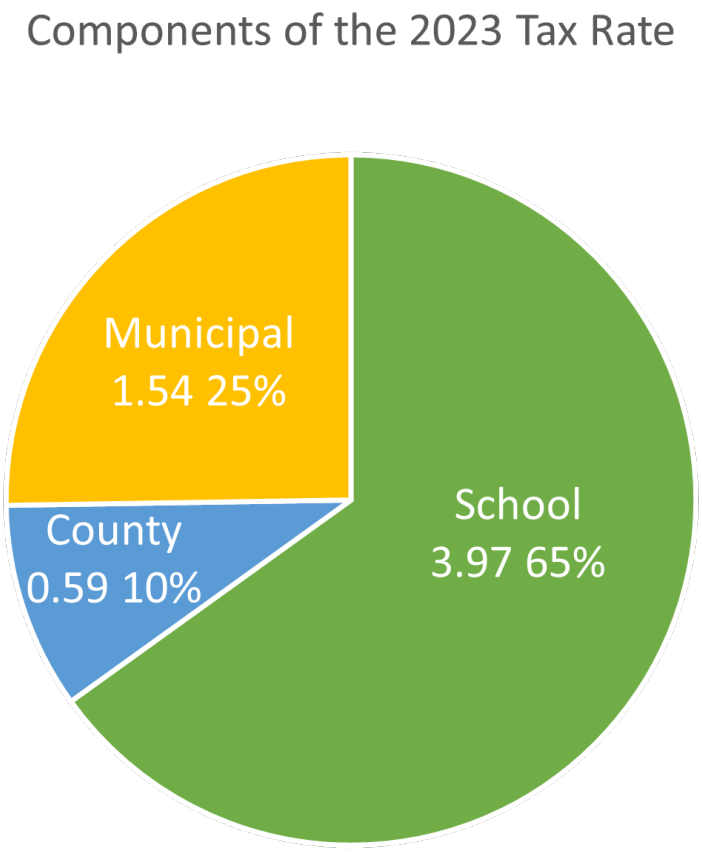


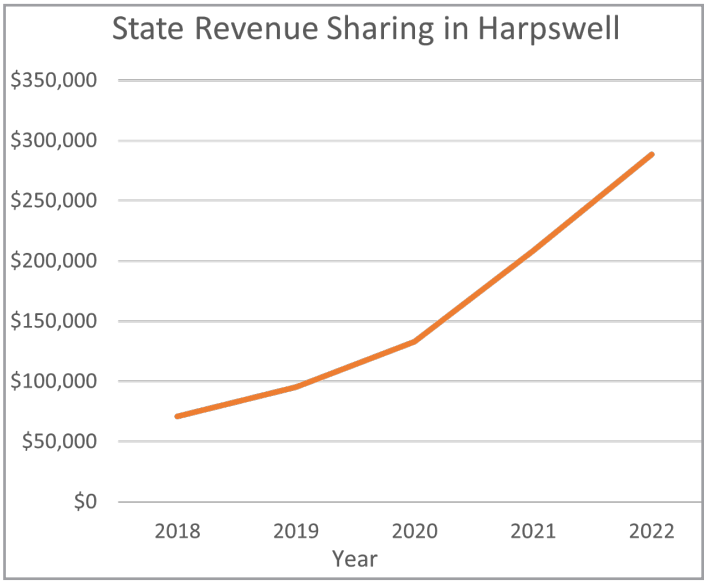
Figure 2: Components making up Harpswell's 2023 tax rate.

FISCAL CAPACITY

Revenues

Like most Maine communities, the predominant revenue source for the operation of Harpswell is the local property tax. In 2022, property taxes accounted for over $14.01 million, or 83% of the town's general revenue. Excise taxes provided another $1,463,924. In all, 92% of the town's general revenue came from the town's residents and property owners through property and excise taxes (Figure 4).

Figure 3: (Right) State revenue sharing with Harpswell over the past 5 years.



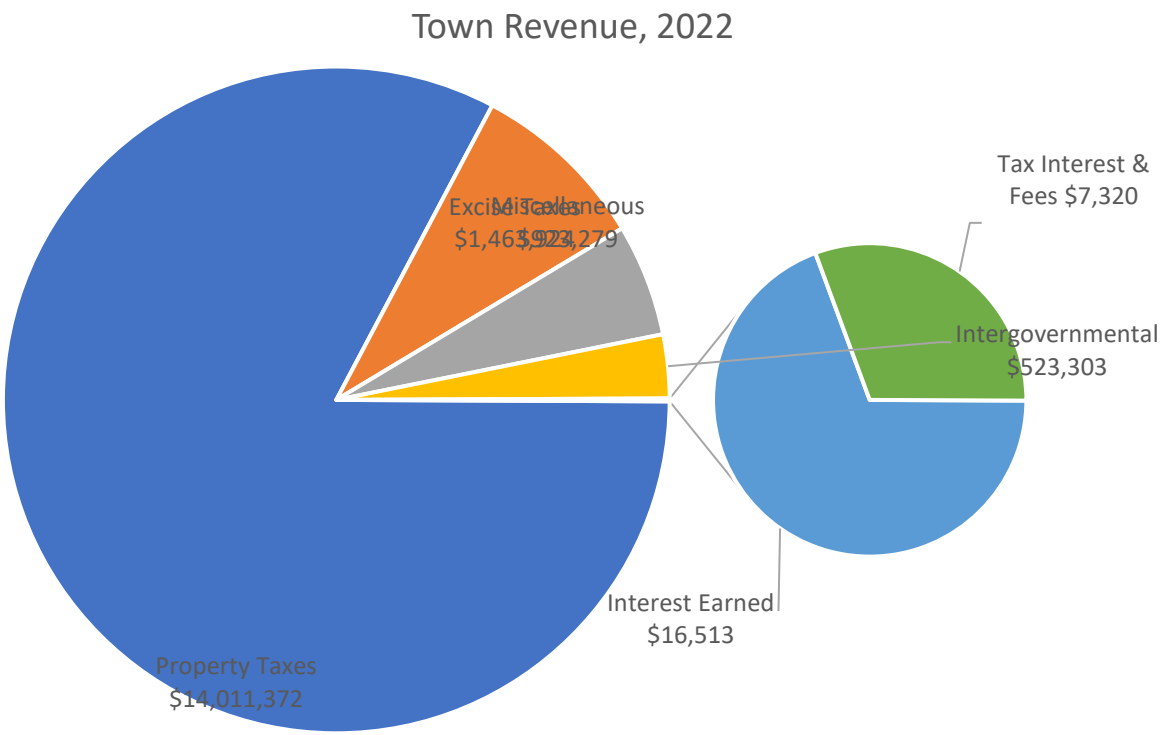


Figure 4: Comparison between revenue sources for the town in 2021 and 2022.

FISCAL CAPACITY

Budgetary Process

An appointed Budget Advisory Committee (BAC) reviews a preliminary fiscal budget developed by the town's administrative staff and requests from outside entities. The Committee's recommendations are made to the Select Board which has the final approval on what budget is considered by the legislative body at the Annual Town Meeting.

The Annual Town Meeting, in its vote of each article, approves or declines the items which form the town's budget. Pursuant to Maine law, if the annual net municipal budget requires the property tax levy to exceed the town's property tax levy limit, a majority of the Town Meeting voters must approve this by written ballot. The school budget is approved by the voters of MSAD #75 in a budget approval process separate from the town's budget, and MSAD #75 assesses its member communities. Additionally, Cumberland County assesses the town for its proportionate share of the County budget.

Municipal Budgeting Policies

Non-Property Tax Revenues

It is town policy to use non-property tax revenues to offset the impact of the municipal budget on the property taxpayer. This excludes revenues earmarked for a specific purpose. As part of the budget process, conservative estimates of non-property tax revenues for the budget year are made. These estimates usually do not exceed the current or prior year revenues without firm support (e.g., increases set forth in contracts or known changes in fee schedules).

Fund Balance

It is town policy to maintain a minimum unassigned General Fund balance of one month, or 8.33%, of operating expenditures. This is based on the prior year's general fund expenditures. The target balance for fiscal year-end is 2 months or 16.66%, with a maximum balance of 25%.

Any amount in excess of the targeted balance may be used to reduce the tax commitment, appropriated as committed fund balance, or remain as unassigned Fund Balance. The Select Board may recommend transfers that would reduce the balance below 25%, given the balance stays above 8.33%. If the unassigned fund balance drops below the minimum, the town will develop a plan to bring the balance to the targeted level within three years.

Carryover Funds

Another town policy is to not carry over funds appropriated for operating expenditures. Unexpended funds appropriated for purposes that are no longer relevant or funds that are $2,500 or less without a plan for expenditure in the next year should lapse to the General Fund. Capital reserves and other special reserve accounts (e.g. heating assistance) may be carried over as long as their intended use is still needed.

FISCAL CAPACITY

Expenditures

Harpswell has the following major governmental funds:

- General Fund: the town's primary operating fund
- Road Projects Fund: accounts for financial resources used in major road rehabilitation projects.
- American Rescue Plan Act Fund: financial resources used to purchase goods or services as approved by the legislative body.

Additionally, the town has several nonmajor funds, falling into the categories below.

- Special revenue funds: proceeds of specific sources (other than major capital projects or expendable trusts) that are earmarked for specified purposes
- Capital projects funds: financial resources to be used for the acquisition or construction of major capital facilities & equipment.

In 2022, the town spent $16,041,513 to operate its municipal government, support the operation of School Administrative District (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 56% of all municipal expenditures (Figure 5).

Figure 5: 2022 general fund expenditures.

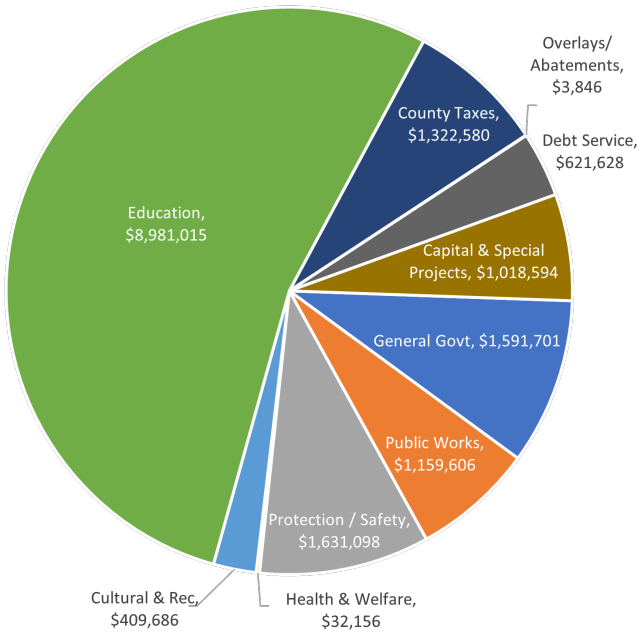


Figure 6: Expenditure trends for Harpswell from 2018-22.

	2018	2019	2020	2021	2022	5-Year Difference	5-Year Percent Change
General Government	$1,490,849	$1,441,908	$1,453,662	$1,454,736	$1,591,701	$100,852	**6.76%**
Public Works	$922,134	$969,449	$1,009,304	$1,076,313	$1,159,606	$237,472	**25.75%**
Protection & Safety	$1,314,229	$1,354,200	$1,429,105	$1,485,031	$1,631,098	$316,869	24.11%
Education	$7,749,463	$8,276,454	$8,716,477	$8,672,916	$8,981,015	$1,231,552	**15.89%**
Health & Welfare	$33,316	$34,521	$31,153	$31,749	$32,156	($1,160)	**-3.48%**
Cultural & Recreational	$300,514	$328,744	$342,486	$349,936	$375,337	$74,823	**24.90%**
Debt Service	$468,381	$413,005	$344,185	$283,862	$621,628	$153,247	**32.72%**
Capital & Special Projects	$547,771	$251,758	$143,793	$826,545	$322,546	($225,225)	**-41.12%**
Overlay/ Abatements	$6,977	$1,723	$1,645	$763	$3,846	($3,131)	**-44.88%**
County Taxes	$1,318,020	$1,323,697	$1,329,698	$1,347,176	$1,322,580	$4,560	**0.35%**
Total Expenditures	$14,151,654	$14,395,459	$14,801,508	$15,529,027	$16,041,513	$1,889,859	**13.35%**

FISCAL CAPACITY

Capital Debt

As of December 31, 2022, the town's outstanding long-term debt was $4,320,000, primarily as a result of debt taken for road construction and the removal of the Mitchell Field pier. The town debt service payment in 2020 was $344,185. In 2021, the total debt service payment was $283,862. In 2022, the total debt service payment was $621,628. There also remains one authorized but unissued bond for failed septic remediation in the amount of $50,000. The town is well within its 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. As of December 31, 2022, Harpswell's debt amounts to 0.2% of its assessed valuation, well below the town's target debt level of 1%.

Capital Assets + Reserves Policy

It is the policy of the town to inventory its capital assets (those whose cost basis exceeds $5,000) and to regularly assess the need for and the condition of these assets. The assessment should include an evaluation of issues, challenges, and opportunities affecting the provision of capital assets in the future, such as community needs and priorities; the impact of deferred maintenance; funding issues; changes in technology; economic, demographic, or other factors that may affect demand; and legal or regulatory changes.

The town has a number of capital reserves for the acquisition or rehabilitation of long-term assets, including a capital road reserve and an emergency vehicle reserve which are their own governmental funds. Upon completion of a capital asset review, an assessment of the adequacy of the balances of these reserve accounts is completed and recommendations are made for any necessary adjustments.

Capital Improvement Plan

Harpswell maintains a 5-year capital improvement plan that is updated annually. The Budget Advisory Committee has recently recommended that the town begin projecting for a 10-year period, particularly for certain assets. Capital improvements are funded from a variety of sources included but not limited to appropriations, grants, revenues, reserve accounts, fund balance and bond issues.

Recent or Anticipated Major Capital Projects

Central Emergency Services Building

A planning process has started for designing a centralized emergency services building near the current Emergency Services building on Mountain Road. A consultant will be hired in 2024 to work with the town's Fire and Rescue Planning Committee to create conceptual designs and cost estimates that can be considered by the voters of the town. The building is expected to be a multi-million dollar building. The town invested in the construction of a new emergency communications tower at the Orr's Island Fire Station in 2023. This tower, in conjunction with the Tower at the Transfer Station and the Tower at Mitchell Field, will be outfitted in 2024 with almost 200,000 of equipment to enable the town's emergency communications system to have both analog and digital capabilities.

Mitchell Field Boat Launch

For several years the town has been planning a substantial boat launch to be constructed at Mitchell Field. The town's $400,000 investment is being matched in full by the State for a total project cost of approximately $800,000. The launch is expected to be bid in 2024 with construction starting soon thereafter.

Recycling Center

The first phase of the project in 2021 involved site improvements which included an expansion of the parking area. Total costs for this phase were $350,000. The second phase, which is the rehabilitation of the building and upgrade of the electrical system, is expected to begin in 2024 at a total cost of up to $800,000.

HVAC and Electrical Upgrades at the Town Office

With the extension of three-phase power a long Mountain Road, the town is preparing to install a more efficient HVAC system which may involve extensive upgrades to the town's electrical system. The project is expected to cost in the range of $400,000 to $500,000. Rebates from Efficiency Maine will be sought.

Roads

The town completed the second part of the Basin Point Road project in 2023. The town is studying the impact of sea level rise on certain roads to assess what will be needed to prepare town infrastructure as higher tides and storm surge overtop roads more frequently. The objective is to develop a longer range plan for managing the potential impacts of storm surge and sea level rise on town roads and landings.

Emergency Vehicles

Since 2007, the town has taken responsibility for purchasing emergency services vehicles that are leased to the town's three volunteer departments. The town purchased a pumper truck for $557,924 in 2023. The vehicle has an expected life of 20 years. The town has a schedule of vehicles that will need to be purchased over the next seven years.

Capital Planning for the Future

Preparing for Climate Change

In 2023, the town established a Resiliency and Sustainability reserve for $60,000. There's another request to add $50,000 to the reserve at this 2024 Town Meeting.

FISCAL CAPACITY

Resources

Town of Harpswell Financial Report (2016-2022)

Harpswell Fiscal Capacity (2005)

Maine Revenue Service

ECONOMY

Introduction

The economy of Harpswell is driven by a variety of factors. Many of the economic factors affecting the residents and businesses are driven by regional, state, and national factors more than local conditions. Harpswell, by its geography alone, will never be a service center or a large commercial economy. The economy is also influenced by the large percentage of retirees, who are not dependent on local economic conditions for their income. Harpswell does support small businesses related to the marine economy (see the Marine Economy chapter), tourism, and retail. Since economic impacts do not change quickly or through a single action, it is important that the community work together over the long term to ensure that the economic development that happens is in the best interests of the place.

Figure 1: Holbrook's Lobster Wharf and Grille.

Issues & Implications

Harpswell's economy is dominated by three main factors: continued dependence on the marine economy; an increase in the percentage of residents employed outside the town in health care and social assistance; and an increase in the retirement-age population, leading to a decrease in labor force participation. As such, the economy of the town is influenced and controlled more by regional and national factors than by local conditions.

Due to its physical beauty, Harpswell will always be a desirable place to visit, so tourism will continue to be a component of the economy. Issues around the lack of affordable workforce housing may act as a constraint upon growing the local economy. The town should consider how to encourage tourism while still maintaining a high quality of life for residents. As the population ages, it may be important to consider the development of healthcare, social service, and home care support industries for local residents.

Regional Economic Environment

Harpswell is part of the Bath-Brunswick region for much of its economic activity. From an employment standpoint, the town is part of the Brunswick Micro Labor Market Area (LMA) as defined by the Maine Department of Labor. The Bath-Brunswick LMA consists of the following communities: Brunswick, Harpswell, Woolwich, Dresden, Arrowsic, Bath, Bowdoin, Bowdoinham, Georgetown, Phippsburg, Topsham, Westport Island, West Bath, and Wiscasset.

Local Employment

Data on employment trends are not readily available on a town-by-town basis for small communities. The table below shows data for the Brunswick Micro LMA. A labor market area is an integrated geographic area within which workers reside and find employment within a reasonable distance.

Figure 2 demonstrates that, in the Brunswick micropolitan area, employment in goods producing sectors has generally increased, driven by food manufacturing, whereas employment in non-manufacturing sectors (excluding eating and drinking establishments) has been falling.

Data from the Census Bureau's OntheMap are less detailed but more local. In 2019, there were approximately 1,850 (non-self-employed) workers living in Harpswell. Of those, about 42 percent were in the 55 or older age bracket, while another 42 percent were in the 30 to 54 age bracket. The remainder (16 percent) were aged 29 or younger.

Most workers who live in Harpswell commute out of town for work, primarily to Brunswick (14.6 percent), Portland (9.6 percent), or Bath (4.8 percent). The largest proportion (17.4 percent) works in the Health Care and Social Assistance industry, followed by educational services and retail trade (12 percent each). Fewer than one percent of the residents are employed in the agriculture, forestry, and fishing sectors.

However, these data do not include sole proprietors. Many individuals who work in the fishing industry are self-employed, and so are not reflected in these numbers. For example, the Census Bureau's OntheMap identified 1,850 employees who live in Harpswell, while the American Community Survey listed approximately 2,300 individuals who were employed at that time.

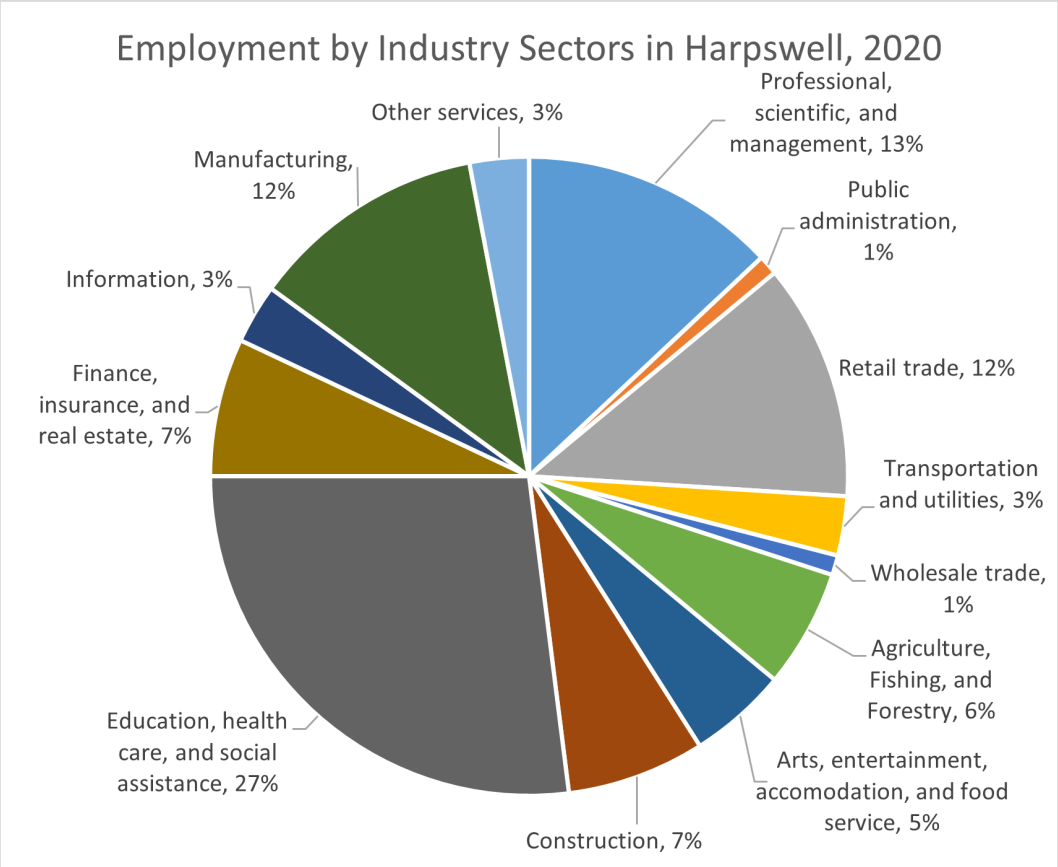


Figure 2: Employment by Industry Sectors in Harpswell, 2020, according to the Census Bureau's OntheMap data. This does not include sole proprietorships.

INDUSTRY SECTOR	NAICS	2010	2015	2020*	2021*	2010-2021 CHANGE
Annual Avg Employment		**29,159**	**30,000**	**29,292**	**30,643**	**5.1%**
Avg. Unemployment		**6.80%**	**3.50%**	**4.40%**	**3.80%**	**-3.0%**
Manufacturing	**101**	**7,699**	**8,341**	**8,315**	**9,793**	**27.1%**
Durable Goods	***(321, 327, 331-37, 339)***	**327**	**307**	**244**	**314**	**-4.0%**
Nonmetallic Mineral Product	327	70	75	81	84	20%
Machinery	333	51	41	43	45	-11.8%
Furniture & Related	337	82	67	42	46	-43.9%
Miscellaneous	339	99	90	***	139	40.4%
Non-durable Goods	***(311-316, 322-326)***	**170**	**290**	**210**	**244**	**43.5%**
Food	311	61	143	175	219	259.0%
Textile mills	313	***	131	***	***	***
Service	**102**	**21,459**	**21,659**	**20,977**	**20,850**	**-2.8%**
Construction	***23***	1,291	1,427	1,630	1,652	28%
Transportation & Public Utilities	***48-49, 22***	469	478	472	481	2.6%
Wholesale Trade	***42***	354	358	300	299	-15.5%
Retail	***44-45***	4,153	4,120	3,972	4,117	-0.9%
Eating/Drinking	445	866	835	890	984	13.6%
Finance, Insurance & Real Estate	***52-53***	1,111	977	981	1,007	-9.4%
Education & Health Services	***61-62, 81***	8,595	8,934	8,396	7,871	-8.4%
Health Services	62	4,304	4,671	4,367	3,739	-13.1%
Educational Services	61	3,367	3,383	3,171	3,253	-4.6%
Social Services	81	924	880	858	879	-4.9%
Government	***92***	1,156	986	1,021	972	-15.9%

Figure 3: Employment and Employment Change, Brunswick Micropolitan Area, 2010-2021 (Note: Shaded rows represent aggregated industrial categories, while rows in italic and normal font represent industries at higher levels of disaggregation.
**Due to the COVID-19 pandemic, data for 2020 may not be representative. Therefore, data for 2021 are included for comparison purposes.*

Of the (non-self-employed) jobs that exist within Harpswell's boundaries, the majority of those are in construction (18 percent), followed by educational services and retail trade, at about 13 percent each. Official numbers for wage and salary employment in the agriculture, forestry, and fishing sectors are small, however, these numbers mask the large numbers of self-employed individuals. Interestingly, the majority of those who work in Harpswell, regardless of place of residence, are male, while the majority of the workers who reside in Harpswell (regardless of place of work) are female. This may reflect the gender breakdown between goods-producing industries such as construction, and service-related industries such as health care and education.

Figure 4 shows that employment in Harpswell varies seasonally, with the peak employment in most sectors occurring in the summer, the third quarter of the year (yellow). These businesses provide necessary goods and services for town's residents, including water-related business, tourism-oriented services, general services, customer-oriented services, and professional 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.

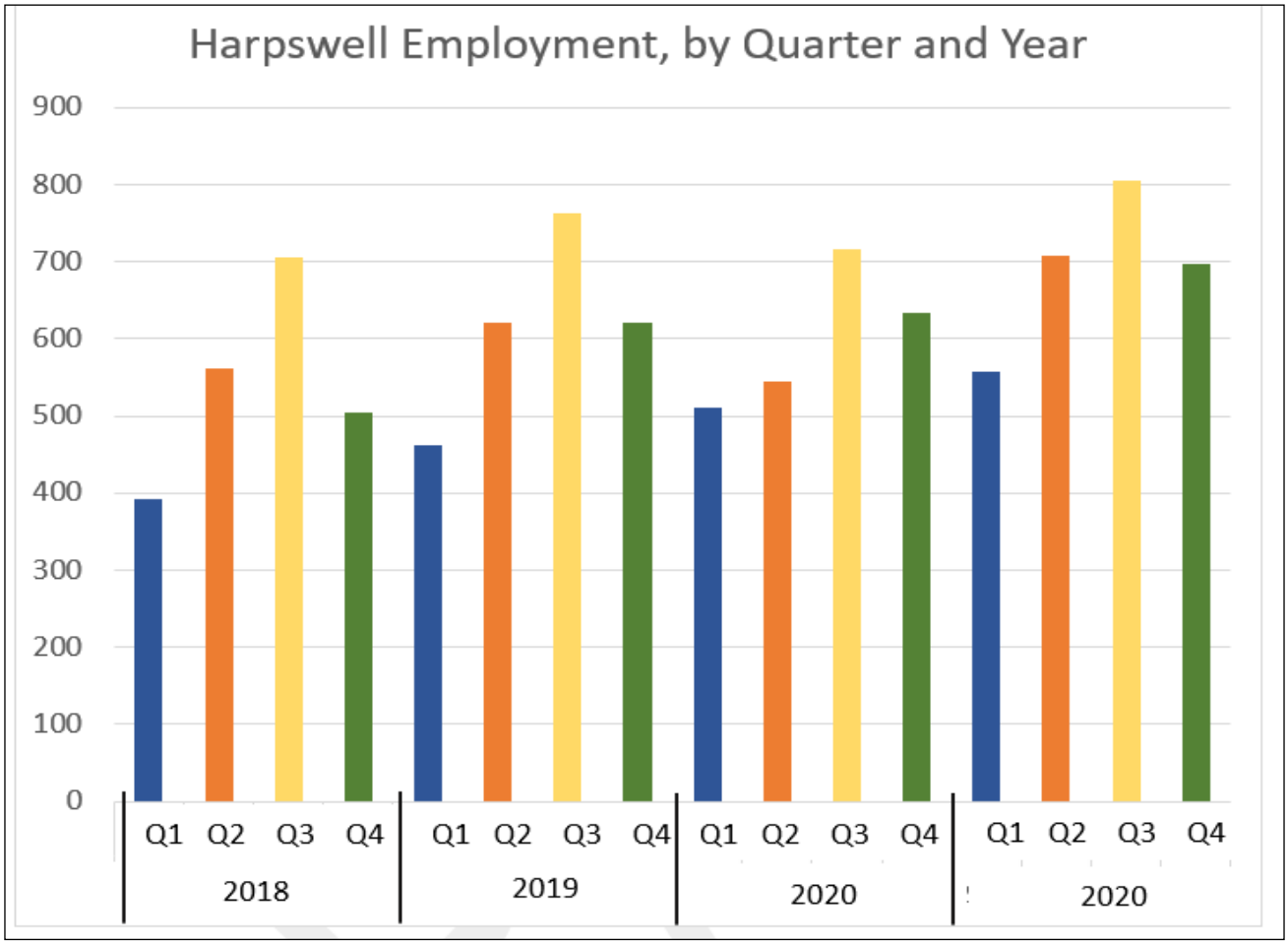


Figure 4: Harpswell employment numbers, broken down by year and quarter.

ECONOMY

Data from the Maine Revenue Services show that taxable sales in Harpswell increased from $11.9 million in 2007 (the earliest that data were available online) to $43.3 million in 2021. Even after adjusting for inflation, that is a substantial increase. However, the composition of those sales has changed.

In 2007, nearly 60 percent of Harpswell's taxable sales came from restaurants and lodging. The tax revenue from restaurants and lodging doubled over this time period. However, substantial growth in revenue from other sectors means that overall, restaurants and lodgings revenue now make up only 30% of the total tax revenue (see Figure 5). This diversification of Harpswell's tax revenues could make for a more resilient economy. This again indicates the changing nature of the Harpswell economy.

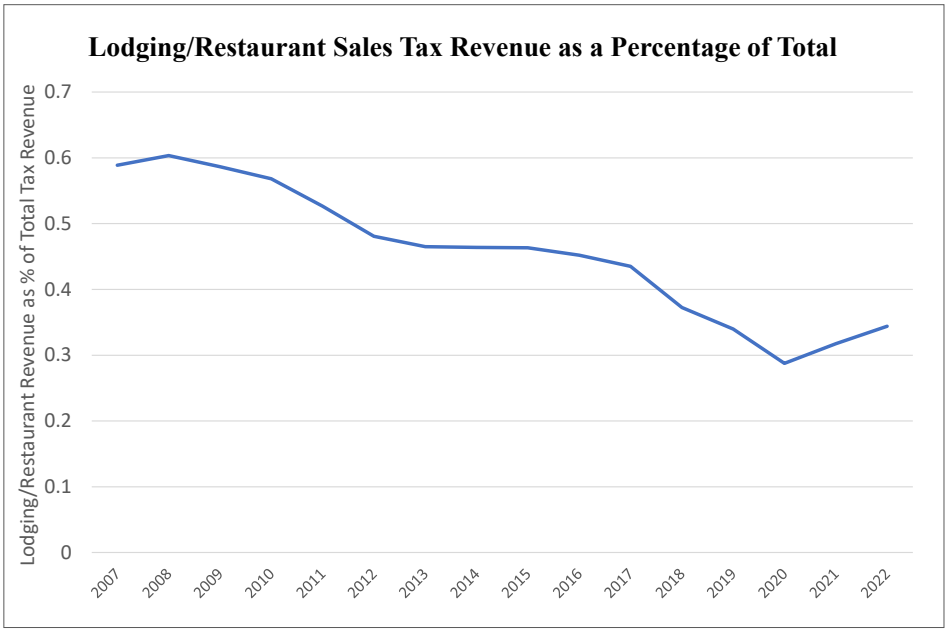
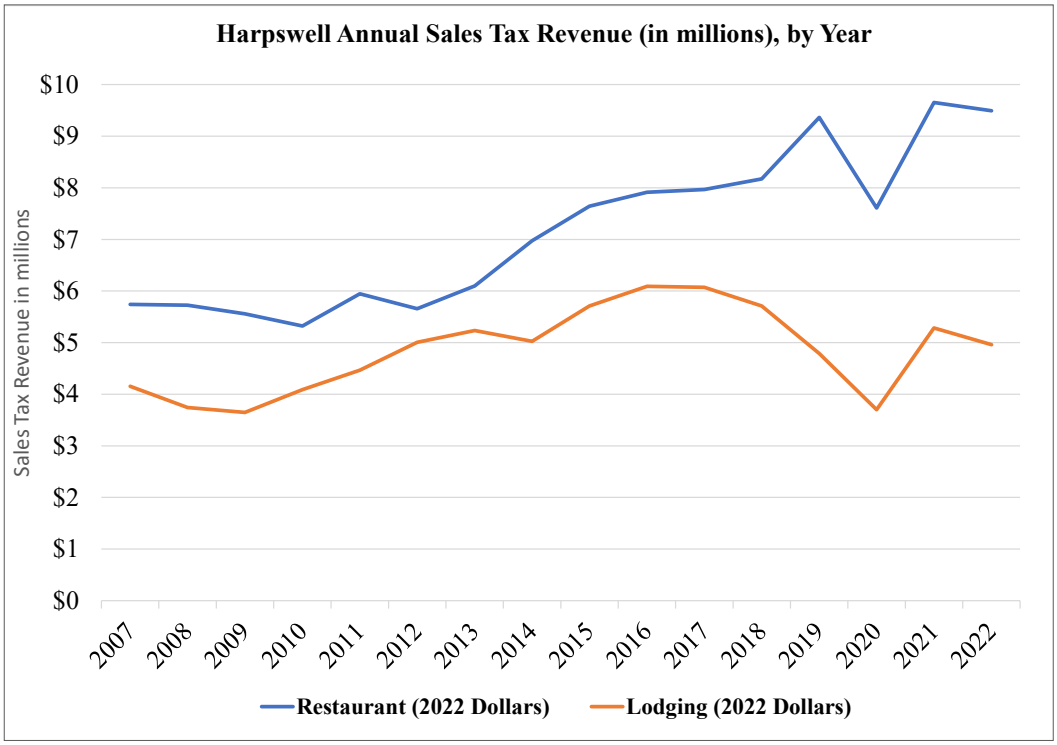


Figure 5: Lodging & restaurant sales tax revenue as a percent of the total sales tax revenue for Harpswell. Bottom, total sales tax revenue from restaurants (blue) and lodging (orange) industries.



Socio-Demographic Statistics

Figure 6 below shows that residents of Harpswell, overall, are significantly older, wealthier, and more educated than the rest of the state. A larger proportion of residents are not in the labor force than the rest of the county and state, most likely reflecting those who are retired.

Figure 7 shows that, between 2010 and 2020, the percentage of the residents of Harpswell that work in education, health care, and social assistance has increased, while the percentage that work in professional, scientific and management industries has decreased. Compared to the rest of the county and the state, the percentage that work in agriculture, forestry, and fishing is higher in Harpswell, as would be expected. Other percentages are not significantly different.

	Town of Harpswell		Cumberland County		State of Maine	
	2010	2020	2010	2020	2010	2020
Median Age	52.5	61.3	41.2	42.1	42.7	44.8
Average Household Size	2.13	2.05	2.32	2.32	2.32	2.29
Percentage of Single Person Households	26.20%	30.80%	29.95%	30.20%	31.05%	29.80%
Percentage of Population with HS Diploma	97.80%	96.30%	95.10%	95.30%	90.30%	93.20%
Percentage of Population with Bachelor's degree	44.50%	54.00%	44.4%	48.10%	26.80%	32.50%
Median Household Income	$65,030	$81,702	$58,562	$76,014	$45,815	$59,489
Per Capita Income	$33,962	$49,719	$31,652	$41,822	$24,950	$33,774
Median Family Income	$65,747	$103,871	$72,746	$96,774	$58,197	$76,192
Labor Force Participation	58.96%	57.62%	70.01%	68.79%	65.00%	59.90%
Unemployment Rate	6.50%	4.40%	6.80%	4.90%	8.40%	5.1%

Figure 6: Demographic, education, income, and employment data for Harpswell.

Industry	Town of Harpswell		Cumberland County		State of Maine	
	2010	2020	2010	2020	2010	2020
Agriculture, Fishing, and Forestry	5.4%	6.2%	0.8%	1.0%	2.5%	2.4%
Arts, Entertainment, Accommodation, and Food Service	4.9%	4.7%	8.9%	9.3%	8.1%	8.4%
Construction	6.4%	7.3%	5.9%	5.7%	7.7%	7.3%
Education, Health Care, and Social Assistance	18.2%	27.3%	25.7%	28.0%	25.8%	28.0%
Finance, Insurance, and Real Estate	4.4%	6.5%	9.2%	9.7%	6.1%	6.3%
Information	0.8%	2.7%	2.7%	2.3%	2.1%	1.6%
Manufacturing	9.6%	12.0%	8.0%	7.3%	10.1%	8.7%
Other services	6.5%	2.7%	4.1%	4.2%	4.5%	4.6%
Professional, Scientific, and Management	18.3%	13.0%	11.5%	12.6%	8.3%	9.2%
Public Administration	3.9%	1.5%	3.1%	2.7%	4.2%	4.4%
Retail Trade	13.1%	12.0%	13.2%	11.6%	13.6%	12.9%
Transportation and Utilities	5.5%	3.1%	3.3%	3.4%	4.0%	4.1%
Wholesale Trade	3.0%	0.9%	3.5%	2.2%	2.7%	2.0%
Average Travel Time to Work	33.4 min.	28.7 min.	22.6 min.	23.3 min.	23.3 min.	24.3 min.

Figure 7: Employment sectors in Harpswell, Cumberland County, and the state in 2010 and 2020

Resources

Maine Department of Labor

Maine Revenue Services

United States Census Bureau (OnTheMap)

United States Census Bureau

HISTORIC & ARCHEOLOGICAL RESOURCES

Introduction

What is now called Harpswell was once a part of a region called Pejepscot by the Native American Anasagunticooks who lived in this area. This region also included present-day Brunswick and Topsham, and was centered on the Androscoggin River, from which the name Pepjepscot comes (likely translating to "long, rocky rapids part"). The Anasagunticooks likely used Harpswell as a summer fishing camp (Local History, 2011).

The first permanent European settler in the area was Thomas Purchase, who arrived in the 1620s. More European settlers followed, intending to trade with the Anasagunticooks, but causing increased conflict with the local Native Americans. After a series of wars between the Native Americans and Europeans in the 1700s, the Europeans established a more permanent settlement. Harpswell was incorporated in 1758, and became a center of fishing, farming, and shipbuilding.

Today, Harpswell maintains its strong ties to its fishing and maritime heritage, and is increasingly known as a tourist destination. Among the notable people who have lived in Harpswell are authors Harriet Beecher Stowe and Robert P. T. Coffin, preacher Elijah Kellogg, arctic explorer Robert E. Peary, and poet Edna St. Vincent Millay (Local History, 2011).

Issues and Implications

Historic and prehistoric sites can shed light on our history, add to a community's sense of place and character, and foster understanding of the place we call home. Harpswell in particular is rich in archaeological resources, and the town has taken steps to preserve them, detailed below. Challenges ahead include preparing for climate change impacts on these resources, and balancing other land use needs with preservation. Protecting these resources is always a trade-off with other desires of the community. As we begin to think about the policy and practical implications of current development, it is important to think about the historic settlement patterns and how those have shaped the community.

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.

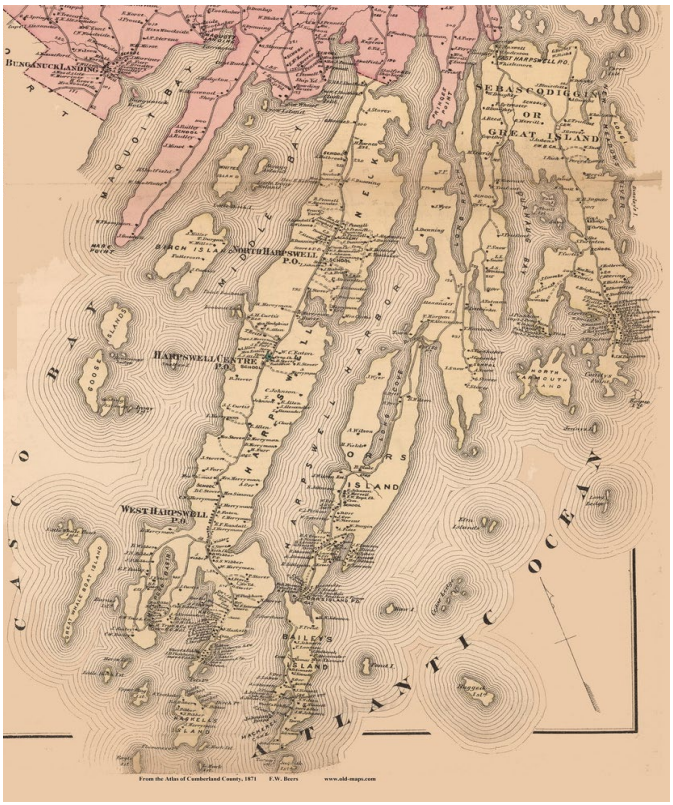


Figure 1: A historical map of Harpswell from the 1871 Atlas of Cumberland County, by F.W. Beers.

Archaeological Resources

Native American Archaeological Sites

Among the coves, islands, and forests of what is now Harpswell are the traditional lands of the Anasagunticook (or Androscoggin) band of the Abenaki tribe (part of the Wabanaki or Dawnland Confederacy). Part of what is now Harpswell Neck was once called Merriconeag, which some translate to "easy portage." Harpswell was likely used as a summer fishing camp, and there are numerous shell middens along Harpswell's shores.

The Maine Historic Preservation Commission (MHPC) has subjected most of Harpswell's shoreline to reconnaissance archaeological surveys. The MHPC has provided Harpswell with a series of topographic maps of the town marked to show "prehistoric archaeologically sensitive areas" (Figure 3). As of May 2020, the number of these sites identified is 226. None of these sites are currently listed on the National Register and all are located in the shoreland zone. At least one of the identified sites has been destroyed by construction within the shoreland zone between April 2002 and October 2003.

Colonial and Early American Archaeological Sites

As of May 2020, the Maine Historic Preservation Commission has identified 33 historic archaeological sites. Of those 33 sites, 16 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 May 2020). MHPC also suggests that future field work could focus on the site relating to the earliest European settlement in Harpswell, dating to the seventeenth century.

Figure 2: A shell midden in Harpswell (location not disclosed for protection of the site).

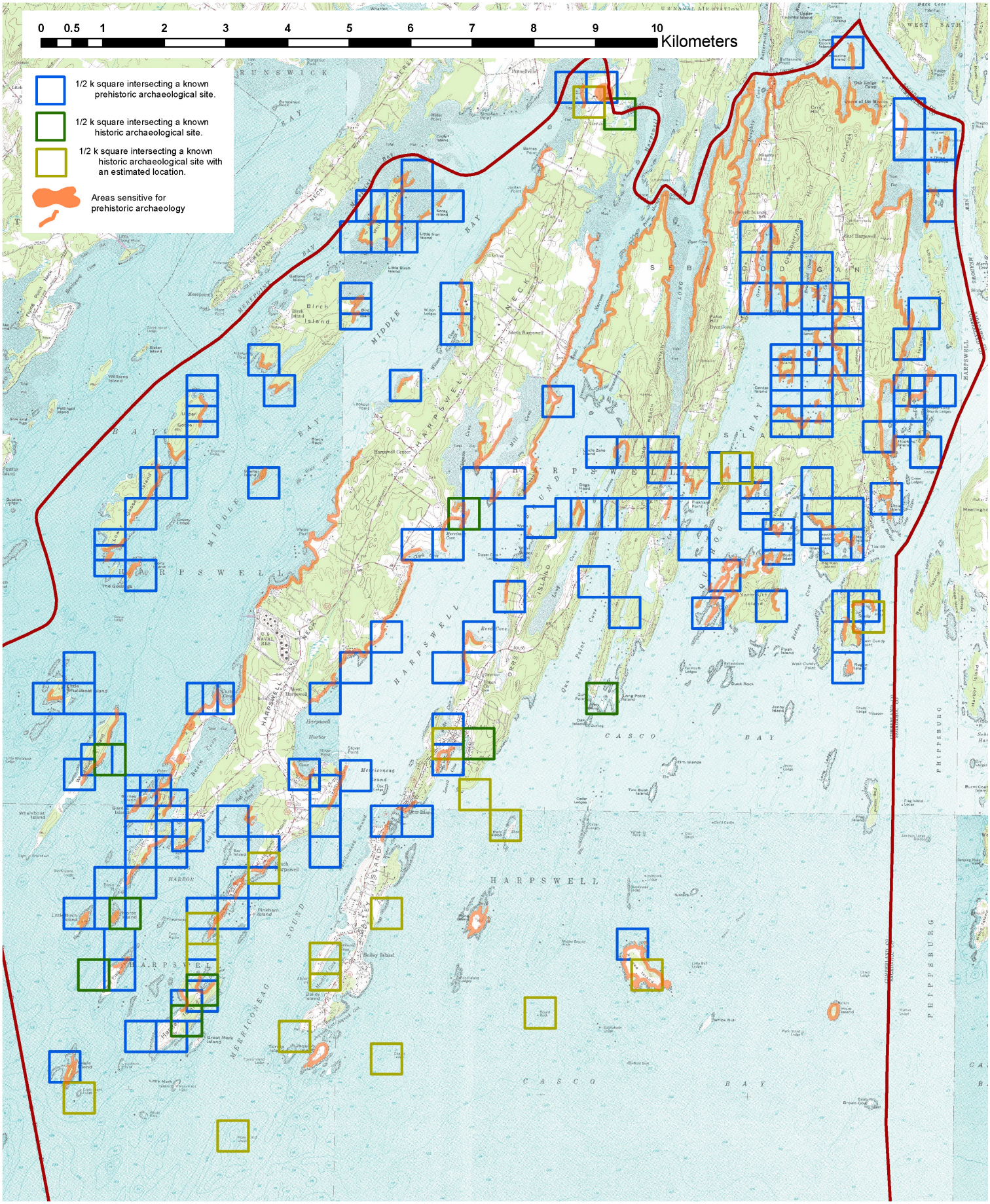


Figure 3: Known Archaeological Sites and Areas Sensitive for Prehistoric Archaeology in Harpswell, as of May 2020. It has not changed since 2008 (Map created by Maine Historical Preservation).

Historic Resources

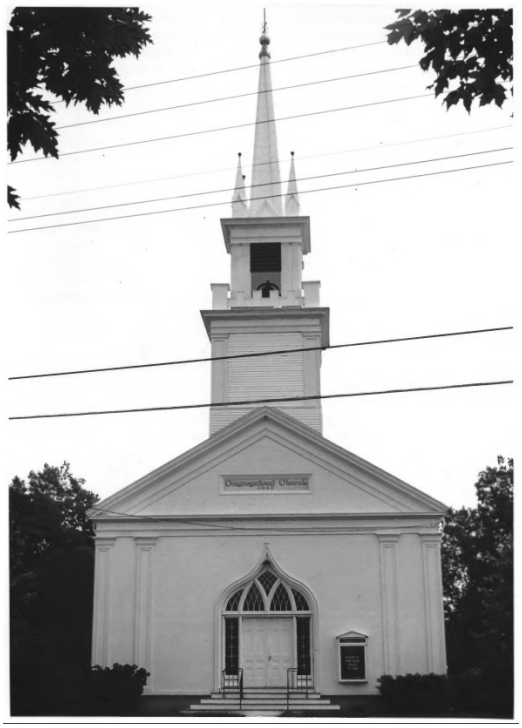
Due to its early settlement and its pattern of villages, Harpswell is rich in historic buildings and structures. There are ten individual buildings, a bridge, an island, and a historic district that are listed on the National Register of Historic Places. These are:

Harpswell Meeting House
Eagle Island (National Historic Landmark)
Elijah Kellogg House
Bailey Island Cobwork Bridge
Merriconegan Farm
Elijah Kellogg Church
Auburn-Harpswell Association Historic District
Halfway Rock Light
East Harpswell Free Will Baptist Church
Union Church
Deacon Andrew Dunning House,
Tarr-Eaton House
Union Hotel
Bailey Island Library Hall
Little Mark Island Monument
Capt. Johnson H. Stover, Jr. House
Merriconeag Grange #425
Greene Cottage

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, beyond requiring a historic review for federally-funded projects.

Figure 4: Clockwise from above, the Union Hotel, the Elijah Kellogg Church, and the Bailey Island Bridge.

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. Although the NRHP is national in scope, it can include properties based on their local significance.



HISTORIC & ARCHEOLOGICAL RESOURCES

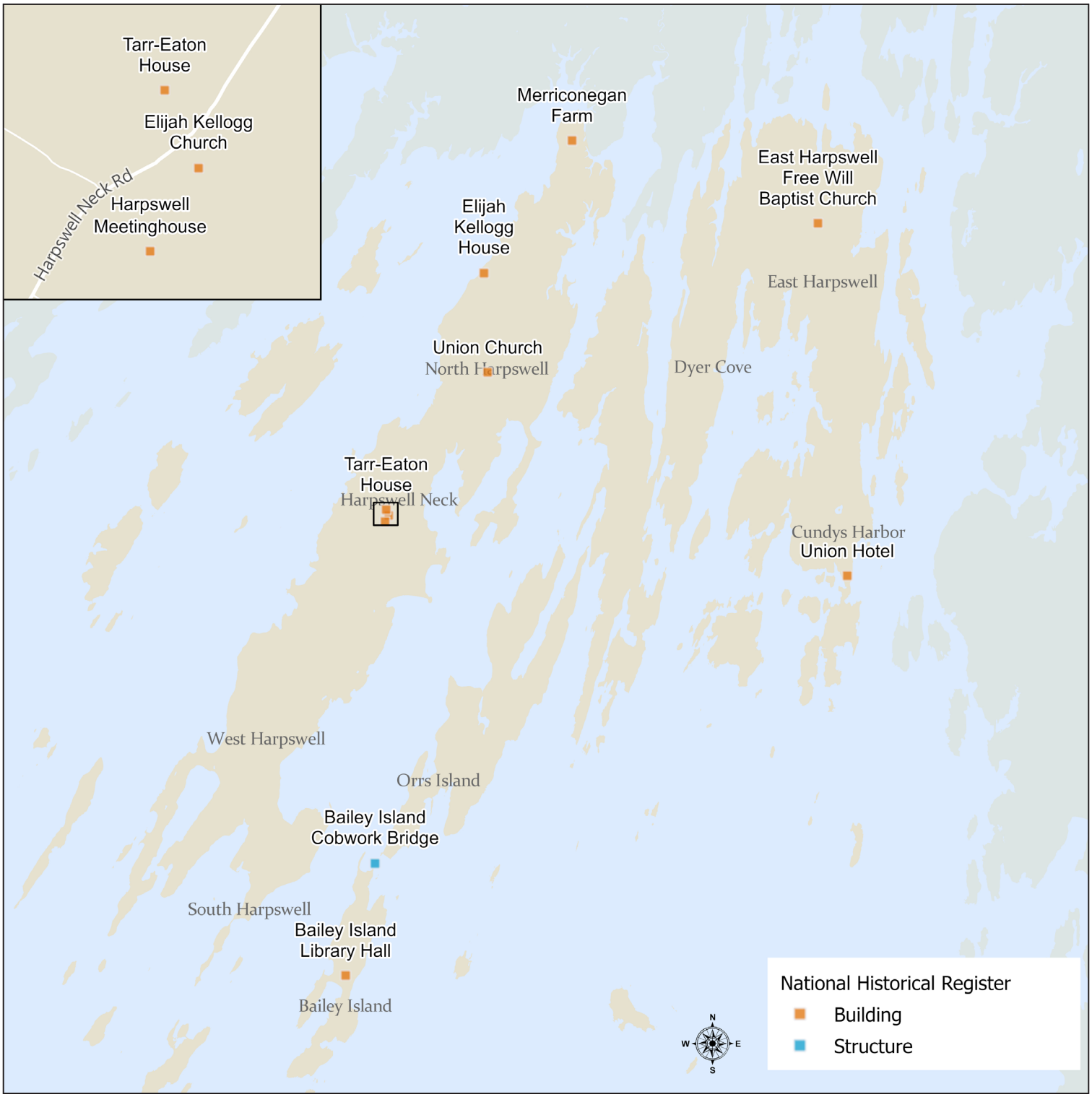


Figure 5: Sites listed in the National Register of Historic Places in Harpswell.

Harpswell Historical Society

There is an active well-established historical society in Harpswell, which is called the Harpswell Historical Society. The Society plays a meaningful role in promoting knowledge and awareness of Harpswell's history and important historic structures. It manages 6 historic properties and a museum, in addition to operating the Harpswell Historic Park in collaboration with the Harpswell Garden Club.

Climate Change

Climate change will likely have an impact on Harpswell's historic and archaeological sites (Figure 6). Sea level rise as well as changing storm patterns are likely to affect the coastline where most of the archaeological locations are found. Increasing intensity of storms may also impact older structures and have negative consequences on the ability to maintain those structures. Community members, municipal officers, planners, and members of the Harpswell Historical Society all need to be part of the discussion regarding how and which historic properties can be protected. The Maine Historic Preservation Commission (MHP) has created a webpage to assist towns throughout Maine with planning for the effects of climate change on historic properties and cultural resources (Climate Change and Historic Resources, n.d.).

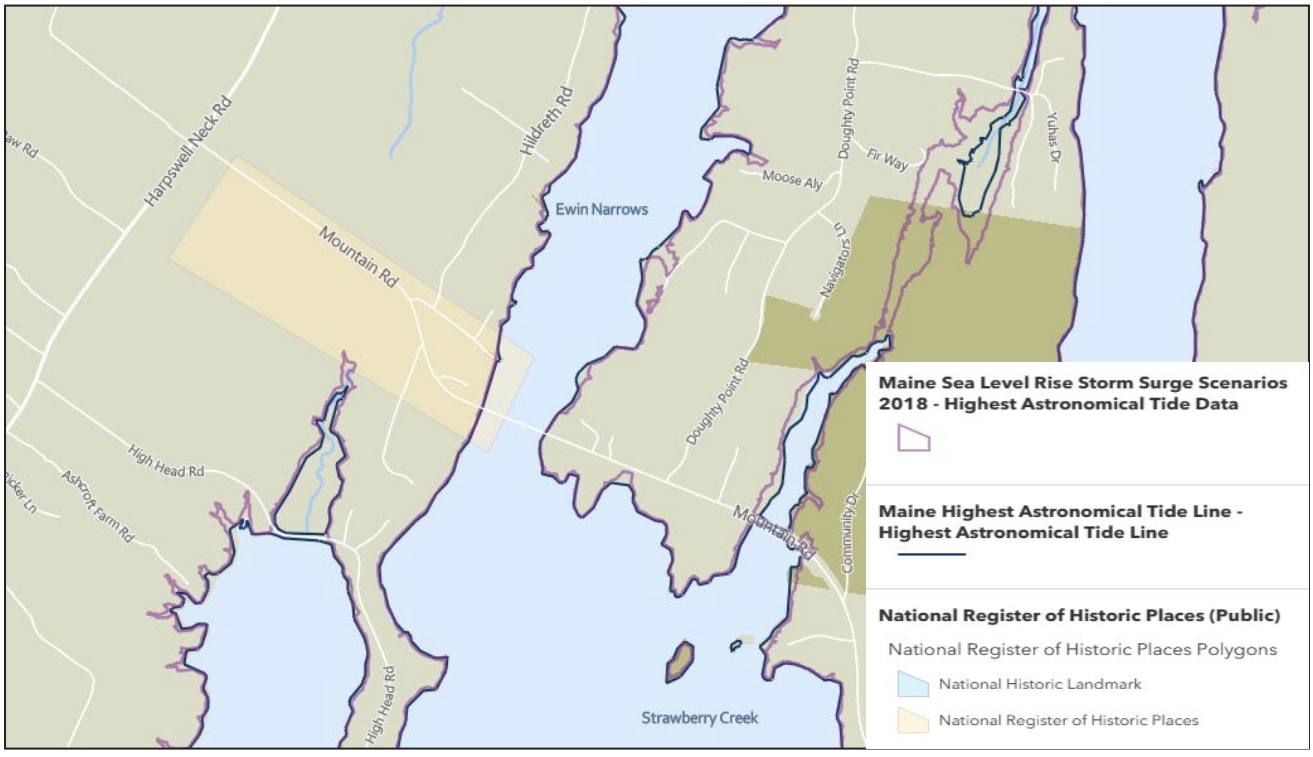


Figure 6: The Deacon Andrew Dunning House property (yellow) compared to a median sea level rise scenario of 6.1 feet above HAT (from the Maine Geological Survey). The property may be impacted by climate change, even though the structure is not within the 6.1 ft. line.

Protections & Considerations

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 archaeological 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*."

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.

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AGRICULTURE & FORESTRY

Introduction

At this point in time, neither agriculture nor forestry are economically vital to the community. There are only three remaining active farms, Merriconegan Farm, Two Coves Farm, and Sunset Hill Farm, and a handful of small woodlots. That said, it does not diminish the importance of existing and potential farms and woodlots. Both activities provide other important values to the community including but not limited to scenic resources, outdoor recreation in the forms of hiking, biking, skiing, and snowshoeing, wildlife habitat, groundwater recharge, carbon sequestration and cooling of the surrounding area as well as a reminder of historic uses of the land.

Issues & Implications

Programs and promotion of agriculture and forestry should be part of a larger effort within the community to protect appropriate natural, cultural, and historic areas as well as habitat and groundwater protection. It should be noted that to maintain healthy stands of trees, it is often important to plan for selective harvesting and understanding where and when that should take place. In the same way, open fields left unmown will rather quickly revert to their forested state. In both instances, it is valuable for the community to maintain both fields and forests in some locations and therefore, may want to review policies which impact on both the protection of and the development of these lands.

Policies can be designed to help strategically plan growth for certain areas while at the same time protecting agricultural uses of the land. At the same time, policies can be developed which help to ensure that existing farms continue as well as encouraging the development of future small-scale farming within the town. There are also opportunities to better understand and support the role these lands play in carbon sequestration. Thoughtful land use guidelines and policies will help maintain the scenic and natural benefits provided by Harpswell's farms, fields, and forests.

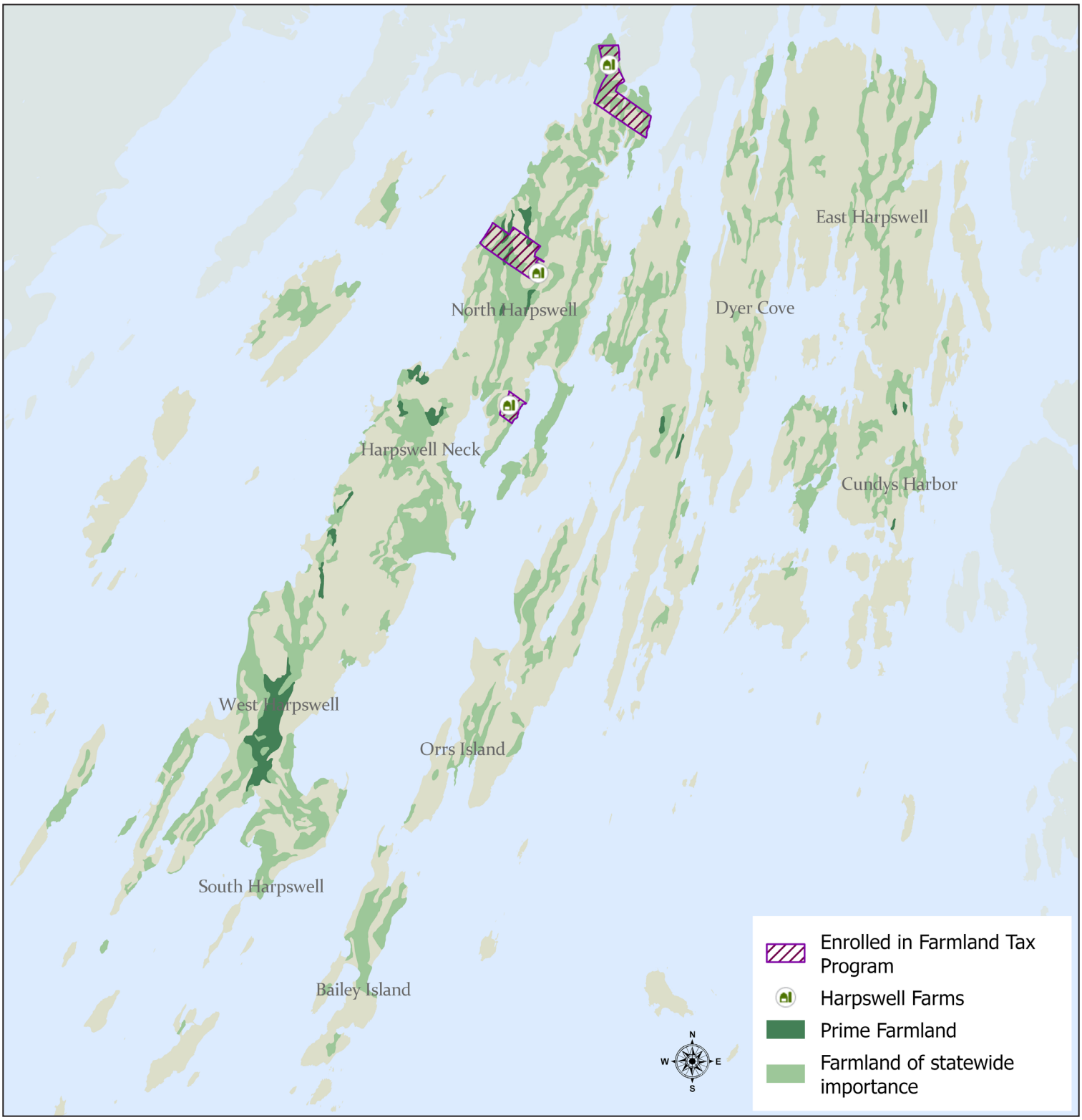


Figure 1: Parcels enrolled in the Farmland Current Use Tax Program as of 2022. Also shown: soils categorized as prime farmland or farmland of statewide significance in Harpswell, according to the National Soil Survey.

Agriculture in Harpswell

Existing Agricultural Use

As in much of Maine, farming has decreased since its height in the 1800's and early 1900's. As the older generations retired, farms were abandoned and allowed to grow back to brush or timber. Of course, some of this land has been developed to provide housing for today's population.

According to data collected for the Farmland Tax Program, the existing farms in Harpswell in 2022 include about 37 acres of cropland, 64 in pasture-land, and 3 acres of orchards (Harpswell Tax/ Accessing Data, 2022).

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. 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 documented in this inventory.

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 sustained high yield of crops while using acceptable farming methods (Prime and Unique Farmlands, 2018). Understanding patterns of development and their impact on potential farming is important because prime farmland is a limited resource. These soils are 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 (NRCS Soil Survey Staff, 2022).

Visual Impacts of Agriculture

In 2022, there were 105 acres enrolled in the Farmland tax program, a significant increase from past years (Harpswell Tax/Accessing Data, 2022). These fields serve multiple purposes but for many citizens, the bucolic views of pastures provide a sense of peace and rural character for the community. The Merriconegan 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.

Figure 2: Curtis Farm Preserve (credit: Harpswell Heritage Land Trust)

Forestry in Harpswell

Existing Forestry Use

The state of Maine is approximately 89 percent forest cover and Harpswell reflects this in its own patterns of land cover (Woodall, 2022). However, only a small portion of Harpswell's land is enrolled in the Tree Growth Tax Program. Of the 15,304 acres of land in Harpswell, there were only 1,260 acres enrolled in 2022, a decline from 1,419 acres in 2004 (Harpswell Tax/Accessing Data, 2022). 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 (Current Land Use Programs, 2022).

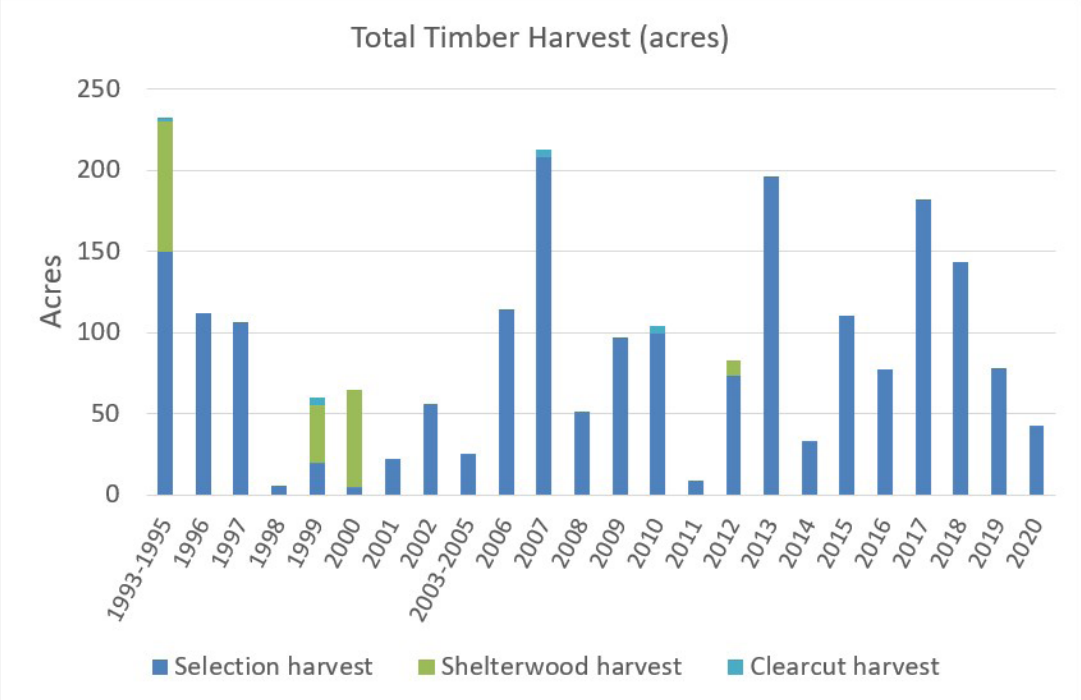
Forestry activities do not make a significant contribution to Harpswell's economy. There are a few citizens who cut timber for lumber and firewood and for clearing building sites. Many landowners will cut a few logs from their own land for their personal use. The chart below shows the general scale of timber harvesting operations in Harpswell (Figure 3).

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 has 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 soil types found in Harpswell are "prime forestland" (NRCS Soil Survey Staff, 2022).

Figure 3: Timber harvest data for Harpswell from 1993 through 2020 (Maine Forest Service 2022). To protect confidentiality of landowners, data is only reported where three or more landowners reported harvesting.



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

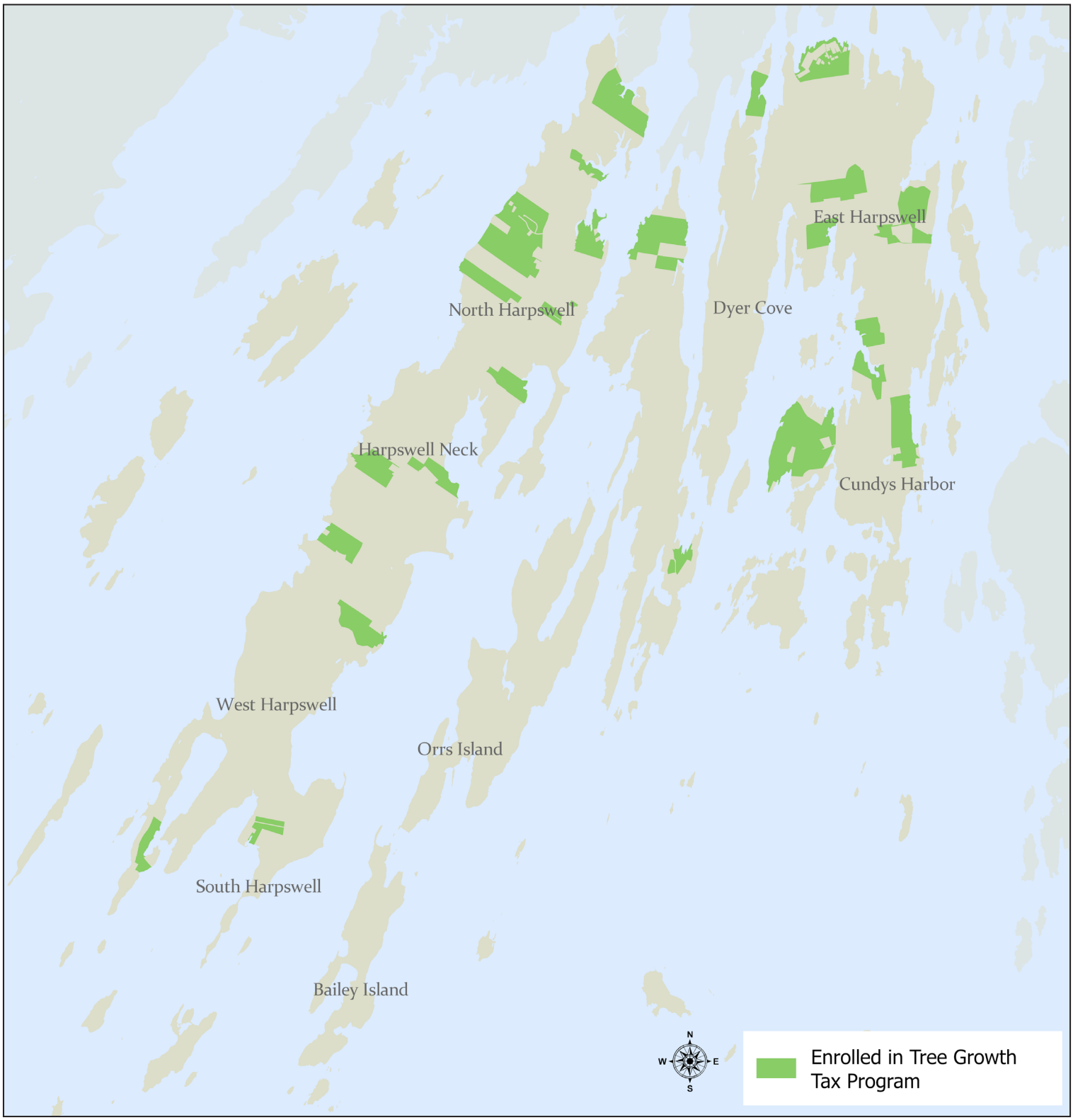


Figure 4: Parcels enrolled in the Tree Growth Current Use Tax Program in Harpswell as of 2022.

Carbon Sequestration

Strategy E in Maine Won't Wait, the state's climate action plan, is to "protect Maine's environment and working lands and waters" by "promoting natural climate solutions and increasing carbon sequestration" (Maine Climate Council, 2022). In a study of Maine's carbon cycle conducted by the Center for Research on Sustainable Forests between 2006-2016, about 60% of the state's carbon emissions are captured by its forests (Bai, et al., 2020).

This illustrates the importance of Harpswell's forests as a tool to capture and hold carbon from the atmosphere in the trees themselves, the soil, and in other organic matter. The management practices used on forests and other working lands play a big role in how much carbon is captured and stored. Some of these best practices for landowners are included in a report on soil carbon sequestration and storage in Maine to the Joint Standing Committee on Agriculture, Conservation, and Forestry. There is work underway to develop incentives for small woodlot owners to manage their land with carbon sequestration in mind. DACF plans to hire a forest resource management planner specializing in carbon and hire three new foresters, to "provide training and education to landowners and promote forest management practices that support adaptation and resiliency" (Maine Climate Council, 2022).

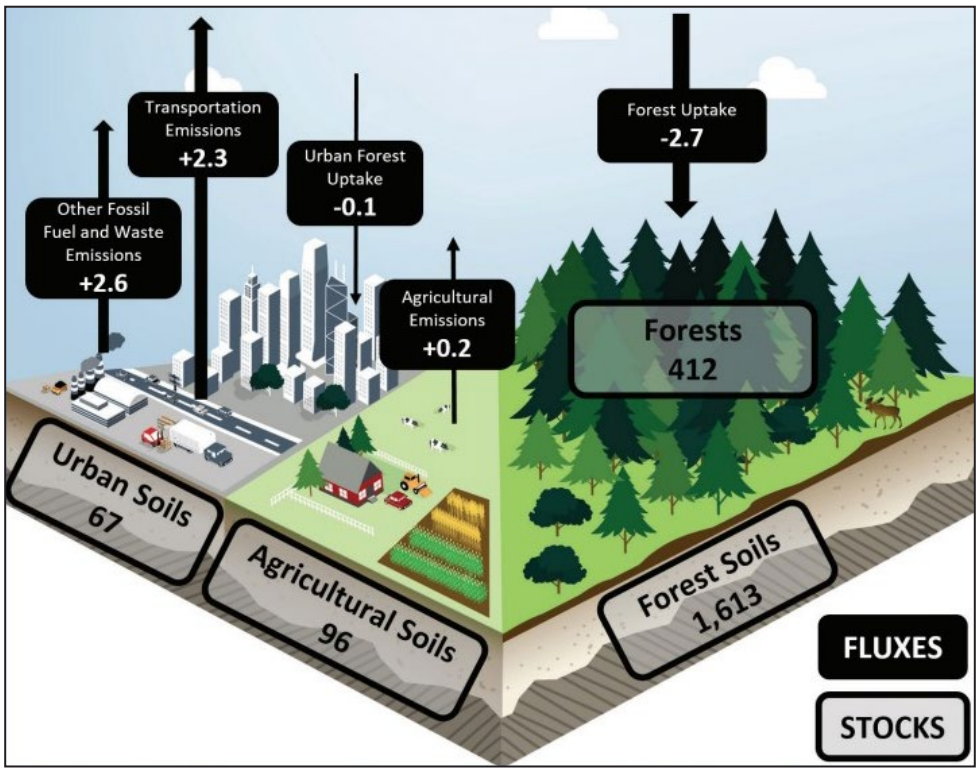


Figure 5: Carbon sectors in Maine's carbon budget, including 2,025 million metric tons stored by forests and forest soils.

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HOUSING

Introduction

In 2005, Harpswell was the least affordable community in the Bath-Brunswick housing market. As of 2022, Harpswell was no longer the least affordable, but still out of reach for 78 percent of the households in the area, according to data from the Maine Housing Authority. Nearly 34 percent of the housing units in Harpswell are seasonal homes.

The majority of the occupied housing units are single-family (92 percent). While there are some multi-unit dwellings, the majority of those are two-family. According to the American Community Survey, there are approximately 109 mobile homes on individual lots in Harpswell. New housing continues to be built in Harpswell at a slow, steady rate.

Issues & Implications

For the average household in Harpswell, and for nearly 78% of households in the Bath-Brunswick area, housing has become unaffordable. Increasing housing prices, influenced in part by an influx of permanent residents and an already low availability of affordable housing stock, is making it more difficult for renters, first-time homebuyers, older adults, and those in need of assisted living to afford housing.

There is also a lack of diversity in the housing choices available in Harpswell. There are very few two-family homes, and even fewer multifamily units, despite changes to the land use ordinance to allow Workforce Housing Units. In the past decade, no Workforce Housing units have been constructed.

Harpswell's lack of affordability impacts the ability of existing residents, such as young or working families, to continue to afford housing and for older adults to age in place. Harpswell will need to consider additional strategies to increase affordability and meet the housing needs of its community.

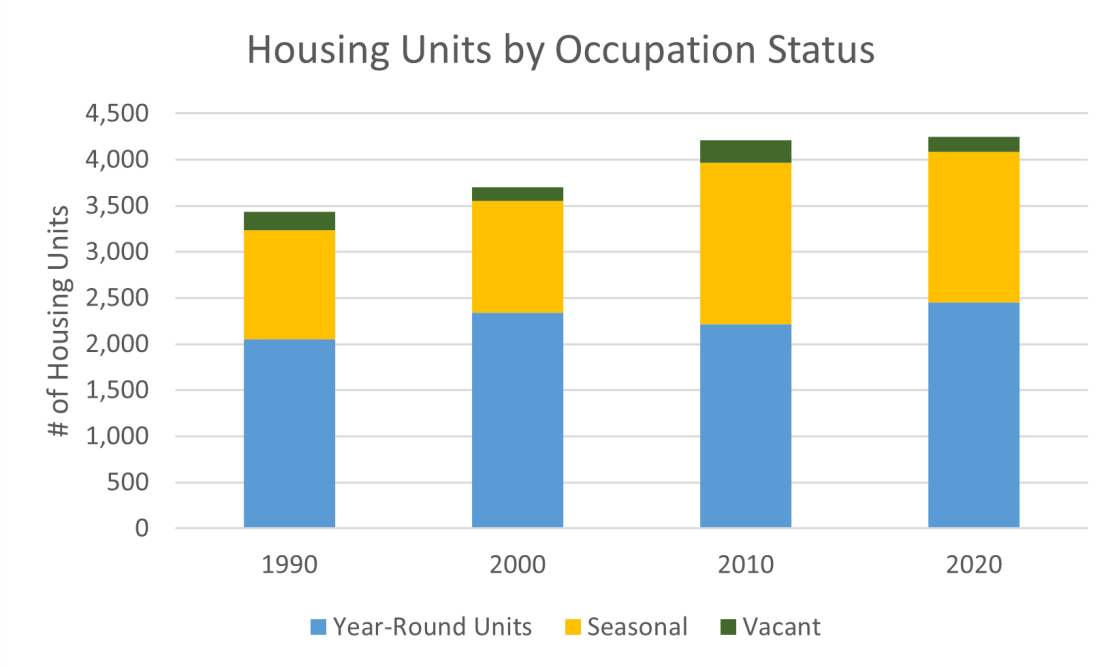


Figure 1: Housing Units Identified in Decennial Census, by occupation status.

Housing Trends

While the town continues to rely on the fishing and marine industries, Harpswell has also shifted toward a bedroom 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 $352,250 in 2015, to $470,000 in 2020. A family would have to earn over $112,000 to afford a home at the median sale price. Harpswell's median family income is $89,000. With this information, the Maine State Housing Authority deems Harpswell as an unaffordable place to live. Nonetheless, data show that individuals continue to move to Harpswell from elsewhere in the state, the county, and the country.

In 2020, 31.3% of households in Harpswell made incomes of $150,000 or more, increasing from 18.5% in 2015, and 12.6% in 2010. Although these data suggest that the incomes of people in Harpswell are rising along with the cost of housing, the preexisting shortage of housing that is affordable for renters, first-time homebuyers, elderly households and individuals in need of assistance with mobility and day-to-day living continues to grow.

The table below indicates that the total number of parcels in Harpswell has increased by about 200 since 2017. There is a corresponding increase in the number of resident-owned lots with building(s) and a decrease in the number of non-resident vacant lots. This suggests that non-resident land-owners are becoming full-time residents.

		2017		2022	
		Count	**Percentage**	**Count**	**Percentage**
Resident					
	Vacant Lot	582	12%	583	11%
	Building on Lot	2114	42%	2371	45%
	Total	**2696**	**54%**	**2954**	**57%**
Non-resident					
	Vacant Lot	740	15%	648	12%
	Building on Lot	1592	32%	1623	31%
	Total	**2332**	**46%**	**2271**	**43%**
Total Parcels		**5029**		**5225**	

Figure 2: Parcel and accessing data on the number of lots with or without buildings, broken down by resident-owned and non-resident-owned (Source: Town of Harpswell assessing data, 2022 and 2017).

HOUSING

Further increasing the pressure on housing is the downward trend of household size, both on a state, county, and town level. Figure 1 below shows how the household size in Harpswell has declined from an average of 3.05 to 2.11 people. From 2010 to 2020, the percentage of people living alone or in single person households is estimated to have increased from 27% to 28% (US Census).

Between 2000 and 2010, the year-round population of Harpswell decreased by 499 residents and the number of households decreased by 122. Then between 2010 and 2020, the population of Harpswell began increasing again, gaining 291 residents and 157 households. Despite a net increase of only 18 people between 1990 and 2020, the number of households increased by an estimated 324 in the same time period (US Census).

The map on the next page shows the development that has occurred in the town between 2013-2022. The town's building permits show steady growth between 2008 and 2022 of approximately 22 new single family homes per year. There are approximately 4 tear down and rebuilds each year, with a slight rise in this activity over the past 5 years. Tear downs do not create a new housing unit, but most often replace a smaller home with a larger one. These figures do not identify any of these homes which are used seasonally.

Short term rentals are another factor in the housing market. The website AirDNA tracks short term rentals through VRBO and AirBNB. The chart below reflects the number of rentals from 2020 – 2023. On August 11, 2023 the site identified 158 active rentals (that had at least one booking in the last month).

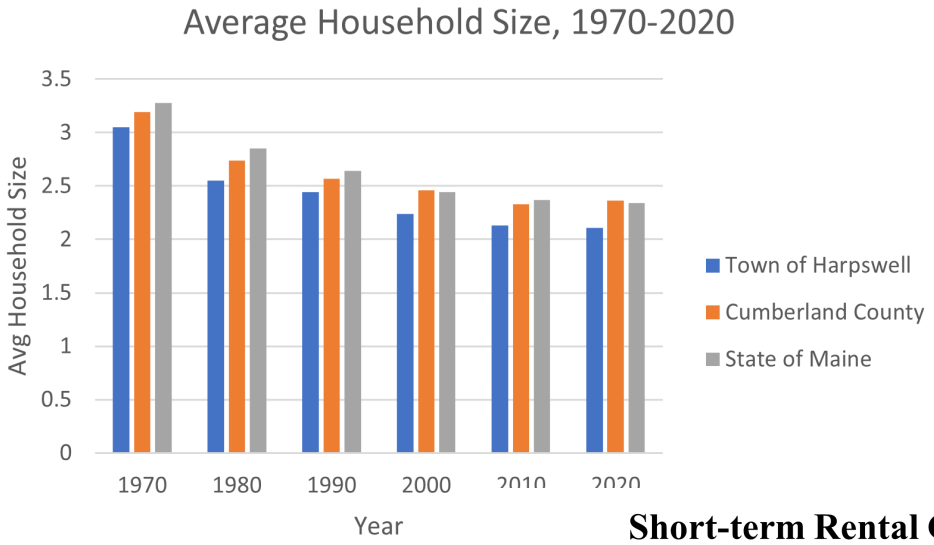


Figure 3: Average Household size in Harpswell between 1970-2020 (Source: US Census).

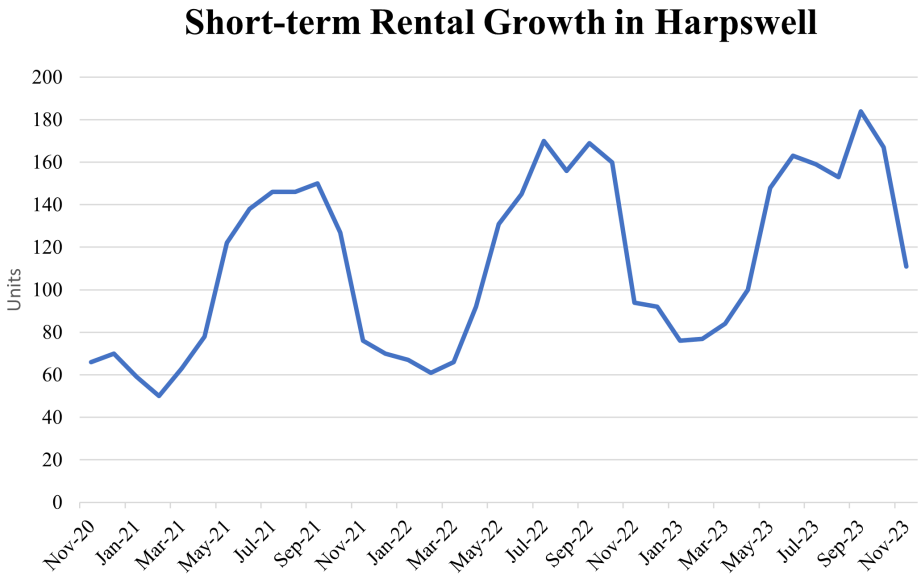
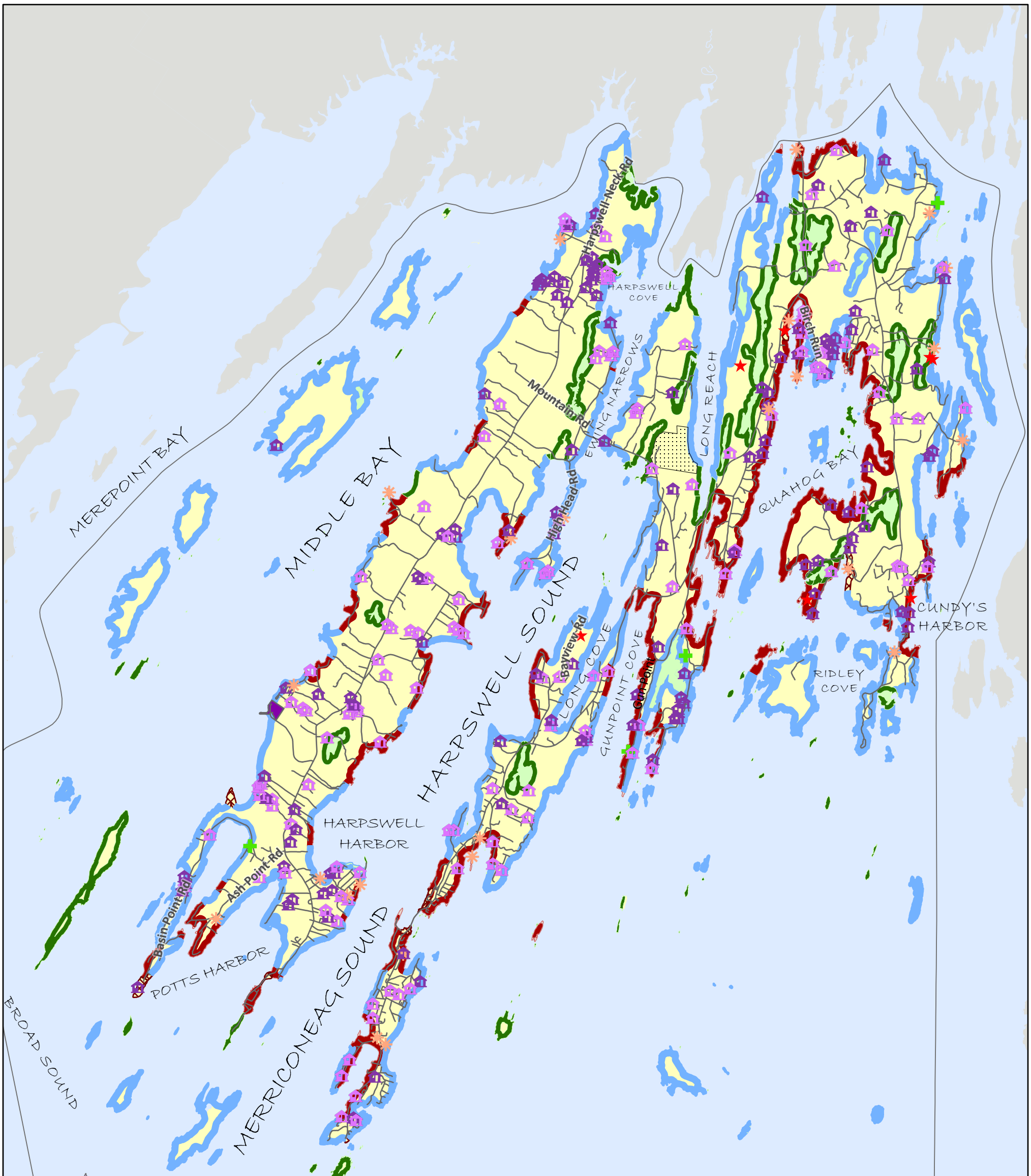


Figure 4: Chart displaying the number of active rentals from 2020 through November 2023 on AirBNB and VRBO. Source: airdna.co December 2023

Figure 5: On the next page, a map of recent development in Harpswell, between 2013-2022.

Placeholder for Recent Development Map



2025 Update of the Harpswell Comprehensive Plan

Building Permits (2013 - 2022)

Current Zoning

0 0.5 1

Miles

Date Printed: 1/2/2024

Building Permits (2013 - 2023)

- SFH 2018 - 2022
- SFH 2013-2017
- Tear Down/Rebuild
- Seasonal Conversion
- Commercial

- Interior Zone
- Commercial Fisheries Marine Activities 1
- Commercial Fisheries Marine Activities 2
- Shoreland Business
- Shoreland Residential

- Mitchell Field Marine Business
- Resource Protection
- Eagle Island Historic
- Tower District
- Zoned Wetlands

Housing & Land Use

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, 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 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 could be passed on to homebuyers. Every community tries to balance these competing community values.

In Harpswell, with a few exceptions, local land use regulations do not prohibit single-family housing development of any kind in the interior. The only restrictions on residential development are through Shoreland Zoning. Single family housing is allowed everywhere except in the Commercial Fisheries District I, whereas multifamily housing is prohibited anywhere in the Shoreland Districts. 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.

Since all multifamily housing greater than a duplex falls under subdivision rules, the 80,000 sf minimum would be necessary to build any triplex or larger apartment buildings. The exception is for Workforce Housing Units (discussed in greater detail on the following page), in which case the minimum lot size is 20,000 sq. ft. with multiple restrictions imposed on both the original land and the final subdivided lot.

Attainable Housing

All these statewide, regional, and local trends add up to a persistent and increasing shortage of affordable housing in Harpswell. The year-round housing stock in Harpswell consists primarily of owner-occupied single-family homes. There are limited opportunities for year-round rental housing that is affordable for local residents. Over the past decade there has been no construction of multifamily housing while the cost of purchasing a home has increased dramatically.

Recognizing the growing concern in the community about the lack of affordable rentals and smaller homes and the ability of local businesses and fishermen to hire and retain staff due to a lack of affordable housing, the Select Board created an Affordable Housing Working Group. The Select Board charged this group with developing recommendations for what the town and the larger Harpswell community can do to explore the housing needs of residents and ways to meet those needs. The full report of the Working Group, "Housing for Harpswell," is available on the town's website, here.

During this process, the Working Group decided to use the term "attainable housing" rather than affordable housing. As defined by the group, attainable housing is housing that is reasonably affordable for individuals and families who want to live in Harpswell but cannot afford the currently available housing. In some cases, these may be people with incomes that exceed the financial limits of various "affordable housing" programs.

HOUSING

Target Audience

Creating opportunities for attainable housing in Harpswell means creating housing that meets the needs of Harpswell residents, workers, family members, and others with connections to the community. The Working Group identified four segments of the Harpswell community for whom housing affordability is a significant issue including:

1. Fishermen, specifically sternmen and other crew members, as well as dock workers and those in affiliated positions.
2. Essential workers, including but not limited to teachers, firefighters, restaurant workers, clerks, secretaries, and those who build, repair, and maintain homes.
3. Young families, without whom the population will be increasingly comprised of retirees.
4. Elderly residents who wish to remain in town.

Figure 6: Houses in the Hamilton Place affordable development after completion in 2011.

Existing Workforce Housing Provision

In 2010, Harpswell updated its land use ordinance to include a section on workforce housing, "to provide and promote the acquisition and construction of housing that is affordable for current and future generations of Harpswell residents." This section develops standards for Workforce Housing Units (WHU) and a density bonus provision. However, no units have been built yet under these provisions. The only existing affordable housing in Harpswell is Hamilton Place, a 22-acre subdivision with 11 single family homes developed by the Greater Brunswick Housing Corporation.

The subdivision ordinance has been modified to allow for a density bonus if workforce housing is included, but the rules are rather complex. In addition, Harpswell's ordinance has been updated to specify that all new development "shall be designed to minimize storm water runoff from the site in excess of the natural pre-development conditions". Modifications have also been made to accommodate the building of accessory dwelling units. Further modifications may be required in conjunction with state rules related to housing affordability.

Barriers to Creating Attainable Housing

The Affordable Housing Working Group identified a number of factors that make the creation of attainable housing difficult or infeasible in Harpswell. These factors include the following:

Available Land – The development of new attainable housing requires that developable land be available at a reasonable cost per unit. In general terms, the builders of attainable housing cannot compete against the builders of large single-family homes in their ability to pay to purchase land. The construction of new attainable housing will require that lower-cost land be available for this purpose.

Concern About the Adequacy of Groundwater Supplies – Concern about the potential impacts of new development on the long-term availability of groundwater has fostered a sense that all new development should be restricted. This creates an unwillingness to consider ways to increase opportunities to create attainable housing. Addressing the development of attainable housing in ways that do not significantly impact groundwater is therefore important.

Town Land Use Regulations – The town's land use ordinances, including the Shoreland Zoning Ordinance, Basic Land Use Ordinance, and Subdivision Ordinance currently include provisions that make the creation of attainable housing difficult or impossible. This includes the treatment of multifamily housing, lot size requirements for attainable single-family homes, limitations on repurposing single-family homes, and provisions for accessory residential units or ADUs.

Figure 7: The Housing Workshop held by the town's Affordable Housing Work Group in August 2023 (credit: J. Craig Anderson).

Resources

Housing and Rental Affordability Index for Maine, Maine State Housing Authority
American Community Survey, 2020 and 2022
United States Decennial Census, 2000, 2010, 2020
Basic Land Use Ordinance, Harpswell Maine (as amended April 23, 2002)
New Affordable Housing Law Summary for Municipalities, Maine Municipal Authority
Town of Harpswell Assessing and GIS Data 2022
Town of Harpswell Building Permits 2008-2021
Creating Opportunities for Attainable Housing in Harpswell, prepared by the Affordable Housing Working Group

CURRENT LAND USE

Introduction

Harpswell's geography, consisting of long, rocky peninsulas and islands, has led to a historic development pattern that was based on proximity to the sea, which provided (and still provides) transportation and livelihoods. In recent years, the growth of Harpswell's population has driven an increase in development, and has increased the strain on attainable housing. In order to ensure that future growth is in line with the community's needs and vision, Harpswell will need to consider recent and historic land use trends and adapt its future land use approach accordingly.

Issues & Implications

Harpswell will continue to see upward price pressure and development pressure on coastal properties. It is likely that there will be continued development of existing unbuilt lots and some division of larger lots to create more residential lots. The town will need to be thoughtful about how to address the growth that will occur in the next 10 – 15 years. Due to the geographic nature of Harpswell, all lots depend on subsurface waste disposal and wells. This will limit the development potential of lots. At the same time, there is a desire to create more attainable and varied housing types to support local workforce development.

The data show that most of the development in Harpswell is residential. In the ten years prior to this comprehensive plan, there has been less development compared to the ten years prior to the previous comprehensive plan. Most of the development has occurred along the shoreline, near or in the shoreland zones. This will continue to put pressure on the cost of lots within the town. Commercial development has been slower, continuing apace with previous years.

Traditional development patterns in the town have centered around various villages. This has been an important part of the identity of Harpswell. Consideration of how to maintain and enhance the villages should be part of any discussion on development and land use in Harpswell.

Development pressure will continue to be a significant factor in Harpswell, which will have implications for the town's goals and priorities for other topics. Some of these goals include protecting groundwater, making sure the rural character of the community is maintained, providing workforce housing, and meeting the needs of the fishing community.

CURRENT LAND USE

Historic Land Use Patterns

Harpswell consists of two long, narrow, parallel rocky land masses stretching from northeast to southwest. Rock outcroppings occur with great frequency in shoreline areas but can also be found in several inland areas. From almost anywhere, it is no further than a half mile to the ocean. Harpswell is approximately 15,304 acres, of which 2,200 acres are on outer islands.

There are over 216 miles of shoreline. Forty-one miles of the shoreline 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 surrounded by water. There are also some 40 outer islands of various sizes, some of which are partially inhabited in the summer.

The eastern land mass consists of three large islands: Great Island (Sebascodegan), Orr's Island, and Bailey Island. These are connected to the mainland by four bridges. With the completion of the bridge between Orr's and Bailey islands in 1927, all these islands were then accessible from the mainland by road. All access to both sides of Harpswell passes 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 near the ocean and to use it for transportation. Until shortly after World War II, South Harpswell, Orr's and Bailey Islands received mail and some freight by boat from Portland.

Isolated fishing villages grew up at various spots around protected harbors. Among these were Cundy's Harbor on Great Island, Mackerel Cove on Bailey Island, and Potts Point in South Harpswell. In other areas, 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 shorefront property has been sold for summer or full-time residences.

Current Zoning

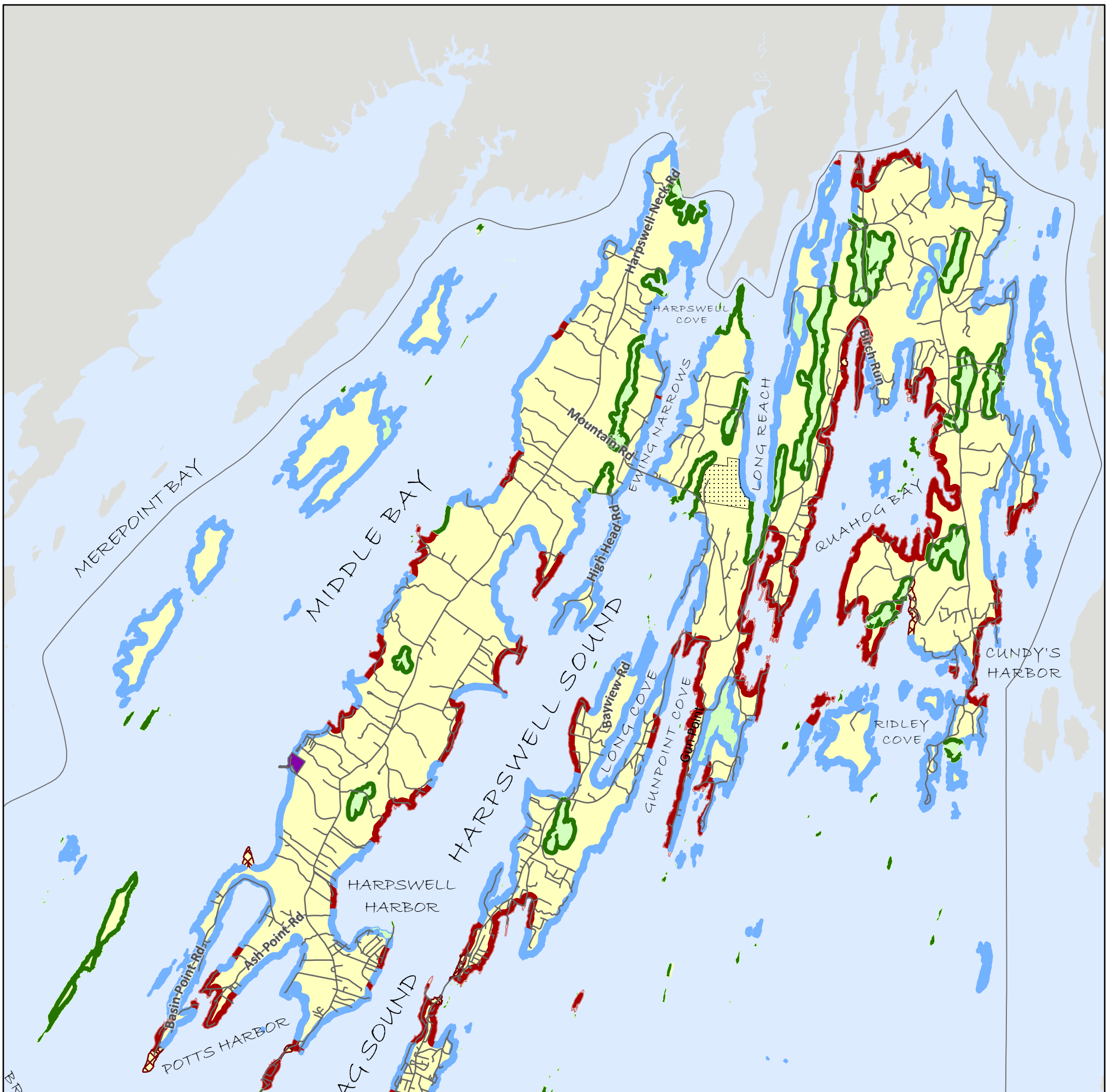
The town currently has two ordinances which regulate land use, the Shoreland Zoning Ordinance, and the Basic Land Use Ordinance. There is also a Site Plan Review Ordinance and the Subdivision Ordinance which regulate the development of land. These ordinances are used by the Planning Board to review projects and work with private developers to ensure the orderly, equitable development of the town. The Planning Board is made up of 5 members and 2 associate members appointed by the Select Board. The town currently employs a part time planner and a newly-appointed full-time planner to assist with the application of the land use rules, among other responsibilities. The codes office is tasked with enforcement and monitoring of the town's land use ordinances.

The Basic Land Use Ordinance defines a series of shoreland zones and a singular interior zone that encompasses the majority of the town. (See Figure 1).

CURRENT LAND USE

Placeholder for Current Zoning Map

2025 Update of the Harpswell Comprehensive Plan Current Zoning



CURRENT LAND USE

The current dimensional standards for the Interior Zone are as follows:

Interior Zone	**Lots (Not within a Subdivision)**	**Subdivision Lots**
Min Lot Size	40,000 sf	80,000 sf
Road Frontage	150'	150'
Setbacks (primary building)	40' Front, 20' Side/Back	
Lot Coverage	20%	20% or 7,500 sf if flex subdivision lot < 40,000 sf

The Shoreland Zoning Ordinance defines several districts:

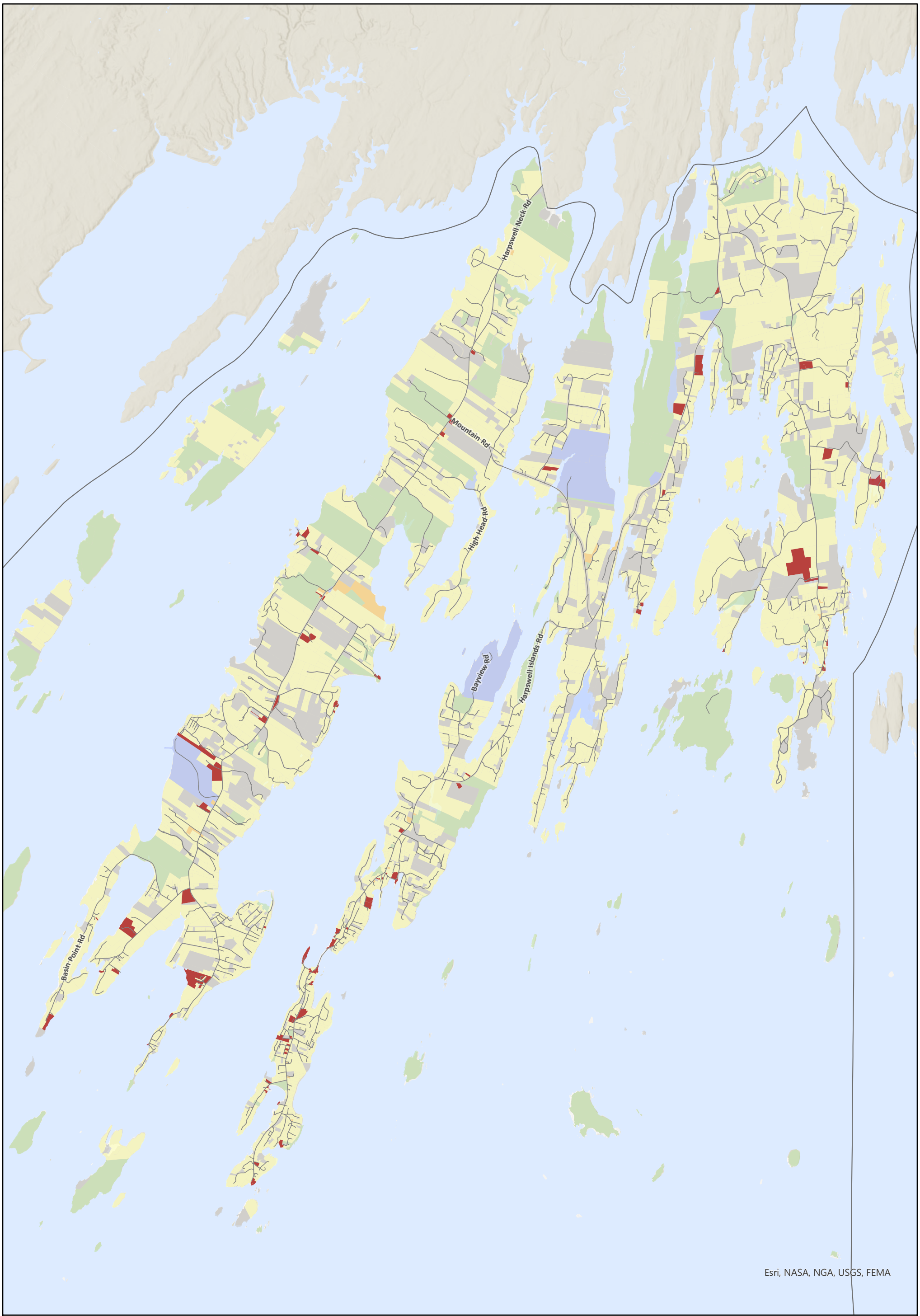
Districts	**Description**
Resource Protection	Areas where development would adversely affect water quality, productive habitat, biological ecosystems, or scenic and natural values. It includes areas within 250 ft of coastal wetlands, moderate or high value waterfowl and wading bird habitat, FEMA Flood Hazard Zones for the 100 yr flood, 2 or more acres of sustained 20% slopes, 2 or more acres of wetland vegetation, and areas with steep coastal bluffs.
Shoreland Residential	Areas of mixed residential, recreational, and light commercial development. Home occupations, including but not limited to commercial fishing are allowed.
Shoreland Business	Areas made up of at least 1 contiguous acre of mixed light commercial and residential uses. Industrial uses are prohibited.
Commercial Fisheries I	Land within 75 ft from the Highest Annual Tide (HAT) of coastal wetlands and areas with an existing predominant pattern of development is consistent with the allowed uses for the district, and other areas which are suitable for functionally water-dependent uses. The CFI excludes residential uses.
Commercial Fisheries II	Land from the CFI to 250' inland from the HAT (175' total distance from CFI). CFII allows residential uses.
Mitchell Field Marine Business District	The areas of Mitchell Field within 250' of the HAT of the coastal wetland and the adjacent upland area that is greater than 250' from the maximum high-water line.
Eagle Island Historic District	Comprised of the land of Eagle Island and is intended to protect, enhance, and perpetuate the landmarks of historic and cultural importance.

CURRENT LAND USE

In Figure 2, the Harpswell Current Land Use Map shows how land is used within the town as of 2022. 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. There are clearly defined village areas with more dense development. Commercial and industrial properties are scattered throughout the community.

CURRENT LAND USE

Placeholder for Current Land Use Map



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Date Printed: 2/16/2024

2025 Update of the Harpswell Comprehensive Plan

Current Land Use

Current Land Use (2022)

- Residential
- Conservation/Recreation/ Common Open Space/ Cemetery
- Civic/Churches
- Government/Education
- Commercial
- Working Waterfront
- Vacant
- Road
- Utility
- Water

Residential Development

Approximately 252 new dwellings were built from 2013 to 2022, which is an average of 25 houses per year. This is a reduction from the previous comprehensive plan which reported an average of 50 homes per year in the period between 1992 – 2001.

The majority of new dwellings built were single family homes built on site. There were a few with modular construction and only two new mobile homes. The new homes were distributed across Harpswell in the following way:

- 14 (6%) on Bailey Island
- 20 (8%) on Orr's Island
- 105 (42%) on Harpswell Neck
- 83 (33%) on Great Island

There were 42 new subdivision lots approved, within four subdivisions from 2013-2022. Those subdivisions included:

- Tondreau Point – 7 lots (2015)
- Clemmons – 12 lots (2015)
- Saltwater Reach – 12 lots (2018)
- Quahog Farms— 11 lots (2019)

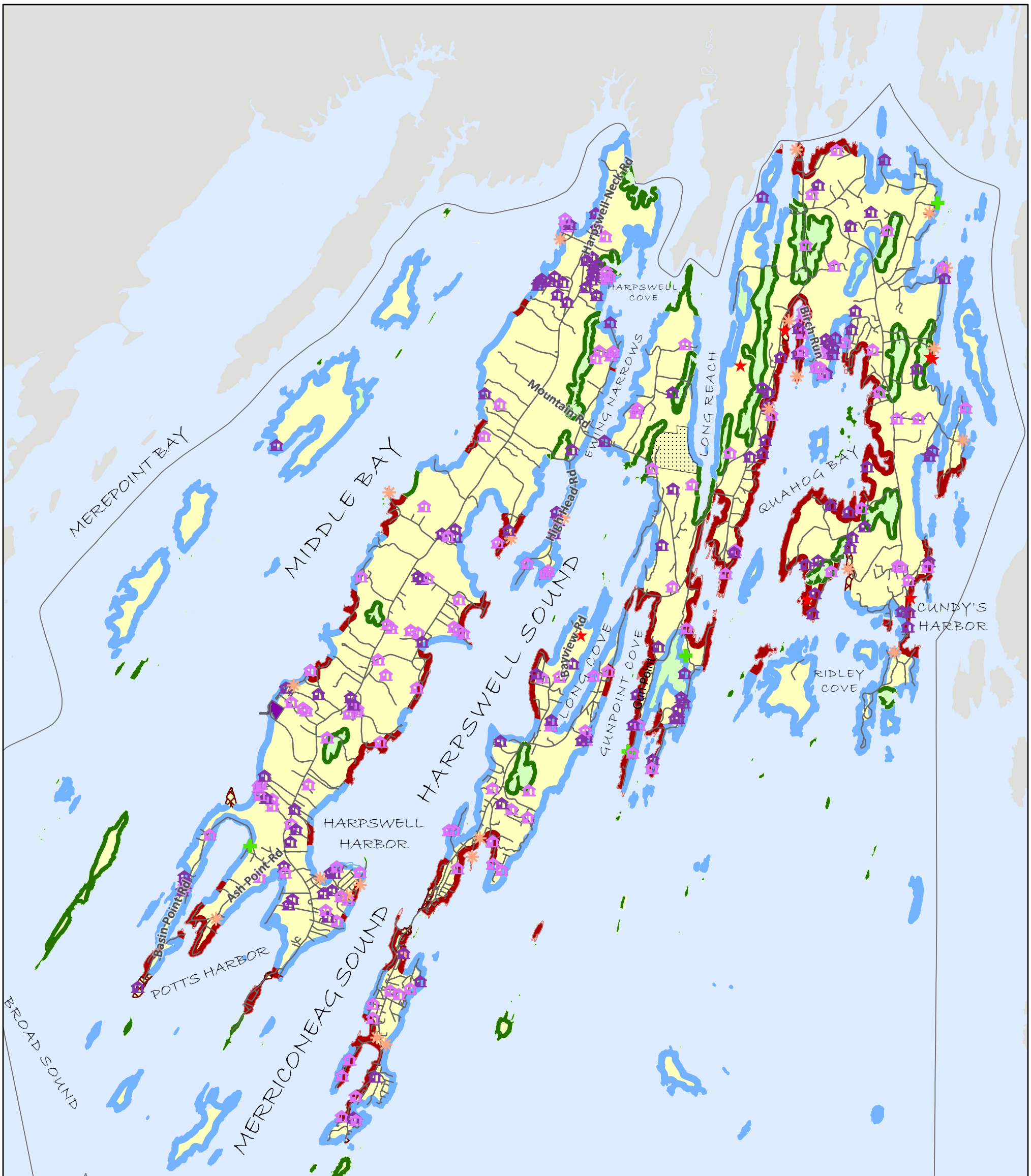
Out of the 252 residential permits issued, 145 lots (approximately 57%) are at least partially in the Shoreland Zone. Of those, 56 lots (approximately 22%) are in the Commercial Fisheries District. There are 54 lots with new residential units that are less than 40,000 sq. ft., 34 of which are within the Shoreland Zone.

In the past 10 years, there have been 49 teardowns and rebuilds. This does not increase the total number of housing units or lots but may increase the intensity of use on a given parcel. Through this process, eight seasonal residences have been converted to year-round dwellings.

There is no particular pattern to the development that has occurred in the last 10 years, it is fairly evenly placed throughout the town. The recurring story is that most of the development has taken place as close to the shoreline as possible for any given lot. See Figure 3 for the location of development in the last 10 years.

Figure 1: Development pattern in Harpswell (photo credit: Jamie Hark)

Placeholder for Recent Development (10 years) Map



2025 Update of the Harpswell Comprehensive Plan

Building Permits (2013 - 2022)

Current Zoning

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Miles

Date Printed: 1/2/2024

Building Permits (2013 - 2023)

- SFH 2018 - 2022
- SFH 2013-2017
- Tear Down/Rebuild
- Seasonal Conversion
- Commercial

- Interior Zone
- Commercial Fisheries Marine Activities 1
- Commercial Fisheries Marine Activities 2
- Shoreland Business
- Shoreland Residential

- Mitchell Field Marine Business
- Resource Protection
- Eagle Island Historic
- Tower District
- Zoned Wetlands

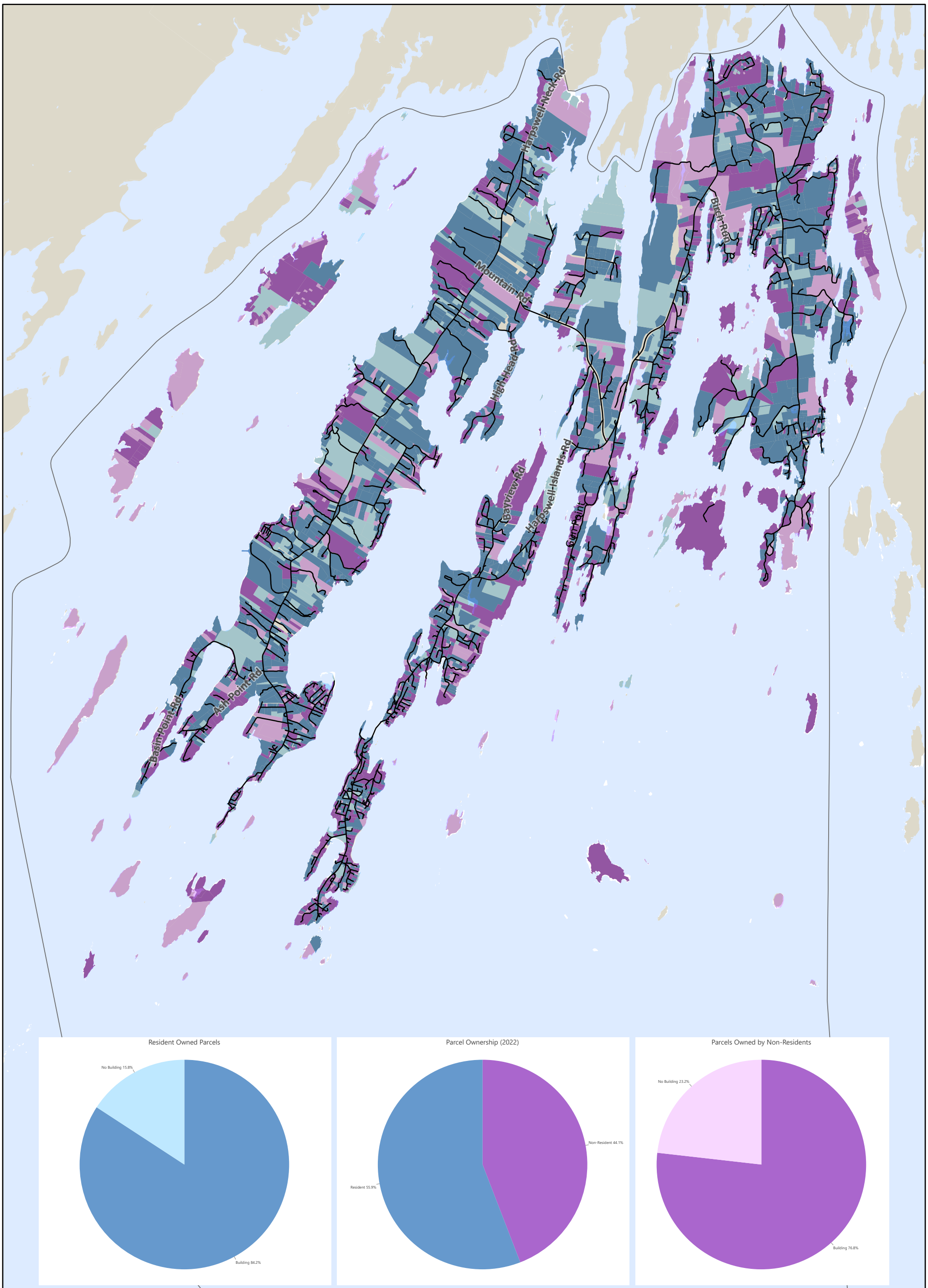
Commercial/Industrial Development

In contrast to the numbers of residential building permits, there have been very few commercial developments in Harpswell in the period from 2013-2022. The record of building permits for this period shows only 36 permits for new commercial construction, several of which are for additions or outbuildings for existing commercial and marine establishments.

Resident/Non-Resident Ownership

The number of lots owned by residents and non-residents can inform predictions of land use patterns in the future. The map in Figure 4 shows the distribution of ownership, as well as the percentage of lots that have been developed or left vacant. Overall, approximately 44% of the parcels in town are owned by someone not living full time in Harpswell. There has been a pattern of non-resident owners moving (mostly retiring) to become year round residents. While this does not increase the number of housing units, it does reflect a change in the intensity of usage.

Placeholder for Resident/Nonresident Map



2025 Update of the Harpswell Comprehensive Plan

Resident vs Non-Resident Ownership

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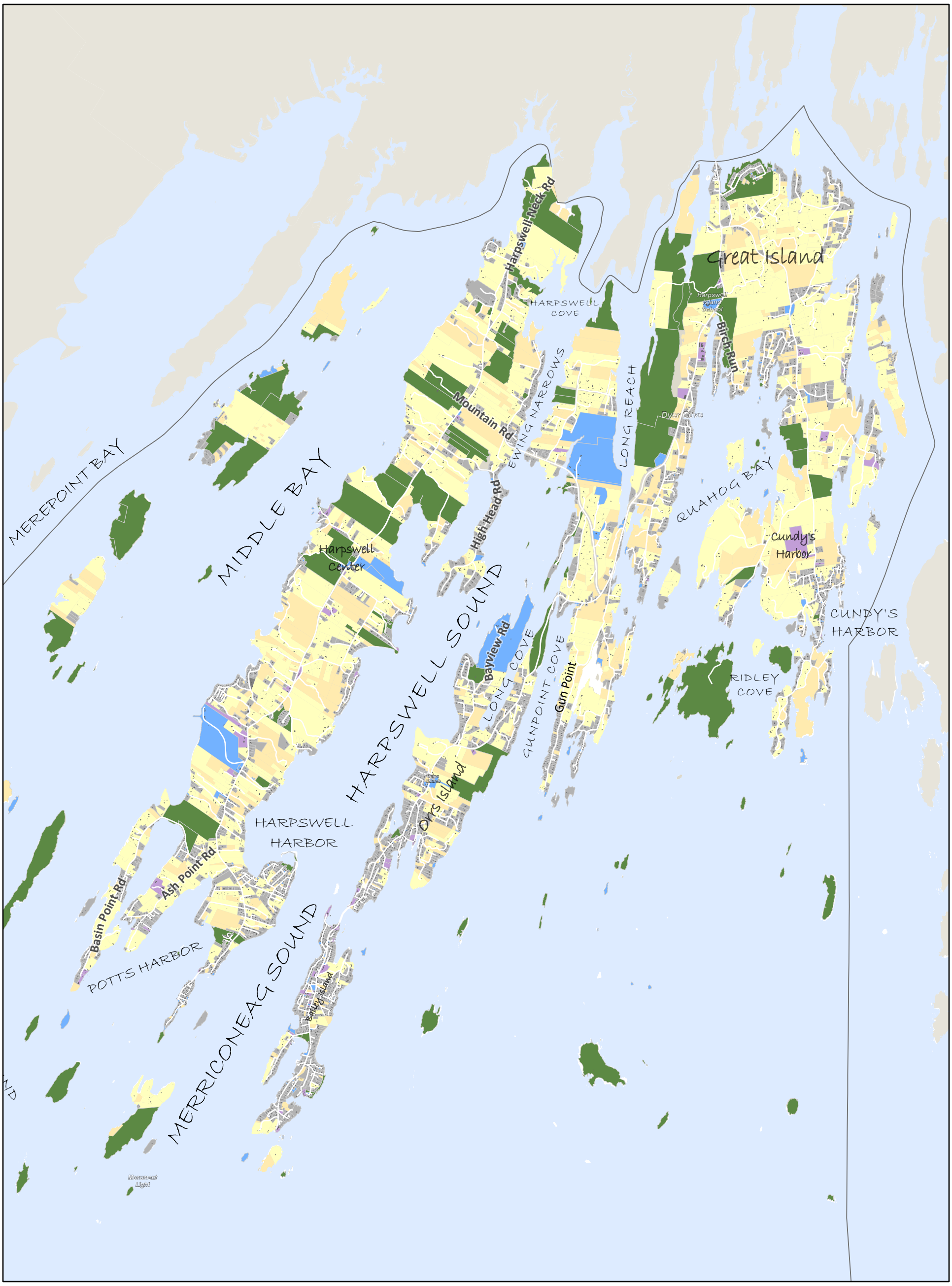
Date Printed: 3/7/2024

Parcel Ownership
- Resident; Building
- Resident; No Building
- Non-Resident; Building
- Non-Resident; No Building
- Waterbody
- context
- HarpswellBase

Development Potential

The following map (Figure 5) shows where there is still potential for development throughout the town. Each parcel was reviewed to determine if it had an existing building or not. For parcels with a building, the minimum lot size was subtracted from the total area. A constraints layer was also developed to identify those areas where development would be prohibited by natural conditions of steep slopes, wetlands, and flood zones. The constraints area of each parcel was also subtracted from each parcel. The remaining area is potentially developable land. Any lot that has greater than 40,000 sf is potentially developable under current zoning. This is a very rough approximation and overestimates the true amount of developable land. On the map, all the land in yellow and light orange show parcels which could be further developed. Most are in the interior zone. Parcels in gray, blue and green cannot be further developed either because they have no more room, they are owned by a government agency or a civic organization, or they are conserved in some way. The purpose of the exercise is to provide an understanding of where development could potentially happen under the current zoning conditions.

Placeholder for Buildout Analysis Map



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Date Printed: 1/2/2024

2025 Update of the Harpswell Comprehensive Plan Development Potential

- Buildings (2023)

Developable Land (2022 Parcels)

- Unbuilt Parcels
- Parcels w/House & Further Development Potential
- No Further Development Possible
- Conservation
- Other Non-Buildable
- Commercial
- Questions