



Town of Rye

# Existing Conditions Analysis

for the 2024 Master Plan Update



**DRAFT**

January 29, 2023

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# INTRODUCTION

The purpose of this Existing Conditions Report is to provide a baseline understanding of Rye as a community in 2023. Analyzing the existing conditions of Rye today represents the first phase of the Master Plan writing process. This report will be used to guide and inform the planning team, and to engage the Master Plan Steering Committee and the public in conversations about planning for the future. It will be the main source of information used to inform community discussions and the basis for materials created to engage the public.

***The intent is for this information to educate community members so that they can help the Town of Rye identify a clear vision to work toward, and the many actions that must be taken as a community during the next decade to achieve that vision.***

Each section of this Existing Conditions Report begins with a short profile that explains the significance of the topic and key findings that should be pursued further to inform this planning process. Following each profile is a longer inventory that includes more data, details, and analysis related to the topic. In each of these sections, information is presented that explains how Rye is changing, and what emerging issues, challenges, and opportunities the town may wish to address in the Master Plan.

***These inventories are intended to provide a more detailed explanation of the background sources used, data collected, additional context related to the issues identified, and, in some cases, questions and potential actions that should be explored later on in the planning process.***



# POPULATION AND HOUSING

Rye, NH's seaside location and proximity to more urban amenities, while itself remaining largely semi-rural, has retained residents and attracted newcomers for decades. These circumstances have caused the population of the town to grow steadily from 4,083 residents in 1970 to 5,543 residents in 2020. This trend is consistent with the growth experienced in the region, which saw population growth of 11.7% between 2000 and 2020. Projected growth within the region from 2020 to 2040 is anticipated to be 11.5%.

Rye is experiencing housing challenges that are like those of many coastal New Hampshire communities: lack of available housing, lack of affordable housing for young families and an aging population, cost and availability of infrastructure, and increased demand for secondary homes and short-term rentals. ***Rye will need to consider how to meet housing needs while maintaining the character and beauty of the coastal community.***



## FACTS AND FIGURES



**5,543** individuals live in Rye, based on the 2020 US Census data. Rye has seen an increase in 245 people since 2010. Thirty-nine percent (39%) of the population is over 65 years old and 17% of the population is under 18 years old.



**55.6** years old is the average age in Rye, based on the 2020 US Census data. In 2010, the average age of residents was 49.1 years old.



**4.1%** of Rye's population live below the poverty level, based on the 2020 US Census data. The overall poverty rate in Rye is consistent with regional trends.



**2.44** individuals live in Rye per household, based on the 2020 US Census data. The average household size in Rye has decreased over the past 10 years.



**2,906** housing units exist in Rye based on the 2020 US Census data. A total of 170 more units have been added since 2010. Rye is projected to need 476 more housing units by 2040 as reported in the Rockingham Planning Commission 2023 Regional Housing Needs Assessment.



**\$108,000** is the median household income, based on the 2020 US Census data.

## KEY FINDINGS

- Between 2010 and 2020, Rye's **housing stock** increased by about six percent (6%) by gaining 170 new housing units (single-family homes, condos, apartments, and multi-family) for a total of 2,906 units in 2020. During the same period, Rye's population increase by about four percent (4%) with a current total of 5,543 individuals. A notable shift in Rye is the **aging of the population** to an average age of 55.6 years old in 2020 and 39% of the population being over 65 years old (Rye has the second oldest population in the region). In 2010, the average age was 49.1 years old. In contrast, the population under 18 in Rye is 16.5 percent. This overall trend is particularly visible in the declining school enrollment and decrease in overall household size. This shift can cause a change in the types of services provided by the Town.
- There are limited affordable housing units in Rye, and a shortage of long-term rental units to accommodate Rye's shifting population. Rye is projected to need 151 more affordable housing units – owned and rented – by 2040 as reported in the Rockingham Planning Commission 2023 Regional Housing Needs Assessment. Factors that make Rye's housing future more complicated are the unique, environmentally sensitive areas found within the town, the extensive areas of the town that are vulnerable to the impacts of coastal hazards and climate change, and the high land values.
- In the past few years, Rye has had several multifamily housing development proposals come before the Planning Board. The Planning Board has wrestled with the proposals as Rye's regulations, and supporting documents including the 2013 Master Plan, have not given strong guidance on housing. The development of the 2023 Rye Housing Needs Assessment Report, and the public outreach conducted as part of that effort, was intended to help Rye identify **local actions** - including zoning regulation modifications. These actions are supported by the latest data and public input, community goals and vision and should be incorporated into the Master Plan.
- Rye's housing is **largely owner-occupied**, with only about 14 percent of overall housing considered rental units. The number of rental units in Rye has also declined from 2010 to 2020 by about a third, meaning that the number of available rental units at any price range are limited. While the number of long-term rentals has declined overall, Rye has also seen an increased demand for **short-term rentals** (considered rentals for less than 30 days), with around 80 whole home, short-term rental units identified in 2021.
- Given Rye's desirable coastal location, the number of **seasonal housing units** (home occupied for only part of the year, but suitable for year-round habitation) has increased by 254 units since 2010 for a total of 616 units (2020). The result is that approximately 21% of Rye's housing is only occupied for part of the year which can shift demands on municipal services.
- Rye's housing stock, like most of New Hampshire is generally older, with 45 percent of the homes in Rye being over 50 years old. These **older homes and structures** are considered by many to be one of the desirable characteristics of Rye and can represent an opportunity for continued use or adaptive reuse as housing. However, older homes can also make it more difficult for occupants to remain in their homes as the owners age, and, without improvements, may be more susceptible to the impacts of climate change and coastal hazards.
- Rye has some of the **highest land values** in New Hampshire. Within the region, the median home sales price in 2022 was \$527,000 for a single-family home. In Rye between August 2022 and August 2023, the average single-family home sale price was \$1,224,532. The estimated maximum purchase price in June 2023 for a home in the Rye region based on median household income as calculated by NH Housing Finance Authority is \$407,000.

# RYE NH, EXISTING CONDITIONS PROFILE – HOUSING AND POPULATION

The following section provides additional detail on the Town of Rye’s **housing and population** including trends, data, and other information.

## **RYE HOUSING VISION**

Rye’s previous housing vision and [Master Plan chapter](#), adopted in 2013, reflected the residents’ desire to maintain Rye’s semi-rural characteristics, that the population and housing demand were shifting, and the Town’s need to address the 2009 Workforce Housing Law.

This sentiment is generally reflected in the [Visioning](#) work - aimed at starting the conversation of the future vision of Rye - conducted by the Town in 2021 as a first step in the current efforts to update the Master Plan, expected Summer 2024. Additional information on the efforts to update the Master Plan can be found at: <https://publicinput.com/RyeFuture>.

## **RYE BEACH VILLAGE DISTRICT**

Within the boundaries of the Town of Rye, is the Rye Beach Village District (Village). The Village was formed by an act of the NH Legislature in 1937 and encompasses the southeastern portion of Rye. The Village legally exists as an independent political entity that has autonomous zoning authority. The Town of Rye continues to have responsibility for emergency service, education and health services, infrastructure oversight, and maintenance of local roadways within the Village.

A key difference between the Town and Village are that they maintain separate master plans and zoning ordinances as they have separate authority to enact zoning regulations and land use decisions. This also means that the Town and Village have separate responsibilities under the NH Workforce Housing statute (NH RSA 674:58-61). Specifically, under RSA 674:59, I *“every municipality [or village district] that exercises the power to adopt land use ordinances and regulations, such ordinances and regulations shall provide reasonable and realistic opportunities for the development of workforce housing, including rental multi-family housing.”*

The data presented in this section includes the Rye Beach Village District.

The most recent data for much of this section is 2020. Its important to note that the COVID-19 pandemic has influenced the community of Rye and trends between 2021-2023.

## KEY DEMOGRAPHIC AND HOUSING DATA

### Overall Population:

**5,543 individuals.**

This population is based on the 2020 US Census data; Rye has seen an increase in 245 people since 2010. Thirty-nine percent (39%) of the population is over 65 years old and 17% of the population is under 18 years old.

### Average Age:

**55.6 Years Old.**

The average age in Rye is based on 2020 US Census data; Rye has seen an increase in the average age over the latest 10 years with the 2010 average age being 49.1 years. Rye also is one of the oldest communities in New Hampshire and the second oldest in the region.

### Average Household Size:

**2.44 individuals per household.**

The average household size in Rye has decreased over the past 10 years. As of 2020, the majority of households (67.9 %) in Rye were made up of only one or two individuals. Overall, average household size has decreased across the region and state, particularly in communities with older populations.

### Individuals in Poverty:

**4.1% of the population.**

Rye has a low percentage of individuals living in poverty as of 2020; this is a decrease since the 2010 poverty rate of 5.1% of the population. The overall poverty rate in Rye is consistent with regional trends.

### Disabled Population:

**10.9% of the population.**

The amount of Rye's population that is considered disabled has remained relatively steady with the 2020 disabled population being slight lower than the 2010 disabled population of 11.3%.

### Total Housing Units:

Houses, Condos, Apartments,  
Seasonal Homes, etc.

**2,906 Housing Units**

Rye's total number of housing units based on the 2020 US Census data; a total of 170 more units have been added since 2010. Rye is projected to need 476 more housing units by 2040 based on population growth and housing demand as reported in the

Rockingham Planning Commission [2023 Regional Housing Needs Assessment](#).

**Median Rye Household Income: \$108,000 per year**

This is the median household income in Rye as reported in the 2020 US Census.

**Average Rye Home Sale Price: \$1,185,566**

(July 2022 – July 2023)

The average sales price for the same period for a condominium was \$685,115, while average sale price for a single-family home was \$1,224,532 according to [Zillow Home Value Index](#) for Rye.

**Estimated Affordable Maximum Purchase Price in Rye (2023): \$407,000**

This is the estimated maximum purchase price in June 2023 for a home in the Rye region based on median household income as calculated by [NH Housing Finance Authority](#).

**Rental Units:**

Average 2023 rent for a 2-bedroom unit in Rockingham County is \$1,944 per month according to NH Housing Finance Authority [2023 NH Residential Rental Survey Report](#) a monthly rent of \$1,552 per month for a 2-bedroom unit is considered affordable. Only 3% of rental units qualify as affordable.

**Affordability Projections:**

Rye is projected to need 151 more affordable housing units – owned and rented - by 2040 as reported in the Rockingham Planning Commission [2023 Regional Housing Needs Assessment](#).

**Short-term Rentals:**

Around 83 homes in Rye are used as short-term rentals (rental for less than 30 days), with 80 of those rentals being for the entire home. The average rate per day for these rentals is \$439 as reported in the Rockingham Planning Commission [2023 Regional Housing Needs Assessment](#).

**Seasonal Homes:**

616 of the homes, condos and apartments are considered “seasonal” and only occupied for part of the year as reported in the Rockingham Planning Commission [2023 Regional Housing Needs Assessment](#). According to the U.S. Census, seasonal housing units are those intended for occupancy only during certain seasons of the year and are found primarily in resort areas.

**Age of Homes:** About 45% of Rye’s housing units are more than 50 years old Rockingham Planning Commission [2023 Regional Housing Needs Assessment](#).

**Flood Risk:** 2,160 acres in Rye are located with a 100-year floodplain – with more susceptibility to flooding from coastal storms and high tides as reported in 2022 Rye Hazard Mitigation Plan. As of 2022, Rye had 296 National Flood Insurance Program policies that insure \$87,711,100 in property.

### **SHORT TERM RENTALS**

According to the New Hampshire Municipal Association, statutes and local ordinances in other states typically define a short-term rental as the rental of a residential unit, for a fee, for occupancy for less than 30 days, or less than one month, or similar language. There is no firm definition of “short-term rental” in New Hampshire land use law, but there are two tangential statutes that define the term.

- RSA 48-A, the housing standards statute, defines “short-term rental” or “vacation rental” as “any individually or collectively owned single-family house or dwelling unit or any unit or group of units in a condominium, cooperative, or timeshare, or owner-occupied residential home, that is offered for a fee and for less than 30 consecutive days.” See RSA 48-A:1, V.
- RSA 78-A, the meals and rooms tax statute, defines “short-term rental” as “the rental of one or more rooms in a residential unit for occupancy for tourist or transient use for less than 185 consecutive days.” See RSA 78-A:3, XX.

### **RPC REGIONAL HOUSING NEEDS ASSESSMENT**

New Hampshire RSA 36:47(II) requires that “[f]or the purpose of assisting municipalities in complying with RSA 674:2, III(I), each regional planning commission shall compile a regional housing needs assessment, which shall include an assessment of the regional need for housing for persons and families of all levels of income.” Rye is one of 27 municipalities within Rockingham County that make the Rockingham Planning Commission’s region. The purpose of the Rockingham Planning Commission’s (RPC) Regional Housing Needs Assessment and Fair Housing Equity Assessment (RHNA) is to provide current, regional, and local data on housing needs. This assessment is a highly anticipated review of the current housing trends and needs and will identify future housing needs and opportunities. One goal of the assessment is to provide a foundation of housing trends for communities to begin addressing housing barriers and opportunities. The 2023 assessment was completed in collaboration with the nine NH Regional Planning Commissions through a statewide effort, initiated by the Council on Housing Stability 2021-2024 Strategic Plan that was initiated by Governor Sununu.

Factors impacting the housing market are exacerbated by the region being the most expensive housing market in New Hampshire. An aging population and a decline in the number of children per household also play major factors. Housing supply directly impacts economic growth and the region's ability to attract and retain workers and young families that contribute to the economy and enhance the vibrancy of our communities. The makeup of households in the region is shifting with an overall decline in household size. School enrollment is declining across the region. Both small and large employers are facing challenges attracting and retaining workers. This assessment estimates the housing needs of the RPC Region, while taking into consideration the factors impacting housing.

The primary goal of this RHNA is to provide data on housing and demographics, by income level, so that each municipality in the region can begin to understand their current and future needs. This RHNA may assist municipalities in determining compliance with the Workforce Housing Statute (RSA 674:58-61).

### **NH WORKFORCE HOUSING LAW & "FAIR SHARE" HOUSING NEEDS**

In 2008, the New Hampshire Legislature passed a law that requires every community to provide "reasonable and realistic opportunities" for the development of workforce housing. New Hampshire's workforce housing statute ([NH RSA 674: 58-61](#)) defines "workforce housing" and what is considered "affordable."

New Hampshire is not a "home rule" state, which means all municipal power derives from a Legislative grant. [RSA 672:1, III-e](#) states that housing that is affordable to low- and moderate-income households "shall not be prohibited or discouraged by use of municipal planning and zoning powers or by unreasonable interpretation of such powers." The NH Supreme Court ruled in [Britton v. Town of Chester](#), 134 N.H. 434 (1991), that municipalities are obliged to provide such households with a reasonable and realistic opportunity to obtain affordable housing, and that a municipality's zoning cannot be used to prevent "outsiders of any disadvantaged social or economic group" from moving there.

The RHNA uses projected population growth and projected employment growth to estimate the regional housing needed to fill the demand from 2020 through 2040. As required by the Workforce Housing Statute (RSA 674:58-61) municipalities must provide "reasonable and realistic opportunities" for the development of workforce housing, including rental and multifamily housing. While the state statute provides some guidance on how municipalities can meet the demand for workforce housing, the statute provides that municipalities must, further, provide enough qualifying units to fulfill their "fair share" of their region's need. The law does not provide a prescriptive methodology for calculating "fair share."

The RHNA estimates additional housing (both workforce and market rate) to support a balanced market, representing Rye's regional fair share of housing by 2040, to be as follows.

<b>Projections By Year</b>	<b>2025</b>	<b>2030</b>	<b>2035</b>	<b>2040</b>
Total Units Needed (cumulative)	175	321	420	476
“Affordable” Units Suggested	56	102	133	147
Market Rate Units Needed	119	219	287	329
Rental Units V. Owned Units	29% Rental Units Needed & 71% Owned Units Needed			

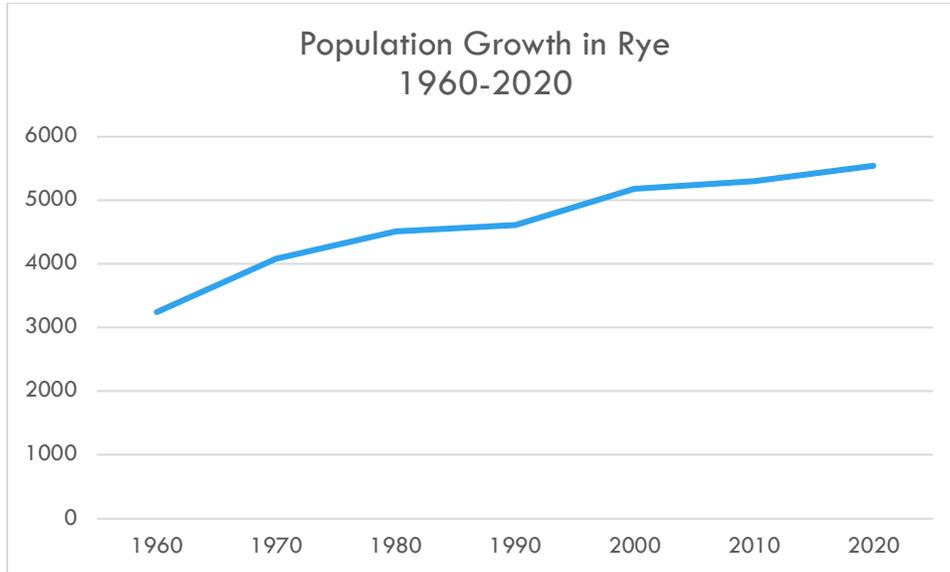
\*Note that these numbers do not account for housing units that may have been approved for construction within Rye, but not yet built as of 2020. Additionally, the town is not required by state statute to have a specific number of affordable units. These are suggested based on the housing needs analysis completed by the RPC.

**COASTAL RESILIENCE AND FLOODING**

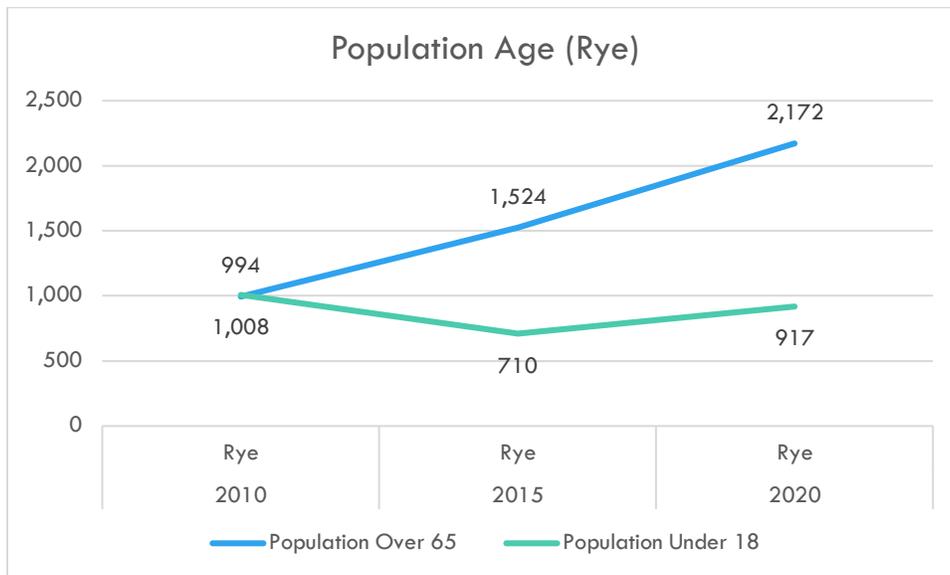
Rye is one of the most vulnerable communities in New Hampshire to the impacts of flooding and climate change. In 2021, Rye had a total of 296 National Flood Insurance Program policies, insured for over \$87 million dollars. Joining the NFIP in 1986, the Town has amended its zoning ordinance and regulations to protect wetlands and shoreland buffers, completed a climate change vulnerability assessment, and adopted a climate resilience Master Plan chapter. Future housing considerations will need to account for natural resource protection, coastal hazards, and how to minimize impacts on existing and future homes.

## DEMOGRAPHIC AND HOUSING DATA: RYE, RPC REGION, & NEW HAMPSHIRE

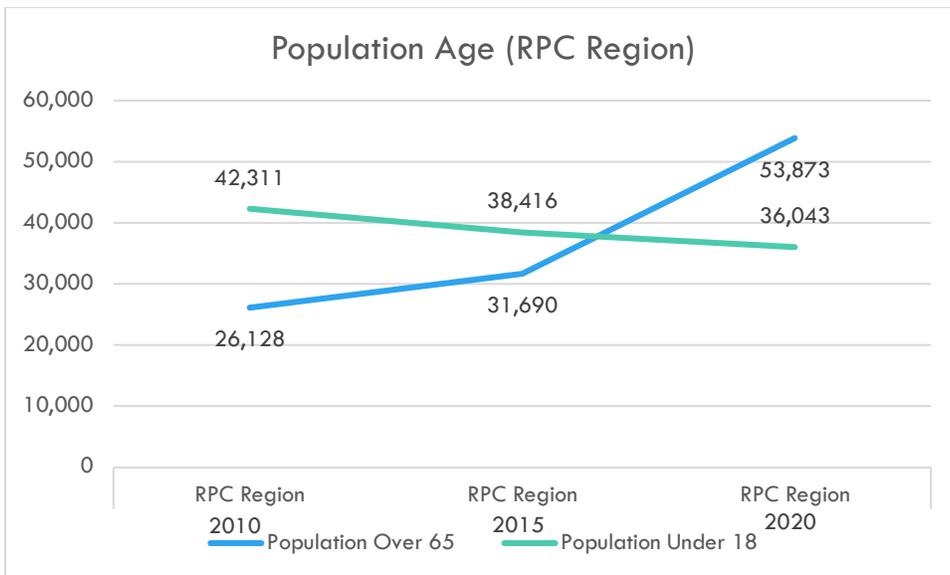
The following information is a snapshot of select demographic and housing data for the state, region, and town of Rye.



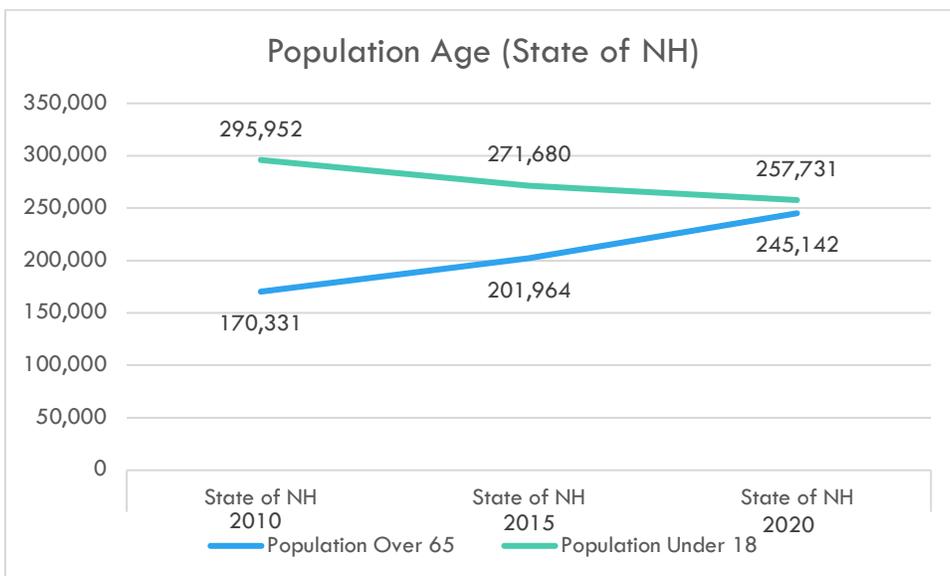
In Rye, the population has been steadily increasing since 1960.



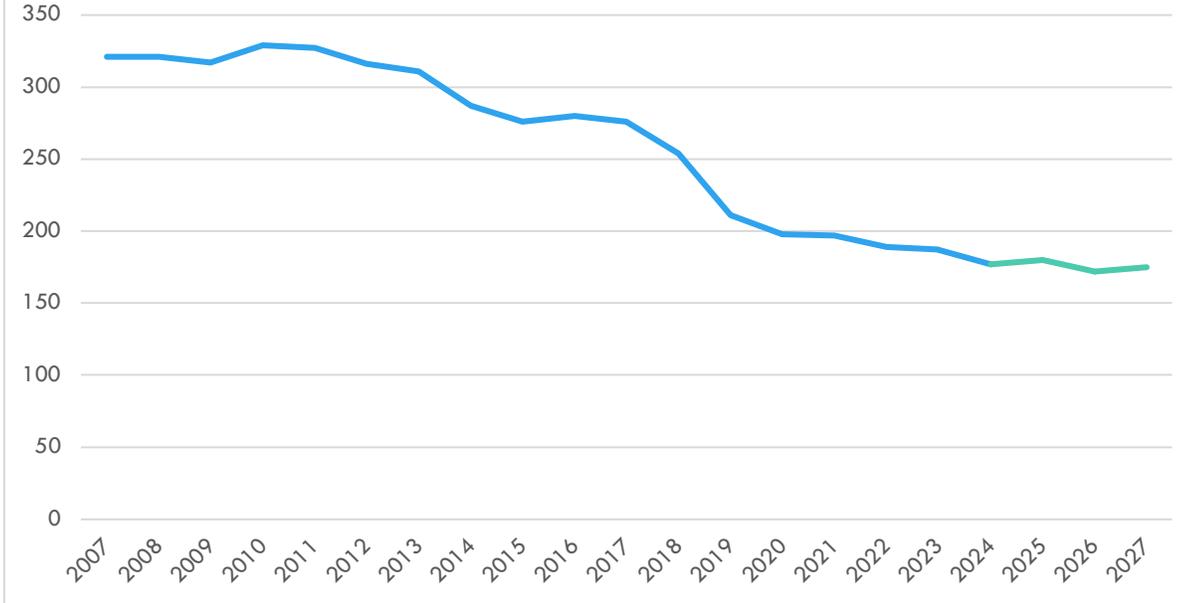
In Rye, the population over the age of 65 years old has increased between 2010 and 2020. The school-age population, though declined between 2010 and 2015, stabilized and began to increase in 2020.



In the region and the state, school-age children have been declining and adults over 65 years old are increasing.

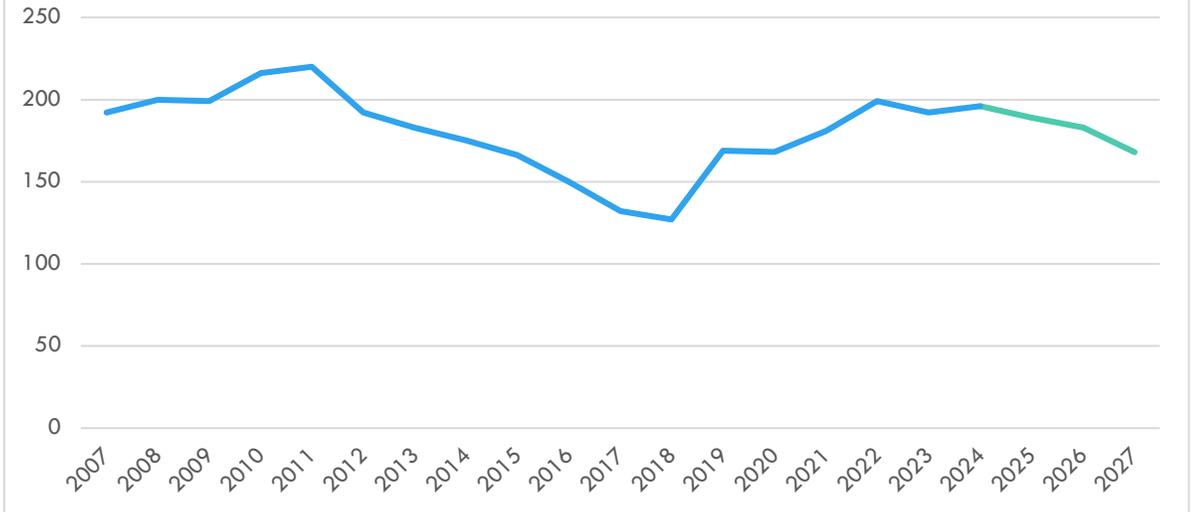


Rye Elementary School  
School Enrollment Trends and Projections

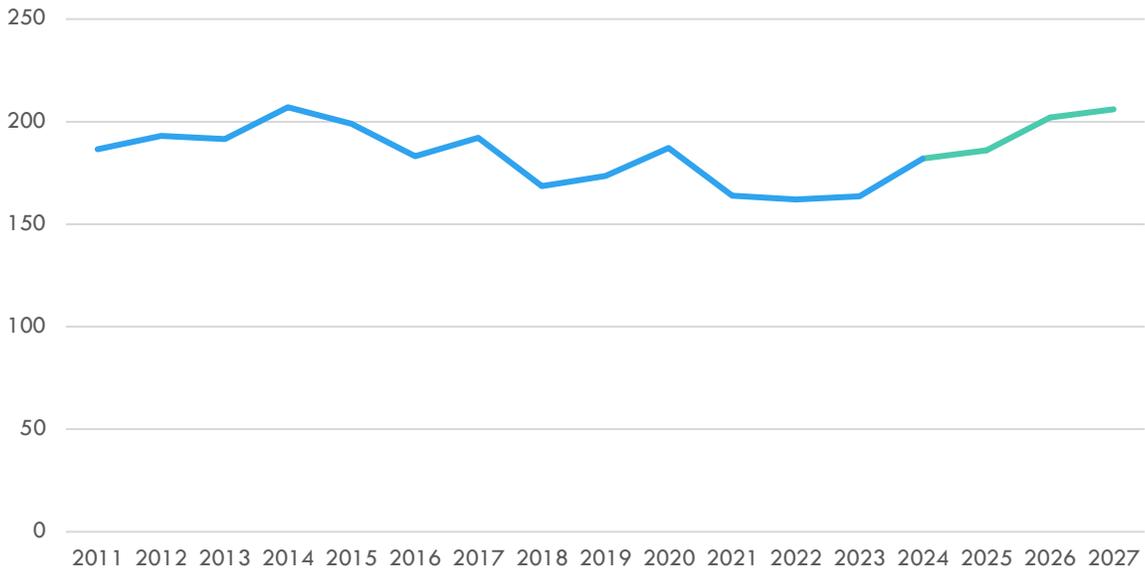


School enrollment numbers have been declining at Rye Elementary School (RES), especially, and at Rye Junior High School (RJHS), to a lesser degree. Projections show a stabilizing of school population at RES and continued decline at RJHS.

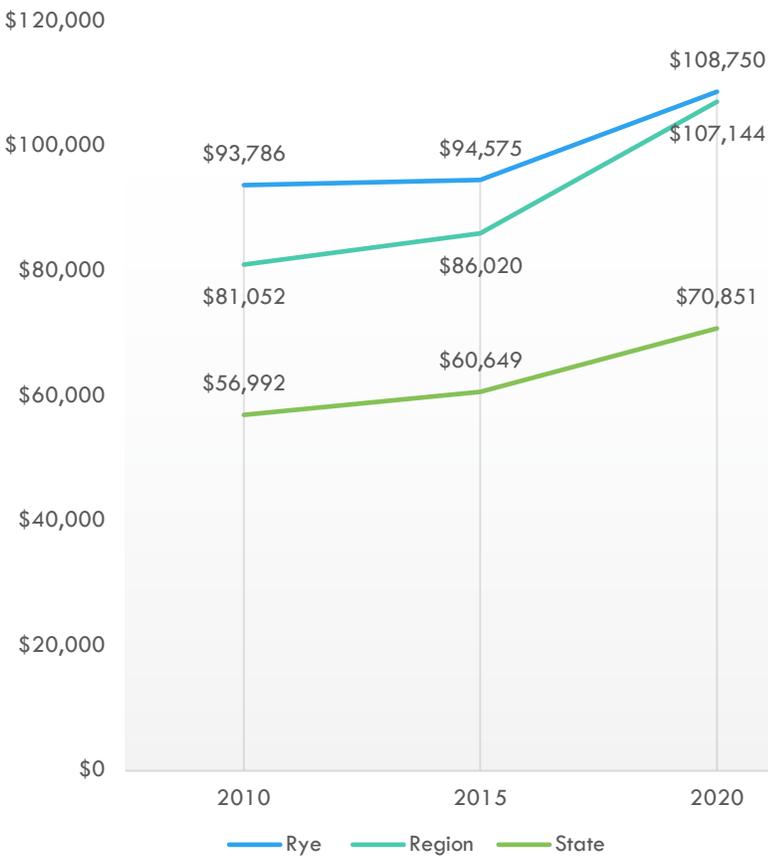
Rye Junior High School  
School Enrollment Trends and Projections



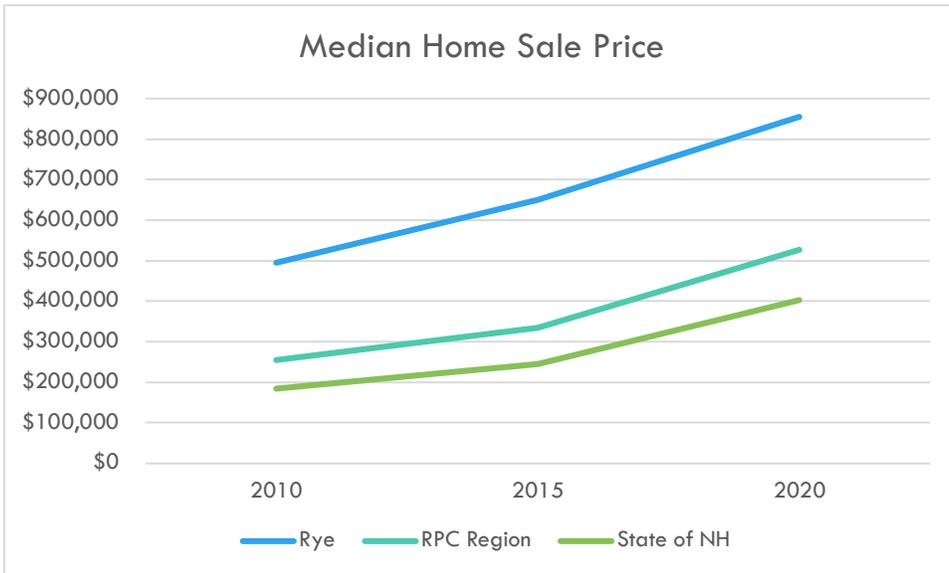
### Portsmouth High School School Enrollment Trends and Projections - Rye Students



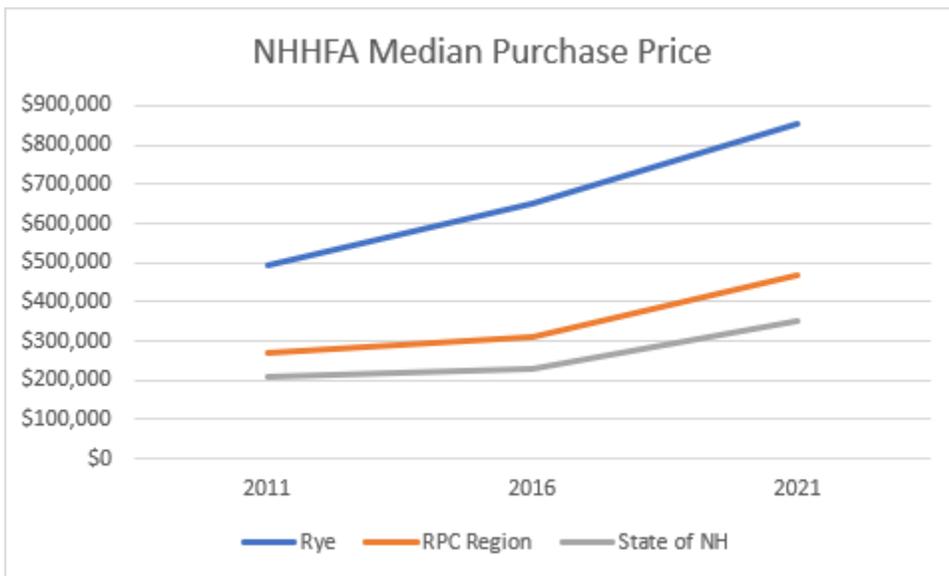
### Median Household Income



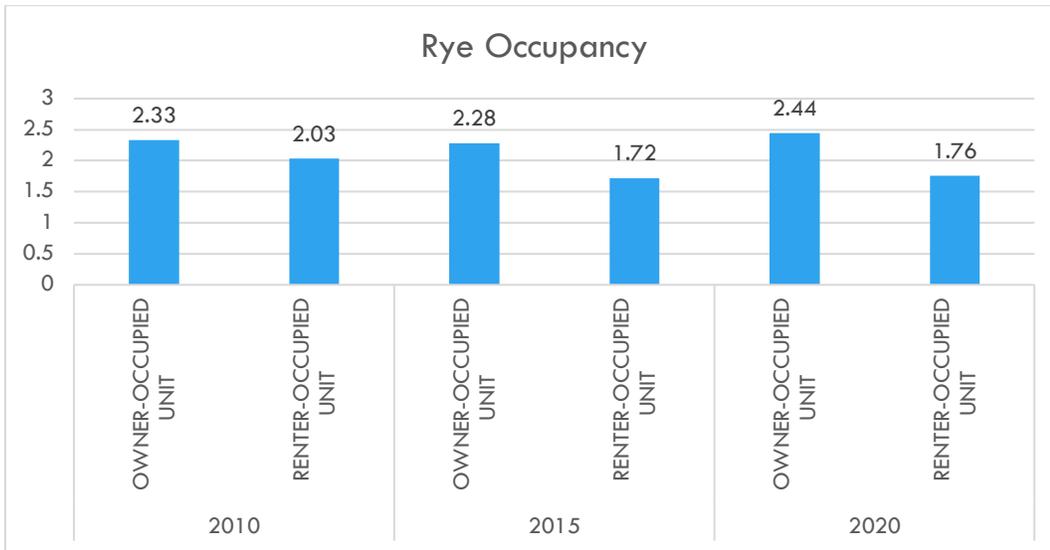
Rye's median household income has consistently been higher than the state and region's since 2010. This income has been increasing. However, the gap has been closing between the local and regional median household income since 2020.



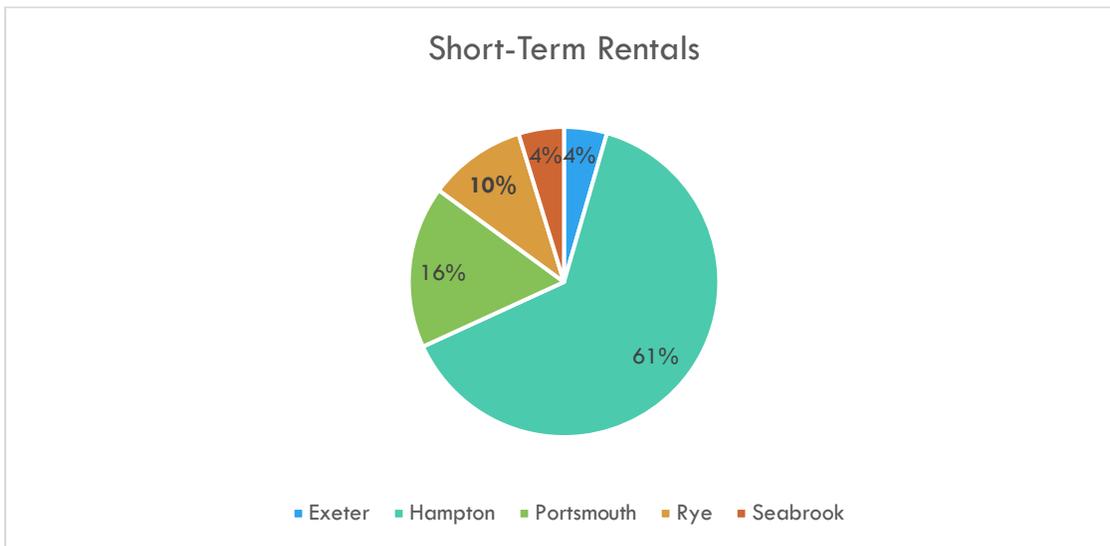
The median home sale prices in Rye have been higher than that of the region's and state's since 2010. Median home sale prices have been steadily increasing in Rye.



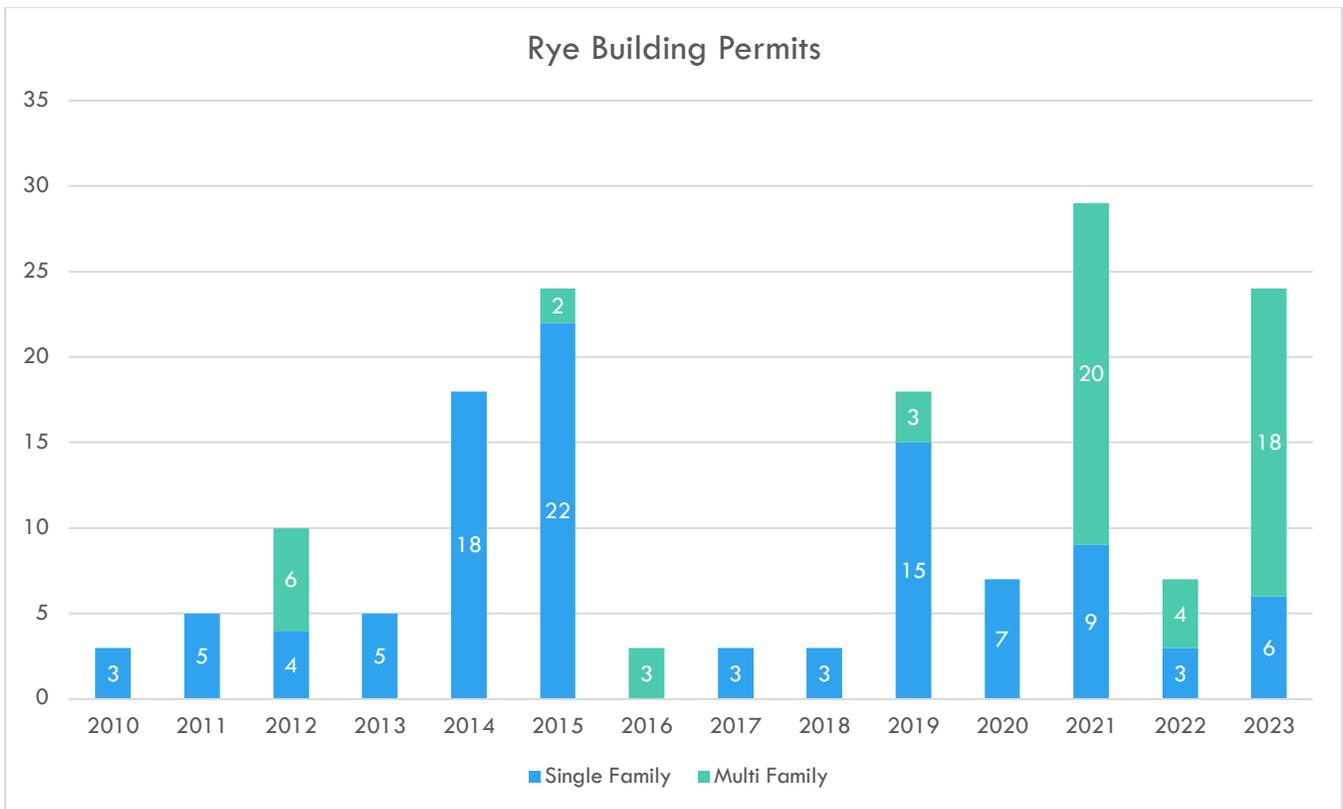
New Hampshire Housing Finance Authority reports median purchase price data of homes in New Hampshire. Like the above data, prices have been increasing in Rye, the region, and state and median purchase prices are higher in Rye when compared to the region and state in general.



Household sizes increased in owner and renter-occupied housing units between 2015 and 2020.



While Hampton makes up the largest amount of short-term rentals in the RPC region, Rye has the third largest share of short-term rentals (10% of the short-term rental stock in the region).



*\*Building permit data from 2010-2020 is from the U.S. Census. Building permit data from 2021-2023 is from the Town of Rye’s Building Department.*

The town’s building permits, shown above, have largely been comprised of single-family housing units since 2010, with some multi-family developments permitted. Construction appeared to slow in 2020, most likely due to the COVID-19 pandemic. Since 2021, multi-family housing development has increased substantially.

# EXISTING LAND USE

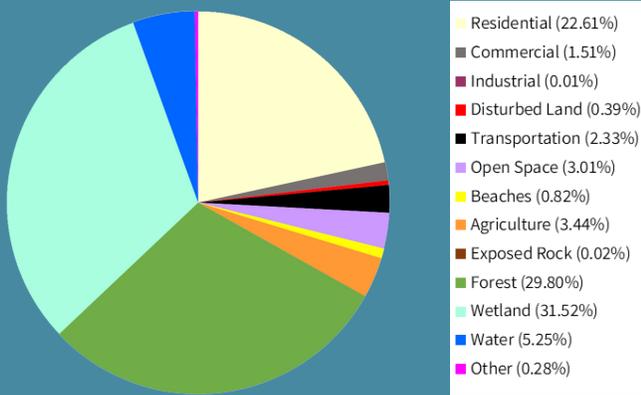
The Town of Rye covers a total of 13 square miles along the coast of New Hampshire. Historically a rural farming and fishing community, the town of Rye has since transitioned into mostly residential uses within its developed areas. The most prevalent land cover in Rye is wetlands (approximately 32%), while the most prevalent land use in Rye is residential at 71% of Rye's area. The Town's recent build-out analysis indicated that due to extensive environmental development constraints, conserved land, and existing buildings, the Town of Rye has moderately low buildable area for future development.

***Looking ahead, Rye must balance future development and growth and the realities of development constraints, with responsible stewardship of its natural resources, and account for climate change.***



## FACTS AND FIGURES

### Mapped Land Cover Within Rye (2015)



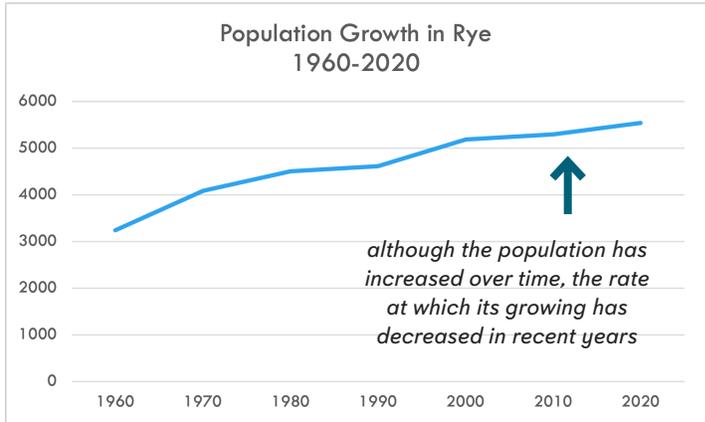
**Overarching trends** related to land use change include:

- The rate of land converted from undeveloped to developed has plateaued.
- The population of Rye is increasing at a slower rate than historically.
- There has been a 68% decrease in agricultural land within Rye from 1962 to 2015.

Note: Land cover refers to the characteristic of the land surface. Land Use refers to the way in which the land is utilized, whether it be for residential housing, commercial infrastructure, agriculture, or forests, and is determined by zoning and assessing.

# KEY FINDINGS

- Historically a rural farming and fishing community, Rye has since transitioned into a community dominated by **residential development** and natural resources (water, wetlands, forests, etc.). About 22% of Rye is classified as residential land cover (2015).
- Development has taken the place of agricultural areas** in addition to some forested and wetland areas. The rate of land converted from undeveloped to developed has plateaued. There has been a 68% decrease in agricultural land within Rye from 1962 to 2015.
- The most prevalent land cover in Rye is **open wetlands** (approximately 30-32%) and forested land (approximately 30%). Wetlands within Rye serve a vital role in nutrient and sediment removal/retention, floodwater and storm surge storage, recreation, and habitats for wildlife including migratory birds.
- Rye has a **moderately high percentage of conserved lands** at 25%, as compared to neighboring Towns which range from 14% (Portsmouth) to 23% (North Hampton).
- By parcel use and the Town’s assessor data, Rye is **primarily residential (71%) and municipal (12%)**.
- State-owned parcels** within Rye include Odiorne Point State Park, Jenness State Beach, Wallis Sands Beach, and Rye Harbor State Park (4%).
- About 71% of Rye is zoned as **residential**.
- The **population growth rate of Rye has decreased** over the past 10-20 years, as compared to the past 50 years. From 1970-2020, the 50-year compound annual growth rate was 0.61%, from 2000-2020, the 20-year compound annual growth rate was 0.34%. →
- The population growth rate of Rye was **lower** than the state’s growth rate over the past 50 years (0.61% as compared to 1.26% at a statewide level) but has been in line with the state’s growth rate over the past 10 years (0.45% for both Rye and the state).
- A **build-out analysis** completed to understand potential future development in Rye based on current municipal land-use regulations and vacant land areas analysis identified that approximately **13%** (1,116 acres of approximately 8,407 acres) of the Town is **buildable** under current zoning regulations.
- Many of the lots identified in the build-out analysis that can accommodate future growth could be considered “**backlands**”, or parcels not currently accessible to development by existing roads.
- The build-out indicated that due to extensive environmental development constraints (particularly wetlands), conserved land, and existing buildings, the Town of Rye has **moderately low buildable area for future development** compared to other New Hampshire communities. At current population growth rates, and under existing regulations, the Town of Rye could reach full build-out in approximately 50 years.



# RYE NH, EXISTING CONDITIONS PROFILE – EXISTING LAND USE

The following section provides additional detail on the Town of Rye’s **existing land use pattern** including trends, data, and other information.

## EXISTING LAND COVER

In 2015, the Rockingham Planning Commission created an updated land use data layer for the Southeastern New Hampshire Region using 1 foot resolution aerial imagery showing that the most prevalent land use cover in Rye is open wetlands and forested land. From which, 30% of Rye is forested and 32% are classified as wetlands (Figure 1). Wetlands within Rye serve a vital role in nutrient and sediment removal/retention, floodwater and storm surge storage, recreation, and habitats for wildlife including migratory birds. Residential land follows closely behind at 22% of Rye’s area.

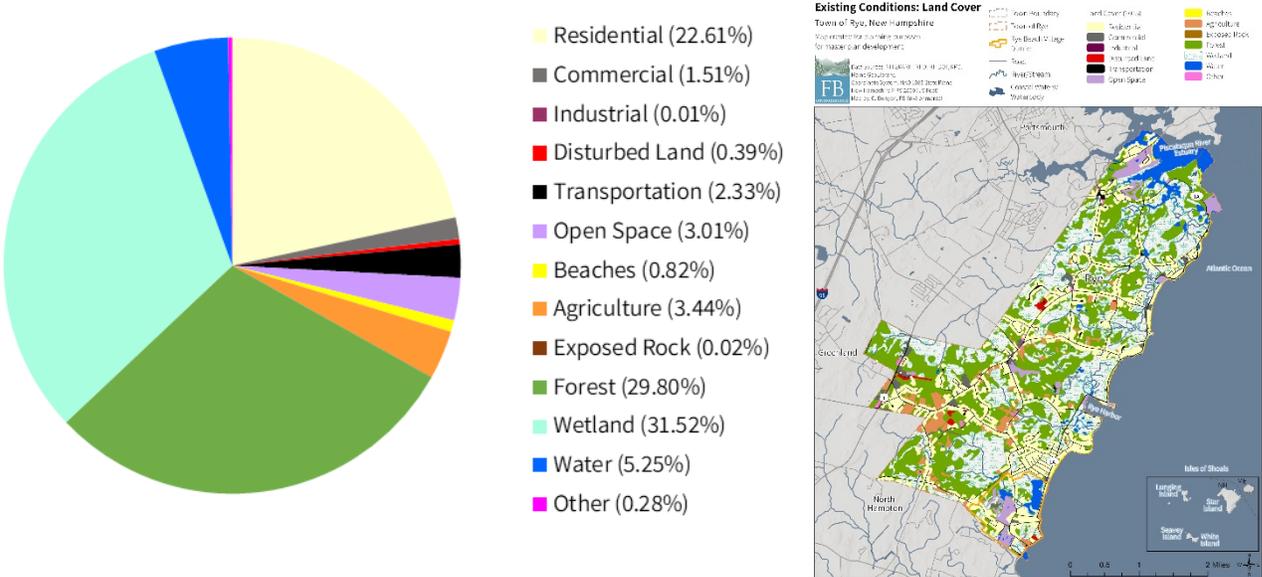


Figure 1. Mapped Land Cover within Rye. Data collected from the 2015 Rockingham Planning Commission 2015 Land Use data layer for Southeastern New Hampshire. See Appendix 1 for a breakdown of the land cover classes within each category presented within the figure and the Existing Conditions Land Cover Map for a visual representation of the land cover distribution throughout Rye. A full-page land cover map is included at the end of this section.

*Note: “Exposed Rock” is one of the land cover types designated in the 2015 land use layer data. It’s important to note that Rye has significant amounts of exposed ledge and bedrock, more than what shows as the amount of exposed rock in the land use cover pie chart and map above. Discrepancies between land cover types are common, especially when they vary and overlap across a landscape, resulting in decisions needing to be made regarding land cover*

classification. For example, exposed rock exists throughout much of Rye’s forestland, which is categorized as its own land cover type. **Ultimately, land can be classified as two types of land cover at once, where one of these land cover types must be selected for designation purposes.**

**THE EXTENT OF DEVELOPMENT**

Historically and up to around 1962, Rye was considered a heavily agricultural area but has since transitioned into a community dominated by residential development amongst natural classifications (water, wetlands, forests, etc.). Development has taken the place of agricultural areas in addition to some forested and wetland areas (Table 1). However, the once increasing trend of development has since plateaued since 1998 (Table 2, Figure 2). This adjustment to the trajectory of development will help Rye maintain its natural areas for multiple services including but not limited to recreation, wildlife habitat, nutrient and pollutant retention, groundwater recharge, and floodwater storage. Additionally, the population of Rye has followed a similar trend. As shown in Table 3 and Figure 2, the population growth rate of Rye has begun to slow. From 1970 to 2020 Rye’s population grew with a 50-year compound annual growth rate of 0.61%, while from 2000 to 2020, Rye’s population grew with a 20-year compound annual growth rate of 0.34%, and 0.45% from 2010-2020 (10-year compound annual growth rate) (Table 3).

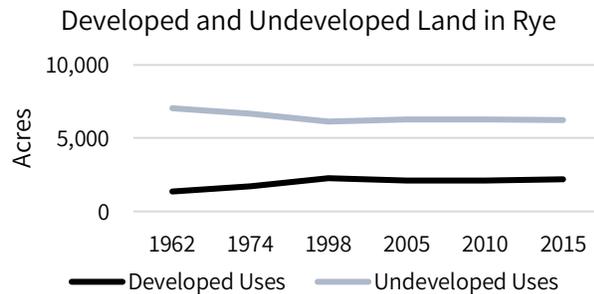
Table 1. Land cover trends in Rye from 1962 to 2015. Land uses not shown in the table include auxiliary transportation, mixed urban, other/idle, playing fields/recreation, railroad, transportation, utilities, and water. Statistics for these land uses are provided in the 2018 Rye Master Plan, Chapter 4.

	Acres in 1962	Acres in 2015	% change
Open Wetlands and Forests	5,473	4,958	9.4% decrease
Active Agricultural and Farmsteads	681	289	58% decrease
Residential	1,135	1,832	61% increase
Industrial/Commercial	88	121	38% increase

Table 2. Extent of developed land within the Town of Rye. Data from 1962 through 2015 is from the 2018 Rye Master Plan.

	1962	1998	2015
Developed Uses	16%	26%	25%
Undeveloped Uses	82%	72%	73%

Figure 2. Extent of developed land within the Town of Rye. Data from 1962 through 2015 is from the 2018 Rye Master Plan.



Above: Development has taken the place of agricultural areas in addition to some forested and wetlands areas (Table 1). However, the once increasing trend of development has since plateaued since 1998 (Table 2, Figure 2). This data indicates that new development has slowed since the 1990s and some previous developed areas have been restored to open space.

Table 3. Rye, Rockingham County, and New Hampshire Population Statistics. Collected from the Office of Strategic Initiatives (OSI) and U.S. Census.

Town	Population						Compound Annual Growth Rate		
	1970	1980	1990	2000	2010	2020	50 Year (1970-2020)	20 Year (2000-2020)	10 Year (2010-2020)
Rye	4,083	4,508	4,612	5,182	5,298	5,543	0.61%	0.34%	0.45%
Rockingham County	138,950	190,345	245,845	277,359	295,223	314,176	1.65%	0.63%	0.62%
New Hampshire	737,681	920,610	1,109,252	1,235,786	1,316,470	1,377,529	1.26%	0.54%	0.45%

### CONSERVED LANDS

Compared to neighboring towns, Rye has the highest percentage of conserved lands at 25%.

Town	Town Area (acres)	Acres of Conserved Land	% of Town
Rye	8,580	2,164	25%
North Hampton	8,923	2,016	23%
Greenland	8,524	1,488	17%
Portsmouth	10,763	1,492	14%

### EXISTING LAND USE BY PARCEL

Land use (by parcel and assessors database) within Rye is primarily residential (71%) and municipal (12%) (Figure 3). The residential category includes apartments, condominiums, manufactured homes, single family, and two-family residential parcels. Within the municipal category are town owned parcels including the town forests. The third most prevalent land use

in Rye is “other” which consists of accessory land, oceanfront parcels not considered residential, and undeveloped land (6%). State owned parcels within Rye include Odiorne Point State Park, Wallis Sands Beach, Jenness State Beach, and Rye Harbor State Park (4%).

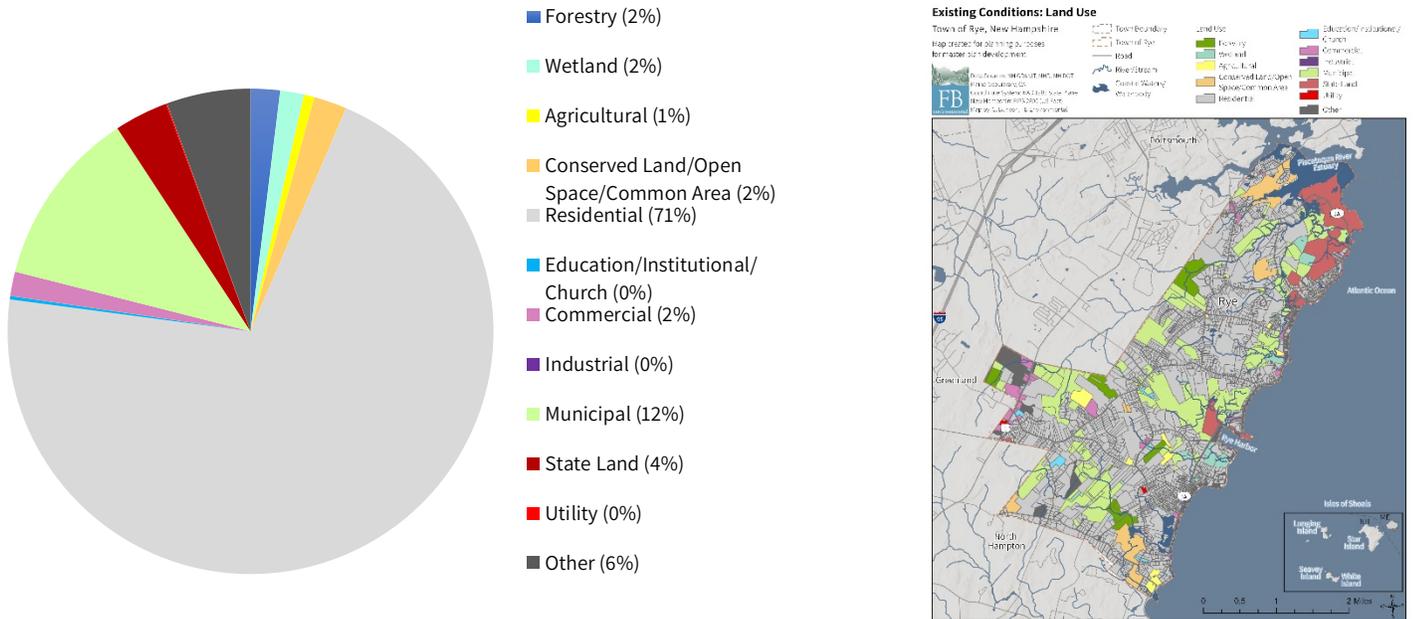


Figure 3. Land Use within Rye. Data collected from Rye’s Parcel Map (CAI) and the assessor’s database. See Appendix 2 for a breakdown of the land use classes within each category presented within the figure and the Existing Conditions Land Use Map for a visual representation of the land cover distribution throughout Rye. A full-page land use map is included at the end of this section.

### RYE BUILDOUT RESULTS

As part of the development of the Rye Master Plan Update, a build-out analysis was completed by FB Environmental (FBE) to understand potential future development in Rye based on current municipal land-use regulations and vacant land areas. The Rye community enjoys beach access and expansive coastal natural resources. Encompassing approximately 13 square miles in coastal New Hampshire, Rye had a population of approximately 5,543 people at the 2020 U.S. Census.

A build-out analysis is a planning tool that identifies areas with development potential and projects future development based on a set of conditions (e.g., zoning regulations, environmental constraints) and assumptions (e.g., building footprint dimensions). The results of the build-out analysis can be used for planning purposes to help guide future development activities in the community, anticipate future demands on infrastructure, as well as identify specific areas for conservation. The build-out analysis provides a full build-out scenario based on the Rye’s current zoning standards (which are subject to amendment) and should be viewed as estimates only. “Full build-out” is a theoretical condition which represents the period when

all available land suitable for residential, commercial, and industrial uses has been developed to the maximum conditions permitted by local ordinances.

At current population growth rates, and under existing regulations, the Town of Rye could reach full build-out in approximately 50 years. The build-out analysis identified that approximately 13% (1,116 acres of approximately 8,407 acres) of the Town is buildable under current zoning regulations. The Single Residence District has the most acreage of buildable area at 877 acres. FBE identified 2,772 existing principal buildings in the Town of Rye, and the build-out analysis projected that an additional 415-506 new buildings could be constructed in the future, resulting in a total of 3,136 – 3,228 buildings in the Town of Rye at full build-out. Many of the lots identified in the build-out analysis that can accommodate future growth could be considered “backlands”, or parcels not currently accessible to development by existing roads. It is important to note that the build-out analysis assumes that all land ownership could change – as in, a private landowner that has access to those undeveloped lands could sell their land to allow a right of way to the backlots. However, the likelihood of change of ownership is not something the build-out analysis can account for.

In summary, this build-out analysis for the Town of Rye indicated that due to extensive environmental development constraints (particularly wetlands), conserved land, and existing buildings, the Town of Rye has moderately low buildable area for future development compared to other New Hampshire communities. However, there is potential for a moderate increase in projected new buildings (17% increase compared to existing buildings), with the highest density areas in central and inland Rye. Furthermore, based on historical population growth rates in Rye, the Town could face full build-out in the mid to late 21st century.

### **EMERGING OR POTENTIAL ACTIONS**

As identified in the 2021 Natural Resources Inventory for the Town of Rye, “Rye faces a challenge of how best to balance prudent economic growth, land ownership, and responsible stewardship of its natural resources while accounting for climate change. A healthy functioning environment is often placed in opposition to economic growth and human quality of life. Clean air, clean water, and ecosystem services provided by natural systems are essential to maintaining a high quality of human life.” (FBE, 2021). To support both the economic stability of the town as well as the ecological wellbeing, actions to support natural resources should be balanced with other economic priorities.

#### **Land Cover**

- Minimize the increase of impervious surfaces by creating new ordinances and building construction design requirements which reduce imperviousness of new development.
- Protect and re-establish wetlands through invasive species management, restoring natural structure).

#### **Land Use**

- Foster a community that is comfortable for those who live here, and desirable to those who are looking for a town with a sense of its heritage, plentiful open spaces and coastal recreation areas.
- Support balanced land use choices in consideration of public convenience, safety, security, conservation and environmental protection.
- Increase the amount of conserved land within the town of Rye via purchase or conservation easement.
- Consider further refining the Conservation Land Developments ordinance (zoning section 403) to incorporate a design-based approach
- Incorporate affordable housing principles

### **Zoning**

- Enhance resident education and communication of local land ordinances, best management practices, and actions.
- Preserve open spaces and protect natural resources such as the lands overlying public water supply aquifers, Wellhead Protection Areas, fragile habitats, coastline, marshes, fields and forests for viewing and recreation and public use, where appropriate.
- Increase building setbacks in shoreland zones.
- Encourage riparian buffers and maintain flood plains through new/updated zoning ordinances.
- Amend the existing wetland regulations to better protect wetlands and the organisms they support.
- Consider novel types of development, including Traditional Neighborhood Design (TND) and conservation subdivisions while considering low-impact development practices.
- Explore options to incorporate zoning to allow for mixed-use development, options for form-based code design standards and flexible parking standards. More information on form-based codes can be found: <https://formbasedcodes.org/definition/>.

### **SOURCES**

FB Environmental. (2021). Rye New Hampshire Natural Resources Inventory.

[https://www.town.rye.nh.us/sites/g/files/vyhlf3751/f/uploads/rye\\_nri\\_report\\_2021.pdf](https://www.town.rye.nh.us/sites/g/files/vyhlf3751/f/uploads/rye_nri_report_2021.pdf)

Town of Rye. (2018). Rye Master Plan Natural Resources Chapter 7.

[https://www.town.rye.nh.us/sites/g/files/vyhlf3751/f/uploads/ch\\_7.pdf](https://www.town.rye.nh.us/sites/g/files/vyhlf3751/f/uploads/ch_7.pdf)

Town of Rye. (2018). Rye Master Plan Land Use Chapter 4.

[https://www.town.rye.nh.us/sites/g/files/vyhlf3751/f/uploads/ch\\_4.pdf](https://www.town.rye.nh.us/sites/g/files/vyhlf3751/f/uploads/ch_4.pdf)

### **APPENDIX 1**

Land Cover categories simplified from the Rockingham Planning Commission Land Cover classifications.

Category	Rockingham Planning Commission Classification
Agriculture	Agricultural Land Other Agricultural Land
Beaches	Beaches and River Banks
Commercial	Commercial retail Commercial wholesale Educational Electric, gas and other utilities Government Group and transient quarters Indoor cultural/public assembly Institutional Lodging Other commercial complexes Water and wastewater utilities
Disturbed Land	Disturbed Land
Exposed Rock	Bare/Exposed Rock
Forest	Brush or Transitional Between Open and Forested Forest Land
Industrial	Industrial
Open Space	Cemeteries Outdoor recreation
Other	Communication Services Vacant Land
Residential	Mobile home parks Multi-family, low rise apartments and townhouses, but not duplexes (1 - 3 stories) Other residential Single family/duplex
Transportation	Auxiliary transportation Parking structure/lot Rail transportation Road right-of-way
Water	Water
Wetland	Wetlands

## Appendix 2

Land Use categories simplified from the zoning and parcel classifications.

Category	Zoning and Parcel Classification
<b>Agricultural</b>	FARM LAND
	THREE FAM
<b>Commercial</b>	AUTO REPR
	AUTO S S&S
	BANK BLDG
	COMM WHSE
	DEVEL LAND
	GAS ST SRV
	MOTELS MDL-01
	MOTELS MDL-94
	NON PROFIT MDL-94
	NON PROFIT MDL-96
	NURSING HM
	OFFICE BLD
	OFFICE BLD MDL-94
	POST OFF
	PROF BLDG
	PROF BLDG MDL-94
	REST/CLUBS MDL-06
	REST/CLUBS MDL-94
	REST/CLUBS MDL-96
	STORE/SHOP MDL-94
STORE/SHOP MDL-96	
<b>Conserved Land/Open Space/Common Area</b>	FOREST CONS ESMT
	GOLF CRSE MDL-00
	GOLF CRSE MDL-94
	WET CONS ESMT
	WHITE PINE STEWARDSHIP
<b>Education/Institutional/Church</b>	CHURCH ETC MDL-00
	CHURCH ETC MDL-94
	CHURCH ETC MDL-96
	COMM BLDG MDL-01
	COMM BLDG MDL-94
	COMM BLDG MDL-96
	PRI SCHOOL
	RELIGIOUS MDL-00
	RELIGIOUS MDL-94
<b>Forestry</b>	FOREST LAND
	HARDWOOD
	HARDWOOD STEWARDSHIP
	WHITE PINE

Category	Zoning and Parcel Classification
<b>Industrial</b>	IND LD UD
<b>Municipal</b>	MUNICIPAL MDL-00 MUNICIPAL MDL-00 MUNICIPAL MDL-01 MUNICIPAL MDL-94 MUNICIPAL MDL-96 TOWN-PROP
<b>Other</b>	AC LND IMP MDL-00 AC LND IMP MDL-01 OCEANFRONT MDL-01 UNDEV LAND MDL-00
<b>Residential</b>	2 FAM OCEAN FT APT 4-7 UNIT APT 8+UP APT OVER 8 CONDO MDL-05 CONDO MAIN MANUFACTURED MBLE HM PK MDL-01 MH NO LAND MDL-02 MULTI HSES MDL-01 MULTI HSES OCEAN OFF CONDO MDL-06 RES ACLNDV MDL-00 RES ACLNPO RES ACLNUD RTL CONDO MDL-06 SFR WATER MDL-01 SING/ACCES SINGLE FAM MDL-01 SINGLE FAMILY TWO FAMILY
<b>State Land</b>	NH STATE MDL-00 NH STATE MDL-01 NH STATE MDL-96
<b>Utility</b>	PUB UTIL TEL REL TW MDL-00 TEL X STA
<b>Wetland</b>	WETLAND



# Existing Conditions: Land Cover

Town of Rye, New Hampshire

Map created for planning purposes  
for master plan development

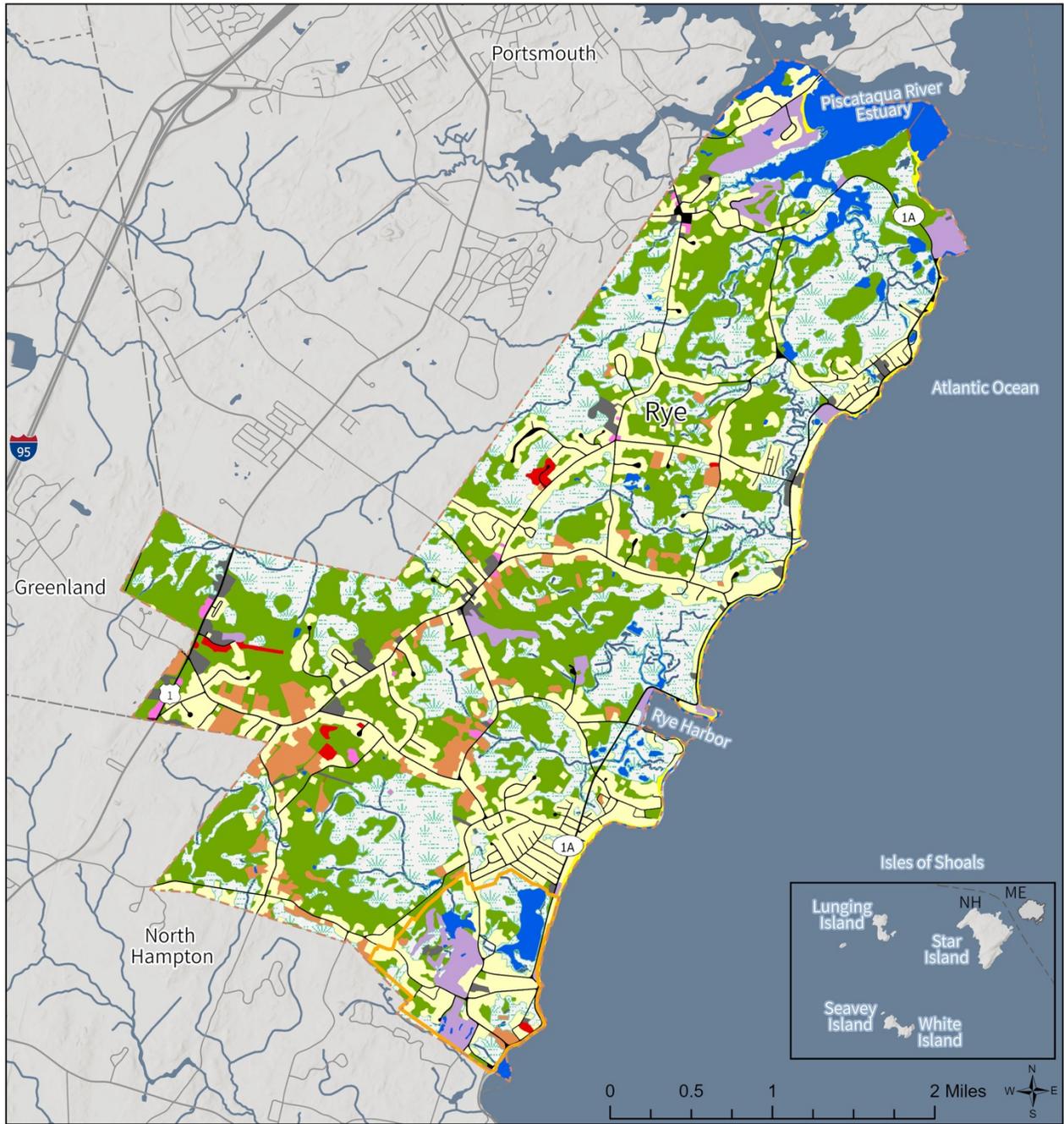


Data Sources: NH GRANIT, NHD, NH DOT, RPC,  
Maine GeoLibrary,  
Coordinate System: NAD 1983 State Plane  
New Hampshire FIPS 2800 (US Feet)  
Map by: C. Bunyon, FB Environmental

- Town Boundary
- Town of Rye
- Rye Beach Village District
- Road
- River/Stream
- Coastal Waters/Waterbody

## Land Cover (2015)

- Residential
- Commercial
- Industrial
- Disturbed Land
- Transportation
- Open Space
- Beaches
- Agriculture
- Exposed Rock
- Forest
- Wetland
- Water
- Other



# Existing Conditions: Land Use

Town of Rye, New Hampshire

Map created for planning purposes  
for master plan development

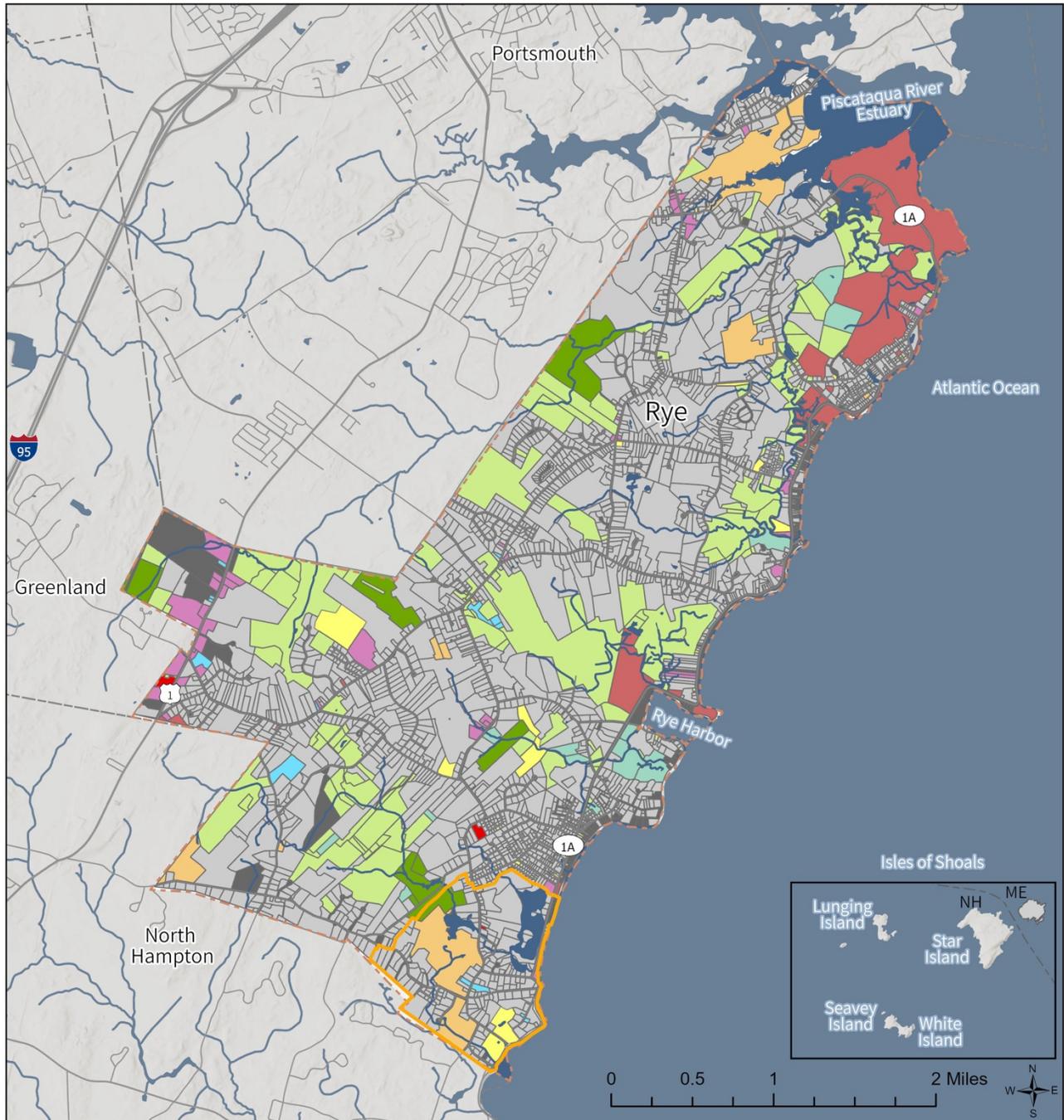


Data Sources: NH GRANIT, NHD, NH DOT,  
Maine GeoLibrary, CAI, 2023 Town of Rye  
Assessors' Database  
Coordinate System: NAD 1983 State Plane  
New Hampshire FIPS 2800 (US Feet)  
Map by: C. Bunyon, FB Environmental

- Town Boundary
- Town of Rye
- Rye Beach Village District
- Road
- River/Stream
- Coastal Waters/Waterbody

- Land Use
- Forestry
  - Wetland
  - Agricultural
  - Conserved Land/
  - Open Space/
  - Common Area
  - Residential

- Education/
- Institutional/Church
- Commercial
- Industrial
- Municipal
- State Land
- Utility
- Other



# TRANSPORTATION

Rye's transportation network consists of roadways, culverts, bridges, sidewalks, trails, pedestrian crossings, vehicles, and safety signage. Due to Rye's seacoast location, many visitors utilize Rye's roadway system and this results in heavy seasonal traffic patterns.

The town's local roadways utilized by its residents weave throughout the community, its residential neighborhoods, and along its coastline. The town center and other areas with mixed civic, residential, and commercial uses have higher amounts of pedestrian infrastructure, including crosswalks, sidewalks, and expansion of shoulders.

***Key issues Rye must consider in future planning related to transportation infrastructure include climate change impacts on roadways, pedestrian and bicycle safety, traffic congestion, speed control, stormwater management, and public transportation opportunities.***



## FACTS AND FIGURES

 **64** miles of roadway extend throughout Rye, including municipal, state, and privately owned roads.

 **7** bridges are located in Rye, most of which are state-owned besides Rye Harbor Bridge. All are in good condition.

 **19** miles of paved roadway have been identified by New Hampshire Department of Transportation as being good candidates for bicycle infrastructure.



**408** accidents occurred in Rye from 2018-2022. There are three roadways in Rye that accounted for about 52% of all accidents, these include Lafayette Road (NH 1), Ocean Boulevard (NH 1A), and Washington Road.



A complete streets project for Rye Town Center has been identified for future implementation in Rockingham Planning Commission's 2045 Long-Range Transportation Plan.



**~800** catch basins exist in Rye, according to the town's 2022 Municipal Separate Storm Sewer System (MS4) Report.

# KEY FINDINGS

- Rye's dominate traffic patterns reveal a strong south/north orientation, which are defined by primary roadways, such as Washington Road to Wallis Road to Sagamore Road. This is in part due to **seasonal congestion**, major **commuting** routes NH 1 and NH 1A, and residents **utilizing services** in Portsmouth and North Hampton.
- There are **64 miles** of municipal, state, and private roadways in Rye. Forty-five miles of these are maintained by the Rye Public Works Department.
- Rye has **seven bridges** in town. Only one is town-owned, Rye Harbor Bridge. According to NHDOT's 2022 Bridge Conditions data, none of the bridges located in Rye are identified as being structurally deficient. The Rye Harbor Bridge is in need of repair despite not being listed as structurally deficient by the state.
- The Town of Rye participates in a Stormwater Management Program and maintains and manages a **Municipal Separate Storm Sewer System (MS4)**. A Municipal Separate Storm Sewer System (MS4) includes the stormwater collection, conveyance, and outfall structures within a city or town. In 2022, 148 catch basins were inspected and cleaned by the Public Works Department and less than ten cubic yards of material was removed. According to the 2022 (MS4) Report, there are approximately 800 known catch basins in Rye, which are an important component of the town's stormwater system.
- A portion of **New Hampshire's Coastal Scenic Byway** is located in Rye along NH 1A. The New Hampshire Coastal Byway follows NH Routes 1A & 1B twenty-two miles from Seabrook to Portsmouth.
- The **New Hampshire Seacoast Greenway (NHSG)** is a proposed seventeen-mile, non-motorized trail that will connect the eight coastal communities of Seabrook, Hampton Falls, Hampton, North Hampton, Rye, Greenland, New Castle and Portsmouth. This proposed NHSG will connect through Rye by the existing rail corridor located near NH 1A and Breakfast Hill Road. Additionally, the state identified 19 miles of paved road in Rye as being well-suited for bicycle infrastructure. These present opportunities to expand the bicycle infrastructure network.
- Most of Rye's traffic is **commuter and passer-by traffic** traveling to and from Portsmouth in the northern part of town, along NH 1 traveling west and traveling south along NH 1A.
- **Traffic count data** from 2018-2022 revealed that NH 1A and Elwyn Road at the Portsmouth town line have experienced an increase in traffic volumes.
- From 2018-2022, there were a total of **408 accidents** in Rye. There are three roadways in Rye that accounted for about 52% of all accidents, these include Lafayette Road (NH 1), Ocean Boulevard (NH 1A), and Washington Road. These roadways were also where the most intersection related accidents occurred.
- Rye is one of the 7 communities in the Rockingham Planning Commission region to have initiated a **Safe Routes to School (SRTS) Program**.
- **Complete Streets standards** were adopted into the Town's sSbdivision design standards to address save access elements and management.
- A Rye **Town Center Complete Streets project** has been identified in the Rockingham Planning Commission's 2045 Long Range Transportation Plan. Rye has actively demonstrated that the town is looking for ways to expand pedestrian and bicycle infrastructure to key areas in town including connecting neighborhoods to the town center, and beaches.
- Other characteristics of Rye's transportation system that have the potential to negatively impact public safety (primarily emergency access routes) is the high degree of **peak hour traffic congestion** on NH 1A during the summer months.

# RYE NH, EXISTING CONDITIONS PROFILE – TRANSPORTATION

The following section provides additional detail on the Town of Rye’s **transportation network and infrastructure** including trends, data, and other information.

## ROADWAYS

Rye’s roadway network includes a total of 64 miles of municipal, state, and private roads listed in Table 1. Roadways make up approximately 2% of the town’s total land area. The length of state routes in Rye total approximately 12 miles. The State-maintained routes include NH 1A (Ocean Boulevard), NH 1B (Wentworth Road), and NH 1 (Lafayette Road). The State-maintained secondary roads include

Road Class	Maintenance	Length (mi)	% of Town
0	Private	7.09	0.16
II	State	12.42	0.54
V	Local	44.21	1.28
VI	Not Maintained	0.2	0.003
	<b>Total</b>	<b>63.92</b>	<b>1.82%</b>

Brackett Road, from Pioneer Road to NH 1A, Marsh Road, and a small portion of Breakfast Hill Road. Most of Rye’s roads are municipally maintained (approximately 45 miles), which give the town control over their design and maintenance. Table 2 shows the definition of each roadway classification from New Hampshire Department of Transportation (NHDOT).

Road Class	Description
Class I	<b>Trunk Line Highways</b> consist of all existing or proposed highways on the primary state highway system, excepting all portions of such highways within the compact section of cities and towns. The state assumes full control and pays costs of construction, reconstruction, and maintenance of its sections; the portions in compact areas are controlled by the cities and towns under Class IV Highways.
Class II	<b>State Aid Highways</b> consist of all existing or proposed highways on the secondary state highway system, excepting portions of such highways within the compact section of cities and towns, which are classified as Class IV Highways
Class III	<b>Recreational Roads</b> consist of all such roads leading to, and within, state reservations designated by the Legislature. The state highway department assumes full control of reconstruction and maintenance of such roads.
Class IV	<b>Town and City Streets</b> consist of all highways within the compact sections of cities and towns. Extensions of Class I and Class II highways through these areas are included in this classification.
Class V	<b>Rural Highways</b> consist of all other traveled highways which the city or town has the duty to maintain regularly.

Class VI	<b>Unmaintained Highways</b> consist of all other existing public ways, including highways discontinued as open highways and made subject to gates and bars and highways not maintained and repaired in suitable condition for travel for five consecutive years or more.
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Almost all of Rye’s roadways are paved, with only about five miles of unpaved roads in town. Overall, Rye has approximately 59 miles of paved roads throughout town. The remaining unpaved roads in town include Davis Road, Pulpit Rock Road, Neptune Drive, Cole Noyes Avenue, Shoals View Drive, Porpoise Drive, Rye Lane, VinMar Court, W. Atlantic Avenue, Jenness Avenue (West), Sunrise Path, and Old Beach Way.

As described in the 2023-2028 Rye Capital Improvement Plan, “in 2015 the town contracted with Street Scan to conduct a pavement condition study of all the town-maintained roads. Each road was rated for several deterioration conditions and received a nationally recognized Pavement Condition Index (PCI) of between 1 and 100. The average value for all the town roads was 76, which is a C rating. In 2020, the Selectboard budgeted to have this study conducted again and the study reflected a decrease in PCI of 69. This reflects that inadequate prior funding levels resulted in an 7% deterioration in the overall road pavement condition over the prior five years (2015-2020). This highlights the need for additional road paving funding. Paving costs increase each year and increased funding is required to improve the PCI index to a sustainable level”. Currently, the town’s road paving strategies consist of crack sealing and shim and overlay. Since 2020, the Town of Rye gradually added more funding annually for road pavement projects. Repaving projects also present an opportunity for other bicycle and pedestrian improvements.

**BRIDGES AND CULVERTS**

There are a total of seven bridges in Rye. Out of these seven bridges, one is town-owned (Harbor Road Bridge). A list of Rye’s bridges, their location, and NHDOT identification can be found in Table 3. According to NHDOT’s 2022 Bridge Conditions Data, none of the bridges located in Rye are as structurally deficient. However, the Rye Harbor Bridge is currently in need of repair despite not being redlisted by the state.

Table 3: Bridges Located in Rye			
NHDOT Bridge ID	Location	Over (Waterway)	Ownership
252/156	NH 1A	Seavey Creek	NHDOT
235/153	Brackett Road	Berry Brook	NHDOT
194/092	NH 1A	Parsons Creek	NHDOT
145/080	NH 1A	Rye Harbor	NHDOT
135/075	Rye Harbor Road	Brook	Municipality
123/073	North of Old Rye Harbor Road	-	-
086/047	NH 1A (Rye Beach)	Eel Pond Outlet	Privately-Owned

It is also important to maintain culverts as critical water and wildlife crossings, and to maintain any catch basins that connect to these culverts. Routine maintenance and replacement of culverts is important to help communities mitigate flooding by ensuring the culvert size is large enough to allow for a surge of water to flow through/beneath during heavy rainstorms. Culverts

also act as critical stream crossings for wildlife habitat by providing adequate connectivity for wildlife movement.

A Municipal Separate Storm Sewer System (MS4) includes the stormwater collection, conveyance, and outfall structures within a city or town. The Town of Rye participates in a Stormwater Management Program and maintains and manages a Municipal Separate Storm Sewer System (MS4). According to the 2022 Municipal Separate Storm Sewer System (MS4) Report, there are a total of approximately 800 known catch basins in Rye. Along with approximately sixty other municipalities in the state, the Town of Rye's MS4 permit is regulated under the EPA Clean Water Act (CWA). The Public Works Department works to comply with the requirements of the MS4 permit issued on May 1, 2018, by the US Environmental Protection Agency (EPA). For more information about the Town of Rye's MS4 System and Permit, visit the Community Facilities and Services Profile of this Existing Conditions Report.

## **SIDEWALKS AND BICYCLE INFRASTRUCTURE**

There are a total of 3.6 miles of sidewalk located in Rye and the Rye Beach Precinct. Most of these sidewalks are in the Rye Beach Precinct. However, there is a small section of sidewalk along the west side of Washington Road in the town center from the Library to the Public Safety Building, as well as a small section of sidewalk along the east side of Cable Road. Constructing more pedestrian and bicycle infrastructure in town has been an explicit goal of Rye's over the years. In 2009, the Town of Rye received a grant from NHDOT for a Safe Routes to School (SRTS) Travel Plan. The purpose of implementing SRTS is to encourage a greater percentage of students to bike and walk to school safely. The roadways identified for SRTS improvements include Washington Road, Lang Road, Wallis Road, and Central Road. Currently, no additional progress has been made implementing the Safe Routes to School program. However, Rockingham Planning Commission did conduct a shoulder study in 2017 as a follow-up to the Safe Routes to School Designation work.

To work towards Rye's goal of expanding pedestrian and bicycle infrastructure, the Selectboard formed and appointed the Town Center Committee in 2019. The purpose of this committee is to propose a comprehensive vision for the town center to better accommodate multiple modes of transportation, to increase connectivity throughout town, and to create a community outdoor space. The Town Center Committee term is scheduled to terminate in March 2024.

As identified in the 2022 Town Annual Report, the Town of Rye received a Transportation Alternatives Program (TAP) grant to redesign approximately 1,900 feet of Washington Road. This will include a sidewalk extension, shoulder expansions, bike lanes, and new crosswalks. This project will include installing a sidewalk that is set back on the west side of Washington Road, connecting Rye Junior High School to the Rye Public Library. It will also include the addition of bicycle lanes along Washington Road through the Town Center and the reduction of travel lanes to 10 feet. Additionally, the entire project area will also include new historically appropriate lighting to better illuminate the Town Center and create a more pedestrian friendly environment. This project is anticipated to be completed in 2029.

The Town of Rye is charged with facilitating the planning and implementing of the TAP Grant and charge with *“identifying and vetting contractors/consultants for project implementation; assisting the Rye Selectboard in acquiring information required by NH State entities for project implementation; analyze project specifications in relation to shifting landscape of structures and uses within the projects geographic area to ensure harmonization; and to recommend potential improvements/changes over the life of the project.”* The Rye Town Center Committee, the Town Administrator, and the Public Works Director are leading efforts for this project in collaboration with Rockingham Planning Commission (RPC) and NHDOT.

## **TRAILS**

There are approximately 13.6 miles of trails in Rye. This includes trails within the Rye Town Forest, Odiorne State Park, Charles E. Rand Memorial Forest, Seavey Acres, and Marden Woods. This total does not include Airfield Woods or Cedar Run Woods due to limited data on trail length at these sites and does not include other trails developed on private properties.

Rye’s public trails are primarily on conservation lands and used for recreation. Rye also has a small section of rail corridor that crosses through Rye off NH 1 near Breakfast Hill Road. This will become a segment of the New Hampshire Seacoast Greenway (NHSG), which is a future regional rail trail that will extend from the Massachusetts boarder to Maine.

## **NEW HAMPSHIRE SEACOAST GREENWAY (NHSG)**

The NHSG is a proposed seventeen-mile, non-motorized trail that will connect the eight coastal communities of Seabrook, Hampton Falls, Hampton, North Hampton, Rye, Greenland, New Castle, and Portsmouth. The NHSG is part of the larger East Coast Greenway, which is a developing trail system that spans nearly 3,000 miles and extends between Canada and Key West, linking 25 cities on the eastern seaboard. The NHSG will benefit Rye by serving as an off-road route to provide an opportunity to utilize a different mode of transportation that connects the Seacoast communities.

## **NEW HAMPSHIRE SCENIC COASTAL BYWAY**

The Scenic Coastal Byway is the state’s scenic drive along New Hampshire’s seacoast that is 18.5 miles in length. It passes through six New Hampshire communities including Portsmouth, New Castle, Rye, North Hampton, Hampton, and Seabrook. The Byway connects ten units of the State Park system as well as numerous local and private parks and recreational attractions. Along this byway, historic structures can be viewed as the Byway overlooks the sandy beaches and rocky shores of the Gulf of Maine and Hampton Seabrook Marsh. Eight scenic areas have been identified along Ocean Boulevard (NH 1A) by the New Hampshire Coastal Program: Little Harbor, Berry’s Brook Estuary, Fairhill-White Cedar Swamp, Odiorne Point State Park, Eel Pond/Cedar Swamp Run, Burkes Pond, Browns Mill Pond, Rye Ledge, and the Isles of Shoals. The Scenic Coastal Byway also carries U.S. Bicycle Route 1 and the East Coast Greenway

through New Hampshire. The portion of NH 1A in Rye is part of a designated Scenic Byway. NH 1A is a designated Scenic Byway controlled by the State and its shoulders have been upgraded to better and more safely serve the significant bicycle traffic that frequents the Seacoast area.

## **RECOMMENDED BIKE ROUTES**

The NH Department of Transportation maintains an interactive bicycle route map found here: <https://nh.maps.arcgis.com/apps/webappviewer/index.html?id=49c702c328d84a29af3b4a27eb271b37>

Included on this map are NHDOT recommended bicycle routes. The state identifies 19 miles of paved road in Rye as being well-suited for bicycle infrastructure. Currently, Rye has a Highway Pavement Width policy (2005) that calls for paved roadways to be widened to up to 26 feet when Class IV roadways are reclaimed or reconstructed to provide adequate space for bicyclists and pedestrians. Some of the roads recommended by NHDOT as bicycle routes include Ocean Boulevard, Cable Road, Central Road, Groove Road, Washington Road, West Road, Breakfast Hill Road, Wallis Road, Sagamore Road, Wentworth Road and New Castle Road. The state recommended bike routes can be seen on the Transportation Map found at the end of this profile.

## **TRANSIT AND REGIONAL TRANSPORTATION ISSUES**

Many segments of Rye's population would benefit from greater access to public transit options. According to Rockingham Planning Commission's 2045 Long Range Transportation Plan, *"Accessibility in the region is excellent for individuals with a motor vehicle. In contrast accessibility is very limited in much of the region for senior citizens, individuals with disabilities or other residents who lack a private motor vehicle or who are otherwise unable to drive to get to work, perform errands, or travel for other reasons"*. Rye is one of the communities located in the service area of one or more transit providers, but few trips are occurring. The lack of awareness of the services in the region has been a consistent challenge.

NHDOT provides three park and ride lots near Rye (in Portsmouth and North Hampton). The Park and Ride in North Hampton is located on Timber Swamp Road and the two Park and Rides in Portsmouth are located on NH 33. The Portsmouth Transportation Center is located on NH 33 at I-95, Exit 3 and is the state's largest park and ride facility for commuters with a 1,210-vehicle parking capacity and available bicycle racks. The Portsmouth Transportation Center also provides transportation access to C&J Trailways and COAST bus systems. The convenience of these services allows users to link bus travel with Logan Airport, the metropolitan Boston public transportation system, and the Downeaster Train, serving Exeter, Durham, and Dover. This park and ride is also well situated for Rye residents who commute via I-95.

Other transportation services in Rockingham County (as identified in the Rockingham Planning Commission's 2023 Coordinated Public Transit and Human Services Transportation Plan for the

Southern NH Region) are listed below. These transportation services are offered in Rye, adjacent communities, or are available throughout the whole region:

- **COAST Cooperative Alliance for Seacoast Transportation** – is a regional non-profit transportation provider that is scheduled to operate on eight main state routes Monday through Saturday. These include Routes include NH 1, 6, 12, 13, 14, 43, and 100, and buses run hourly.
- **C&J Bus lines** – is a private carrier that provides coach bus services between Dover, Portsmouth, Seabrook, Boston Logan Airport and Boston South Station where connections can be made via Amtrack and various other intercity bus companies to points south and west.
- **Granite State Independent Living (GSIL)** – is a statewide independent living center that received a state contract from Department of Education to transport low-income disabled clients who rely on mobility devices like wheelchairs and scooters. Trips are limited to shopping, social activities, or errand type trips for those eligible statewide.
- **Veterans Administration – Veterans Transportation Service (VTS)** - Provides non-emergency medical transportation to qualifying Veterans. Trips are scheduled through a rider’s primary care providers and must meet several administrative and medical criteria.
- **Transportation Assistance for Seacoast Citizens (TASC)** – is a volunteer driver program based in Hampton and serving the ten Rockingham Planning Commission communities of Brentwood, Exeter, Greenland, Hampton, Hampton Falls, Kensington, North Hampton, Rye, Seabrook and Stratham. Service is available to senior citizens and individuals with disabilities within these communities and to destinations outside the region as far away as Boston. Rides are available for medical and social service appointments, grocery shopping, and other basic needs. Eligible residents include older adults and individuals with disabilities.
- **Rye Senior SERVE (Serving Elder Residents through Volunteer Efforts)** – is a non-profit 501 (c) (3) charitable organization that operates its own minibus to provide transportation services to older residents of Rye. Services include trips to healthcare appointments, weekly trips to the Portsmouth Area to grocery stores, pharmacies, and the bank, social events at the library, and personal home wellness visits. This service is available Monday through Friday 8am-5pm. For more information visit the Senior Services page on the Town’s Website: <https://www.town.rye.nh.us/senior-services>

## CIRCULATION AND DESIGN

An analysis of Rye’s vehicle trips, commuting patterns, traffic counts, accidents, traffic calming, access management needs, and identified bicycle and pedestrian infrastructure needs will inform Rye’s long-term transportation planning and design objectives. Most of Rye’s dominate traffic patterns reveal a strong south/north orientation which is heavily reliant on primary roadways such as Washington Road to Wallis Road to Sagamore Road.

## Commuter Data

Most of Rye's traffic is passer-by traffic and commuters traveling to and from Portsmouth in the northern part of town, along NH 1 traveling west, and traveling south along NH 1A. Rye residents typically utilize these routes and travel to Portsmouth for shopping, work, and entertainment. These roadways in Rye also experience seasonal traffic of tourists for trips to the beaches along Ocean Boulevard. As identified in the 2018 Rye Transportation Chapter update in the previous Master Plan, *"Lang Road is already carrying increasing traffic volumes as it becomes more of a primary access point between Rye and Portsmouth. Mill Road/West Road may also show increased volumes if it is used as an alternative to traveling on NH Route 1. And truck traffic on local roads creates impacts as they service businesses in Rye and surrounding communities."*

Another characteristic of Rye's transportation system that has the potential to negatively impact public safety (primarily emergency access routes) is the high degree of peak hour traffic congestion on NH 1A during the summer months. At these peak periods, it becomes difficult for fire and police vehicles to travel this route when responding to emergencies.

To address the increasing carrying capacity of traffic volumes on Lang Road, an intersection improvement project was completed after six years of work in 2022 at the Lang Road and NH 1 intersection. The purpose of this work is to protect vehicles entering NH 1 from Rye along Lang Road thereby making accessing NH 1 safer particularly for south bound NH 1 traffic. Outbound traffic from Rye now offers protected left turns onto NH 1 from Elwyn Road, Washington Road, and now Lang Road. For more information on specific commuting data in Rye, please visit the Population and Housing Profile in this Existing Conditions Report.

## Traffic Counts

Rye's most recent traffic count data for the roadways with the highest traffic volumes in town is included in Table 4. This table depicts the most recent traffic data for these roadways (2022) in comparison to the traffic count data from previous years. This data was collected by the New Hampshire Department of Transportation. In reviewing the traffic data from 2013 to 2022, it appears that, in most cases, there has been a slight decline of traffic on the roads listed. The reason for some of these declines in traffic volume are not yet clear. However, some roads, such as NH 1A (Sagamore Ave) at the Portsmouth town line (south and north bound) and Elwyn Road at the Portsmouth town line have experienced an increase in traffic volumes. The COVID-19 Pandemic that began in 2020 resulted in many commuters shifting to working remotely from home, which may have contributed to the declining numbers seen in the table below. Its unclear as to when or if these traffic patterns will shift back to pre-COVID numbers.

**TABLE 4: NHDOT Traffic Counts in Rye**

Location	Average Annual Daily Traffic (AADT) (2013)	AADT (2018)	AADT (2019)	AADT (2020)	AADT (2021)	AADT (2022)
NH 1A (OCEAN BLVD) AT NORTH HAMPTON TL	3,700	3,904	3,932	3,319	3,681	2,938
WASHINGTON RD EAST OF US 1	N/A	3,649	3,693	3,095	3,432	3,497
NH 1A (PIONEER RD) WEST OF BRACKETT RD	4,000	4,190	3,658	3,087	3,423	3,614
NH 1A (SAGAMORE AVE) AT PORTSMOUTH TL (SB-NB)	7,000	4,803	4,670	3,941	4,371	6,215
NH 1B (WENTWORTH RD) AT PORTSMOUTH TL	4,900	6,000	4,937	4,167	4,621	4,658
SAGAMORE RD SOUTH OF BERRY BROOK LANE	4,700	4,572	3,840	3,241	3,594	4,131
ELWYN RD AT PORTSMOUTH TL	7,400	10,733	8,408	7,096	7,869	8,552

Traffic Studies

In 2022, a Traffic Pedestrian Safety Study was conducted by Hoyle Tanner Engineering to study traffic and pedestrian safety improvements at NH 1A (Ocean Boulevard) and Perkins Road. The purpose of this study was to address resident concerns regarding vehicular and pedestrian accommodation, parking, and driveway accessibility. The study primarily focuses on providing a safe and accessible pedestrian route along Perkins Road to the crosswalk on Ocean Boulevard. It also investigates vehicular access control improvements. Three alternative designs were identified in the study, these included the following:

- Alternative A – One major reconfiguration concept that would provide physical separation of pedestrian and vehicular areas and would show reconfiguration of the plaza parking area.
- Alternative B - A minor reconfiguration concept that would guide pedestrians to preferred routes and crossings but would not provide physical separation or reconfigure the plaza parking area.
- Alternative C - (a hybrid to first 2 proposed alternatives) provides a grade separated sidewalk adjacent to NH 1A (where it is most needed), provides a delineated but traversable painted pedestrian walkway adjacent to Perkins Road to limit impacts to parking and lot circulation, and provides defined access points for vehicular traffic entering the plaza.

Both Alternative A & B proposed a new crosswalk at the end of Perkins Road as well as pavement and travel way radius revisions in the northwest corner. However, based on the feedback received from the Rye Selectboard and the general public, it appears Alternative C is the preferred and most viable option for design and implementation to this area.

In 2015, a Parking Study of Ocean Boulevard (NH 1A) was completed to address high volumes of vehicle, bicycle, and pedestrian traffic in this corridor from beach visitors. This area of Rye’s transportation system presents many challenges including limited roadway width of the corridor, no sidewalks, or bike paths, multiple residential and commercial driveways, and significant seasonal tourists to Rye’s coast which create parking demands that exceeds the existing supply of available parking in this area. However, this study determined that there is an adequate supply of “resident only” parking in the Ocean Boulevard Corridor despite the limited parking availability. The study recommended the following:

- There appear to be signage and striping inconsistencies that have evolved over the years in response to parking demands. Also, several signs have been added to the corridor that were neither installed nor approved by the Town of Rye.
- The town should conduct a comprehensive assessment of all signage and striping along the corridor to ensure signage and striping are in accordance with the latest standards and approved by the town and NHDOT.
- The study provided observations for the town’s consideration related to adjusting parking along the corridor to provide proper sight distances by eliminating parking adjacent near roadway intersections with residential and commercial driveways. In the congested areas along the Jenness State Beach and Wallis Sands Beach (also known as Pirate’s Cove) area, the study suggests that designated parking spaces could eliminate the confusion on where parking is allowed in proximity to the roadway and driveway intersections. Other options include removal of parking along the more congested sections of Ocean Boulevard.

Accident Data

Between 2018 and 2022, there were a total of 408 accidents reported on Rye’s roadways. Of those accidents, 38 resulted in injuries, 2 of which involved pedestrians, and 7 involved bicyclists. As shown in Table 5, it appears that in recent years there has been a decrease in the total number of accidents annually.

<b>Year</b>	<b># of Accidents</b>
2018	104
2019	83
2020	75
2021	79
2022	67

There are three roadways in town that accounted for about 52% of all accidents these include Lafayette Road (NH 1), Ocean Boulevard (NH 1A), and Washington Road. Ocean Boulevard was the roadway with the most accidents at 112 or 27%. Lafayette Road had a total of 56 accidents and accounted for 14% of all accidents in Rye and Washington Road had a total of 44 accidents or 11%. Of the 408 accidents reported, 25 of them were accidents that occurred at intersections. The roadways with the most intersection related accidents include Ocean Boulevard, Washington Road, and Lafayette Road.

## TRANSPORTATION RESOURCES AND PENDING INFRASTRUCTURE PROJECTS

The Rye Department of Public Works, Selectboard, and Planning Board are collectively responsible for overseeing the management of the town's transportation system, its maintenance, and future infrastructure investments.

A review of the New Hampshire 2023-2032 Ten Year Transportation Improvement Plan identified the following future projects:

- Project #43002 - Route NH 1A - replacement of 4 ft x 5.5 ft stone walled, concrete deck culvert just north of Locke Rd.
- Project #43735 Washington Road – construct sidewalk, shoulder expansion, bike lanes and cross walks on Washington Rd for 1,900 linear feet.

Rockingham Planning Commission's (RPC) 2023-2026 Transportation Improvement Program reported the following future projects in Rye:

- Project # 16127 New Castle – Rye NH 1B Bridge replacement, Single Leaf Bascule Bridge, NH 1B over Little Harbor (Red List) Br No 066/071
- Project # 41713 – New Castle – Rye NH 1A & 1B Bike shldrs Svy Creek-OSP/ NH1B-NH1A/Sdwlks Wild Rose-Beach Hill/Shldrs Wild Rose-USCG (~4.2m)
- Project # 42321 North Hampton – Rye NH 1A – Reconstruct NHDOT stone revetment seawalls/Berms

Other longer term transportation projects that are not yet programmed in the state but have been identified as needs in RPC's 2045 Long Range Transportation Plan (2021 Update) include:

- Rye Town Center Complete Streets
  - Project #6397004 location: Washington Rd scope: extend sidewalk, add shoulder bike lane, and install crosswalks along 1,900' of Washington Rd in Rye first year of construction estimated: 2027
- US 1 Shoulders Breakfast Hill to Portsmouth City Line
  - Project #6397001 location: US 1 scope: US 1 Shoulders Breakfast Hill Road to Portsmouth city line first year of construction: 2041
- US 1 Shoulders from N. Hampton T/L to Breakfast Hill Rd
  - Project #6397003 location: US 1 scope: Improve Shoulders on US 1 from North Hampton Town line to Breakfast Hill Road. Realign Dow Road to 90 degree approach first year of construction 2042
- US 1 Washington Rd. Intersection capacity improvements
  - Project # 6397002 scope: Widen to five lanes and improve the Washington Road/Breakfast Hill Road intersection with US 1. Reduce vertical rise to the south to improve sight distance. First year of construction: 2042

## EMERGING OR POTENTIAL ACTIONS

- Prioritize the expansion of bicycle infrastructure where appropriate and enhance connectivity throughout town. Connect to the anticipated New Hampshire Seacoast Greenway (NHSG) and utilize NH DOT's Recommended Bike Routes Map to identify opportunities.
- Develop a Complete Streets Policy, an action the town has already demonstrated interest in pursuing.
- Evaluate roads for sufficient emergency access and make improvements to those that are insufficient. Connect older cul-de-sac roads that lack connections to one another to improve emergency vehicle access should the primary road be obstructed and improve pedestrian and bicycle connectivity.
- Continue to invest in additional annual funding for road pavement projects. Repaving projects also present an opportunity for other bicycle and pedestrian improvements.
- Continue to foster stormwater best management practices through MS4 permit requirements.
- Review the 2009 Rye Safe Routes to School Plan and determine how it can inform future pedestrian infrastructure improvements in the town center, particularly when looking at improving connectivity from the Junior High to the town center and to Rye Elementary School. Other improvements were identified in the SRTS Travel Plan for Washington Road, Lang Road, Wallis Road, and Central Road. Consider re-establishing the Safe Routes to School Committee through the Selectboard.
- Encourage residents to utilize existing transit options by providing educational and marketing resources to increase awareness of these services.
- Consider securing additional funding and expanding the Rye Senior SERVE transportation services.
- Review stormwater management requirements in the town's site plan and subdivision regulations and ensure they meet contemporary best practices (such as promoting infiltration and the incorporation of green infrastructure system designs).
- Consider conducting further studies to identify ways to reduce traffic congestion on high volume roadways specifically at the Rye/Portsmouth town lines.
- Pave the remaining unpaved roadways in Rye, as appropriate. These include Davis Road, Pulpit Rock Road, Neptune Drive, Cole Noyes Avenue, Shoals View Drive, Porpoise Drive, Rye Lane, VinMar Court, W. Atlantic Avenue, Jenness Avenue (West), Sunrise Path, and Old Beach Way.

# Existing Conditions: Transportation

Town of Rye, New Hampshire

Map created for planning purposes for master plan development



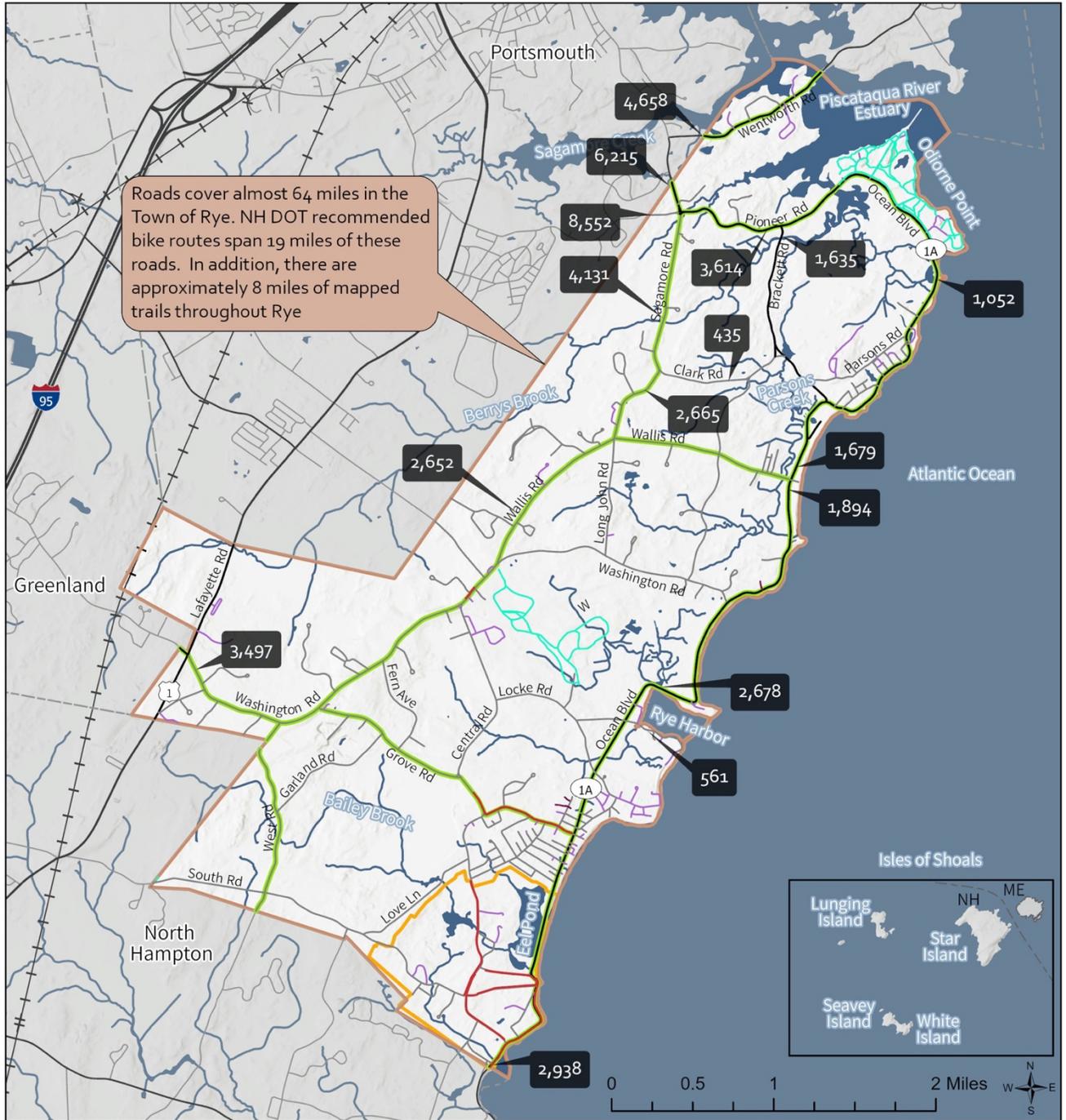
Data Sources: NH GRANIT, NHD, NH DOT, Maine GeoLibrary  
 Coordinate System: NAD 1983 State Plane New Hampshire FIPS 2800 (US Feet)  
 Map by: C. Bunyon, FB Environmental

- Town Boundary
- Town of Rye
- Rye Beach Village District
- Building Footprint
- Coastal Waters/Waterbody
- River/Stream
- State Road
- Local Road
- Private Road
- Unmaintained Road
- NH DOT Recommended Bike Route
- Existing Sidewalk \*
- Trail
- Rail Road

Numbers indicate the average annual daily traffic count for 2022.

\* Additional sidewalks may exist in other areas.

Roads cover almost 64 miles in the Town of Rye. NH DOT recommended bike routes span 19 miles of these roads. In addition, there are approximately 8 miles of mapped trails throughout Rye



## DATA SOURCES

- 2022 Town Annual Report
  - [https://www.town.rye.nh.us/sites/g/files/vyhlf3751/f/uploads/2022\\_annual\\_report.pdf](https://www.town.rye.nh.us/sites/g/files/vyhlf3751/f/uploads/2022_annual_report.pdf)
- 2023-2028 Capital Improvement Plan
  - [https://www.town.rye.nh.us/sites/g/files/vyhlf3751/f/uploads/approved\\_final\\_2023-2028\\_cip.pdf](https://www.town.rye.nh.us/sites/g/files/vyhlf3751/f/uploads/approved_final_2023-2028_cip.pdf)
- 2022 Salt Reduction Plan
  - [https://www.town.rye.nh.us/sites/g/files/vyhlf3751/f/uploads/salt\\_reduction\\_plan\\_0.pdf](https://www.town.rye.nh.us/sites/g/files/vyhlf3751/f/uploads/salt_reduction_plan_0.pdf)
- 2023-2032 NHDOT Ten Year Transportation Improvement Plan
  - <https://www.dot.nh.gov/projects-plans-and-programs/ten-year-plan>
- 2023-2026 Rockingham Planning Commission Transportation Improvement Program
  - <https://www.therpc.org/transportation/tip/2023-2026-tip>
- 2045 Rockingham Planning Commission Long Range Transportation (2021 Update)
  - [https://www.therpc.org/application/files/6316/2930/0156/LRTP\\_Adopted2021.pdf](https://www.therpc.org/application/files/6316/2930/0156/LRTP_Adopted2021.pdf)
- 2022 NHDOT Traffic Count Data
- 2022 NHDOT Bridge Condition Data
- 2023 Rockingham Planning Commission Coordinated Public Transit and Human Services Transportation Plan for the Southern NH Region
  - [https://www.therpc.org/application/files/2816/8744/5216/ACT\\_Coordinated\\_Plan\\_2023\\_Final.pdf](https://www.therpc.org/application/files/2816/8744/5216/ACT_Coordinated_Plan_2023_Final.pdf)
- 2009 Rye Safe Routes to School
- New Hampshire Seacoast Greenway (NHSG)
  - <https://www.greenway.org/states/new-hampshire>
- 2022 MS4 Report
  - [https://www.town.rye.nh.us/sites/g/files/vyhlf3751/f/uploads/year\\_5\\_report\\_executed\\_copy.pdf](https://www.town.rye.nh.us/sites/g/files/vyhlf3751/f/uploads/year_5_report_executed_copy.pdf)
- 2015 Rye Vulnerability Assessment Report

- [https://www.town.rye.nh.us/sites/g/files/vyhlf3751/f/uploads/final\\_report.pdf](https://www.town.rye.nh.us/sites/g/files/vyhlf3751/f/uploads/final_report.pdf)
- Traffic Study: 2022 NH 1A (Ocean Boulevard) at Perkins Road Traffic Pedestrian Safety
- Parking Study: 2015 Ocean Boulevard Parking Study Assessment
  - [https://www.town.rye.nh.us/sites/g/files/vyhlf3751/f/uploads/traffic\\_assessment\\_0.pdf](https://www.town.rye.nh.us/sites/g/files/vyhlf3751/f/uploads/traffic_assessment_0.pdf)
- 2018-2022 Vehicle Accident Data – Rye Police Department
- 2018 Rye Master Plan Transportation Chapter
  - [https://www.town.rye.nh.us/sites/g/files/vyhlf3751/f/uploads/ch\\_6.pdf](https://www.town.rye.nh.us/sites/g/files/vyhlf3751/f/uploads/ch_6.pdf)
- Interview with Rye Public Works Director

# NATURAL RESOURCES

Rye's natural resources, including eight miles of Atlantic Ocean coastline, numerous wetlands and surface waters, groundwater, forests, and other natural resources, provide invaluable benefits to the local ecology and community through hazard mitigation, recreation, and tourism. Conservation land includes salt marshes, forested areas, and provides opportunities for the community to engage with the natural environment. Conservation land also contributes to stormwater and storm surge control during times of flooding because their natural biomechanics act as a sponge for excess water compared to developed areas.

**Two natural resource categories have been identified as being key to the Town's character: first, the beaches and tidal marshes of Rye** serve as a year-round resource for both locals and visitors, drawing tourism opportunities and serving as tidal buffers along with the extensive marshlands along Rye's coast; **and second, the uplands of Rye** support the Town's semi-rural character and are characterized in part by conservation lands that Rye values highly, such as the Rye Town Forest.



## FACTS AND FIGURES



**52%** of New Hampshire's coastline is within Rye, including over 3 miles of beaches.



**29%** of the town is classified as Highest Ranked Habitat in New Hampshire.



**25%** of the town exists within the 100 or 500-year floodplain.



**262** species of seabirds and migratory birds have been observed on the Isles of Shoals and 305 on Rye's mainland.



**30%** of Rye is classified as wetlands.



**41%** of the town was identified as being within a Prioritized Habitat Block.



**24%** of the wellhead protection areas within Rye are conserved.



**10** of the 17 bird species listed by the State of New Hampshire as either threatened or endangered have been seen in Rye.

# KEY FINDINGS

- **Wetlands and waterways** are key natural resource features in the Town of Rye, providing pollutant filtration, nutrient uptake, floodwater storage, and scenic value as tidal marshlands along the coast. Wetlands cover approximately 30% of Rye and over 42 miles of waterways within the Town.
  - **Drinking water** in Rye comes from a stratified drift aquifer, protected by wellhead protection areas covering 38% of the Town's area.
  - **Saltwater intrusion** is a top concern for the Town's drinking water, as well as **pollution** from development and septic systems. 76% of the wellhead protection areas are not held under permanent land conservation.
  - **Marsh degradation** from saltwater inundation threatens the health and stability of marshes, and marsh erosion and flooding from more severe storms are increasing. Flooding of coastal roads is becoming more common.
  - **Water quality impairment status**, including impairments for aquatic life and impairments for fish/shellfish consumption, and duration of impairments are increasing as compared to the frequency that waterbodies are "delisted" (i.e., an impairment is removed). Berry's Brook, Eel Pond, and Lower Sagamore Creek are impaired for aquatic life. Berry's Brook, Parson's Creek, an unnamed Brook to Marsh Pond, an unnamed brook to Bass Beach, Lower Sagamore creek, Rye Harbor, and Witch Creek are impaired for fish and shellfish consumption.
  - **Swimming advisories at beaches** are increasing due to elevated levels of fecal-sourced bacteria. The NHDES Public Beach Inspector Program monitors the water quality for bacteria throughout the summer season.
- When concentrations of bacteria exceed state thresholds, a sign is posted at the beach to advise recreators of environmental conditions.
- Rye has had issues with **contamination of its drinking water resources**. In November 2023, routine water testing conducted by the state Department of Environmental Services found three out of four water distribution sites within the Rye Water District contained E.coli and fecal coliform. Stewardship of Rye's drinking water resources is important to maintain good water quality in town.
  - 41% of the town was identified as being within a **Prioritized Habitat Block**, including Fairhill Swamp, Bailey Brook, and Awcomin Marsh. Prioritized habitat block designation indicate high natural resource value, prime wildlife habitat, and ecologically intact areas.
  - The Town of Rye also contains **2,632 acres of forests** (31% of the town's area). These forested areas provide habitats and natural communities, scenic landscapes, and outlets for recreation.
  - Over **2,164 acres of land are held in conservation** in the Town of Rye (25%), much of which is Town owned land that includes salt marshes, forested areas, and provides opportunities for the community to engage with the natural environment.
  - **Habitat fragmentation for terrestrial and aquatic ecosystems** is increasing as development increases and this results in habitat loss and/or disconnection between habitat areas.

# RYE NH, EXISTING CONDITIONS PROFILE – NATURAL RESOURCES

The following section provides additional detail on the Town of Rye's **natural resources** including trends, data, and other information.

## **WATERBODIES AND WETLANDS**

There are about 42 miles of waterways within the Town of Rye. These streams, including Berrys Brook, Seavey Creek, Witch Creek, Parsons Creek, and Bailey Brook, carry freshwater towards coast where it mixes with the Atlantic Ocean in tidally influenced areas. Rye contains 114 acres of ponds, including Eel Pond, Burke Pond, Brown's Pond, and Locke Pond, and Marsh Road Pond (also known locally as East Rye Pond), about 1,654 acres of freshwater wetlands and an additional 909 acres of saltwater or brackish water wetlands. In total, approximately 30% of the Town of Rye are wetlands, located throughout the Town but mostly clustered adjacent to Rye's waterways with the largest tidal wetlands located behind Rye Harbor (Awcomin Swamp), the Parson's Creek drainage, and the Seavey Creek drainage. Many of the large freshwater wetlands are located along Berrys Brook. These wetlands are imperative for Rye's coastal resiliency as they separate the beaches from the upland areas, serve as storage for floodwaters, and mitigate pollutant transport to and from developed areas.

Wetlands serve as integral factor in the transport of pollutants from developed areas to streams, waterbodies, and to the ocean. Through nutrient uptake, retention, and stabilization of sediments, wetlands help decrease the amount of nutrients, such as nitrogen, organic compounds, such as *E. coli*, enterococci, and polychlorinated Biphenyls (PCBs), and inorganic compounds, such as chloride. Routine monitoring of the water quality of Rye's surface waters is conducted each summer to determine concentrations of bacteria during both dry and wet weather, and to assess where bacteria loads are highest. Even though Rye contains 2,563 acres of wetlands, many waterbodies in the town contain impairments designated by the State of New Hampshire (Table 1). Table 1. Water quality impairments in Rye, NH.

Drinking water with Rye comes from a stratified drift aquifer beneath the town. This aquifer supplies four public water supply wells (two bedrock wells and two gravel wells) which are surrounded by wellhead protection areas. The wellhead protection areas for the three drinking water wells within Rye cover 38% of the Town's area. Currently, 76% of the wellhead protection areas are not held under permanent land conservation. Saltwater intrusion in the Town of Rye's drinking water is a top concern. Contamination of drinking water sources is also a concern for the Town of Rye. In November 2023, routine water testing conducted by the state Department of Environmental Services found three out of four water distribution sites within the Rye Water District contained *E.coli* and fecal coliform. PFAs contamination has also been a concern for

many Rye residents. PFAs, commonly referred to as “forever chemicals” have adverse health effects when ingested in drinking water.

Table 1. Water quality impairments in Rye, NH. Updated with the 2022 NH 303d List of Impaired waters.

Impairment	Waterbody	Reason
Impaired for Aquatic Life	Berry’s Brook	Dissolved oxygen saturation and pH
	Eel Pond	Dissolved oxygen saturation and chloride
	Lower Sagamore Creek	Chlorophyll-a, dissolved oxygen, nitrogen, and estuarine bioassessments
Impaired for Fish/Shellfish Consumption	Berry’s Brook* <sup>1</sup>	Polychlorinated biphenyls (PCBs) and/or Dioxin ( <sup>1</sup> and mercury).
	Parsons Creek <sup>1</sup>	
	Unnamed brook to Marsh Pond	
	Unnamed brook to Bass Beach <sup>1</sup>	
	Lower Sagamore Creek <sup>1</sup>	
	Rye Harbor <sup>1</sup>	
	Witch Creek <sup>1</sup>	
Atlantic Ocean to and surrounding the Isles of Shoals		

\* The water quality of Berry’s Brook was tested in November of 2016 for perfluorinated chemicals (PFCs). The sampling showed Berry’s Brook exceeded the EPA threshold of 70 parts per trillion (ppt) with concentrations of 194 ppt (Block, 2016).

## CONSERVATION AND WILDLIFE HABITAT

Over 2,164 acres of land are held under conservation in the Town of Rye (25%). Conservation land includes salt marshes, forested areas, and provides opportunities for the community to engage with the natural environment. Mostly owned by the town, these areas include nine locations where community members can enjoy forested trails, wetlands, scenic vistas, and more. The community of Rye highly values their conservation lands, as noted by the Rye Master Plan Committee. The conservation of salt marshes and wetlands in particular help contribute to stormwater and storm surge control during times of floods because their natural biomechanics act as a sponge for excess water compared to developed areas.

The Town of Rye also contains 2,632 acres of forests (31% of the town’s area). These forested areas provide natural communities with habitats, scenic landscapes, and outlets for recreation. Habitat for wildlife include Appalachian Oak-Pine forests, temperate swamps, salt marshes, and wet meadow/shrub wetlands which cover 4,896 in Rye or 57% of the Town’s area. One example of a rare natural community found in Rye is the Atlantic White Cedar swamp, which were previously inventoried in Rye being in Bailey Brook, adjacent to Brown’s Pond, and adjacent to Burke’s Pond. The New Hampshire Natural Heritage Bureau has been conducting an update inventory of Atlantic White Cedar stands in Rye, at Fairhill Marsh and the Jim Raynes Forest. The updated NHB report is expected in 2024. Of the 17 bird species listed by the State of New Hampshire as either threatened or endangered, 10 have been seen in Rye. Additionally,

262 species of seabirds and migratory birds have been observed on the Isles of Shoals and 305 on Rye’s mainland. The ability for these species to thrive depends on their access to resources. These include native plants, undisturbed areas, and toxin-free environments. Invasive species have been found within the Town of Rye, particularly within Odiorne Point State Park. In 2010, an Invasive Plant Inventory and Management Plan was completed by the Seacoast Science Center, FB Environmental, and NH state partners to help combat invasive plant species within the park (FB Environmental, 2010).

Being a coastal community, community members have access to a plethora of marine life and harvesting. Shellfish found within waters within or just offshore of Rye include the American lobster (*Homarus americanus*), Atlantic rock crab (*Cancer irroratus*), Jonah crab (*Cancer borealis*), dog whelks (*Nucella lapillus*), quahog/cherrystone (*Mercenaria mercenaria*), blue mussels (*Mytilus edulis*), eastern oysters (*Crassostera virginica*), softshell clams (*Mya arenaria*), little neck clams (*Protothaca staminea*), Atlantic surf clams (*Spisula solidissima*), razor clams (*Siliqua patula*), and Atlantic sea scallops (*Placopecten magellanicus*).

Though these species are present, fishermen and harvesters must always be up to date on areas restricted to harvesting due to impairments and elevated concentrations of parameters. The outlet of the Piscataqua River is marked as a prohibited/safety shellfishing zone, as well as Witch Creek and Berry’s Brook estuaries. The waters within the Isle of Shoals archipelago contain the same designation. Restricted areas for shell fishing include zones around public beaches. Rye Harbor is classified as prohibited/unclassified for shellfish harvesting.

The New Hampshire Fish and Game Department (NHFGD) identified areas with highest natural resource values within New Hampshire. Rye contains six of these “Prioritized Habitat Blocks,” which span 41% of the town (3,484 acres) (Table 2). These Prioritized Habitat Blocks were found to have the highest natural resource values according to state criteria, including prime wildlife habitats and ecological intact areas. The designation serves to help community focus conservation efforts to areas with high ecological significance, connectivity, and thriving resources.

Table 2. Prioritized Habitat Blocks within Rye.

Prioritized Habitat Block	Acres
Bailey Brook	577
Seavey Creek/ Fairhill Swamp/ Wallis Marsh	873
Lower Berry’s Brook	253
Packer Bog/Upper Berry’s Brook South	594
Upper Berry’s Brook North	365
Awcomin Marsh	822
<b>Total</b>	<b>3,484 (41%)</b>

## TRENDS

- Habitat fragmentation for terrestrial and aquatic ecosystems is increasing as development increases and results in habitat loss and/or disconnection between habitat areas.
- Water quality impairment status and duration of impairments are increasing as compared to the frequency that waterbodies are “delisted” (i.e., an impairment is removed).
- Swimming advisories at beaches are increasing due to elevated levels of fecal-sourced bacteria. The NHDES Public Beach Inspector Program monitors the water quality for bacteria throughout the summer season. When concentrations of bacteria exceed state thresholds, a sign is posted at the beach to advise recreators of environmental conditions.
- Marsh erosion and flooding from more severe storms are increasing.
- Flooding of coastal roads is becoming more common.
- Freshwater marsh degradation from saltwater inundation threatens the health and stability of marshes.

## EMERGING OR POTENTIAL ACTIONS

As identified in the Natural Resources Inventory for the Town of Rye, “the greatest threat to the natural resources and ecology of the Town of Rye is habitat loss and alteration resulting from development and from climate change altering the landscape” (FBE, 2021). To support both the economic stability of the town as well as the ecological wellbeing, actions to support natural resources should be balanced with other economic priorities.

### Conservation

- Prioritize conserving areas identified within the Prioritized Habitat Blocks, and within the wellhead protection areas, while creating wildlife corridors between conserved areas.
- Initiate and support land protection efforts with town, commercial, and privately owned property.

### Water Resources

- Protect the Town’s freshwater, marine, and groundwater environments.
- Protect headwater streams, particularly those of Berrys Brook where impacts of pollution on the brook’s water quality restrict fishing. The protection of headwater streams carries many benefits. These can include protecting the water quality of waterbodies (larger streams, ponds, and estuaries) downstream, protection of aquatic habitats, the reduction of nutrient loading, a decrease of sediment delivery to river mouths, and the control and storage of floodwaters.

- Protect Bailey Brook, which is home to significant groundwater resources including two gravel wells, two bedrock wells, and other potential wells currently under investigations.
- Contamination from insufficient or malfunctioning septic systems is likely to become an increasing problem as climate change progresses and sea levels rise. Most of the infrastructure in Rye contains private septic systems. Actions taken to keep septic systems up to date, appropriately sized, and properly maintained is crucial for the future state of water quality in the Town. Where possible, tie properties with septic systems into sewer infrastructure.
- The Town of Rye has been monitoring fecal sources in Parson's Creek since 2008 to investigate, trace, and work towards remediation of bacterial pollution. Current work aims to understand how septic systems may be impacted by saltwater intrusion. The Town should continue these efforts while encouraging residents to practice proper septic system use, maintenance, and upgrades.
- Keep waterfront and adjacent lands free of trash, debris, and dog waste.
- Continue to monitor water quality within the Town, and monitor marsh migration.
- Rye should continue to incorporate guidance from NDES to enhance water quality protective measures in its land use code.

#### Wetlands

- Conduct a vernal pool survey for the Town to aid with further wetland protection efforts.
- Although the State of New Hampshire has not designated any of Rye's wetlands as Prime Wetlands thus not mandating additional protections, the Wetland Conservation District (§ 190-3.1 of the Rye Code) provide rules and regulations for agencies to enact for the protection of their wetlands beyond the state regulations, including expanding buffers as recommended by the 2021 Natural Resource Inventory. Because wetlands are an extremely important natural resource feature in the Town of Rye, the Town should continue to monitor wetland protections in the Town and adjust if wetlands are being threatened.
- Assure uninhibited saltmarsh tidal flow. Regularly inspect and clean out culverts and bridges of debris. Consider reinstalling culverts that are undersized, perched, or misaligned.
- Compile restoration project data to submit to the NH Coastal Program for recordkeeping.

#### Wildlife Habitat

- Combat the spread of invasive species, particularly purple loosestrife (*Lythrum salicaria*) and common reed (*Phragmites australis*). As stated in the Town of Rye Natural Resource Inventory, "these two plants are known to spread rapidly, forming monocultures that outcompete native wetland species in a relatively short time."

## Development

- As stated in the Natural Resource Inventory, “development should be mindful of these sensitive ecosystems [the prioritized habitat blocks] and strive to have as little negative impact as possible.” Habitat protection, education, and targeted land management efforts will help Rye’s ecosystem thrive.
- Encourage or incentivize low impact designs, green infrastructure, nature-based solutions and stormwater infiltration Best Management Practices.

## Education

- The continual education of local officials and community of the Town’s natural resources and their environmental, economic, and cultural benefits
- Community education and involvement – Best management practices (BMPs), improve the protection of riparian areas.
- Encourage reduced fertilizer, pesticide, and herbicide use on town property and residential lawns.
- Continue to document key natural resource features and update the natural resource inventory on a regular basis, such as every 10 years.

# Existing Conditions: Natural Resources - Aquatic Resources

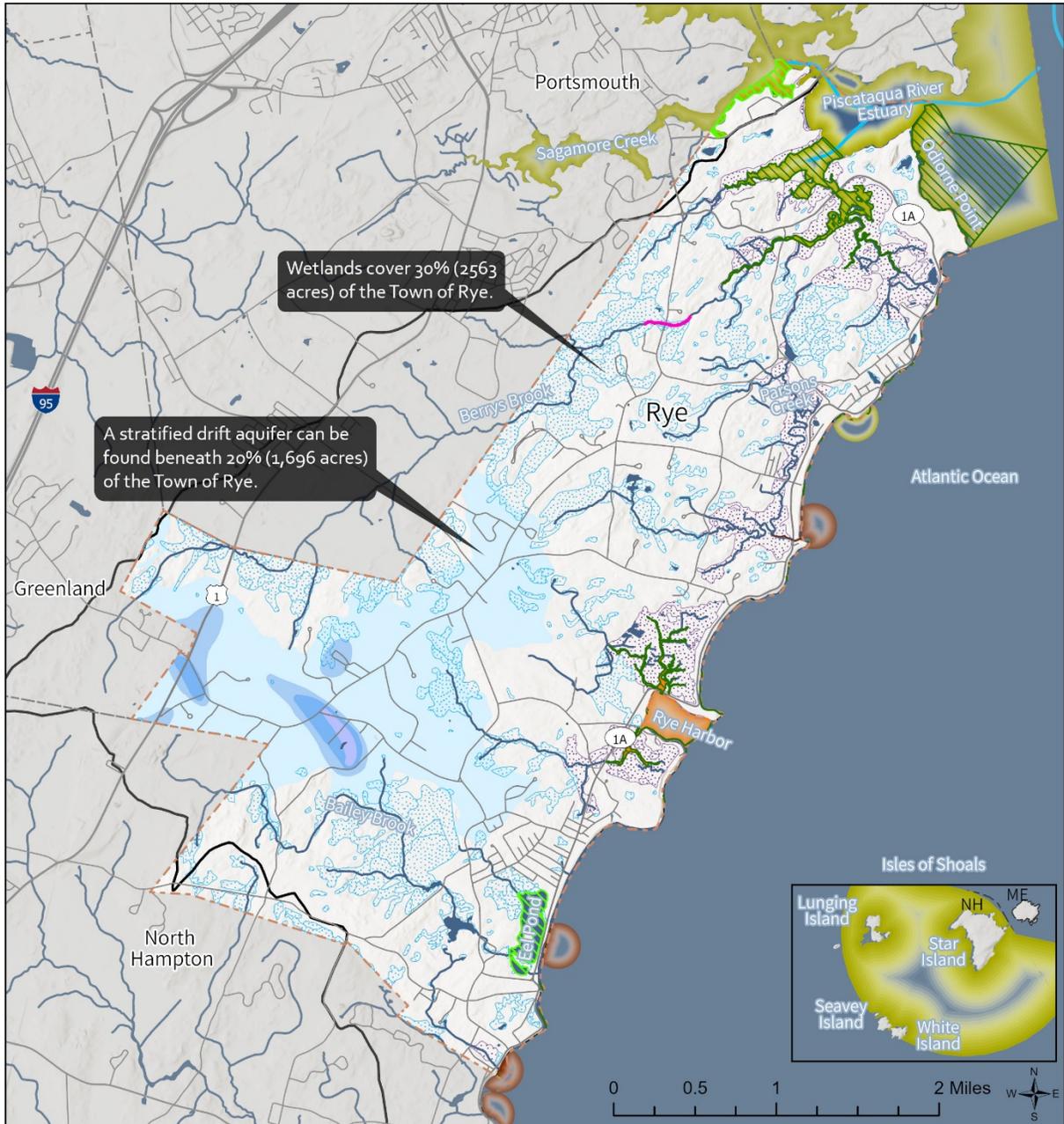
Town of Rye, New Hampshire

Map created for planning purposes for master plan development



Data Sources: NH GRANIT, Maine GeoLibrary, NHD, NWI, NHDES, NHFGD, CTC  
 Coordinate System: NAD 1983 State Plane New Hampshire FIPS 2800 (US Feet)  
 Map by: C. Bunyon, FB Environmental

- Town Boundary
- Town of Rye
- Road
- Coastal Waters/Waterbody
- River/Stream
- Berrys Brook-Rye Harbor Watershed
- Estuarine Wetland
- Palustrine Wetland
- Aquatic Life Integrity
- Fish Consumption
- American Eel, Banded Sunfish, Redfin Pickerel
- Atlantic Sturgeon
- Shellfishing Classifications: Prohibited/Safety Zone
- Restricted
- Prohibited/Unclassified
- Aquifer Transmissivity (ft<sup>2</sup>/day): 1000, 2000, 1000, 99999



# Existing Conditions: Natural Resources - Wildlife Habitat

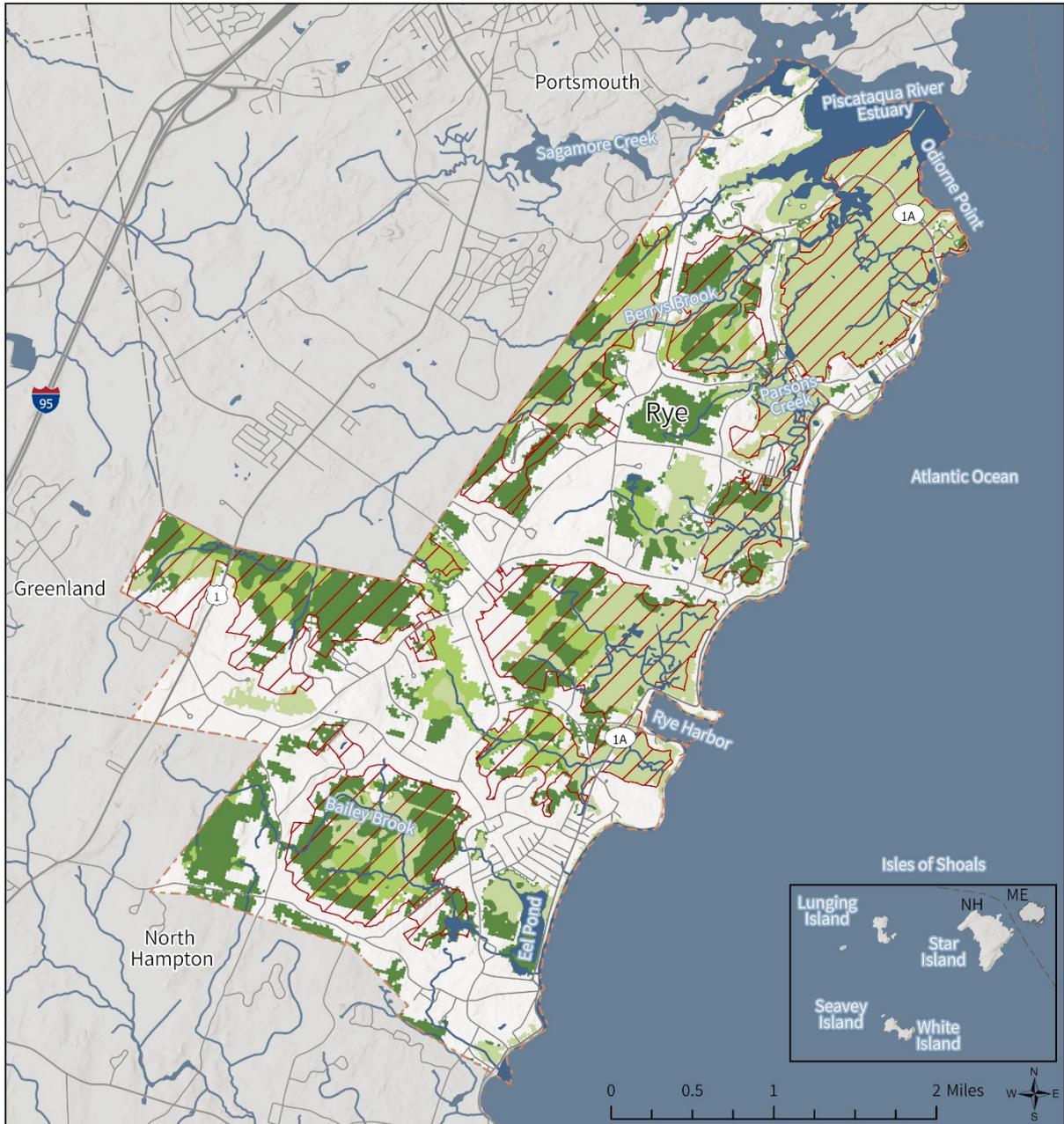
Town of Rye, New Hampshire

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Data Sources: NH GRANIT, Maine GeoLibrary,  
NHD, NWI, NHDES, NHFGD, CTC  
Coordinate System: NAD 1983 State Plane New  
Hampshire FIPS 2800 (US Feet)  
Map by: C. Bunyon, FB Environmental

- Town Boundary
- Town of Rye
- Road
- Coastal Waters/  
Waterbody
- River/Stream
- Highest Ranked Habitat  
in New Hampshire
- Highest Ranked Habitat  
in Biological Region
- Supporting Landscapes
- Prioritized Habitat Blocks



## NATURAL RESOURCES DATA

Resource Type	Value	% Total Area in Town
Town of Rye	8,580 acres	–
<b>Watersheds</b>		
Berry's Brook – Rye Harbor (10,613 acres total)	7,880 acres in Rye	92%
<b>Water and Wetland Resources</b>		
Lakes and Ponds	114 acres	1.3%
Mapped Streams	43 miles	–
Wetlands	2,563 acres	30%
Stratified Drift Aquifers	1,696 acres	20%
<b>Largest Wildlife Habitats</b>		
Appalachian Oak-Pine Forests	2,632 acres	31%
Temperate Swamp	856 acres	10%
Salt Marsh	791 acres	9%
Wet Meadow/Shrub Wetland	617 acres	7%
<b>Conservation</b>		
Conservation Land	1,930 acres	22%
Wellhead Protection Area	3,260 acres	38%
Prioritized Habitat Blocks	3,484 acres	41%

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# COASTAL RESILIENCE

Coastal resiliency is at the forefront of Rye's plan to withstand the effects of our changing climate. **Coastal resiliency refers to the ability of a community to withstand and recover from hazardous events such as flooding.** Through partnerships with local organizations, the Town of Rye has participated in numerous projects to increase the town's resiliency over the past decade.

These actions include strengthening the town's ability to withstand flood conditions, storm surges, and sea level rise. Sea level rise (SLR) is the steady increase in sea levels over time, including mean high water, due to climate change, while storm surges are a result of wave run up from storm events. There have been recent studies that have identified coastal risks in Rye.

***The Town of Rye has participated in analysis and planning for climate change. Citizens will need to consider additional action to take to minimize the risk from rising water, flooding, and climate change.***



## FACTS AND FIGURES



The NH Coastal Flood Risk Summary predicts between 0.5-1.3 ft. of sea level rise by **2050**.



**1,039** acres (12%) of Rye is projected to be affected by a 1 ft. rise in sea level.



**~300** buildings in Rye are projected to be affected by either a 1ft rise in sea level or a 100-year storm.



**~8** miles of shoreline are located in Rye which is ~52% of New Hampshire's coastline.



**275** of acres of tidal saltmarsh have been restored in Rye.



**10** roadways are highly vulnerable to flooding again.

# KEY FINDINGS

- **The impacts of climate change are increasing** and projected to continue to increase in frequency and severity. This includes sea level rise, risk of groundwater rise causing saltwater intrusion, storm surge and flood inundation, and coastal erosion.
- Rye is one of the most vulnerable communities to the impacts of flooding and climate change in New Hampshire. In 2021, Rye had a total of 296 National Flood Insurance Program (NFIP) policies, insured for over \$87 million dollars. Joining the NFIP in 1986, the Town has amended its zoning ordinance and regulations to protect wetlands and shoreland buffers, completed a climate change vulnerability assessment, and adopted a climate resilience Master Plan chapter. Future housing considerations will need to account for natural resource protection, coastal hazards and how to minimize impacts on existing and future homes.
- Rye contains **~8 miles of shoreline** which is approximately 52% of New Hampshire's coastline. Rye's coastline features – beaches, marshes, and sand dunes, are a key part of the Town's character and also face severe impacts from climate change.
- **Flooding is a common hazard** for the Town of Rye, with areas of chronic reoccurring flooding or high potential for future flooding including Wallis Road between Appledore and Ocean Boulevard; Ocean Boulevard at Church Street; The Breakers; Jenness Road; Atlantic Avenue; Kenphill Avenue; Harbor Road at Ocean Boulevard; Locke Road at Harbor Road; Long John Road; and Sagamore Road.
- As a low-lying coastal community, **1,039 acres** (12%) of Rye is projected to be affected by a 1 ft. rise in sea level. The NH Coastal Flood Risk Summary predicts between 0.5 and 1.3 feet of sea level rise by 2050, and 1.0 to 2.9 ft. of sea level rise by 2100.
- Approximately **300 structures** in Rye are projected to be affected by a 1-ft. rise in sea level.
- Approximately **414 parcels** (or 18.12%) of Rye's parcels would be impacted by 1.7 ft. of sea level rise.
- Approximately **400-500 structures** in Rye are within the 100-year flood zone or 500-year floodplain.
- **Impacts of saltwater intrusion** on Rye's drinking water, as well as potential disruptions to properly working septic systems are key concerns for the Town of Rye. The 2019 NH Coastal Flood Risk Summary report identified that Rye (as well as other northern coastal NH communities) are at the greatest risk of groundwater rise in NH. Private, public, or commercial well systems that are closer to the coast or are drilled deep into bedrock are the most vulnerable to saltwater intrusion.
- Under a 3.9-ft. sea level rise scenario by 2100, there is potential for **509 acres of marsh to form from marsh migration**. An important forested area within Rye projected to support marsh migration, if conserved against future development, includes the forested land to the west of Odiorne Point.
- Rye has taken numerous steps to increase their **coastal resilience**, including studying impacts of future high-water levels (ongoing), updating the Town's Land Development Regulations, Floodplain Development and Building Ordinance (2021), updating the Town's Hazard Mitigation Plan (2022), completing a Natural Resource Inventory (2021), participating in the Tides to Storms 2015 regional vulnerability assessment, and restoring tidal flow to 275 acres of saltmarsh.

# RYE NH, EXISTING CONDITIONS PROFILE – COASTAL RESILIENCE

The following section provides additional detail on the Town of Rye’s **coastal and natural hazards** including trends, data, and other information.

As with many other low-lying coastal communities, the Town of Rye is at risk from the effects of natural hazards such flooding from various sources including sea level rise, storm surges, and severe weather, in addition to climate change, rapid snowmelt, erosion, hazardous fluvial events and other threats.

The Rye Master Plan Committee noted some of the key challenges the Town faces to adapting to the impacts of climate change include saltwater intrusion in drinking water wells, damage to natural resources such as beaches, and damage to systems, such as roads, drinking water infrastructure and wastewater disposal systems. In particular, the Town faces a challenge in how to help, encourage, and require private properties to be resilient against the impacts of flooding, rising seas, and impacted resources.

## **UNDERSTANDING & MAKING SENSE OF CHANGING SEA LEVEL RISE PROJECTIONS**

The rates of expected sea level rise, storm surge, and associated flooding is a continually improving science as better models, data, and projections become available. Historical rates of sea level rise in New Hampshire are not expected to stay consistent moving forward: the *NH Coastal Flood Risk Summary Part 1: Science* documented that from 1926 to 2001, sea levels rose approximately 1.76 mm per year, and projected that coastal New Hampshire relative sea level rise will increase by 0.5-1.3 feet between 2000 and 2050. Simply put, data indicates that historical rates of sea level rise cannot be used to inform future planning. Instead, sea level rise projections should be used to inform planning, with the appropriate scenario being chosen based on level of risk.

Currently, it recommended the NH Towns should refer to the sea level rise predictions identified in the NH Coastal Flood Risk Summary Report. This report and guidance were developed by a Science and Technical Advisory Panel and includes “and includes updated projections of relative sea-level rise, coastal storms, groundwater rise, precipitation and freshwater flooding”. Notably, as identified in the report and by a cursory review, the projections provided in this report are in line with several other local projection models that can be used to understand sea level rise projections for the New Hampshire coast and Rye. The National Oceanic and Atmospheric Administration 2022 Sea Level Rise Technical Report provides sea level rise projections for a range of scenarios between 2050 and 2100 (Sweet et al, 2022). The 2017 Rye Master Plan Coastal Hazards and Climate Adaptation chapter uses data from the U.S. National Climate Assessment (2014) to provide a range of sea level rise scenarios. These three datasets are

summarized for intermediate-low, intermediate-high, and high scenarios in Table 1. The variation in scenario is due to a variety of factors, such as whether greenhouse gases stabilize and how temperature patterns change.

It is important to note that recent scientific papers have indicated the projected sea level rise for the twenty-first century are too conservative – i.e., sea levels may rise more quickly than many models project (Grinstead and Christensen, 2021; Siegert et. al, 2020). The NH Coastal Flood Risk Summary report provides some guidance on examples of how to plan for sea level rise given the range of scenarios. As the report outlines, approaches will vary based on risk level. For example, (edited/condensed) “for a regulatory project to update a local floodplain ordinance with a hypothetical incremental action point of 30 years (2050) and tolerance for flood risk” that ranges “from Medium to Very Low, decision makers may regulate for [sea level rise] estimates ranging from 1.6 to 2.3 feet.” Or, to simplify regulatory decisions using a more protective [sea level rise scenario], decision makers might select the upper end of the” risk “range (2.3 feet). Alternatively, decision makers might require permit applicants to determine and justify their own tolerance for flood risk” by using “relevant guidance and select [sea level rise scenarios] accordingly (e.g., 1.6 feet for a residential building, 2 feet for a school, and 2.3 feet for a hospital).”

## **SEA LEVEL RISE IN RYE**

Created by the Science and Technical Advisory Panel convened by NHDES, the New Hampshire Coastal Flood Risk Summary (2019/2020) is a two-part document published in which outlines the science behind coastal flood risks, including projections of sea level rise, coastal storms, groundwater rise, precipitation, and freshwater flooding, and provides guidance for a step-by-step approach to applying the information from part one to mitigation projects. The New Hampshire Coastal Flood Risk Summary Part 1: Science documented that from 1926 to 2001, sea levels rose approximately 1.76 mm per year, and projected that coastal New Hampshire relative sea level rise will increase by 0.5 – 1.3 feet between 2000 and 2050, and 1.0 to 2.9 feet by 2100. The [New Hampshire Coastal Viewer](#) allows viewers the ability to interactively navigate the seacoast while viewing different sea level rise scenarios.

The 2017 Rye Master Plan Coastal Hazards and Climate Adaptation chapter used data from the U.S. National Climate Assessment (2014) to provide a range of sea level rise scenarios. In 2022, NOAA released a Sea Level Rise Technical Report and localized sea level rise predictions from a station on Seavey Island, NH (Sweet et al, 2022). Projections from the sea level rise models are summarized in Table 1 and mapped in Map 1.

Table 1: Three sea level rise projection models applicable to Rye, including the U.S. National Climate Assessment (from 2014, referenced in the Rye Master Plan Coastal Hazards and Climate Adaptation chapter, the NOAA 2022 Sea Level Rise Technical Report localized scenarios, and the NH Coastal Flood Risk Summary (2019/2020).

Source	Time Period	Intermediate Low	Intermediate High	Highest
U.S. National Climate Assessment (2014)	Year 2050	0.6 ft.	1.3 ft.	2.0 ft.
	Year 2100	1.6 ft.	3.9 ft.	6.6 ft.
NOAA localized Sea Level Rise projections (2022)	Year 2050	0.98 ft	1.28 ft.	1.38 ft
	Year 2100	1.94 ft	4.56 ft	5.94 ft
NH Coastal Flood Risk Summary (2020)	Year 2050	0.5-1.3 ft.*		2.6 ft
	Year 2100	1.0-2.9 ft*		1.5-3.8 ft
<p><i>Note: Scenarios are typically outlined in a range of risk, from low to high. Commonly used are the intermediate-low, intermediate-high, and high scenarios, as displayed here and referenced in the U.S. National Climate Assessment projections and the NOAA 2022 localized SLR projections. The NH Coastal Flood Risk Summary uses “RCP” (or Representative Concentration Pathways) at two levels set by the Intergovernmental Panel on Climate Change based on future greenhouse gas emissions. The RCP 4.5 assumes greenhouse gas emissions stabilize this century (displayed as the intermediate scenarios), the RCP 8.5 scenario assumes greenhouse gases continue increasing (displayed as the high scenarios).</i></p>				

**STORM SURGE AND FLOODING IN RYE**

According to the National Weather Service, a rainfall event producing between 6.29 and 12.3 inches of rain within a 24-hour period would be classified as a 100-year storm event (National Weather Service, n.d.).

According to the Rye Hazard Mitigation Plan, Flooding is a common hazard for the Town of Rye. Several locations were identified as areas of chronic reoccurring flooding or high potential for future flooding. These areas include Wallis Road between Appledore and Ocean Boulevard; Ocean Boulevard at Church Street; The Breakers; Jenness Road; Atlantic Avenue; Kenphill Avenue; Harbor Road at Ocean Boulevard; Locke Road at Harbor Road; Long John Road; Sagamore Road. Road closures at these locations can occur during periods of heavy rainfall, and rapid snowmelt and are temporary in nature, with road surfaces covered with water. Coastal storm surges have caused damage to shale piles along Ocean Boulevard, causing the rock to be pushed back into the roadway.

**IMPACTS OF SLR AND STORM SURGE ON RYE**

Development within Rye is at high risk of being affected by natural hazards. As outlined in the Rye Hazard Mitigation Plan, studies by the NH Coastal Program in 2018 identified that numerous parcels may be impacted by sea level rise. Depending on the sea level rise scenario, the number of parcels affected ranges from 414 (18.12% of all parcels) to 1,048 (45.45% of all

parcels) (Table 2). The FEMA flood data layers depicted on the Rye Master Plan maps portray the projected area flooded with a 1-ft. rise in sea level. A 1-ft. rise in sea level or a 100-year flood is expected to affect approximately 300 buildings (11% of all buildings). Note that a 1-ft. rise in sea level is likely to occur prior to 2050.

Table 2. Estimates of Hazard Damage from Sea Level Rise and Storm Surge. Source: NH Coastal Program, 2018. Taken from the Rye Hazard Mitigation Plan.

Scenario	Number of Parcels Affected	Percentage of All Parcels in Rye	Value of Parcels 2018
1.7' Sea Level Rise	414	18.12%	\$341,751,000
4.0' Sea Level Rise	620	28.50%	\$537,524,800
6.3' Sea Level Rise	780	35.41%	\$667,904,700
1.7' Sea Level Rise plus Storm Surge	770	35.64%	\$672,270,200
4.0' Sea Level Rise plus Storm Surge	934	41.62%	\$784,898,700
6.3' Sea Level Rise plus Storm Surge	1,048	45.45%	\$857,138,800

### IMPACTS TO GROUNDWATER

Impacts of saltwater intrusion Rye’s drinking water, as well as potential disruptions to properly working septic systems, is a key concern for the Town of Rye. Private, public, or commercial well systems that are closer to the coast or are drilled deep into bedrock are the most vulnerable to saltwater intrusion. Groundwater rise can also impact water system infrastructure or damage septic systems, which can fail if flooded. Failing systems risk contamination water sources with pathogens.

The 2019 NH Coastal Flood Risk Summary report identified that sea level rise induced groundwater rise is projected to extend up to 2.5 to 3 miles inland from the coast of New Hampshire (three – four times further inland that sea level rise inundation). The report also identified that Rye (as well as other northern coastal NH communities Newington, Portsmouth, and Greenland) are at the greatest risk of groundwater rise. Additional modeling and studies is underway for coastal

### Salt Migration Project

As part of the national America the Beautiful Challenge, New Hampshire will receive \$2 million to support three high-priority salt marsh projects, which is part of a larger federal goal to conserve 30 percent of U.S. lands and waters by 2030. One of these projects is located in Rye. Each project will preserve and restore high marsh plant communities, a critical habitat for the saltmarsh sparrow, a vulnerable species and the only bird that breeds solely in the salt marshes of the Northeast.

South of Odiorne Point State Park in Rye is a 220-acre salt marsh area, which includes the 62-acre Fairhill Marsh, formerly a saltmarsh sparrow “hotspot.” The marsh has experienced accelerating vegetation loss since 2006. The Rockingham County Conservation District received grant funding to explore adaptive management practices at Fairhill Marsh that will culminate in restoration design plans. The newly awarded funds will help advance the project and ensure the plans are applied. It’s currently underway.

New Hampshire to identify coastal risk of saltwater intrusion.

## TIDAL MARSH MIGRATION

The 2015 Tides to Storms report identified that under a 3.9-ft. sea level rise scenario by 2100, there is potential for 509 acres of marsh to form. The report identified the forested land to the west of Odiorne Point as an important area to conserve as it could support marsh migration.

### Existing Conditions: Natural Hazards

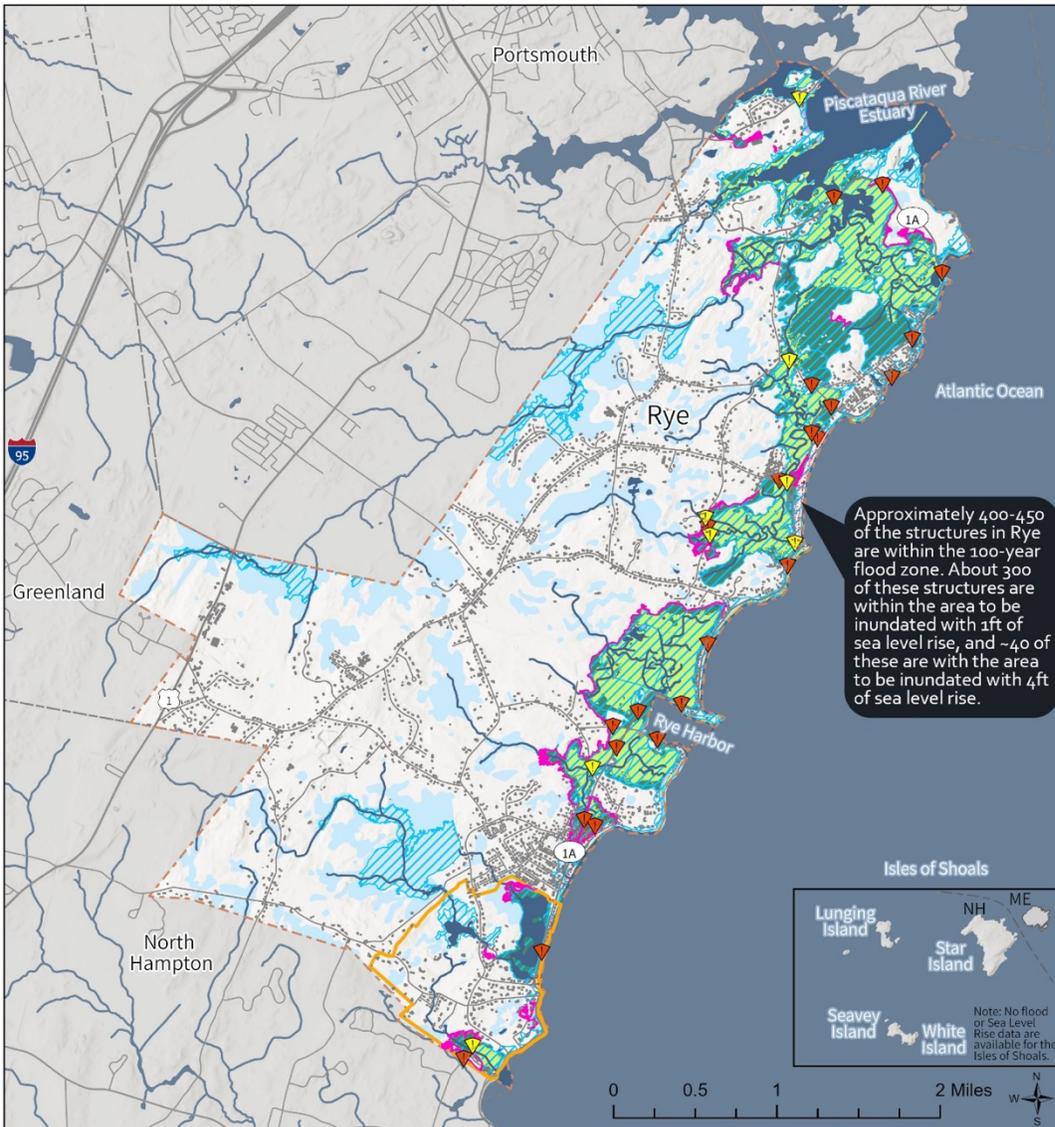
Town of Rye, New Hampshire

Map created for planning purposes  
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Data Sources: NH GRANIT, NHD, NH DOT,  
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Coordinate System: NAD 1983 State Plane  
New Hampshire FIPS 2800 (US Feet)  
Map by: C. Bunyon, FB Environmental



- |                            |   |   |
|----------------------------|---|---|
| Town Boundary              | Estuarine Wetland   | Area Inundated Under 1 foot of Sea Level Rise |
| Town of Rye                | Palustrine Wetland  | Area Inundated Under 4 feet of Sea Level Rise |
| Rye Beach Village District | Building Footprint  | FEMA 1% (100-year) Flood Hazard Area          |
| Road                       | Building Affected by a Sea Level Rise of 1-foot OR a 100-year Flood | FEMA 0.2% (500-year) Flood Hazard Area        |
| River/Stream               | Roadway at Risk   |   |
| Coastal Waters/Waterbody   | Tidal Crossing at Risk  |   |



## **ACTIONS THE TOWN OF RYE HAS TAKEN**

### Restoring Parsons Creek – In Progress

As part of a funded project through the New Hampshire Department of Environmental Services (NHDES) Clean Water State Revolving Fund/ARPA-funded project, the Town of Rye has been investigating the extent and effects of future high-water levels in Rye. The study includes a look at the effects of sea level rise, storm surge, groundwater rise, and king tides throughout the town through various scenarios and sources of data.

### The National Flood Insurance Program - Ongoing

Administered by FEMA, the Town of Rye has incorporated regulations which limit and/or prevent the development of wetlands and floodplains through an updated Floodplain Development and Building Ordinance (1988, updated in 2021).

### Rye Hazard Mitigation Plan Update 2022

Developed by the Rockingham Planning Commission, the Hazard Mitigation Plan identifies natural hazards while providing existing and potential mitigation strategies. Natural hazards include flooding, flooding from coastal storms, flooding from sea level rise, hurricanes, tornadoes, severe winter storms, wildfires, earthquakes, extreme temperatures, drought, infectious disease, and climate change. Included in Chapter VI of the plan is a table of existing hazard mitigation actions the town has enacted. These include updated municipal planning regulations, transportation infrastructure standards, building codes, emergency planning, and public services (water, emergency facilities, public works). Following the actions taken by the Town, the plan also includes potential mitigation actions. These 26 actions include increasing emergency preparedness, revisiting building and land use regulations, inventorying/maintaining existing infrastructure.

### Town of Rye Natural Resource Inventory 2021

The Town of Rye completed a Natural Resource Inventory in 2021. This thorough document includes a chapter on floodplains, floodwater storage, and risk mitigation throughout the town. Additionally, maps depicting sea level rise are included with data from the New Hampshire Geographically Referenced Analysis and Information Transfer System (NH GRANIT). The NH GRANIT is a cooperative that has created and maintains a statewide geographic database.

### Tides to Storms. Preparing For New Hampshire’s Future Coast – Assessing Risk and Vulnerability of Coastal Communities to Sea Level Rise and Storm Surge 2015

The Rockingham Planning Commission (RPC) serves in an advisory role to local governments in Rockingham County to ensure and promote coordinated planning, growth, efficient land use, environmental protection, and transportation access. The RPC created the document “From Tides to Storms: Preparing for New Hampshire’s Future Coast” to assess the vulnerability of the towns of Portsmouth, New Castle, Rye, North Hampton, Hampton Falls, and Seabrook to coastal

flooding due to expected increase in rates of SLR and storm surge. The RPC also created a draft Coastal Risks and Climate Adaptation Master Plan chapter in 2016 in which they assess topics including but not limited to coastal hazards and other climate related impacts specific to Rye, NH.

### Saltmarsh Restoration

As of the 2017 Natural Resources Chapter of the Rye Master Plan, saltmarsh restoration is underway through culvert replacements and fill removal to restore a more natural tidal flow to over 275 acres of saltmarsh. Efforts to control phragmites, an invasive wetland species, are being maintained by the Rockingham County Conservation District. The NH Coastal Program maintains a database of saltmarsh restoration projects. Those within Rye include the following as shown in the 2017 Natural Resources Chapter:

- Parson’s Creek Marsh: off Wallis Road - 53 acres restored from 1998-1999
- Fairhill Marsh: west of Wallis Sands State Beach - Phase I 1997, Phase II 2004
- Awcomin Salt Marsh: 40 acres restored from 1992-2008
- Massacre Marsh: off Brackett Road – 2003
- Rye Harbor – 56 acres in 1998 and 2001
- Harbor Road – 4.6 acres from 1997-1999
- Locke Road – 24 acres from 1995-1997
- Odiorne Point – 0.5 acres in 2005
- Parsons Creek watershed and water quality restoration project - ongoing

### **TRENDS**

- Impacts of climate change are increasing and projected to continue to increase in frequency and severity. This includes sea level rise, risk of groundwater rise causing saltwater intrusion, storm surge and flood inundation, and coastal erosion. Sea levels are rising.
- According to the *New Hampshire Coastal Flood Risk Summary – Part I: Science*, “The magnitude of daily extreme precipitation events has increased by 15-38% in NH’s coastal watershed since the 1950s” (Wake, et al., 2019). An increase in heavy storms, which produce 2 to 4 inches of precipitation (often within a few hours), are becoming more frequent. Furthermore, Climate change alters how a watershed receives its precipitation – the increase of precipitation falling in the form of short, severe events exacerbates flooding. More frequent and severe flooding erodes infrastructure and degrades water quality in ponds, lakes, streams, rivers, and coastal areas.
- The Hazard Mitigation Plan Committee has identified climate change is highly likely to impact the Town “given the increase in hazard events since the last Plan Update.”

## **EMERGING OR POTENTIAL ACTIONS**

Incorporating projections of sea level rise, storm surge, and groundwater rise into town plans, development, and future projects will help increase the resiliency of the town to these natural hazards. The action items listed below will be revisited later in this master planning project. These actions are meant to be complementary and add to those thoroughly provided in previous reports such as the Rye Natural Resource Inventory, Rye Hazard Mitigation Plan Update, and Rye Vulnerability assessment.

### Infrastructure and Development

- Continue to minimize development in areas likely to be inundated by sea level rise and storm surges.
- Adapt building codes to ensure new developments are designed to account for flooding, sea level rise, and increased storm intensity.
- Participate in groundwater rise and saltwater intrusion state studies and conduct initial town-specific risk assessments in Rye to take inventory of Rye's water assets. For example, work with the Rye Water district to determine if emergency water interconnections with neighboring towns is an option to send water from one public water supply to another during an emergency.
- Determine sources of funding for management projects and implementation efforts. The American Flood Coalition developed a document for [Federal Funding Opportunities for Flood Resilience: A Guide for Small Cities](#).
- Maintain emergency routes with expanded road shoulders should Route 1A become inundated from natural hazards.
- Assess the vulnerability of engineered structures designed to protect people from natural hazards.
- Consider "rewilding" areas previously severely impacted by natural hazards as the likelihood of repeated damage and/or loss increases with sea level rise.
- Improve both Rye's Emergency Preparedness and Disaster Response and Recovery Capabilities.

### Wetlands

- Prioritize wetland restoration in areas of stormwater mitigation areas identified in the Natural Resource Inventory.
- Focus marsh restoration efforts on areas suitable for and likely to include marsh migration.
- Continue to build buffers along waterways and wetlands while expanding conserved land surrounding and within wetlands.
- Conduct a vernal pool survey for the Town to aid with further wetland protection efforts.

- Assure uninhibited saltmarsh tidal flow. Regularly inspect and clean out culverts and bridges of debris. Consider reinstalling culverts that are undersized, perched, or misaligned.

### COASTAL HAZARD DATA

For additional information and statistics on land use, land cover, and zoning districts affected by rising sea levels, please see the 2015 Rye Vulnerability Assessment.

Table 3. Flood Hazard Zone areas and number of buildings within each zone. \*The number of buildings was identified through the Microsoft Buildings Footprint data layer provided by the Environmental Systems Research Institute (ESRI).

Resource Type	Value	% Total Area in Town	# of Buildings
Town of Rye	8,580 acres	–	3,278*
Flood Hazard Zone			
Zone A	349 acres	4%	2
Zone AE	1,430 acres	17%	163
Zone AO	88 acres	1%	152
Zone VE	291 acres	3%	156
Zone X	6,237 acres	73%	2,805

Table 4. Statistics on the number and types of infrastructure affected by 1.7 feet of sea level rise, and 1.7 feet of sea level rise + a storm surge. Data from the Rye Vulnerability Assessment of 2015.

Infrastructure and Municipal Facilities Affected by ...	1.7 Feet of Sea Level Rise	1.7 Feet of Sea Level Rise + Storm Surge
Culverts	17	49
Dams	0	1
NH Historic Register	1	2
Public Water Supply, Pump Houses, Wells	0	1
Bridges	5	5
Harbor/Marina/Launch	1	4
Signs, Lights, Signals, Beacons	0	3
Sewage Pump Station	-	Flooded
Jenness Beach State Park	-	Flooded
Local Road	0.2 miles	4.4 miles
State Road	0.1 miles	5.5 miles
Evacuation Routes	0.1 miles	6.1 miles

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# RECREATION

Rye's scenic coastal location provides ample recreation opportunities throughout town with its eight miles of coastline, beaches, conserved lands, and accessible open spaces. In addition to the natural lands in Rye, the town's recreation facilities and available activities contribute to residents' quality of life by providing many community and recreation resources for all ages, while promoting public health. The town's recreation complex, which includes athletic fields, the Rye Town Forest, and other Conservation Commission properties, the town and state-owned beaches, the schools, and other resources make Rye an attractive destination for residents and visitors alike.

***Looking ahead, there are opportunities for Rye to implement the new Recreation Complex Master Plan to improve these important recreation facilities in town, to strengthen collaboration with recreation partners to continue offering diverse programming and high quality facilities, and to build greater connectivity between town trails, parks, and***



## FACTS AND FIGURES



**20** recreation programs are offered that serve residents of all ages at several locations in town.



**2** state beaches and 2 state parks are located in Rye. These include Odiorne, Wallis Sands, Jenness, and Rye Harbor State Park.



**5** town beaches provide recreational opportunities for town residents. These beaches include Wallis (Pirate's Cove, Foss, Cable, Sawyers, and Bass Beach).



**13.6** miles of trails in Rye offer residents hiking, bicycling, dog walking, cross country skiing, and snowshoeing opportunities. Please note that this total miles of trail does not include the Airfield Woods, Cedar Run Woods, or trails developed on private properties.



**3.2** miles of the trail network extend through Rye's Town Forest, a popular area for recreating close to the town center.



**5.1** miles of the trail network is located in Odiorne State Park.

# KEY FINDINGS

- Rye’s Recreation Department offers over **20 programs** for all ages at several locations in town. These recreation sites include built structures, natural areas such as the town and state beaches, parks, and designated open spaces, such as the recreation complex. These resources are important to Rye residents and contribute to their quality of life.
- Rye has access to several nearby **public and private recreational areas** including the Rye Schools, the Abeniqui Country Club, the Wentworth by the Sea Country Club, the Rye Congregational Church, State Parks and Beaches, Rye Conservation Lands, Seacoast Strength & Conditioning, Summer Sessions Surf Shop, several yoga studios, two beach clubs, Airfield Place, and the New England Pickleball Club. These areas are owned and maintained by different partners, but all contribute to the suite of recreational resources Rye offers. The Recreation Department makes an effort to collaborate with these partners to ensure diverse recreation offerings are provided to the community.
- Many of the facilities utilized by the Recreation Department for programming are **managed or overseen by other town board or entities** such as the School Board, the Selectboard, the Beach Committee, and the State of NH. The Recreation Department has encountered issues related to accessibility of certain facilities due to differences in authority at these locations.
- In 2023, the Rye Recreation Department and Recreation Committee updated their 2011 Recreation Department **Master Plan** to plan for the redevelopment of the Recreation Area “campus”, to strategically plan facility updates, and to provide a new layout.
- There are **two State Beaches and two State Parks** in Rye that are overseen by NH State Parks. These include: Odiorne, Wallis Sands, Jenness, and Rye Harbor State Park. As one of eight coastal communities in New Hampshire, these assets make Rye a popular destination. The state beaches and park are heavily used in Rye by both residents and visitors and contribute to diverse recreation options in town.
- The **Rye Harbor State Park** is home to Rye’s active Recreational/Commercial Fishing Harbor. The New Hampshire fishing industry is an important part of our state’s food system, commercial activity, and heritage. Saltwater fishing is also an important recreational activity for many residents and visitors.
- The town has **five Town Beaches** that are managed by the Beach Committee. These include Wallis (Pirate’s Cove), Foss, Cable, Sawyers, and Bass Beach. The Beach Committee documented that parking remains a major issue for the general public in their 2015 Parking Study (however, parking capacity for residents is not an issue).
- There are approximately **13.6 miles of trails** in Rye that offer different recreational opportunities which include, but are not limited to walking, bicycling, dog walking, cross-country skiing, and wildlife viewing on eight unique trail systems. Rye’s established trails are on protected town land and land owned by the state. This includes Odiorne State Park, Rye Recreational Area, the Town Forest, Seavey Woods, and others.
- Data suggest **high usage of Rye’s roads and trails for recreation** throughout the year including Ocean Boulevard, Washington Road, and Sagamore Road.
- NHDOT has identified 19 miles of paved roads in Rye as being-well suited for **bicycle infrastructure**. These include Ocean Boulevard/Route 1A (which is state maintained), Cable Road, Central Road, Groove Road, Washington Road, West Road, Breakfast Hill Road, Wallis Road, Sagamore Road, Wentworth Road, and New Castle Road.

# RYE NH, EXISTING CONDITIONS PROFILE – RECREATION

The following section provides additional detail on the Town of Rye’s **recreation resources, facilities, and infrastructure** including trends, data, and other information.

## RECREATIONAL PROGRAMS AND FACILITIES

Rye has a Recreation Department and a Recreation Commission that collaboratively maintain town recreational facilities, offer recreation programs, and coordinate community events for all ages. Residents can participate in water-based recreation activities at the town’s beaches and coastline, which has multi-jurisdictional ownership (state and town owned). The town’s trail system and its conservation lands are maintained by the Conservation Commission and are important resources to town residents. A full list of recreation sites and facilities offered in Rye is found in Table 1 and includes some privately-owned recreation sites. A list of recreation programs provided by the Recreation Department and other local organizations is included in Table 2.

In 2023, the Recreation Department developed an update to the 2011 Recreation Master Plan for the Department focusing on the town’s recreation complex – the Recreation Area. As part of the planning process, a public recreation survey was administered in the fall of 2022 to collect feedback on usage patterns and level of adequacy of existing recreation facilities and programs in town. These survey findings directly informed the development of the 2023 Recreation Area Master Plan. There was a total of 165 respondents who identified the following:

- Respondents would like to see upgrades to the Recreation Area including new restroom facilities, the addition of a pickleball court, a tennis court, and walking paths.
- Respondents identified sports and activities that they would like to see programming for within a new recreation center building at the Rye Recreation Area. These include: new public restrooms, an indoor multi-use court, and an athletic center (gym).

Table 1: Recreational Locations in Rye			
Site Name	Recreational Facilities	Location	Overseen by
<b>Rye Recreation Department List of Facilities:</b>			
Recreation Area	Flash Jenness Memorial Little League Field, Ralph Morang Athletic Field, Ralph Morang Baseball Diamond, Recreation Playground, Recreation Area Basketball Court	55 Recreation Way	Recreation Commission
Bass Beach	Beach	184-198 Ocean Blvd	Beach Committee

Sawyer Beach	Beach	2326 Ocean Blvd	Beach Committee
Cable Road Extension Beach	Beach	Cable Road	Beach Committee
Foss Beach	Beach	Ocean Blvd just past Washington Road	
Wallis Road Extension Beach (Pirate's Cove)	Beach	Wallis Road	Beach Committee
Parson's Field	Multi-purpose field	1050 Ocean Blvd	Selectboard
Outer Marker Park	Picnic Area	105 Locke Road	Recreation Commission
<b>Schools:</b>			
Rye Elementary School	Gymnasium, K-3 Upper Playground, 4-5 Lower Playground, Lower Baseball Field	461 Sagamore Road	School Board
Rye Junior High School	Gymnasium, Athletic Field	501 Washington Road	School Board
Lang Corner Athletic Field and Baseball Diamonds	Soccer field, baseball, parking lot, portable restroom	511 Sagamore Road	School Board
<b>State-Owned:</b>			
Jeness State Beach	Beach, parking lot provided: 67 cars	2280 Ocean Blvd	State NH
Wallis Sands State Beach	Beach, parking lot provided: 500 cars	1050 Ocean Blvd	State NH
Rye Harbor State Park	Saltwater fishing, picnicking	1730 Ocean Blvd	State NH
Odiorne State Park	Seacoast Science Center, walking trails, picnic areas, historical structures, viewing points of Fort Stark in New Castle as well as the Isles of Shoals and multiple lighthouses	570 Ocean Blvd	State NH
<b>Privately Owned:</b>			
Abenaqui Country Club	18-hole golf course	731 Central Road	-
Wentworth by the Sea Country Club	18-hole golf course	60 Wentworth Road	-

Rye Congregational Church	Utilized for Rye Recreation Department Programs	580 Washington Road	-
Airfield Place	Indoor pickleball courts, climbing wall	6 Airfield Dr	-
Summer Session Surf Shop	Provides surf lessons at Jenness and Sawyers Beaches	2281 Ocean Blvd	-
Surf Club	N/A	1200 Ocean Blvd	
Seacoast Strength & Conditioning	Personal training center	52 Lafayette Rd	-
The Beach Club	Private beach club	2450 Ocean Blvd	-

<b>Table 2: List of Programs in Rye</b>	
<b>Rye Recreation Department List of Programs</b>	
<b>Program</b>	<b>Location</b>
Coed Pick-Up Basketball (Adult)	Rye Junior High School Gym
Strength and Balance Classes (Adult)	The Wave (Rye Congregational Church)
Day Trips (Adult)	Various locations in New England
Lunch Programs (Adult) and Senior Lunch Programs	The Wave (Rye Congregational Church)
Senior Day Trips	Various locations
Summer Basketball Camp (Youth)	Rye Elementary School
Summer Lego Reactions Camp (Youth)	Rye Recreation Building
Cooking Classes (Age 3-4 and K-4 <sup>th</sup> grade)	Rye Recreation Building
4 <sup>th</sup> of July Event	Parsons Field
Easter Egg Dig Event	Wallis Sands State Park
The Wave Lunch Programs and Day Trips	The Wave (Rye Congregational Church)
Chair Yoga (Adult)	The Wave (Rye Congregational Church)
Yoga and Meditation (Adult)	The Wave (Rye Congregational Church)
After School Program (Youth)	Rye Elementary School
Summer Baseball Camp (Youth)	Rye Recreation Area – Flash Jenness Field
Summertime HoRYEzons Day Camp (Youth)	Either Rye Recreation Building or Rye Elementary School
Fall Soccer (Youth)	Rye Recreation Area – Ralph Morong Field
Ski/Snowboard Lessons (Youth)	King Pines Ski Area
Strawberry Fest Event	Rye Library Commons

## **TRAIL NETWORK**

There are approximately 13.6 miles of trails in Rye. This includes trails within the Rye Town Forest, Odiorne State Park, Charles E. Rand Memorial Forest, Seavey Acres, and Marden

Woods. This total does not include Airfield Woods or Cedar Run Woods due to limited data on trail length at these sites and does not include other trails developed on private properties.

The list of conserved lands in Rye that provide recreation uses and their permitted uses are shown in Table 3.

The Rye Conservation Commission is responsible for the maintenance of the trails on conservation land. Rye’s Conservation Commission is an active board committed to preserving open space in Rye for all to enjoy. They encourage residents to get outdoors and enjoy the natural beauty of Rye.

<b>Table 3: Recreation on Rye Conservation Commission Properties</b>				
<b>Site Name</b>	<b>Approx. Miles of Trail</b>	<b>Total Acreage of Land</b>	<b>Location</b>	<b>Permitted Use</b>
Town Forest	3	222	Parsons field, Rye Recreation	hiking, dog walking, birdwatching, biking, snowshoeing, and cross-country skiing, snowplow entrance
Seavey Acres	1.5	59	179 Pioneer Road	Hunting, dogs allowed, biking on trails, wildlife viewing
Airfield Woods (Whitehorse Farm Trail - abuts the Whitehorse Conservation Area)	Unknown	110	Off Airfield Drive or Whitehorse Drive cul de sac	Hunting, dogs allowed, biking on trails, snowplow entrance on Whitehorse Drive.
Marden Woods	0.60	24	309 Washington Road	Hunting, dogs allowed, biking on trails, cross-country skiing, and snowplow entrance
Rand Forest	1	73	Off Sea Glass Lane or Liberty Common cul de sac	Dogs allowed, biking on trails, hiking, wildlife viewing, snowplow entrance.
Cedar Run Woods	Unknown	28	Cedar Run Road	Hunting, dogs allowed, biking on trails, wildlife viewing, snowplow entrance
Brown Lane Farm (abuts the Southeast Land)	Unknown	82	abuts the Southeast Land Trust’s Parcel	Hiking, wildlife viewing

Jim Raynes Forest	Unknown	N/A	N/A	
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## RECREATION COMMISSION

Rye has a Recreation Commission that was established in 1964 and consists of seven volunteer members. The Recreation Commission is responsible for land and facilities reserved for recreational use and providing leisure time services to the residents of Rye. The Commission develops and enforces policies and procedures and collaborates with the Recreation Department Director. The mission of the Rye Recreation Commission is focused on the following: *“Recreation provides a critical foundation for the quality of life that makes Rye unique. Recreation is essential to the health and well-being of the individual residents and the community of Rye. Recreation activities and services have far-reaching personal, social, economic, and environmental benefits. The role of Rye Recreation is to ensure that a broad range of recreation opportunities is available and accessible for all residents and that these are consistent with the needs and interest of the community and the space and resources available”.*

## BEACH COMMITTEE

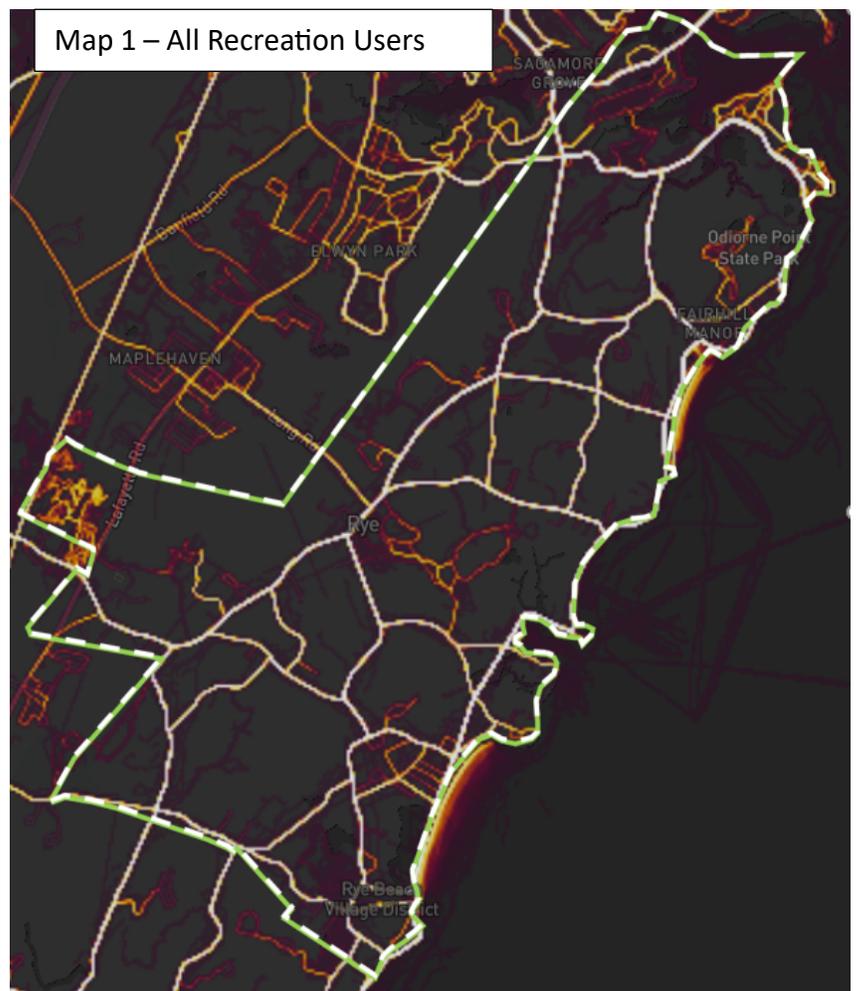
Rye has a Beach Committee that consists of seven volunteer members that meet a few times a year to discuss various beach-related issues and exchange ideas based on their observations and conversations with residents and other beach goers. Many of these meetings are attended by the Rye Police Chief, Fire Chief, and a Selectboard representative. The Beach Committee is responsible for the five Town Beaches in Rye. The Beach Committee documented that parking remains a major issue in this area. Table 4 provides a list of public beach access locations throughout town. For more information including a map of these beach access points, please visit the Beach Committee’s webpage on the Town’s Website.

Table 4: Public Beach Access in Rye	
Access	Location
Bass Beach	Across Central Road
Sawyers Beach	Across from South Street/Across from Eel Pond
Jeness State Beach	Across from Perkins Road/Across from Dunes Motel
Jeness Beach	<ol style="list-style-type: none"> <li>1. E Street Pedestrian only Across from Gray Court</li> <li>2. F Street Pedestrian only access Across from Common Roots Café/Corner of Powers</li> <li>3. G Street, Private ROW pedestrian only</li> <li>4. Cable Road Ext</li> <li>5. Old Beach Way on Old Beach Road</li> <li>6. Sunrise Path on Old Beach Road</li> <li>7. Old Town Way is a footpath upheld by Superior Court No. E-275-81 along shared driveway of 34 Old Beach Road</li> </ol>
Bone Beach	Access from Straw's Point
Foss Beach	Access from Rye Harbor State Park or along Access from Ocean Blvd between Ray's Seafood to corner of Washington Road
Rye North Beach	Access from across Highland Park Ave
Wallis Beach (also known as Pirates Cove Beach)	<ol style="list-style-type: none"> <li>1. Access Concord Point across from Petey's restaurant.</li> <li>2. Access from Wallis Road Ext</li> </ol>
Wallis Sands State Beach	<ol style="list-style-type: none"> <li>1. Access 1050 Ocean Blvd across from Marsh Road</li> <li>2. Pedestrian footpath from Ocean Blvd across from Fairhill Ave</li> </ol>
Odiorne State Park has beaches	<ol style="list-style-type: none"> <li>1. Access Odiorne State Park</li> <li>2. Access footpath from Ocean Blvd.</li> <li>3. Access boat launch area</li> </ol>
Saunders Point	<ol style="list-style-type: none"> <li>4. Access after Wentworth by the Sea Country Club before going over bridge to New Castle.</li> </ol>

## RECREATIONAL USES

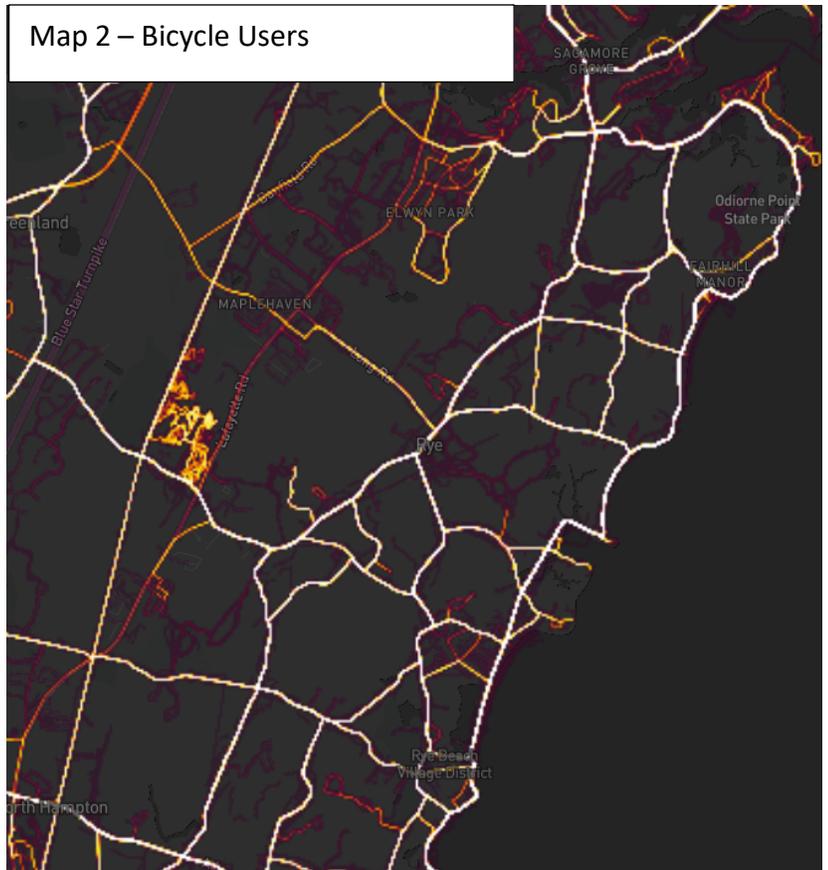
Strava heat maps are a helpful resource to assess the popularity of recreation activities and usage areas. These maps indicate areas in Rye where users are frequently participating in a variety of recreation activities. This includes both existing recreation assets and other places that may not be owned or managed by the town. Strava describes itself as a “social network for athletes” where the program tracks and analyzes the activities of its users by connecting to the individual’s device such as a phone, watch, GPS, etc. Strava then uses this information to create a usage map (also known as a heat map) to depict where their users recreate. It should be noted however, that not all Rye recreation participants utilize Strava, and this data is not intended to represent all recreational users in Rye. It does help indicate trends for further investigation. To learn more about Strava Heat Maps, visit <https://www.strava.com/heatmap>

A town wide heat map (Map 1) shows all forms of recreation activity in Rye that Strava collects by voluntary users. This includes bicycling, walking, running, aquatic activity, and winter activity. This map indicates that many of Strava users are utilizing Rye’s roads and existing trails with high usage along Ocean Boulevard and beaches. In addition to these, Strava users are also utilizing Rye’s conservation lands, State Parks and Beaches, the Recreation Area, and town beaches. Specifically, Jenness State Beach and Wallis Sands State Beach have high Strava usership. The area behind NH Route 1 near Breakfast Hill Road also appears to have significant recreation usage. This location of trails abuts the Breakfast Hill Golf Club in Greenland, NH and is identified by some community members as the Breakfast Hill Mountain Bike Trails. Also in this area is an existing railroad bed that is proposed to be part of the New Hampshire Seacoast Greenway (NHSG), which is a proposed seventeen-mile, non-motorized trail that will connect New Hampshire’s eight coastal communities.



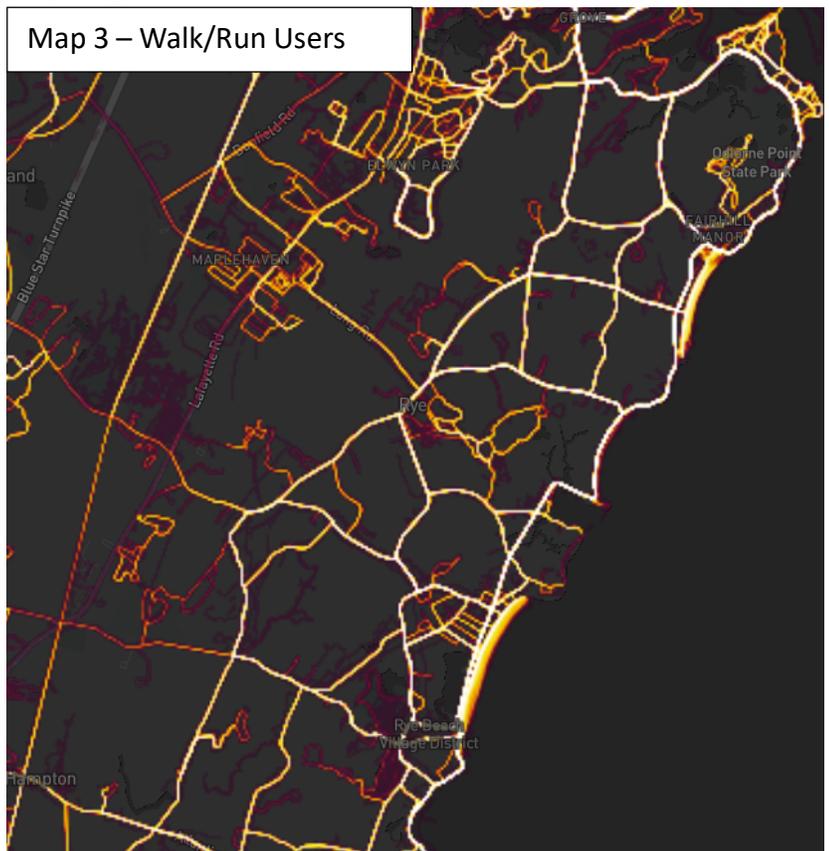
### Bicycle Recreation Usage

Most of the roadways that were identified by NHDOT as recommended bike routes well-suited for bicycle infrastructure (including Ocean Boulevard, Cable Road, Central Road, Grove Road, Washington Road, West Road, Breakfast Hill Road, Wallis Road, Sagamore Road, Wentworth Road, and New Castle Road) already appear to be utilized by Strava users as popular bicycling routes. For more information related to NHDOT State Recommended Bike Routes, please view the Transportation section of this report. Other locations that are heavily utilized for bicycling by Strava Users include Odiorne State Park and in the Rye Beach Precinct. Map 2 illustrates popular routes identified by cyclists who use Strava. This may help the town in identifying what areas are the highest priority to implement bicycle lanes on existing roads or where developing separate routes may be necessary.



### Walk/Run Recreation Usage

Map 3 shows high walk/run usage on Jenness State Beach, Wallis Sands State Beach, in the Town Forest, and in some residential neighborhoods. Strava users are also utilizing the trail behind the elementary school, as well as many neighborhood roads for walking and running including Liberty Common, Tehias Road, and the Whitehouse Farm Subdivision. Strava walk/run users also appear to be utilizing Rye's roads to connect to surrounding towns such as Lang Road to Portsmouth, Breakfast Hill Road to Greenland, and South Road at the Charles E. Rand Memorial Forest in North Hampton. This may indicate that trail connectivity and additional pedestrian infrastructure connecting Rye neighborhoods to the town center and to surrounding communities would be beneficial to Rye residents.



### Aquatic Recreation Usage

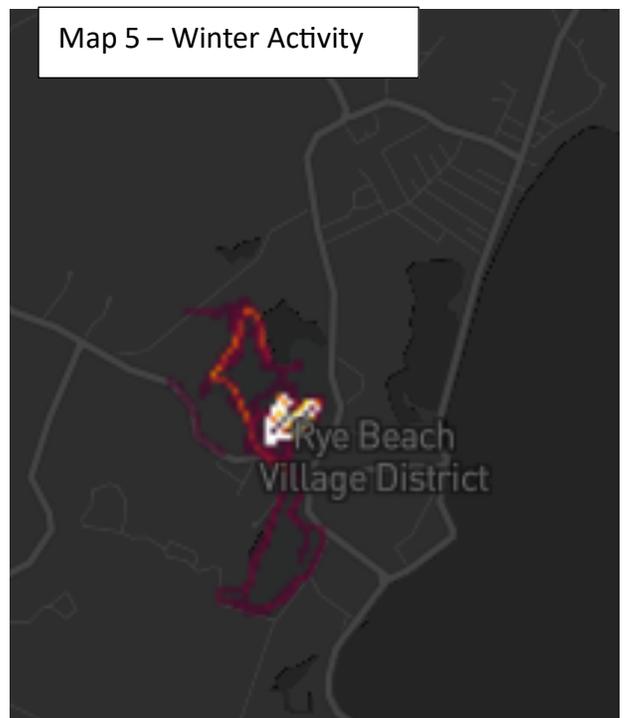
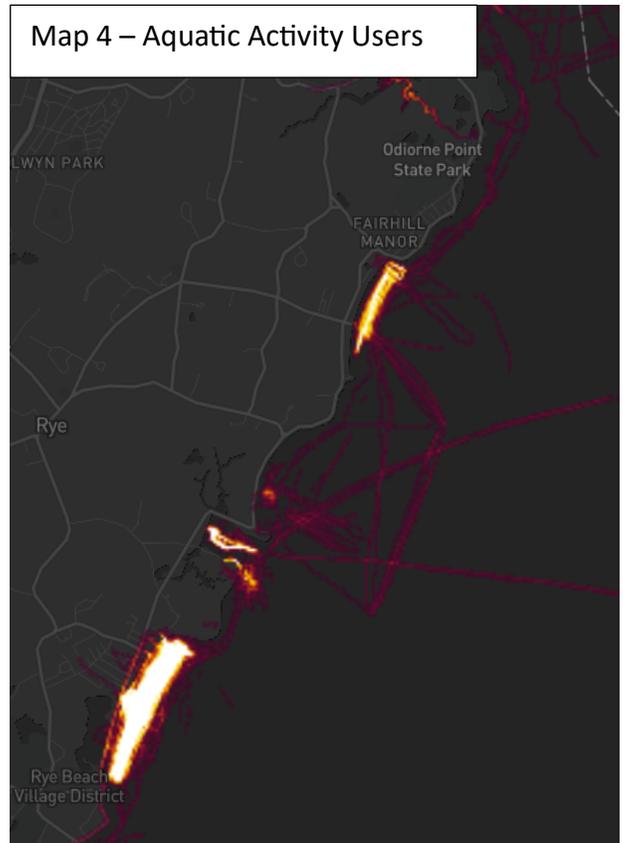
Aquatic recreation activity in these areas include swimming, surfing, stand up paddling, kayaking, boating, and others. As shown on Map 4, data shows significant aquatic recreation activity from Strava users at Jenness State Beach, Rye Harbor State Park, Wallis Sands State Beach, Odiorne State Park, and out to Isles of Shoals. There appears to be some aquatic recreation usage near Foss Beach and Pirate’s Cove as well. This indicates Rye’s coastline is heavily utilized for recreation.

Winter Activity

Map 5 shows that there is significant winter activity at and around the Abeniqui Country Club which includes cross-country skiing and dog walking. This winter activity also occurs at the Wentworth by the Sea Country Club as well. This indicates that Rye’s recreational resources are utilized year-round by some users.

**EMERGING OR POTENTIAL ACTIONS**

- The Recreation Department could consider collaborating with the Rye Senior SERVE non-profit to coordinate day trips and outings for older adults.
- The Conservation Commission could continue to foster efforts to expand Rye’s trail network on town acquired land, and to increase trail connectivity throughout the community.
- Rye should take advantage of the NH Seacoast Greenway (NHSG) once completed. Promotion and educational outreach of this and other trails in town should be advertised.
- There is high demand for pedestrian and bicycle usage on state roads in Rye as well as some town owned roads. The town should consider collaborating with NHDOT to explore potential bicycle and pedestrian infrastructure improvements on these roads.



- A Complete Streets Policy and the creation of multi-modal transportation guidelines are another way Rye could build multi-modal transportation planning into its decision-making processes.
- The Recreation Commission could host a summit of all recreation partners to coordinate communication to the public, wayfinding, programming opportunities, and other recreation related issues.

## SOURCES

- 2011 Rye Recreation Department Master Plan
  - [https://www.town.rye.nh.us/sites/g/files/vyhlf3751/f/uploads/rye\\_recreation\\_department\\_master\\_plan\\_2011.pdf](https://www.town.rye.nh.us/sites/g/files/vyhlf3751/f/uploads/rye_recreation_department_master_plan_2011.pdf)
- 2023 Rye Recreation Department Master Plan
- Town of Rye Website
  - <https://www.town.rye.nh.us>
- 2013 Rye Master Plan
  - <https://www.town.rye.nh.us/planning-department/pages/master-plan>
- Rye Recreation Commission
  - <https://www.town.rye.nh.us/recreation-commission>
- Rye Conservation Commission
  - <https://www.town.rye.nh.us/conservation-commission>
- Rye Beach Committee
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- 2022 Rye Annual Town Report
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- 2016 Rye Recreation Facilities and Space Needs Assessment
  - [https://www.town.rye.nh.us/sites/g/files/vyhlf3751/f/uploads/christopher\\_p\\_williams\\_architects\\_presentation.pdf](https://www.town.rye.nh.us/sites/g/files/vyhlf3751/f/uploads/christopher_p_williams_architects_presentation.pdf)
- 2021 Rye Natural Resource Inventory
  - [https://www.town.rye.nh.us/sites/g/files/vyhlf3751/f/uploads/rye\\_nri\\_report\\_2021.pdf](https://www.town.rye.nh.us/sites/g/files/vyhlf3751/f/uploads/rye_nri_report_2021.pdf)

- Rye Recreation Department
  - <https://www.town.rye.nh.us/recreation>
- NH GRANIT Database
- Strava Global Heatmap

# COMMUNITY FACILITIES AND SERVICES

Rye's community facilities and services include municipal buildings, such as the town hall, public library, and public works department - municipal sites, such as its cemeteries, recreational fields - infrastructure, and community services, such as recreation programs, transfer station services, and others. ***It is important for Rye to plan ahead for municipal service and public infrastructure needs to maintain high quality and efficient buildings and services.***

***Over time, the town will need to respond to an increased demand for services and plan for anticipated future needs.*** New services and facilities may be needed to accommodate a growing elderly population or to meet other emerging needs. These changes will impact the ways in which services are provided, the buildings which house them, as well as their capital needs, and therefore, the town budget.



## FACTS AND FIGURES



**5,478** children and young adults participated in 277 programs offered by the Rye Public Library in 2022.



**3** water providers service the town including Rye Water District, Aquarian Water Works, the City of Portsmouth. The remainder of the community has individual private wells.



**7,374** calls for service were received by Rye's Police Department in 2022, which is a decrease from previous years.



In **2023**, Rye Community Power was implemented and most of the town's municipal facilities utilize community power.



**555** parcels are serviced and overseen by the Rye Sewer Department and Sewer Commission.



**45** of miles of town-owned road are maintained by Rye's Highway Department.

# KEY FINDINGS

- There are several documented **municipal building needs** identified by the Town of Rye that will require planning and investment in the future including the need for a new public works campus facility and recreation department facility, as well as library, town hall, and school upgrades and improvements.
- The Library is a **vital and heavily utilized community space** and resource in Rye. According to the 2022 Rye Annual Report, all library services, programs, and usage increased an average of 51% from 2021 to 2022. Circulation of library materials increased 23% from 2021; Library visits increased 37%; and Program event attendance increased 48%.
- The **Town of Rye** and the **Rye Beach Precinct** share the following services: Fire, Police, Public Works Department, and Transfer Station.
- Several **reports** have been developed to guide specific improvements to Rye's community facilities and services. This includes the Recreation Master Plan, the Sewer Commission's Pump Station Assessment Report, the 2022 Engineering Study for the construction of a new well to replace the Cedar Run Well, and the Town of Rye Stormwater Management Plan. Rye's **Capital Improvement Plan** is the primary document that guides municipal investments of community facilities.
- **Future staffing needs** are anticipated by several town departments in Rye including the Police Department, the Public Works Department, the Recreation Department, and the Fire Department.
- Rye's network of groundwater resources is utilized for **drinking water** through several types of systems which are maintained by a variety of entities. The Town is serviced by three water providers: Rye Water District, Aquarian Water Works, and The City of Portsmouth and by individual private wells. Rye Water District provides water and fire protection to over 1,600 customers covering approximately two-thirds of the Town. Aquarian Water Works supplies water to the Jenness Beach and Rye Beach Precincts, and the City of Portsmouth supplies water to the northern part of town along Pioneer Road, Sagamore Road, Elwyn Road, and Wentworth Road. Documented future water system needs include repair and replacement of specific water tanks and pump stations, a water treatment plant, and identification of new groundwater resources.
- There are also several entities responsible for **sewage disposal** in Rye. The Rye Sewer Department and Sewer Commission oversees the town's public sewer system which consists of 6.9 miles of gravity sewer, 3.5 miles of force main, three pump stations, and services approximately 555 parcels as of August 2023. Rye's wastewater is treated by the Town of Hampton's Wastewater Treatment Plant. Rye is responsible for contributing funds to Hampton for this service. All other Rye resident properties are serviced by private septic systems. Key future projects for the town's sewer system including the replacement of aging infrastructure, installation of two new pumps, and the completion of an infrastructure vulnerability assessment. In 2022, a Sewer Commission Pump Stations Assessment Report was developed and identified the existing conditions of each pump station and made recommendations for improvements.
- Rye is an **MS4 (Municipal Separate Storm Sewer System) community**, meaning it must adhere to a stormwater management program to comply with federal requirements. To reduce non-point source pollution and ensure reduction in polluted stormwater runoff, the town should continue following best management practices and organizing a variety of education, outreach, system improvements, and other activities.
- Over the last decade, Rye has demonstrated its commitment to **renewable energy, energy efficiency, and climate resilience**. Rye has become a Community Power community and the town's active Energy Committee has identified several future projects moving forward including the construction of a solar array at the old landfill, expanding EV charging infrastructure, and the exploration of a microgrid.

# RYE NH, EXISTING CONDITIONS PROFILE – COMMUNITY FACILITIES AND SERVICES

## INTRODUCTION

The following section provides additional detail on the Town of Rye’s **community facilities and services** including trends, data, and other information. It was developed and informed by a variety of town documents and resources, as well as interviews with department heads and other municipal contacts.

The community facilities and services covered in this section include:

- Fire Department
- Police Department
- Rye Public Library
- Town Hall/Town Hall Annex
- Schools
- Public Works Department (Highway Department and Transfer Station)
- Recreation Department
- Senior Services
- Cemetery
- Utilities
- Communications



## FIRE DEPARTMENT

Both the Fire Department and the Police Department are housed in the Rye Public Safety Building at 555 Washington Road, which was constructed in 2004. On the Fire Department side, there is a five-bed bunk room, an apparatus, and a bay office area for the Chief, Deputy, and Shift Supervisors (also known as Lieutenants). There is also a shared training room for the Fire Department and Police Department, an EMS room, a maintenance room, and coordinator space. The Department also houses and operates assets of the Seacoast Fire Officers Mutual Aid District and responds to regional mutual aid requests as needed. The Department manages a vehicle fleet that consists of a Ladder truck, two structural pumpers, two ambulances, a high water/brush fire truck, a pick-up truck, and a Seadoo Jetski available in Rye Harbor. The Fire Department manages their own twenty-year internal Capital Improvement Plan (CIP) which helps to inform the six-year town-wide CIP. As part of this, an ambulance is purchased every eight years.

## Staffing

The Rye Fire Department is staffed by ten full-time employees, five per diem personnel, and eight active on-call personnel. There are also approximately ten to thirteen lifeguards staffed for the Lifeguard Program seasonally at three town beaches: Sawyer, Cable, and Wallis (Pirate’s Cove). The full-time staff consists of one Chief, four Lieutenants, and five Firefighters. The Rye Fire Chief also serves as the Forest Fire Warden and informs the public on fire prevention, inspections, trainings, and permitting. The Department maintains 24/7 service to the Town of Rye and the Rye Beach Precinct. The shifts consist of four groups of three that work an average of 42 hours per week. For each shift, there are three full-time Firefighters, and there is only one shift that has three Firefighters and a per diem personnel. In July 2023, the Fire Department phased in staff funding to keep three shifts full-time personnel. Starting on Oct 1, 2023, the Selectboard authorized the Fire Department to hire a Deputy Chief.

Table 1: Fire Department Responses to Calls for Service Source: Rye Annual Town Reports						
Call Type	2017	2018	2019	2020	2021	2022
Fires/Explosions	35	21	30	24	44	37
Structure Fires	17	11	22	10	27	19
Vehicle Fires	2	1	1	2	2	2
Brush Fires	5	5	4	5	2	4
Other Fires	11	3	3	7	11	10
Overpressure/Ruptures	1	0	2	1	1	0
Emergency Medical/Rescue	530	468	549	487	637	637
Hazardous Conditions	50	51	53	39	34	41
Service Calls	150	146	135	90	29	70
Good Intent Call/Public Service	15	18	22	40	37	73
Fire and CO Alarms/Other Alarms	121	118	135	94	128	131
Weather Related	3	2	4	3	2	7
Special/Miscellaneous	0	1	0	0	25	40
<b>Total Emergency Responses</b>	<b>905</b>	<b>829</b>	<b>930</b>	<b>778</b>	<b>937</b>	<b>1,036</b>
Mutual Aid Given	61	65	90	73	79	127
Mutual Aid Received	54	39	84	53	42	69
# of EMS Patient Transport	357	315	341	338	444	452
Water Rescues ( <i>note: improved water rescue services and tracking service calls is a relatively new development, which is why there is no information for 2017-2019</i> )	-	-	-	7	11	15
Total Forestry Permits	368	368	530	528	422	460

## Calls for Service and Response Times

As indicated in the 2022 Rye Fire Rescue Staffing Needs Assessment and Strategic Plan, “the Rye Fire Department is an all-hazards response agency providing Fire/Rescue protection and Advanced Life Support EMS services to town residents and guests. This includes but is not limited to Medical Emergency Calls, Structure Fires, Alarm investigations, Motor Vehicle Collisions, search and rescue in both land and water, mitigation of hazardous conditions, and Service calls.

*The Rye Fire Department also performs fire inspection/prevention services, Child passenger seat installation/inspections, and CPR courses".* The Department follows the fire and emergency response time standards set by the National Fire Protection Association (NFPA).

Calls for service over the last six years are shown in the Table 1 on the previous page and are broken out by fire and medical calls. In general, the total number of emergency responses has increased over the last six years. As the Fire Chief noted in the 2022 Annual Town Report, there has been a 10% increase in call volume from 2021 to 2022.

### Dispatching Services

Rye makes use of the statewide E-911 system for police, ambulance, and fire emergency reporting. The Fire Department and Police Department are dispatched by the Rockingham County Dispatch Center in Brentwood N.H.

### Rye Fire Rescue Service Gaps

To evaluate Rye's Fire-EMS system, the Rye Fire Rescue Staffing Needs Assessment and Strategic Plan was developed in 2020 to provide short-term fire and EMS direction, build a shared community and public vision, set short- and long-term goals and objectives, and sets a course to optimize use of all appropriate resources. The Assessment and Strategic Plan identified five key findings with associated service gaps. After an interview with the Rye Fire Chief, below is an updated list of the service gaps that are still relevant in 2023:

- Rye Fire Rescue cannot maintain quick initial response to overlapping calls when out on an emergency response. This was partially resolved but future rising call volumes could further impact this.
- Off Duty and call force recall is not predictable.
- Customer service suffers when there are no staff at the Fire Station. This is partially resolved with the addition of the Deputy Fire Chief Position.
- Talented call force members are being trained by Rye Fire Rescue only to leave active service in Rye. This is partially resolved with the addition of part-time per-diem shift coverage that provides an opportunity for call force members to stay on as per-diem.
- Talented call force members do not have adequate organizational support. This is partially resolved with the addition of the Deputy Fire Chief Position that will provide more bandwidth to increase organizational support for the call force.
- There are often no members left in town to respond to a second ambulance call. This is partially resolved with the third position on each shift however there is a liability to maintain an appropriate number of per-diem Firefighters.

### Recent/Future Projects and Needs

- *Staffing* – According to the Fire Chief, the current number of personnel should be sufficient to meet the demand of the community for the next three years. However,

depending on the availability of per diem personnel (due to difficulty recruiting) there may be a need for an additional three per diem on for shifts. Additionally, depending on run volume and future community demand, the Department may have a need to add more full-time personnel.

## POLICE DEPARTMENT

The Police Department is located in the Public Safety building. The Rye Police Department (RPD) services the Town of Rye and the Rye Beach Precinct. The Department maintains a vehicle fleet of five marked cruisers, one unmarked vehicle for administrative purposes, and one Animal Control vehicle. Typically, RPD maintains a Detail Account to fund for the purchase of new police cruisers. However, in 2022, there was not enough funding in this account and the new vehicle request was put into the CIP. When the RPD receives a new vehicle, the old vehicle gets cycled and passed down to other Town Departments such as Rye Tax Assessor, Recreation Department, and the Public Works Department. Currently, to accommodate the need for a new town vehicle, the Departments have been collaborating and sharing the Animal Control vehicle when needed.

### Staffing

The Rye Police Department has eleven full-time personnel which includes one Chief, one Deputy Chief, one Sargent, one Lieutenant (that also duels as the part-time Training Coordinator Accreditation Manager), six Officers, and one Administrative Assistant. The part-time personnel consist of four Officers, a private Prosecutor, one Parking Enforcement Attendant, and one Animal Control Officer. Currently, the Animal Control Officer is part-time, but the Police Department anticipates this position will be full-time soon and will take on some administrative duties. In the months of June through September, there are additional seasonal beach parking enforcement attendants as parking increases substantially.

### Police Activity and Calls for Service

Table 2 provides a breakdown of the Rye Police Department’s annual police activity related to arrests, crimes, and incidents over the last five years. In

<b>Table 2: Police Department Statistics</b>					
<b>Source: Rye Annual Town Reports</b>					
<b>Activity</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>	<b>2021</b>	<b>2022</b>
Motor Vehicle Stops	1,181	1,397	1,442	2,064	1,412
911 Hang up calls	66	58	30	49	42
Juvenile Issues	43	31	30	22	19
Arrests	307	144	174	103	79
Accident Investigations	146	111	102	84	96
Medical Aid Calls	307	349	188	218	253
Burglary	1	5	2	1	1
Alarms	259	236	175	178	184
Animal Control	686	490	444	769	592
Domestics	27	28	31	20	11
Thefts	50	63	51	31	30
<b>Total Calls for service</b>	<b>10,118</b>	<b>9,076</b>	<b>8,487</b>	<b>8,316</b>	<b>7,374</b>

2022, the Police Department had 7,374 calls for service. Since 2018, it appears the Rye Police Department has seen a decrease in the number of calls for service.

Recent/Future Projects and Needs

- *Recent Projects* – The RPD recently implemented a body cam program to show transparency to the public, and the Department is currently working on a Driver Compliance Plan to reduce speeding through town.
- *Staffing Needs* – The Police Chief anticipates that future demand on services will necessitate the current part-time Lieutenant position to increase to full-time and the need for more officers around the Beach during the summertime.

**RYE PUBLIC LIBRARY**

Rye’s Public Library is located at 581 Washington Road adjacent to the Rye Historical Society/Town Museum. The current Rye Library building was constructed in 1911 and was last expanded in 1998. The library building is approximately 12,000 square feet and consists of a lobby entrance, two public bathrooms and one staff bathroom, a youth collection area, and a small youth adult section. There is a small computer lab, a meeting room with a capacity of 170 people and another meeting room that has a capacity of 12 people. The building is two floors with an elevator and administrative office spaces. Some of the facility space is utilized for utility and storage, but about 10,000 square feet is used for public function.



Library Programs

The Rye Public Library provides a wide variety of educational, social, informational, and recreational programs for all ages. This includes youth summer reading, daily programming, crafts, entertainment inside and outside on the common space, scavenger hunts, performers, educational lectures, summer music series for all ages, a movie evening program, a robust inter-library loan exchange, and others. The Friends of the Rye Public Library support program funding and program development September through May. The Library

Table 3: 2022 Library Statistics		
Source: Rye Public Library		
Category	Rye (2022)	NH State Avg
Annual Visits	39,143	10,726
Circulation of Materials	41,745	24,404
# Presentations to Groups	572	132
# of Participants in Presentations	8,272	2,375
# of Children’s and Young Adult Programs	277	79
Total Attendance of Children’s and Young Adult Programs	5,478	1,305
Public Internet Users	4,931	671

Trustees, Friends of the Library, and the Library Common Advisory Committee assist the library in their program offerings and repair collections. The Friends of the Rye Public Library provide discounted museum passes to Rye community members and offer other funding to support programming at the library.

In 2022, 5,478 children and young adults participated in 277 programs. The participants in these programs, events, and daily library use indicate that the library is an important town service. Table 3 from the 2022 yearly update to the Library Strategic Plan compares Rye Public Library's visits, users, and participation to the state average. As shown in this table, Rye's library statistics well exceed the state's averages.

### Collections and Services

The Rye Public Library provides a diverse circulating collection for all ages in the community. This collection includes books, magazines, newsletter/newspaper subscriptions, audio books, digital media download such as Hoopla (a digital media service that allows you to borrow movies, music, audiobooks, eBooks, comics and TV shows to enjoy on your computer, tablet, or phone, and TV), DVDs and Blu-rays. For more information on the types of collections available at the Rye Public Library, visit the library's website: <https://ryepubliclibrary.org>

Other library services include collaboration with Senior SERVE Program's pick-up services, senior trivia club, home delivery of materials and 24/7 book drop off. According to the 2022 Rye Annual Report, all library services, programs, and usage increased an average of 51% from 2021 to 2022. Circulation of library materials increased 23% from 2021; Library visits increased 37%; and Program event attendance increased 48%.

### Staffing

The Rye Library has an Adult Services Director, an Adult Services Assistant Director/Collection & Inter-Library Loan Manager, two Adult Services Assistant Librarians, one Education and Outreach Librarian, three Adult Flex Librarians, a Director of Youth Services, a Youth Services Assistant Librarian, a Youth Storytime Librarian, a Youth/Teen Services Assistant Librarian, and a Library Page.

### Recent/Future Projects and Needs

- Recently, the Rye Public Library's exterior space has been the focus with hopes to maximize the existing green space in front of the library for programming and create a town green atmosphere. The Rye Public Library has been working with the Town Center Committee to redesign this space such as adding plantings, redesigning the common space, adding a covered platform/covered structure with electricity and an amphitheater type design.
- Looking over the next ten years, the Library Director anticipates the need for additional facility space including storage space, staff support for background activities, staff office

space and breakroom, and more public use space. Additionally, a secondary programming room was identified as a potential need and maintenance to heating and ventilation systems.

## **TOWN HALL/TOWN ANNEX**

The Rye Town Hall building is located at 10 Central Road and is a two-story historic structure that includes the following offices: the Building Department, Planning & Zoning, Land Use, Selectmen's Secretary and the Town Administrator, Treasurer, and DPW Director's Office. The building was originally constructed in 1839 as a Methodist Church and was purchased by the Town and converted into the Rye Town Hall in 1873. On the ground floor of the present structure, the space has been divided into nineteen spaces consisting of offices, an entry, a lobby, a meeting room, restrooms, kitchenette, corridors, storage, meeting space, and a boiler room. The Town Hall building is also where local boards and committees conduct their meetings.

Due to the historic nature of the Town Hall building, deterioration has occurred over time. Many aspects of the building still need repair to bring the building up to code and to accommodate the demand of more facility space for town offices. Over the course of many years of research, studies, and possibilities for additional Town Hall space, the Selectboard and voters approved the former TD Bank located on 500 Washington Road to be converted into a Town Hall Annex to host some of the town offices at this location. The Town Clerk/Tax Collector, Assessing Department, Assistant Town Administrator/Finance Director, and the Supervisors of the Checklist are in the Town Hall Annex. Renovations are still needed to the Central Road Town Hall due to the age of the building. More information is needed to better understand specific space needs of each department that residents in the Town Hall and Town Hall Annex. For more information on the Town Hall Building, please see the 2018 Town Hall Historic Strategic Plan.

## **SCHOOLS**

Rye students are part of SAU 50 which includes the communities of Rye, Greenland, New Castle, and Newington. There is one elementary school (Rye Elementary School) and one Middle School (Rye Junior High School) located in Rye. The Portsmouth High School serves the communities in the SAU 50 district and Portsmouth.

### Rye Elementary School

The Rye Elementary School (RES) is located at 461 Sagamore Road and was constructed in 1956 with additions added in 1965 and 1996. The elementary school has the capacity for approximately 425 students and serves kindergarten through fourth grade. Currently, the Rye Elementary School has about sixteen classrooms. However, two are in the basement and are utilized for recreation programming and as a teacher conference room. There are three boy and three girl bathrooms and a gymnasium that is converted into a cafeteria for lunch and a full kitchen. There is a playground for kindergarten through second graders that is about twenty-

eight years old and was not in compliance with Primax Insurance so, some pieces of equipment were removed from the playground. There is also another playground for grades third and fourth and the SAU 50 Director of Facilities anticipates the need for updates in the next five to ten years to this playground. There is a baseball field that doubles as a soccer field located behind the elementary school. There is also an outdoor basketball court. RES also maintains a soccer field located adjacent to the school with frontage on Sagamore Road known as Lang Corner Field. The schools are responsible for the maintenance of these fields and a landscaping company is hired to maintain them. Additionally, RES recently started utilizing a trail in the woods behind the school (on school property) for educational purposes.

### Rye Junior High School

The Rye Junior High School (RJH) is located at 501 Washington Road and was constructed in 1933 with additions added in 1949, 1965, and 1996. Rye Junior High School has a student capacity for approximately 270 students and serves grades five through eight.



The RJH building consists of two stories and a basement. On the first floor, there is a girl/boy bathroom, a men/women's staff bathroom, a nurse's office, the principal's office, a library, a gymnasium, a cafeteria, and kitchen, and five classrooms mostly utilized for fifth grade. On the second floor, there are eleven classrooms, one staff bathroom, and one boy and one girl restroom facility. The basement in Rye Junior High is partially finished and there are four large rooms utilized as a STEM room, a music room, an art room, and a life skills room; the rest of the basement is utilized for storage purposes. There are also boy and girl locker rooms however, they are not utilized due to student arriving to school already dressed ready for gym class. Outdoors, there is a sports field that is utilized for recess, and a variety of other sports throughout the year. RJH also has an outdoor classroom located behind the RJH in Wedge Woods.

### Recent/Future Projects and Needs

- *Rye Elementary School Needs* – Renovation of the Main Wing bathroom; this is the original bathroom from 1956 and is not ADA compliant. The playground for grades kindergarten through second grade is twenty-eight years old and is in need for updating. To prevent using funds from the school budget for this renovation, the RES has been fundraising throughout town. It is anticipated that within the next two-three years the parking lot will need to be repaved and sealed as well as the outdoor basketball court. The trees located along the trail behind the RES should be evaluated for safety to ensure there no dangers related to falling dead trees.

- *Rye Junior High School Needs* – Replacement of the steam heating system (as it is the original system from 1933). Renovation of the subfloor and tiling in the first-floor hallway will be needed within the next three years.
- *Needs for Both Schools* – A full time custodian and a part-time custodian are needed and the replacement of all exterior doors on both schools for safety and efficiency. Both schools require the replacement of HVAC units. SAU 50 has a plan to replace 2 HVAC units a year back and forth between the Elementary School and the Junior High School until all HVAC units are replaced.

## **PUBLIC WORKS**

The Town of Rye has a Public Works Department which includes both the Highway Department and the Transfer Station. The Public Works Director oversees both of these and is responsible for the maintenance of the town’s roads, stormwater system, beaches, public spaces, buildings, and the Transfer Station.

### Highway Department

Rye’s Highway Department and Transfer Station are housed at the Public Works Facility Campus, which is located at 309 Grove Road. The Public Works Director’s Office is located on the second floor of the Town Hall Building located at 10 Central Road. At the Public Works Facility Campus, all Highway Department equipment and vehicles are stored in a Public Works facility building where there is also a vehicle maintenance bay for the mechanic with work storage space, three garage bays, two office spaces and houses three other workstations with a break room and bathroom facilities. The Highway Department owns a vehicle fleet and equipment as shown in Table 4.

### Staffing

The Highway Department staff consists of eight full-time employees (The Public Works Director, one Working Forman, one Mechanic, four Driver/Operators, and one Buildings/Grounds Personnel). Additionally, the Highway Department has one seasonal/part-time Laborer. The Transfer Station staff consists of three Transfer Attendants – two part-time, one full-time, and one seasonal.

### Roads

The Rye Highway Department maintains about 45 miles of town-owned road in Rye. The Department also maintains and updates a pavement management plan. The Highway

<b>Table 4: Highway Department Vehicle Fleet</b>	
<b>Source: Rye PWD</b>	
Vehicle Type	#
Woodchuck Chipper	1
J/D Backhoe	2
Volvo Wheel Loader	2
John Deere Mower/Tractor	1
John Deere Skid Steer	1
Barber Surf Rake	1
International 7400 Six Wheel Dump	1
International 7400SFa4 Six Wheel Dump	3
Ford F450 One Ton Dump	1
Ford F450 One Ton Rack	1
Ford F350 Utility Truck	1

Department also completes the town's drainage system work such as installing new catch basins and culverts; replacing and cleaning of catch basins and culverts, headwalls, shoulder gravel, tree work, ditch work, guardrail replacement; and improving grades to ensure compliance with the Town's Municipal Separate Storm Sewer System Program (MS4). This data is collected by the Public Works Director who also completes the MS4 documentation to submit to the U.S. Environmental Protection Agency (EPA). As part of the town's MS4 program, the Rye Highway Department also maintains a Salt Reduction Plan. The purpose of the Salt Reduction Plan is to "reduce salt usage within the MS4 boundary by implementing various best management practices (BMPs) aimed at reducing the amount of chloride applied to the roadway, thus reducing the amount of chloride discharging to the impaired waterbody within the Town of Rye's MS4 boundary".

### Transfer Station

The Transfer Station is located at 309 Grove Road and is open Tuesdays and Saturdays from 7:30 am to 3:45 pm. The Transfer Station facilities consist of one recycling bailer, a storage area for recycling that the town collects to bail and store (once full the town ships the recycling to Northeast Resource Recovery Association (NRRRA) in exchange for a check), and an area for a swap shop that is run by volunteers where donations are brought in and given away as a way of reusing. There are two pole barns for equipment storage and a salt storage facility. There are also concrete walled bins for crushed glass, wood chips, and compost available to residents. The Transfer Station is for Rye residents only and requires a permit for use. In 2021, Rye residents generated 508 tons of recycling materials, and in 2022, Rye residents generated 510 tons of recycling material. Over the last five years, Rye residents generated an average of 1,000 tons of municipal solid waste (MSW) per year. The Town does not provide curbside pickup therefore residents seek private trash roadside service or deliver their trash to the Town's Transfer Station. According to the Rye Public Works Director, generally more than 50% of Rye residents utilize the Transfer Station and closer to 25% of Rye residents hire private contractors for curbside pickup.

The Town of Rye is a part of the Southeast Regional Refuse Disposal District 53B along with other communities of Brentwood, Fremont, Kensington, North Hampton, and Sandown. The group collaborates with these communities to ensure proper disposal of hazardous waste by meeting quarterly and organizing the yearly Household Hazardous Waste Day typically held in the end of September.

### Recycling Education Committee

Recently, the Rye Selectboard established the Recycling Education Committee as a subcommittee of the Rye Energy Committee. The purpose of the committee is to "educate Town residents on recycling and maximizing the effectiveness of the Town's source separated recycling drop-off facility at the Transfer Station". For more information about the Recycling Education Committee, please visit the town website.

### Recent/Future Projects and Needs

- *Staffing Needs* – Looking into the next ten years, the Public Works Director anticipates the need for more administrative positions such as an Assistant Public Works Director, a Public Works Office Manager/Administrative Assistant, and a General Foreman.
- *Equipment/Facility Needs* – The Public Works Director anticipates a need for a new PWD Campus Facility due to both buildings (one that houses the Highway Department and another that houses the Transfer Station) being insufficient and structurally unsound. Future equipment needs include fuel tanks for reporting and tracking and a wash bay for vehicles to minimize runoff.

## **RECREATION DEPARTMENT**

The Recreation Department and Recreation Commission manage the Rye Recreation Area which is located at 55 Recreation Way. The Rye Recreation Area includes the Flash Jenness Memorial Little League Field, the Ralph Morang Multi-Purpose Field, spectator stands, a playground with benches, a wooded picnic area, basketball/pickle ball court, a garage/multi-functional building (1,690 square feet) and three small buildings. The three small buildings consist of a Recreation House (1,152 square feet) with rated occupancy of 45 persons with two restrooms; a 728 square foot staff office modular building; and a 290 square foot unheated equipment storage shed that is utilized as a snack shack on a limited basis. The main paved parking lot and trailhead gravel lot provides a total of 90 spaces. Pedestrian infrastructure is limited at the Recreation Area and most of the site does not meet ADA (Americans with Disabilities Act) requirements.

### Staffing

The Rye Recreation Department has a full-time Recreation Director and a full-time Program Assistant, and is in the process of hiring a full-time Deputy Director to assist with programming and administrative purposes. The Department also has a Program Assistant that works thirty hours per week for the afterschool program and the summer camp program. There are approximately five seasonal staff.

### Recent/Future Projects and Needs

Needed improvements to the Recreation Area include:

- Improvements to one of the Recreation Department baseball fields, moving the office space, revamping the parking lot, and installing new restrooms at the recreation facility;
- The addition of a basketball court, pavilion, pump track, tennis and pickleball courts and indoor practice space. This is identified in the 2023 Recreation Master Plan and improvements are anticipated to be implemented in phases;
- A bus for transportation for recreation programming for seniors and children.

- A full-time Parks Maintenance personnel is needed as well as increasing the thirty-hour per week Program Assistant to work full time in the Department.

As identified in the 2023 Rye Recreation Road Master Plan, after meetings with Town staff and Committees, and conducting a public survey, the following list of desires for the Recreation Area were identified:

- Recreation Department office and meeting space
- Covered space for inclement weather and for shade
- Pickle ball/ tennis courts possibly with/without basketball
- Pump track
- Picnic pavilion
- Revenue generation and use for inclement weather (camp)
- Free standing restroom building option
- Facility wide universal accessibility
- Picnic / eating / socializing area supportive of concessions
- Expand recreation offerings
- Add trails and greater connectivity on site and community nodes
- Additional 50 parking spaces (goal 140 total)

For more information on Rye's recreation facilities, programs, and resident usage, please visit the Recreation Profile of this Existing Conditions Report.

## **SENIOR SERVICES**

Rye Senior SERVE was developed in 2004 and is a non-profit 501 (c) (3) charitable organization that consists of volunteer residents that work to assist Rye's Seniors. The organization maintains and provides transportation services for Rye seniors to medical appointments and for errands including grocery shopping, pharmacy runs, the bank, and leisure shopping. Some seniors also take advantage of the option of breakfast at Hebert's Restaurant. In addition, the Senior SERVE van takes riders on planned outings and monthly luncheons. The Senior SERVE van is parked at the Town Hall, and they are in need of a new vehicle.

## CENTRAL CEMETERY

The Town of Rye has one cemetery, Central Cemetery, that is located on Central Road adjacent to the Town Hall. The Central Cemetery property is approximately seventeen acres. Central Cemetery was established in 1892 and has been managed and operated by the Rye Cemetery Trustees which



consist of three elected trustees. Structures that are utilized at Central Cemetery and that are operated by the Cemetery Trustees, consist of one four-bay garage in good condition, one single garage bay in need of future foundation repair, and one viewing shed that is no longer in use. Central Cemetery operates at no expense to the Rye taxpayers and is self-funding by burial fees, lot sales, and interest earned on the reserve fund. This Reserve Fund is available for building and equipment repair and equipment replacement when needed. The Central Cemetery is a perpetual care cemetery that operates by setting aside a portion of the plot sale in an investment fund that generates interest income to perpetually pay for the maintenance of the plot and cemetery. The Central Cemetery contributes to Rye's historic character and can be utilized for walking with its dirt roads and walking paths that are in the center of town, and provides green space.

The Cemetery Trustees maintain the following vehicle and equipment fleet:

- Tractor #1 = Largest Tractor "Backhoe" – Case Model 4800 – Model year 1981.
- Tractor #2 = Replaced in 2017 with a Wright Zero-turn mower.
- Tractor #3 = Replaced in 2020 with a new SCAG Zero-turn mower.
- Dump Truck – Model Year 2001 – 30,000 miles.

### Recent/Future Projects and Needs

- The Cemetery Trustees are studying the infrastructure at the cemetery to access the roadway repairs and ongoing tree maintenance.
- The Trustees have a plan to replace one road utilizing funds from the Cemetery Trust Funds.
- The Cemetery Trustees will be studying the maintenance of the infrastructure over the next several years.

**UTILITIES**

**SEWAGE DISPOSAL**

The Rye Sewer Department is located on the second floor of the Rye Beach Village District building at 830 Central Road in Rye Beach. The Rye sewer system was constructed in the late 1980’s, early 1990’s and consists of 6.9 miles of gravity sewer, 3.5 miles of force main, three pump stations, and services approximately 555 parcels as of August 2023. Most other Rye properties are serviced by private septic systems.

Rye’s wastewater is sent to the Town of Hampton’s Wastewater Treatment Plant. Therefore, the Sewer Department is responsible for paying the Town of Hampton for the transport and treatment of its wastewater and contributes to their WWTP capital expenditures as part of an Inter-Municipal Agreement. The Town of Hampton has agreed to process Rye sewage until November 16, 2024, and the renewal process has been recently initiated. The town typically maintains a five-year contractual agreement with Hampton.

Distribution

As shown in the Rye Public Services Map found at the end of this section, Rye’s sewer distribution area is approximately from the Church Road area to Old Beach Road. However, it should be noted that the entirety of this area is not serviced by Rye Sewer as there are some parcels that are served by private septic systems. The Sewer Department also services Adams Mobile Home Park, which is connected by a private line to the City of Portsmouth Sewer System. The City of Portsmouth Sewer System also extends and provides public sewer service from the Rye/Portsmouth boundary on Sagamore Road ending at Pioneer Road (Foyes Corner). The Rye Sewer Department distribution infrastructure consists of approximately eleven miles of sewer pipeline and about 170 sewer manholes. Table 5 identifies the Rye Sewer Department’s pump station infrastructure and locations.

Rye Sewer Commission and Staff

The Rye Sewer Commission consists of three volunteer and elected members who are responsible for the administration, billing, operation, and maintenance of sewer in Rye. The Rye Sewer Department also has a full-time Sewer Director. All other workers are contracted and the Town of Hampton provides weekly maintenance checks on the pump stations with assistance from the Rye Sewer Director. A part of the inter-municipal agreement, the Town of Hampton bills Rye Sewer for their operation and maintenance services.

Table 5: Rye Sewer Pump Station Locations		
Pump Station	Location	Year Constructed
Jenness Beach	118 Old Beach Road	1987
Church Road	19 Church Street	1990
Abenaqui	759 Central Road	1987

## Recent/Future Projects and Needs

In 2022, a Sewer Commission Pump Stations Assessment Report was developed and identified the existing conditions of each pump station and made recommendations for improvements. The Sewer Commission has been actively evaluating the sewer infrastructure, which is now over thirty years old, as well as pursuing State, Federal, and local funding. The following projects are future needs as identified in the draft 2024-2029 Capital Improvements Plan and recommended in the Sewer Commission Pump Stations Assessment Report.

- Installation of a new generator at the Church Road Pump Station due to aging infrastructure and failures that were previously experienced.
- Installation of two new Gorman Rupp Pumps at the Jenness Beach Pump Station
- An Infrastructure Vulnerability Assessment

## **WATER AND STORMWATER INFRASTRUCTURE**

There are three water providers in the Town of Rye: Rye Water District, Aquarian Water Works, and the City of Portsmouth. As shown on the Public Services Map located at the end of this Community Facilities and Services Profile, Aquarian Water Works supplies water to the Jenness Beach and Rye Beach Precincts and the City of Portsmouth supplies water to the northern part of town along Pioneer Road, Sagamore Road, Elwyn Road, and Wentworth Road. The Rye Water District purchases water from the City of Portsmouth that are connected to the Rye Water District water line.

### Rye Water District

The Rye Water District (RWD) is a private non-profit organization. The staff consist of one full-time Business Manager, two full-time Field Operators, a Superintendent, and three elected Rye Water District Commissioners. The RWD office is located at 60 Sagamore Road and provides water and fire protection to over 1,600 customers covering about two thirds of the town. The RWD operates and oversees three wells, three pump houses, three storage tanks, a booster station, just under 300 hydrants, and maintains approximately 37 miles of water lines. Table 6 identifies RWD's infrastructure in comparison to Aquarian Water Works and the City of Portsmouth water service distribution throughout town. The RWD assets are mostly comprised of long-lived assets such as water storage structures, distribution mains, pumping stations and equipment, and land and buildings. The remainder of assets are four vehicles which consist of pick-up trucks that are normally replaced on a six-year cycle, as well as small equipment items. The budgeting process

<b>Statistic</b>	<b>Value (approx.)</b>
Number of RWD Hydrants	266
Miles of RWD Water Line	36.8 miles
Number of Aquarian Hydrants	66
Miles of Aquarian Water Line	12 miles
Miles of City of Portsmouth Water Line	5.6 miles

consists of revenues received from a water usage fee/tax for those located in the Rye Water District area.

### RWD Recent/Future Project and Needs

- *Future Projects* – The following projects were identified by the Rye Water District Manager and listed in the 2023-2028 Rye Capital Improvement Plan:
  - Breakfast Hill Water Tank Maintenance
  - Parson Road Improvements
  - Sagamore Road Pump Station Rehab
  - Washington Road Tank #1 Maintained
  - Central Treatment Plant
- *Recent Projects* – In 2022, Rye Water District hired Wright-Pierce Engineering Firm to evaluate and identify potential locations in Rye to construct a new well to replace the Cedar Run Well located on Garland Road. The Cedar Run Well has degraded water quality for both iron and manganese at elevated levels, as well as elevated levels of topical organic compounds (TOC). The well is currently offline due to this, however if the well is online, it produces water that is consumable but is esthetically less of a quality of water than what is acceptable by the residents in the district. Due to the Cedar Run Well having been offline since 2018, the RWD system has difficulty meeting the demands at certain times of day particularly during the summer months. The Engineering Firm identified the Brown Lane Farm property (managed by the Rye Conservation Commission) as a potential site for development of a new well. The Brown Farm Property is located off of West Road and three primary drilling targets were identified at the site. This parcel is approximately 51 acres. This location is still under review and the RWD is collaborating with the Town of Rye Selectboard and the Rye Conservation Commission to discuss the ongoing water source investigation being done by Rye Water District in conjunction with their engineering firm Wright-Pierce.

### Stormwater Management

As the Town of Rye was developed and streets were constructed, the town's stormwater collection system has progressed over time. Rye's collection system follows many roads in town and its components range from open culverts/swales to catch basins and associated piping. Throughout town, there are approximately 715 stormwater drains, 44 stormwater drainage crossings, and about 14 miles of stormwater drainpipe.

As road improvements have been made over the years, the Town has evaluated and addressed drainage improvements. The Town of Rye participates in a Stormwater Management Program and maintains and manages a Municipal Separate Storm Sewer System (MS4). A Municipal Separate Storm Sewer System (MS4) includes the stormwater collection, conveyance, and outfall structures within a city or town. These structures include (but are not limited to) catch basins, drain manholes, culverts, stormwater basins, and swales. Along with approximately sixty other municipalities in the state, the Town of Rye's MS4 permit is regulated under the EPA Clean

Water Act (CWA). The Public Works Department works to comply with the requirements of the MS4 permit issued on May 1, 2018 by the US Environmental Protection Agency (EPA). The Stormwater Management Program (SWMP) describes and details the activities and measures that will be implemented to meet the terms and conditions of the 2017 NH Small MS4 General Permit. The SWMP document should be updated and/or modified during the permit term as activities are modified, changed, or updated to meet permit conditions. For more information on stormwater and roadway infrastructure, please visit the Transportation Profile of this Existing Conditions Report.

## **ENERGY**

### Rye Community Power

In 2021, the Energy Committee proposed an electric aggregation plan to the Select Board, which recommended the implementation of Rye Community Power (RCP). Rye residents voted to adopt the plan in March 2022, and it took effect in April 2023. The plan involved joining the Community Power Coalition of NH (CPCNH), a member-owned, non-profit community power agency that procures and administers electricity supply. CPCNH offers lower electric rates and more renewable energy options than Eversource. RCP participation is voluntary but when it launched all Rye Eversource customers were switched to RCP unless they opted out. Eversource still delivers the power, maintains the infrastructure, and sends the bills.

RCP has four electric supply rates. The default Granite Basic rate meets the state law's minimum renewable energy percentage (23.4% in 2023, 24.4% in 2024, and 25.2% in 2025 and beyond), Granite Plus has 33%, Clean 50 has 50%, and Clean 100 has 100% renewable energy. The Rye Community Power default rate is Granite Basic. Of the 2,627 current accounts, 99% chose Granite Basic and 1% chose one of the other rates.

In the first seven months of RCP service, customers used approximately 7 MWh of electricity or about 1,000,000 kWh per month. They also saved over \$200,000 from what they would have paid for Eversource's default energy supply, all at no cost to consumers or the Town, by switching to RCP from Eversource. All Rye municipal buildings currently use RCP for electric supply and will do so unless there is a better rate option for energy supply. Customers may opt-up from Granite Basic to one of the three more renewable energy products. They may also opt-out of the program at any time, with no fee or penalty, and return to Eversource default supply or choose another competitive supplier.

### Solar

In October 2022, solar panels were installed on Rye Junior High School roof. These panels not only save the school money on electricity, but they reduce greenhouse gas emissions. Solar panels will be installed on the elementary school roof in 2024.

There are currently 120 residences in Rye that have installed solar panels. Some of these homes also installed batteries which means the home has back-up power in case of an outage. The battery will also supply carbon free power to the home during the night hours or when the panels are not generating as much as the house is consuming.

The Energy Committee is exploring the option of developing a large solar array on land in town. This would have the advantage of supplying low-cost electricity to residents at a fixed-rate for the long term in addition to reducing GHG emissions.

### Housing

A 2019 NH Department of Environmental Services study of greenhouse gas emissions found that the residential sector accounted for a 19% share of the state's emissions.

Of the 2,906 buildings in Rye, 90% burn fuel oil or propane for heat. The average fossil-fuel burning home heating system produces 18,000 lbs. of GHG emissions.

The Rye building code follows the state building code which requires builders to meet the strict energy reduction requirements of the International Energy Conservation Code. The IECC is revised every three years, becoming stricter with each revision. It is anticipated that by 2030 the code will require all new homes constructed to be heated and cooled with electric heat pumps. This will not only make them more energy efficient and cleaner, but also less expensive to operate.

The Town Hall is heated and cooled with a geothermal heat pump and the Annex is heated and cooled with an air source heat pump, both of which use electricity to operate.

### Transportation

A 2019 NH DES analysis of GHG emissions in NH found that transportation accounted for the largest share of the state's GHG emissions at 47%.

in 2022 there were 8,619 vehicles registered in Rye of which a small percentage were electric.

### Energy Committee

The Rye Energy Committee, established in 2007 by the Select Board, has a mission to assess the Town's energy use, recommend energy conservation alternatives for the Town and its residents, and help disseminate this information. The 2012 Master Plan stated that energy use and natural resource protection affect many aspects of life in Rye, such as municipal costs, quality of life, and the local economy. Therefore, policy decisions should consider energy that aims for efficiency, conservation, security, and resiliency. The NH Climate Action Plan is currently being updated and when it is complete the Town should consider aligning its climate impact reduction goals and activities with those it recommends. Rye residents will benefit from the Town

becoming more energy secure and sustainable. Town policies on energy generation, supply, building standards, and transportation are vital for Rye’s long-term sustainability and resilience.

### Recent/Future Projects and Needs

#### Recent Projects:

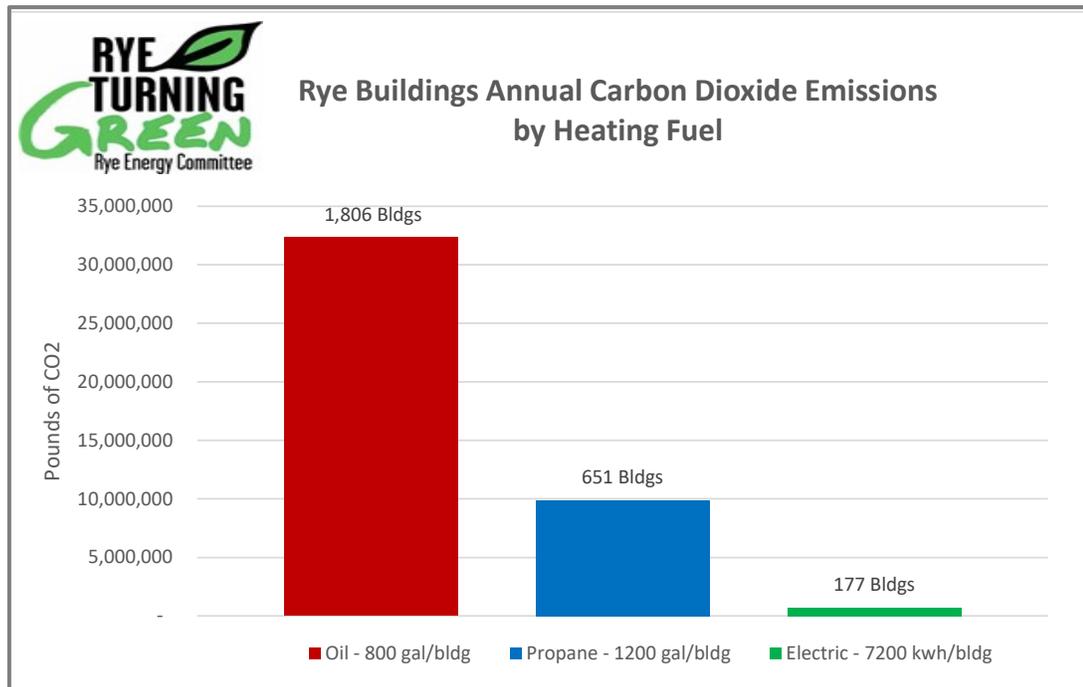
- Energy audits have been completed for all town buildings.
- All town buildings have been converted to LED lighting.
- Most town facilities are on Rye Community Power, but not all buildings. The Schools and the Public Safety Building are still in contract with Direct Energy.
- Municipal buildings were reviewed, initiated by the Energy Committee, to identify the structures and sites most suitable for accommodating solar energy systems. In October of 2022, solar panels were installed on Rye Junior High School by warrant article that was approved by Rye voters in March 2022. This was implemented to save on energy cost. In March 2023, another warrant article was brought to voters for the installation of solar panels on the Rye Elementary School after roof repairs are made.

#### Future/Anticipated Projects:

- The Energy Committee has been exploring the option of constructing a solar array on the old Landfill located at the corner of Lafayette and Breakfast Hill Road. This location was identified for ideal solar production. The old Landfill property is currently owned by a private party and in March 2024, the town anticipates bringing a warrant article forward to voters for the town to purchase this land.
- The Energy Committee would like to advise the town that more energy infrastructure should be installed such as EV chargers installed at the Rye Schools to support new transportation infrastructure.
- Rye’s building codes can significantly influence energy efficiency in its municipal, residential, and commercial buildings. Building to code is the minimal level of energy efficiency required by the law. However, to achieve greater energy efficiency, a community’s building code can be more stringent than the state requirement. The Energy Committee would like to advise the Town in the future to follow the most recent building code at the current time or encourage implementation of a more stringent building code for Rye to follow.
- The Committee would like to research the possibility of connecting to a microgrid for the public safety reasons. The US Department of Energy defines a microgrid as “a group of interconnected loads and distributed energy resources within clearly defined electrical boundaries that acts as a single controllable entity with respect to the grid. A microgrid can connect and disconnect from the grid to enable it to operate in both grid-connected or island mode”.

In 2021, an analysis was conducted under the Energy Committee to capture the annual carbon dioxide emissions of Rye buildings based on heating type as well as heating cost, energy usage, and others. The graph below displays the annual carbon dioxide emissions of Rye buildings most

of which are heated by oil. For more information of this and other energy related initiatives and projects, please visit the Rye Energy Committee page on the Town Website: <https://www.town.rye.nh.us/energy-committee>



## COMMUNICATIONS

Comcast/Xfinity holds a non-exclusive franchise agreement with the Town of Rye for cable television services, telephone services, and high-speed internet service. Comcast/Xfinity is the primary internet provider for the Town of Rye. However, Consolidated Communications/Fidium is also an option for many, but not all, to provide telephone and fiber optic services.

### Telecommunication Infrastructure

In 2019, the Rye Telecommunication Infrastructure Committee was formed and tasked to develop a plan to investigate and identify types of telecommunications infrastructure, and to eliminate basic text and voice cellular dead spots throughout the Town of Rye. The Selectboard created the Committee and appointed five members for initial term ending in 2020 at the conclusion of the project. Isotrope Wireless was hired by the Town to perform a Wireless and Telecommunications Service Gap Analysis. A summary of the major findings include:

- The service gaps identified in Rye are located in the area between Grove Road, and Pioneer Road where there is a dearth of wireless coverage. Though some people are able to get service with certain providers, the signal levels are still poor.
- The analysis identified town owned parcels that could be suitable for a new cell tower by utilizing large properties that are heavily wooded to minimize tower visibility to neighbors, and to strategically locate the sites to achieve the most useful coverage with

the least number of towers. However, some town-owned locations are restricted due to conservation restrictions.

#### Wireless Telecommunications Facilities District

The Wireless Telecommunications Facilities District was first implemented in the Town of Rye in 1999 and was recently amended in 2019. The purpose of this overlay district is to establish general guidelines for the siting of towers and antennas, and to enhance and fulfill goals as listed in this ordinance. For more information, please visit the Wireless Telecommunications Facilities District in the Rye Zoning Ordinance.

# Existing Conditions: Public Services

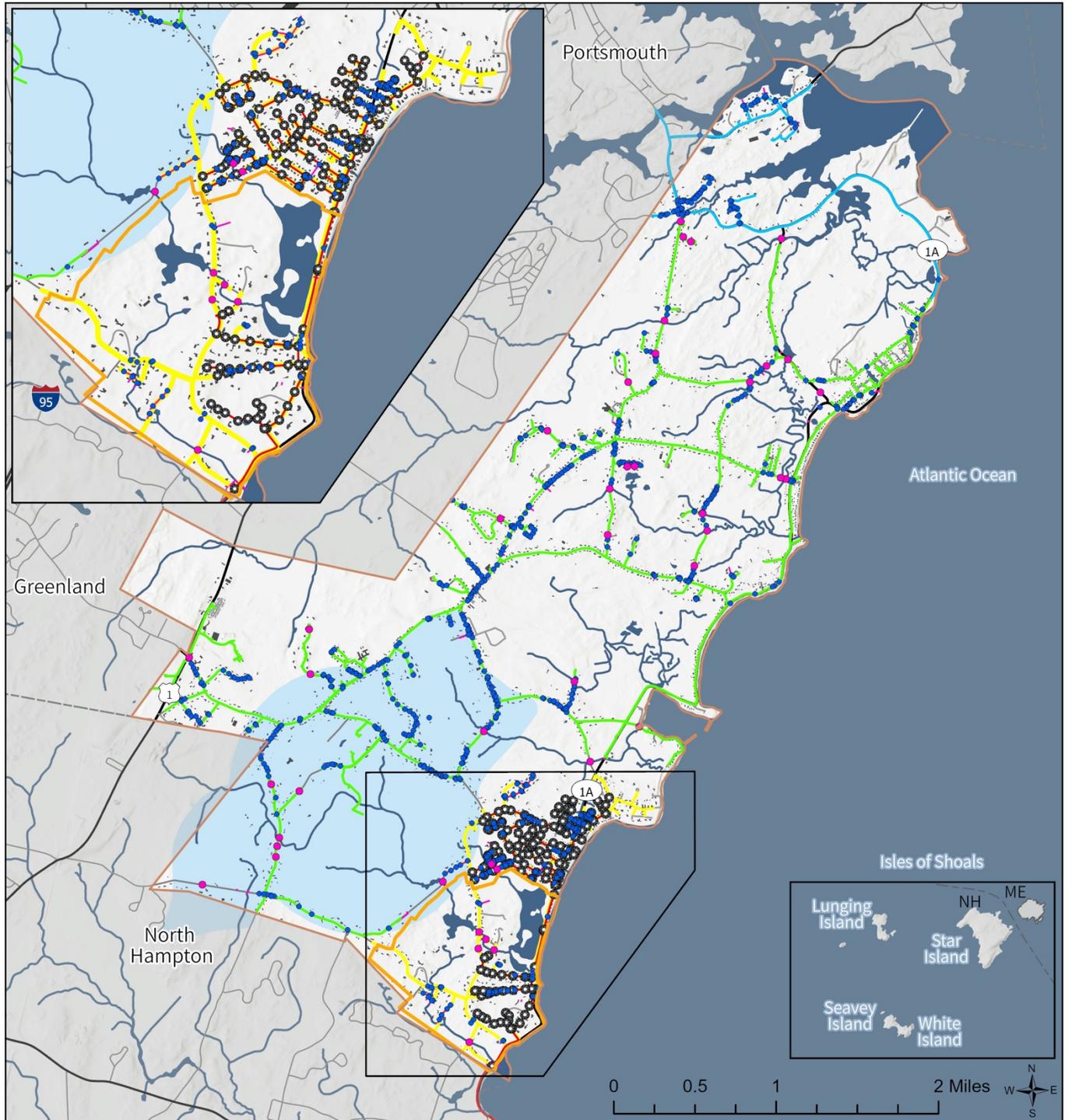
## Town of Rye, New Hampshire

Map created for planning purposes  
for master plan development



Data Sources: NH GRANIT, NHD, NH DOT,  
Maine GeoLibrary, CAI  
Coordinate System: NAD 1983 State Plane  
New Hampshire FIPS 2800 (US Feet)  
Map by: C. Bunyon, FB Environmental

- Town Boundary
- Town of Rye
- Rye Beach Village District
- Road
- Coastal Waters/Waterbody
- River/Stream
- Rye Water District Wellhead Protection Area
- City of Portsmouth Water Pipe
- Rye Water District Water Pipe
- Aquarian Water Pipe
- Stormwater Drain Pipe
- Sewer Pipe
- Stormwater Drain Structure
- Stormwater Drainage Crossing
- Sewer Manhole



# Existing Conditions: Public Facilities

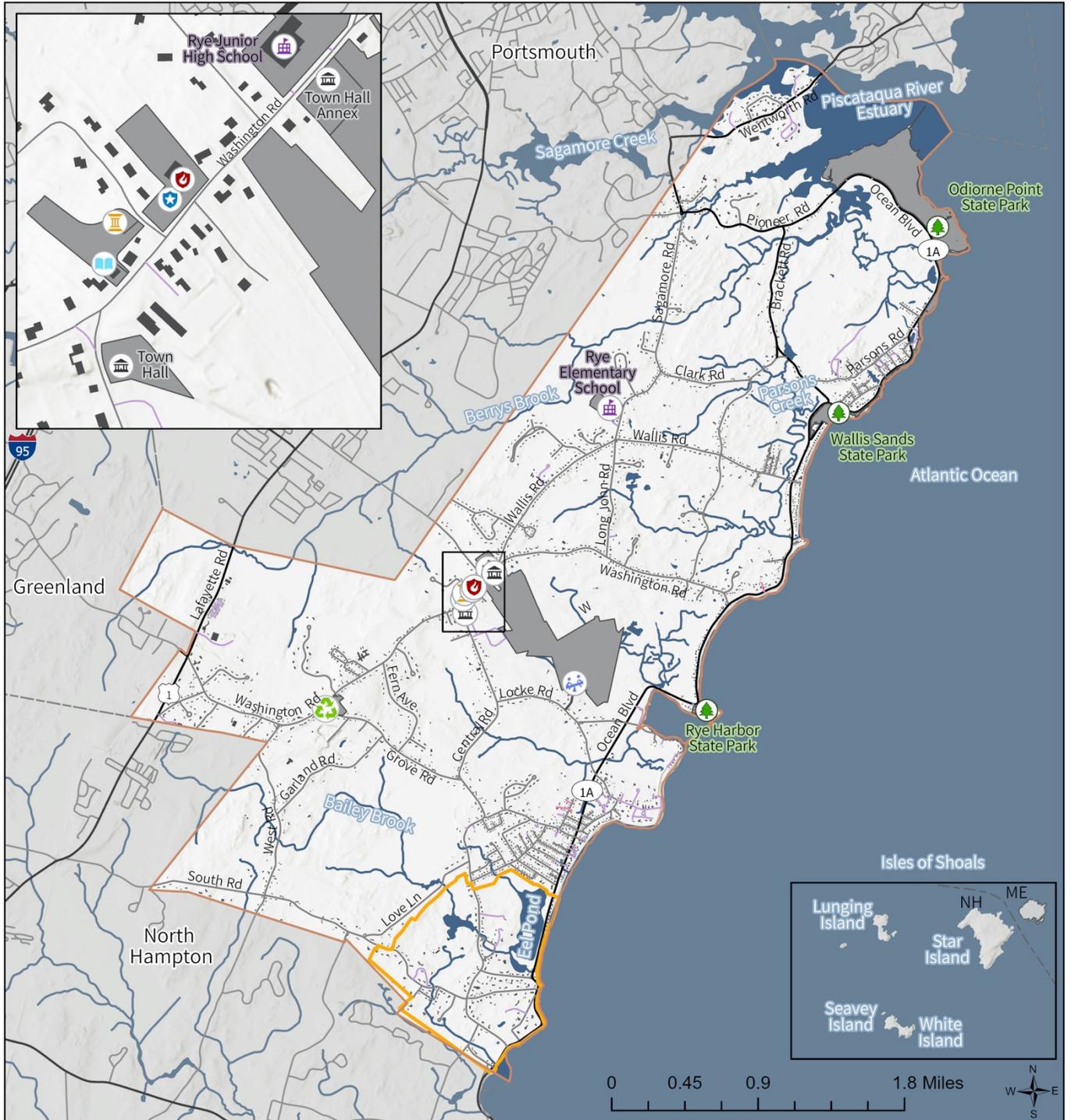
Town of Rye, New Hampshire

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Data Sources: NH GRANIT, NHD, NH DOT,  
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Coordinate System: NAD 1983 State Plane  
New Hampshire FIPS 2800 (US Feet)  
Map by: C. Bunyon, FB Environmental

- |                            |                    |                       |
|----------------------------|--------------------|-----------------------|
| Town Boundary              | Building Footprint | Town Hall Building    |
| Town of Rye                | State Road         | Library               |
| Rye Beach Village District | Local Road         | School                |
| Coastal Waters/Waterbody   | Private Road       | Historical Society    |
| River/Stream               | Unmaintained Road  | State Park            |
|                            | Fire Station       | Recreation Department |
|                            | Police Department  | Transfer Station      |



## SOURCES

- 2022 Annual Town Report
  - [https://www.town.rye.nh.us/sites/g/files/vyhlif3751/f/uploads/2022\\_annual\\_report.pdf](https://www.town.rye.nh.us/sites/g/files/vyhlif3751/f/uploads/2022_annual_report.pdf)
- Town of Rye Website
  - <https://www.town.rye.nh.us>
- Town of Rye Public Library Website
  - <https://ryepubliclibrary.org>
- Town of Rye Police Department Website
  - <http://www.ryepolice.us>
- 2020 Telecommunications Infrastructure Review Report
- Rye Zoning Ordinance: Wireless Telecommunications Facilities District
  - <https://www.town.rye.nh.us/building-department/news/rye-zoning-ordinance>
- 2021 Rye Community Profile
  - <https://www.nhes.nh.gov/elmi/products/cp/profiles-htm/rye.htm>
- 2022 Draft Hazard Mitigation Plan
  - <https://www.town.rye.nh.us/emergency-management/pages/2022-draft-all-hazard-mitigation-plan>
- 2016 Recreation Facility and Space Needs Assessment
  - [https://www.town.rye.nh.us/sites/g/files/vyhlif3751/f/uploads/christopher\\_p\\_williams\\_architects\\_presentation.pdf](https://www.town.rye.nh.us/sites/g/files/vyhlif3751/f/uploads/christopher_p_williams_architects_presentation.pdf)
- 2023-2028 Capital Improvement Plan
  - [https://www.town.rye.nh.us/sites/g/files/vyhlif3751/f/uploads/approved\\_final\\_2023-2028\\_cip.pdf](https://www.town.rye.nh.us/sites/g/files/vyhlif3751/f/uploads/approved_final_2023-2028_cip.pdf)
- Draft 2024-2029 Capital Improvement Plan
  - <https://www.town.rye.nh.us/capital-improvements-program-committee/pages/2024-2029-cip-document>
- Interviews with Department Heads

- 2013 Master Plan
  - <https://www.town.rye.nh.us/planning-department/pages/master-plan>
- 2022 MS4 Annual Report Year 4
  - [https://www.town.rye.nh.us/sites/g/files/vyhlf3751/f/uploads/ms4\\_annual\\_report\\_year\\_4.pdf](https://www.town.rye.nh.us/sites/g/files/vyhlf3751/f/uploads/ms4_annual_report_year_4.pdf)
- 2022 Salt Reduction Plan
  - [https://www.town.rye.nh.us/sites/g/files/vyhlf3751/f/uploads/salt\\_reduction\\_plan\\_0.pdf](https://www.town.rye.nh.us/sites/g/files/vyhlf3751/f/uploads/salt_reduction_plan_0.pdf)
- 2020 Rye Fire Rescue Staffing Needs Assessment and Strategic Plan
- 2022 Sewer Commission Pump Stations Assessment Report

# HISTORY AND CULTURE

Rye's rich history and cultural resources contribute to the town's unique heritage and sense of place. These historical and cultural resources include both physical resources (landscape features, buildings, and physical sites) as well as non-physical resources (organizations, programs, clubs, its history, and community traditions).

Our historic farming and fishing activity, indigenous and colonial history, tourism heritage, and distinct historic sites, like the town center, Rye Harbor, Goss Farm, Isle of Shoals, and others are distinct features of Rye. Numerous entities working to preserve Rye's history include the Historic District Commission, the Historical Society, the Heritage Commission, the Library, and others.

***Looking ahead, Rye should preserve its historic resources, small-town culture, and semi-rural character by implementing regulatory and non-regulatory mechanisms to guide development appropriately and promote preservation.***



## FACTS AND FIGURES



**4** historic properties in Rye are listed on the State of New Hampshire Register of Historic Places. These include: Odiorne Farm, Rye Town Hall, Goss Farm Barn, and the Rye Public Library.



**7** historic properties in Rye are listed on the National Register of Historic Places. These include: The Beach Club, Isles of Shoals, Locke Elijah House, Parsons Homestead, Pulpit Rock Base End Station (N. 142), Rye Town Hall, and St. Andrew's by the Sea Church.



**310** historic structures built before 1950 are listed by the Town.



**1** historic overlay district regulates changes to historic buildings within this district.



**2023** marks the 400-year anniversary of Rye's first European settlement.

# KEY FINDINGS

- Rye's **history** is documented in collections and resources maintained by the Rye Public Library, Rye Historical Society, and the Heritage Commission.
- There are **four properties** in Rye listed on the State of NH Register of Historic Places. These include: Odiorne Farm, Rye Town Hall, Goss Farm Barn, and the Rye Public Library. There are seven properties listed on the National Register of Historic Places. These include: The Beach Club, Isles of Shoals, Locke, Elijah House, Parsons Homestead, Pulpit Rock Base End Station (N. 142), Rye Town Hall, and St. Andrew's by the Sea Church.
- Rye's Historical Society and Heritage Commission are heavily involved in efforts to **educate** the public about Rye's history.
- The Year 2023 marks the **400 Year Anniversary** of Rye's first year of European settlement in 1623.
- Rye is fortunate to have several active **cultural organizations** and popular **community events** such as the Rye Civic League, Lions Club, Rye Driftwood Garden Club, the Rye Advocates, and others that bring residents together and build a greater sense of community.
- Rye is part of the **New Hampshire Scenic Coastal Byway** and features many historic structures, features, and landscapes along Ocean Boulevard.
- Rye has approximately **310 historic structures** that were built pre 1950. These are listed with the town and identified by historic plaques throughout town.
- There are **seven historical sites** in Rye delineated by historic markers. These include: Bracket Road Burial Site, Family Farms that Shaped Rye's History at 81 West Road, Goss Farm, Awcomin Marsh, Rye Harbor, Isles of Shoals, Historic Hotels at Ocean Boulevard, Historic Rye Center, Pulpit Rock Tower, and Trefethen Corner.
- Rye has a **Historic District Overlay** that is regulated and enforced by the Historic District Commission to safeguard the town's heritage and architectural values for future generations. The Historic District designated area includes the Rye Center Historic District (defined as that area from the west end of Grange Park to the intersection of Central and Washington Roads within 500 feet on either side of the center line of Washington Road), Isles of Shoals islands, the 1874 Cable House, and the 1691 Brackett Massacre Site.
- The Abenaki, Penacook, and Pentucket Native Americans were the major **indigenous nations** that lived in the area now known as Rye, and still have a cultural connection to this land.
- Since the 1800's, **Rye Harbor** has been a bustling port. Today, Rye Harbor is an important natural resource utilized by commercial and recreational fishermen and has become a tourist attraction. Isle of Shoals and Odiorne Point both have unique histories and pre-colonial and colonial significance.
- The **Goss Farm**, which is a historic farm in Rye, was purchased with Rye Open Space funds and a grant from the US Dept. of Agriculture in 2010, and is managed by the Conservation Commission. Today, there is a community garden and the farm is used to promote local agriculture, engage Rye schools with educational opportunities, and protect water quality by way of buffered areas adjacent to wetlands and marshes.

# RYE NH, EXISTING CONDITIONS PROFILE – HISTORY AND CULTURE

The following section provides additional detail on the Town of Rye's **historical and cultural resources** including trends, data, and other information.

## **RYE'S HISTORICAL BACKGROUND**

### Indigenous People, European Exploration, and Colonization

Prior to colonial settlement, Rye's lands were inhabited by indigenous Native Americans for over 12,000 years. The Abenaki, Penacook, and Pentucket were the major indigenous nations that lived in the area now known as Rye. These nations have both a historic and contemporary connection to this land. The first European settlers arrived in the 1600s. In 1605, Samuel de Champlain landed at Odiorne Point and, over the course of the early 1600s, European fishermen established permanent settlements. Champlin documented that upon his arrival there were nearly 200 members of the Penacook Tribe living at present day Rye Harbor. According to Howard S. Russell's *Indian New England Before the Mayflower (1980)*, less than 20 years after Champlain landed, disease decimated most of the Penacook people. The Native Americans and Europeans engaged in many battles to claim the rights to the lands now known as Rye.

By 1620, the Piscataqua seacoast region became the most viable and well-supplied English colony in North America. By the 1630's, the communities of Strawberry Banke (today known as the City of Portsmouth), Dover, Hampton, and Exeter were established. Rye became incorporated as an independent town with official and clear town boundaries by 1785. By the early 1800's, Rye's economy was thriving as a farming and fishing community as Rye citizens participated in active land and sea trading and interaction with other seacoast communities and beyond including Boston. Soon, Rye's population grew to over 1,000 residents and as the War of 1812 ended, on April 3, 1814, General Thomas Goss lead the Town of Rye to defeat the British in the Battle of Rye Harbor.

### Rye's Economy

Throughout the 18th and 19th centuries, small, family farms continued to evolve. Over the years, Portsmouth and Rye developed a close relationship that involved trading of food, shared beaches, and later, providing jobs, entertainment, and goods from inland and overseas. Some of Rye's first established businesses include The Garland Tavern (1756-1800), the 1805 Goss (later Rand) Store at 2 Lang Road and the 1810 Goss (later Parsons) Store at 1 Central Road. The Garland Tavern still stands today beside the War Monument, the 1805 Goss Store, and 1810 Goss Store remain as present-day private homes.

By the 1840's, with the influence of the implementation of railroad transportation, Rye's three beaches began to attract tourists and the town soon became known as a summer destination. To rival Newport, RI, eight hotels and twenty-five boarding houses were constructed making Rye a popular summer resort town. The first summer resort was the Atlantic House (1846-1862), the grandest was the second Farragut Hotel (1883-1975) and the Drake House Hotel (1873 – 1968) on Ocean Boulevard at South Road. During the time of the Civil War (1861-1865), about 86 men served in the Civil War where at least two were killed in action including Harrison Foye in 1863. Due to the Civil War, there was an increase in the number of fishermen in Rye because fishermen became exempt from military service.

### First Town-Wide Developments in Rye

In 1863, Town reports indicated that there were continuing challenges related to building costs and maintaining and clearing roads after severe storms. The Cable House Cable Station was established on Old Beach Road as an office for the first undersea transatlantic telegraph cable that ran from Ireland through Newfoundland to Rye in 1874. The Cable House Cable Station remains today and is utilized as a private residence. During the late 1800's, Rye had established four neighborhood schools: West (1870's a wooden structure), South (1881, a brick structure), Wedgewood in the Center of Town (1893 a brick structure) and East (1896 a brick structure).

By 1899, Rye's population reached 1,100 and the trolley was expanded to Rye which provided an opportunity for Rye's residents to travel to a larger region. The completion of the basic road network, including Ocean Boulevard in 1904, stimulated growth and promoted the first housing development in the new Jenness Beach village district. By 1905, the Rye Beach Village district and Abenaqui Golf Course were established.

During the time of the roaring 20's in Rye, the Farragut, the Drake House, the Ocean Wave, and the Wentworth hotels were still going strong. Due to the influence of the advances in modes of transportation, and military buildup of World War I during the 1930's, Rye experienced a surge of post-war development. At this time, Rye consolidated its schools and opened the Rye Junior High School in 1934 and the Rye Elementary School in 1954. During World War II, the military took over Odiorne Point, demolished most of the summer homes there and established Fort Dearborn to protect Portsmouth Harbor and the Navy Yard. Pulpit Rock Observation Tower, being preserved today, was part of the defense.

### Mid Century through 1960's to Present Day Rye

During the mid-century, the size of town government increased because of population growth. Town boards were established to provide a sense of citizen engagement in the community, and a desire to preserve the town from environmental degradation and unsustainable growth development.

During the 1970's, despite the national recession and midst the Vietnam War, the Town of Rye was thriving. During this time of rising environmental activism, the citizens and the town helped

to defeat the Onassis Oil Refinery proposal, worked together to form the Parsons Park Corporation which preserved fifty acres at the center of Rye, and Rye's recycling center was established. In fact, Rye was one of the first communities to implement their own recycling center during this time. In the 1980s, the Seacoast Science Center at Odiorne State Park, and a new Public Safety Building (Police and Fire) was constructed, and the Town Museum opened. By 2015 the Town of Rye established a Heritage Commission and Goss Farm had become a community agricultural project with the addition of community garden plots. 2023 marks the year of Rye's 400-year anniversary of Rye's first European settlement in 1623.

## **SIGNIFICANT RYE HISTORICAL FIGURES, SITES, AND STRUCTURES**

Rye's rich history is shaped by its former residents, distinct places, and events that contributed to the town's unique heritage and sense of place. This history is reflected in the town's historic structures, landmarks, and features. This section identifies a few important historic sites and structures in town that help to distinguish Rye's character today.

### Rye Harbor

The area now established as Rye Harbor was once just a small tidal inlet open to the sea and acted as a natural outlet for the great Awcomin salt marshes. Before any digging or dredging was done, low tide revealed mostly mud flats where beached vessels could be worked on. This continued until 1792 when the Selectmen voted to have this area dug out. With advances in technology and the need for expansion, Rye Harbor was dredged with machinery. Since the 1800's Rye Harbor has been a bustling port. Today, Rye Harbor is an important natural resource utilized by commercial and recreational fishermen and has become a tourist attraction. Rye Harbor has been improved by commercial fishing and recreational boats, docking, moorings, and water access. In fact, there is great demand for mooring permits and according to NH Division of Ports and Harbors, in 2023 Rye had 146 active moorings, 108 are in harbor and 38 are near shore. As of September 2023, there are approximately 143 individuals on the waiting list for moorings in Rye Harbor or near shore.

### Isles of Shoals

Isles of Shoals is a group of islands approximately six miles off the coast of Rye and Kittery, Maine. The rich history of Isles of Shoals revealed evidence of Native Americans hunting on the islands dating back 6,000 years ago. Archaeological excavations out on the Isles of Shoals further proved this as Native American activity was uncovered dating back to approximately 800 and 1200 A.D. when the islands were first used as fishing camps. In the 1600's, Captain John Smith established a colony of fishermen on the Isles of Shoals where Europeans harvested cod and shipped the fish back to Europe. The islands are now occupied with a seasonal hotel and the Shoals Marine Laboratory (Maine).

The four islands in Rye's jurisdiction are Star Island, White Island, Seavey Island, and Lunging Island. As part of Rye's Historic District, Seavey Island and White Island have been subject to

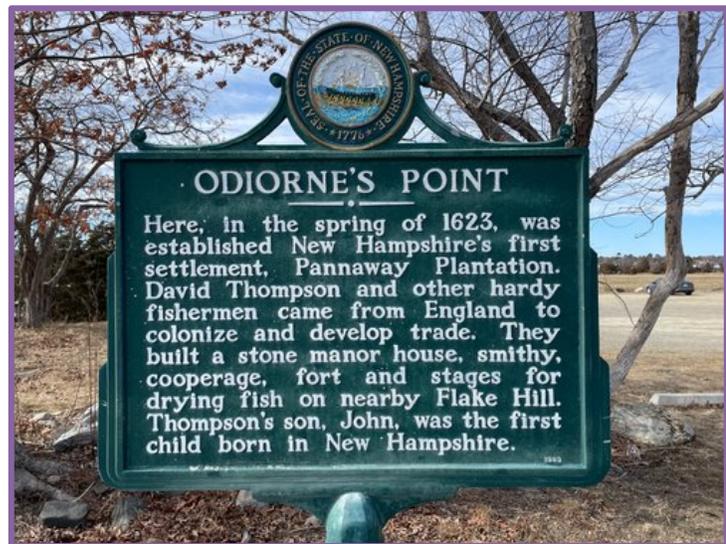
restoration projects through the New Hampshire Audubon and the NH Fish and Game Department. The Rye Conservation Commission continues to promote the protection and preservation of the cultural, social, and architectural history of Seavey and White Islands. Star Island features many unique features including historic architecture, grounds, gardens, oceanic vistas, and access to explore the island. In the 1600's, Star Island was the busiest fishing port on the East Coast, and in the 1800's the Oceanic Hotel was constructed to seasonally house up to 300 guests. During the time of the 1800's, artists, writers, and intellectuals flocked to the Oceanic Hotel, and it remains as one of the last of the original Grand Hotels in Rye. For the last 100 years, Star Island has offered an all-inclusive summer camp experience for families and hosted a wide variety of themed conferences and personal retreats.

### Odiorne Point

As previously mentioned, Odiorne Point was used by Native Americans for centuries as well as by early fishermen prior to permanent European settlement in 1623.

Odiorne Point was originally called Rendezvous Point until the Odiorne family settled there in the late 1600s and was later changed to Odiorne Point. The family created a small farming community at the north end of town, hemmed in by the sea, the river, and the salt marsh and by the 1800's, wealthy families had discovered the point and more

substantial homes were built. During WWII, most of the homes were demolished to make way for military fortification to protect the Portsmouth Naval Shipyard. After the War, the area was abandoned until the State of NH, UNH, private entities, and the "Friends of Odiorne Point" fought to submit proposals of its reuse. The modest Sugden House marine outreach program of the 1970s finally became the Seacoast Science Center in 1992. Today, the Seacoast Science Center offers guided walks of the parks on the trails leading to remnants of World War II military structures, original cellar holes, and stone walls.



### Rye Memorial Library

The Rye Public Library building was constructed in 1911 and provides a resource of historical information. Books about Rye and its history, documentation of individual families, and Annual Reports of the Town of Rye are part of the library's historical resource collection.

## Rye Town Hall

The Rye Town Hall located at 10 Central Road was originally a Methodist Church that was constructed in 1839 and sold to the town in 1873. By 1874 the Town Hall was open for town business. The Town Hall had served as the Town Meeting location through nearly three quarters of the 20th century; but gradually as population increased, town affairs became more complicated and technology brought rapid changes, so the existing meeting space was increasingly taken over by offices. The Selectboard throughout this period were mindful of the historic significance of the building and because of this the historic Hall with its proscenium arch, tin ceiling, wainscoting and the twin winding staircases (although nearly hidden) all remain intact.

## Goss Farm

Goss Farm is located at the corner of Harbor Road and Ocean Boulevard. This land now known as Goss Farm was purchased by Nathan Goss from the Locke Family. His son, General Thomas Goss, built the house and barn in the early 1790s. Most of the Goss descendants decided to sell the barn and twelve acres of land to the town of Rye, which was purchased with Rye Open Space funds and a grant from the US Dept. of Agriculture in 2010 and is managed by the Conservation Commission. Today, there is a community garden with student plantings, as well. The Goss Farm is used to promote local agriculture, engage Rye schools with educational opportunities, and protect water quality by way of buffered areas adjacent to wetlands and marshes.

## **FARMS IN RYE**

Farming was once a significant practice in Rye in the early days and throughout the history of the community. Over time, most of the community farmland became residential development or forestland. However, there are still several farms that remain today and contribute to the agricultural activity in the community. Table 1 lists Rye's active farm operations in the community which have a commodity and/or service they provide. In addition to the farms listed in Table 1, there are several small hobby farms located on residential properties throughout town. There are no industrial sized farms such as dairy or cattle farms, or concentrated animal feeding operations in Rye.

Table 1: Active Farms in Rye		
Farm Name	Location	Product
Philbrick Farm Enterprises	305 Central Road	Cows, vegetables, maple syrup
Rye Meadow Farm	254 Wallis Road	22-stall boarding facility for horses
Cobble Hill Farm	961 Washington Road	Boarding facility for horses
Goss Farm	Corner of Harbor Road and Ocean Boulevard	Community garden, historical and agricultural education
Fox Meadow Farm	257 Central Road	After school camp and summer camp youth horse programs (uses Rye Town Forest and Wallis Sands Beach for trail rides)
Independence Farm and Driftwood Equestrian	1090 Washington Road	Hunter jumper boarding and training facilities for horses
Centennial Farm	981 Washington Road	Boarding for horses
Anderson Property	117 Washington Road (formerly Caswell's Seacoast Farm)	Currently fallow, future agricultural uses are planned

**NATIONAL REGISTER OF HISTORIC PLACES**

There are a total of seven properties in Rye that are recognized and listed on the National Register of Historic Places. These include:

- The Beach Club (2450 Ocean Blvd – recreation/entertainment/social history)
- Isles of Shoals
- Locke-Elijah House (5 Grove Rd)
- Parsons homestead (520 Washington Rd)
- Pulpit Rock Base End Station (N. 142) (9 Davis Rd)
- Rye Town Hall (10 Central Rd)
- St. Andrew’s by the Sea (Church Rd., 0.2 mi. SE of jct. with South Rd. and Rte. 1A)

**STATE REGISTER OF HISTORIC PLACES**

There are a total of four properties in Rye that are recognized and listed on the State of New Hampshire Register of Historic Places. These include:

- Odiorne Farm (505 Ocean Blvd)
- Rye Town Hall (10 Central Road)
- Goss Farm Barn (251 Harbor Road)
- Rye Public Library (581 Washington Rd)

## HISTORIC AND CULTURAL ORGANIZATIONS, EVENTS, AND TRADITIONS

Throughout the years, Rye’s historic and cultural organizations have evolved and expanded, and some have remained over time. Table 2 shows a list of the organizations and groups in Rye related to Rye’s history (more recreation type programs and organizations can be found within the Recreation Profile of this Existing Conditions Report). Rye has significant community and citizen involvement and engagement in town. In fact, it was identified that there are several resident groups that have formed separately from government related boards/committees that pertain to the same topics. The need for greater collaboration amongst community groups and boards has been identified as an emerging need.

Table 2: Historic and Cultural Organizations and Groups	
Non-profit and Resident/Volunteer Groups	
Rye Senior SERVE (non-profit)	Rye Driftwood Garden Club (volunteer/resident group)
Rye Historical Society (non-profit)	The Rye Lions (non-profit)
Rye Civic League (non-profit)	Rye Advocates (resident/volunteer group)
Bring Back the Trades (non-profit)	Rye Education Foundation (non-profit)
Seacoast Science Center (non-profit)	Rye400 Committee (volunteer/resident group)
Cemetery Trustees (volunteer/resident group)	Historic Signs Subcommittee (volunteer/resident group)
Town Government Groups	
Historic District Commission	Heritage Commission
Demolition Review Committee	Rye Town Center Committee

### Rye Historical Society

In 1976, the Rye Historical Society (RHS) was formed. The mission of the RHS is to “engage and educate a diverse population in Rye, New Hampshire’s rich history through our programs, collections, and outreach, to encourage them to make a personal connection with their community” and to “preserve and share Rye history by understanding the past, informing the present, and influencing the future”. The RHS is located at 10 Olde Parish Road and is home to the Town’s Museum. The Town Museum has an extensive collection of photographs, documents, unpublished writings, maps, ephemera, artifacts, news articles, and media related to the history of Rye. The Town Museum is opened May through October on Saturdays from 10am to 12 pm and by appointment. The RHS provides a variety of resources and historical programs to Rye residents.

## Rye 400

To celebrate the 400-year anniversary of Rye's first European settlement in 1623, the Rye400 Committee was formed, and its related activities are an initiative of the Rye (NH) Historical Society, a 501(c)(3), tax-exempt organization. There are ten members of this committee. The Rye400 Committee provides robust historic educational events to Rye residents to raise awareness of the unique history and heritage of Rye. Some of these events include community



celebrations such as Rye Day held in July 2023, while other events include tours of homes and significant landmarks or structures, historic lectures, artist observation, auctions, and many others to promote the sense of community and historic awareness of Rye's heritage. Permanent Rye400 signs are displayed throughout town. For more information on Rye400 and other ways to get involved visit the Rye400 website: <https://www.ryenh400.org>

## Rye Historic District Commission

The Rye Historic District Commission (HDC) was formed in 1966 after Rye residents voted to establish the Commission. The HDC is a land use board with members appointed by the Selectboard. The Historic District Commission (HDC) of Rye is charged with safeguarding the town's heritage as represented by the historical and architectural values for future generations. The HDC's mission is to:

- Promote the preservation and maintenance of locally designated properties;
- Ensure new construction and alterations are in harmony with neighboring historic properties; and
- Review new use of land or buildings within locally designated Historic Districts.

## Historic District Overlay

The Rye Historic District currently includes the Rye Center Historic District (defined as that area from the west end of Grange Park to the intersection of Central and Washington Roads within 500 feet on either side of the center line of Washington Road), Isles of Shoals islands in New Hampshire, which are Star, Seavey, White, and Lungers, the 1874 Cable House (20 Old Beach Rd), and the 1691 Brackett Massacre Site (605 Brackett Rd). The Purpose of the Historic District Overlay is to:

- Preserve for generations to come the unique collections of historically, architecturally and culturally significant buildings and structures which characterize the Town of Rye, New Hampshire,
- Encourage their maintenance and restoration, and to ensure that new buildings and structures and alterations to existing buildings and structures and uses of buildings and structures within the district are in visual harmony with their neighbors in order that a district is preserved which will reflect the cultural, social, economic, political, and architectural history of the Town of Rye, New Hampshire,
- Conserve and maintain property values in such district, foster civic beauty, strengthen the local economy, and
- Generally provide an opportunity to benefit the education, pleasure and welfare of all the citizens of the municipality.

For more information on the Historic District Overlay, please visit the Rye Zoning Ordinance.

#### Demolition Review Committee

The Demolition Review Committee consists of three members appointed by the Selectboard and three alternate members. It is required that the three appointed members of the Demolition Review Committee are representatives from the Historic District Commission, Rye Historical Society, and Planning Board. The purpose of the Demolition Review Committee is “to encourage the preservation of buildings and places of historic, architectural and community value”. The following criteria is utilized in determining if a building is "potentially significant" or "significant" and the Demolition Review Committee shall consider whether:

1. The building is of such interest or quality that it would meet national, state or local criteria for designation as a historic, cultural or architectural landmark.
2. The building is of such unusual or uncommon design, texture or materials that it could not be reproduced or could be reproduced only with great difficulty and expense.
3. The building is of such historic, architectural or community value that its removal would be to the detriment of the public interest.
4. Retention of the building would help preserve and protect a historic place or area of historic interest.

#### Heritage Commission

In March 2011, Rye residents voted to approve the establishment of a Heritage Commission. The board consists of seven members including a Selectboard representative. The scope of the Heritage Commission is town-wide whereas the Historic District Commission is specific to the designated Historic District area. The tasks of the Heritage Commission include:

- Acquisition, conservation, and proper use of the cultural resources of the town;

- Authority to hold meetings and hearings, publicize activities, survey and inventory all cultural resources, conduct research and publish findings;
- Assist the Planning Board regarding development and review sections of the master plan which address cultural and historic resource;
- Assist local agencies and other local boards on request regarding these matters; and
- Receive and expend money from a variety of sources including gifts and grants.

### Historic Graveyards

In 2012 a State of New Hampshire Law clarified the status of graveyards (as opposed to large public cemeteries) which every town has. Table 3 provides an inventory of the historic graveyards in Rye and their associated locations, as provided by the Heritage Commission.

<b>Table 3: Graveyards in Rye</b>	
<b>Burial Ground Name</b>	<b>Location</b>
1. Beebe	Star Island
2. Berry	Opposite 130 Central Rd
3. Brackett "massacre burial"	Opposite 605 Brackett Rd
4. Brown	West Rd and off West Rd
5. Caswell	Star Island
6. Caswell	Off Washington Rd, rear of 117 Washington Rd
7. Dalton	Garland Rd
8. Dow	139 Parsons Rd
9. Dow	Opposite 1159 Washington Rd
10. Foss	Washington Rd
11. Foye	181 Brackett Rd
12. Garland	Off Washington Rd
13. Jenness	Cable Rd
14. Lang	Washington Rd
15. Locke	Off Harbor Rd
16. Locke/Downing	190 Locke Rd
17. Locke	Off Brackett Rd
18. Locke	Old Beach
19. Marden	Off Wallis Rd
20. Marden	Off West Rd
21. Nason Single Marker	Washington Rd
22. Odiorne	Off Bracket Rd
23. Odiorne	Odiorne Park; rear of 505 Ocean Blvd
24. Old Burial Ground, Tuck Monument	Star Island
25. Philbrick	Off Cable Rd
26. Philbrick	Church Rd
27. Remick	Brackett Rd

28. Salter/Rand	651 Wallis Rd
29. Seavey	Off Brackett Rd
30. Seavey	Off Pioneer Rd
31. Seavey	Off Sagamore Rd
32. Sleeper	West and Off West
33. South Rd Cemetery	434 South Rd
34. Trefethen, a single marker	Washington Rd
35. Tucker	Off Elwyn
36. Tucker	Off Washington Rd
37. Varrell	Sagamore Rd
38. Wallis	500 Brackett Rd
39. Webster	Off Lang Rd
40. Wedgewood	19 Lang Rd
41. Unknown	234 West
42. Unknown	1152 Wash Rd
*Various unmarked fieldstones exists off Central, Grove, Sagamore, Wallis, Washington, Park Ridge and Odiorne	

### House Plaque Program

The original House Plaque Program started in the early 1970s by the “Every Other Tuesday Club” and was taken over by the Rye Historical Society (RHS) when it was founded in 1976. Louise Tallman did research on the oldest homes in Rye using genealogical information and five Rye maps from the 1800s. That research continues today through the Rye Advocates for historic preservation. These are available through the Town of Rye’s Historian. In 2021, the RHS turned the program over to the Heritage Commission. Homeowners are encouraged to submit an application for a historic plaque if they own a historical significant home, when an application is submitted, it has to be reviewed by the Heritage Commission.

### Historic Markers

In April 2022, the Rye Heritage Commission formed the Rye Historic Signs Subcommittee to identify historic sites and locations to highlight as it promotes its 400-year history. The goal of the Subcommittee was to identify subjects that would not only cover both the natural and developed community, but also current and former environments and/or events. The Subcommittee narrowed down seven sites to place a historical marker. By June 2023, these historical markers were placed at the following locations:

1. Bracket Road Burial Site at Bracket road, opposite 605 Brackett Road
2. Family Farms that Shaped Rye’s History at 81 West Road
3. Goss Farm, Awcomin Marsh, Rye Harbor, Isles of Shoals at the Goss Farm parking area
4. Historic Hotels at Ocean Boulevard, opposite the former Drake House Hotel, between Sea and South Roads

5. Historic Rye Center at the Rye Public Library Common
6. Pulpit Rock Tower at the end of Neptune Road
7. Trefethen Corner at the Madden Group building

For more information on the historic markers in Rye, please visit the Rye400 website:

<https://www.ryenh400.org/historic-map>

### Inventory of Historic Structures

There are approximately 310 structures in Rye that were constructed pre 1950 and these are listed and identified with historic plaques throughout town. This includes several historic barns. Over time, some of these have been demolished due to the lack of preservation restrictions placed on these historic structures. Through the New Hampshire Preservation Alliance, a Preservation Easement can be obtained to preserve historic barns. A Preservation Easement is a legal agreement that protects significant features of a historic property, and a property owner gives the right to the second party to protect and preserve the historic character of their property. The Town of Rye may want to consider tasking the Heritage Commission to develop an inventory of the historic barns in the community. For more information, please visit: <https://www.nhpreservation.org/blog/preservation-easements-a-resource-to-preserve-your-historic-property>

### Rye Churches

#### *Rye Congregational Church*

The Rye Congregational Church is located at 580 Washington Road and lies within the Historic District. This church was the fourth church that was constructed at this site as this location was originally known as Rye's Meeting House Hill. The "Church of Christ in Rye" was the second meeting house that was constructed in 1755 and in 1836 the Congregational Society formed to construct the third meeting house. In 1891 there were extensive changes that were made including the construction of seven exterior stairs and the installation of pews. The Rye Christian Church merged with the Congregational Church in 1945 to form the Bethany Congregational Church. In 1957, a Parish House connected to the church was built but unfortunately by 1959 a fire destroyed the third church. The Congregation Church that is present today was rebuilt in 1960 and the first Easter Services were held in 1961. In 2000, the Rye Congregational Church organization purchased the buildings from Bethany Church and today it is a Rye historical and cultural landmark and also acts as a community space for Recreation Department Programming.

#### *St. Andrew's-by-the-Sea*

St. Andrew's-by-the-Sea is located on Church Street in the Rye Beach Precinct. In 1876, land for a new Episcopal church was given to the Bishop of New Hampshire by Frank and Lizzie Philbrick. The first service in the chapel was held on August 4, 1876, before the chapel was completed in

1877 with the bell tower. St. Andrew's is an example of a rural stone chapel embellished by wood trim, of the late Gothic Revival style.

### *Gosport Chapel*

The Gosport Chapel is located on Star Island. Gosport was incorporated on December 24, 1715 and annexed to Rye on March 14, 1876. Today, the Gosport Chapel is part of the non-profit Star Island Corporation retreat complex, founded on the spiritual ideals of Unitarian-Universalism and the United Church of Christ. Gosport Chapel is a modest stone structure built in 1800 and sits on the highest point of the island at the heart of the complex.

### *St. Theresa's Catholic Church*

This church is located at 820 Central Road in the Rye Beach Precinct and was built in 1947. It is part of the Manchester Catholic diocese.

## **EMERGING OR POTENTIAL ACTIONS**

- Consider tasking the Heritage Commission to develop an inventory of the historic barns located in Rye and promote NH Preservation Alliance's Barn Assessment Grants to historic property owners.
- To further retain the character of the community to preserve Rye's heritage, assess whether there is support for expanding the Historic District designated area further along Washington Road and Central Road.
- Review the existing Zoning Ordinance, in terms of historic buildings and landscapes, and look for discrepancies, barriers, etc. to encourage preservation, responsible development and redevelopment, and identify any gaps.
  - Recommend a review of the threshold for triggering compliance with new building code as it often results in tearing down historic structures that could be improved. One possible solution is to use the value of the entire property as the threshold instead of just the buildings value.
  - Encourage or require land use board members to attend trainings.
  - It was identified that there are several resident groups that have formed separately from government related boards/committees that pertain to the same topics. The need for collaboration amongst community groups and boards was identified as an emerging need of the municipality.

## **SOURCES**

- Rye Historical Society Website
  - <https://www.ryenhhistoricalsociety.org>
- Interview with Historical Society
- New Hampshire Division of Historical Resources (NHDHR)

- <https://www.nh.gov/nhdhr/>
- National Register of Historic Places
  - <https://www.nps.gov/subjects/nationalregister/index.htm>
- Rye 2011 Master Plan
  - <https://www.town.rye.nh.us/planning-department/pages/master-plan>
- Rye Local Organization Websites
- Rye400 Website
  - <https://www.ryenh400.org>
- 2021 Natural Resource Inventory
  - [https://www.town.rye.nh.us/sites/g/files/vyhlf3751/f/uploads/rye\\_nri\\_report\\_2021.pdf](https://www.town.rye.nh.us/sites/g/files/vyhlf3751/f/uploads/rye_nri_report_2021.pdf)
- Town Historian
- New Hampshire Department of Agriculture, Markets, and Food
  - <https://www.agriculture.nh.gov>
- NH Preservation Alliance
  - <https://www.nhpreservation.org>