Grand Isle Town Plan

Adopted by the Grand Isle Select Board
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CHAPTER 1
INTRODUCTION

PURPOSE

The purpose of a municipal plan is to help guide decision-makers to chart the future of a community. A plan is the Town's vision for the future. It states related goals and objectives based upon a reflection of the past and an analysis of existing conditions. A plan is developed from an established planning program. This planning program involves the public in a variety of ways. Through this collective effort the vision and recommendations have developed with the best interests of the whole Town in mind.

If the recommendations of the plan are implemented, the quality of life in Grand Isle will be positively affected. The plan addresses inter-related topics including: land use patterns, population, housing, community facilities and services, transportation, education, natural resources features, historic, cultural and archaeological resources, telecommunications, energy and economic development.

Recommendations in the Plan are based on an analysis of current conditions, the input of many residents, projections of housing and population and development trends in the Town and surrounding region. Though the goals and recommendations of this plan are long-term, it is expected that Grand Isle will re-examine them periodically and amend the Plan as needed and as required by law.

Grand Isle Town officials engage in an ongoing planning program for additional reasons including:

- Providing additional information and data to guide decision-makers in developing new policies.
- Identifying areas where additional study is needed.
- Providing a foundation for amending the zoning and subdivision bylaws.

A Town Plan will help Grand Isle manage its future by providing it with the means to guide change. By providing the community with a plan of action, or blueprint, illustrating the community's potential future, a Town Plan provides the community with the necessary tools to preserve community character and guide growth and development. Simply put, a Town Plan is a tool that provides strategies to create a desirable future. A Town Plan gives Grand Isle the power to guide change, and the pace at which change will occur, so that change does not control the Town's future.

AUTHORITY

The Town of Grand Isle is authorized to prepare and adopt a Municipal Plan via Chapter 117, Title 24 of the VSA (Vermont Municipal and Regional Planning and Development Act). Section 4382 of the Act dictates what needs to be included in a plan. The intent of the law is to encourage a municipality to "engage in a continuing planning process that will further several stated goals." The Act further states that municipal plans shall be re-examined updated and re-adopted every five years. This process should be ongoing, whereby the Plan is continually reassessed and revised to meet the changing needs of the community. Consequently, there will be future opportunities to review and amend the plan. Residents, community groups or anyone with an interest in the Town may have and are encouraged to provide input into this ever continuing process to the Grand Isle Town Planning Commission at any time.

ADOPTION PROCESS

The adoption of this Plan is in accordance with Sections 4385 and 4387 of Vermont's Planning and Development Act (24 V.S.A. Chapter 117). Subsequent to no less than two public hearings, at least one held by the Planning Commission and one held by the Selectboard, the Plan must be adopted at a meeting by a majority of the members of the Selectboard.

Prior to submission to the Legislative Body (The Selectboard), the Planning Commission held at least one public hearing within the municipality after public notice on the amended Plan or each major draft. At least 30 days prior to each public hearing, the Planning Commission delivered a copy of the amended Plan or draft to: 1) the chair of the planning commission of each adjoining municipality; 2) the Executive Director of the Northwest Regional Planning Commission; 3) the Department of Housing and Community Affairs; 4) all Town commissions, boards and committees for review and comment; and 5) any business, conservation or other interest groups that have requested a copy. Following adequate opportunity for the public to comment on the amended Plan or major draft thereof, the Planning Commission made desired changes and then filed a copy with the Town Clerk for public review, at the same time a copy was forwarded to the Legislative Body (Selectboard) for review. After the necessary hearing was held by the Selectboard, the plan was adopted at a meeting by a majority of the Selectboard members.

OVERVIEW OF THE PLANNING PROGRAM

Planning and zoning in Grand Isle began on June 28, 1966, with the adoption of a Zoning Ordinance. The first Town Plan was adopted on October 12, 1972. These "living" documents have and will continue to be updated many times since they were first initiated in the 60's and 70's as times and conditions change in Grand Isle. Listed below are dates that the Selectboard adopted a revised Zoning Bylaw or Town Plan.

Grand Isle Zoning Bylaw and Subdivision Regulation Revisions

◊ June 28, 1966 (first Zoning Ordinance)
◊ September 9, 1980 (included regulation of wastewater disposal systems)
◊ March 2, 1982
◊ November 7, 1989 (included first subdivision bylaw)
◊ March 2, 1999
◊ March 7, 2000
◊ March 6, 2001
◊ March 4, 2003
◊ March 2, 2004
◊ March 1, 2005
◊ March 6, 2007
◊ March 4, 2008
◊ March 3, 2009
◊ March 2, 2010
◊ March 1, 2011
◊ March 6, 2012

Grand Isle Town Plan Revisions

◊ October 12, 1972 (first Town Plan)
◊ August 25, 1980
◊ July 13, 1987
◊ June 3, 1996
◊ January 21, 2002

◊ February 5, 2007
◊ February 13, 2012
◊ February 20, 2017

It is a goal of Grand Isle to encourage public participation at all levels of the planning process. All Selectboard, Planning Commission and other Town meetings are open to the public. Residents are encouraged to attend to offer input and voice their opinions. In addition to regular meetings, public hearings and information sessions are utilized throughout the planning program to help encourage public participation. The Grand Isle Planning Commission has also sought public input on planning issues through three surveys in the past (October 2005, April 2006 and October 2016) sent to every resident of the Town.

SUMMARY OF THE PLAN

The 2017 Plan contains a vision of Grand Isle for the next fifteen years. It includes goals, objectives and recommendations for implementation to ensure that the vision of the Town is realized. The Plan describes Grand Isle's present and future conditions in a variety of areas including: land use; transportation; community facilities and services such as fire, rescue, law enforcement protection, water, waste disposal (solid waste, sewage, etc.) telecommunications and recreation improvements; educational facilities and services; significant natural features; historic, cultural and archaeological resources; and energy.

The Plan also contains a summary of the compatibility of Grand Isle's land and proposed land use areas with its adjoining communities (North Hero and South Hero). It is important to remember that the changes that occur over the next several years may have an impact on adjoining communities. Grand Isle is sensitive to its neighbors and committed to cooperation on regional planning issues.

The Plan presents implementation strategies providing specific action steps to assist the Town in achieving its goals. Strategies are based on the input of residents, various local interest groups, public officials, members of the Planning Commission and Selectboard and staff of regional and state organizations.

Also included in the document are maps that graphically depict the information and discussion contained in the Plan, as well as numerous collections of data related to the plan topics. Also contained in the appendices is a list of the historic sites and structures recorded with the Division for Historic Preservation. It should be noted that the numerous resources were used to compile this Plan are on file in the Grand Isle Town Clerk's Office.

In summary, this Town Plan identifies actions that the Town can take to shape its future in accordance with its own vision and minimize the impact of the many factors that are beyond its control. Such factors include the economy or state and federal regulations. Title 3 V.S.A. §4020 states: "State agencies that have programs or take actions affecting land use shall engage in a continuing planning process to assure that those programs and actions are consistent with the goals established in 24 V.S.A. §4302 and compatible with regional and approved municipal plans." By adopting and having this Plan approved by the Northwest Regional Planning Commission (NRPC), the Town of Grand Isle will have the ability to respond to changes and make decisions informed by the community as a whole and to direct state plans and projects that will reflect the Town's voice.

CHAPTER 2
EXPECTATIONS FOR THE FUTURE OF GRAND ISLE

Growth is destined to happen. *How* that growth occurs is the concern of every resident of Grand Isle. The following visions serve as guidelines to direct the future of the Town.

- The preservation of the character of Grand Isle and the protection of our natural assets will remain foremost in the plan for growth of our Town.
- Our commitment to our residents, land, water, and natural beauty will continue to make our Town what it is, special and unique, to the year-round inhabitants as well as our summer visitors.
- This uniqueness will be a factor in the businesses that look towards Grand Isle as not only a good location for their business, but also a quality way of life for their employees.
- Encouraging environmentally sound, clean businesses, new technology, home-based businesses, and enhancement of our tourist trade will lead to a more stable tax base and potentially help in reducing the high property taxes we face at this time.
- Encouraging diverse agricultural practices will help maintain the rural landscape of the Town and help the local economy.
- Our young people will have employment opportunities, a continuation of the way of life in which they grew up, and the ability to live near their families and strengthen the family unit.
- Growth in Grand Isle should occur at a rate which does not exceed the Town's ability to accommodate the growth and provide essential services, contributing to the overall quality of life.

CHAPTER 3
TOWN HISTORY, CULTURAL AND HISTORIC RESOURCES

BRIEF HISTORY OF THE TOWN

On October 27, 1779, a charter for what are presently known as the Towns of North Hero, Grand Isle and South Hero was granted by the Republic of Vermont to Ethan Allen, Samuel Herrick and 362 of their associates who had served in the American Revolutionary War. The charter was given under the name of Two Heroes and included all of the land on North and South Hero islands.

On October 21, 1788, Two Heroes was divided into two Townships, North Hero and South Hero. On November 7, 1798, South Hero was divided into the two Townships of Middle Hero and South Hero, with Middle Hero occupying the northern half of South Hero Island and South Hero occupying the southern half. On November 5, 1810, the name of Middle Hero was changed to Grand Isle.

The Town of Grand Isle has a rich history. The first recorded deed, dated January 18, 1783, was from William Williams to Capt. Jedediah Hyde. Capt. Hyde's son built a log cabin on the land. The Hyde Log Cabin survives today as the oldest cabin in Vermont and is operated as a museum by the Vermont Division for Historic Preservation and the Grand Isle Historical Society.

Alexander Gordon, who built on the very northern end of the island in 1783, is presumed to be the first settler. From that date forward settlement was rapid. Supported by rich agricultural soils, a thriving, diversified, self-sufficient agricultural economy was quickly established, with its own merchant, tavern keeper, blacksmith, tanner and carpenter. A cooperative creamery, established in January 1918 to serve farmers continued in operation until 1968, when it was bought by the St. Albans Cooperative Creamery Association.

By the early 1800's the Town was well organized, holding Town meetings, electing Town officers, and delegating a representative to the legislature. A post office was established in 1810, and a rural free delivery route began in 1896; the second in the United States. The first church, a log cabin meeting house for settlers of the Quaker faith, was built in 1801.

Ferry service across Lake Champlain between Gordon's Landing in Vermont and Cumberland Head in New York State was chartered by the Vermont Legislature in 1798. The sandbar causeway bridge was constructed in 1853, providing much needed access to the mainland. The first bridge to North Hero Island was constructed in 1882. With the completion of the Rutland Railroad through the islands, travel by the lake diminished as the railroad became an important means of travel. With better roads and the advent of the trucking industry, use of the trains declined until in September of 1961 train service through the islands was discontinued.

Grand Isle's popularity as a summer vacation area began in the 1870's. Visitors were put up in boarding houses and summer hotels, the most famous of which was the 1903 Island Villa

Hotel, now known as the Grand Isle Lake House, and before that as Camp Marycrest. The lake and the Town's rural agricultural character were the original attractions for camps and commercial recreation.

A familiarity with and appreciation for Grand Isle's past will be helpful when we plan for the future. Chapter 14, Appendix One contains data showing historical population trends and current growth indicators. Additionally, two informative Town histories can be found in the Town library. The Town histories are:

- History of South Hero Island; Volumes I and II; by Allen Stratton; 1980
- A History of the Town of Grand Isle as Told by the People of the Town; edited by Jan Bender; 1991

CULTURAL AND HISTORIC RESOURCES

Historical cultural and archaeological resources are irreplaceable resources which provide a sense of continuity between the past and the present and help us identify who we are. It is important to preserve and promote these resources whenever possible.

Archaeological resources have been identified in Grand Isle, likely because of its extensive lakeshore. Most recently, an archaeological investigation in anticipation of the Grand Isle Fish Hatchery construction yielded a large number of artifacts.

Historic buildings are an integral part of a community's identity. The Town owns two historic buildings, the Hyde Log Cabin and the Block school house. The Town also has a number of historic churches, homes, barns and other structures.

The Vermont Division for Historic Preservation has inventoried those buildings and other man-made structures in the Town of Grand Isle which it considers to be of historic importance. This inventory is a part of an official list known as the Vermont State Register of Historic Places. For a list of the Sites which are included in the State Register for the Town of Grand Isle, please refer to Appendix Three.

GOALS

1. Preserve Grand Isle's unique island setting.
2. Maintain the quality of Grand Isle's natural setting.
3. Preserve historic buildings, historic structures and archaeological resources in Grand Isle.

OBJECTIVES

1. Increase Town residents' awareness of the Vermont State Register of Historic Places and whether or not a property they own is listed in the register.

2. Using the Vermont State Register of Historic Places Inventory as a reference guide, create a list of the Town's historic sites. The Vermont Division for Historic Preservation can supply the Town with the criteria for carrying out such an inventory. This inventory should include, but not be limited to, buildings, farmscapes, archaeological and other historic sites, and any and all sites, structures and features which identify and contribute to the identity of the Town and the broad patterns of its history. A local list might include local sites not deemed significant enough to be included in the State Inventory.

CHAPTER 4
LAND USE PLAN

EXISTING LAND USE

Land in Grand Isle is used primarily for agriculture or for single family residences, both year-round and seasonal. There are some commercial establishments in Town also. The availability of current and accurate land use/land cover data is limited. The best estimates are those from 2003. According to this data, of the Town's 22,402.73 acres, the number of acres in agricultural use is 7,570.5 acres, or about 34% of the total (2007). The acreage in agricultural use has declined steadily in recent years. Several major farms have ceased active agricultural operations in the past decade, however other smaller, more diversified operations have been started. Forestland makes up approximately 1,026.8 acres, or 4.6% of the Town's total acreage (2007). Except for those acres classified as wetlands, shorelands and other unbuildable locations, the remaining acreage in the Town is either used for residential purposes or is available for residential development. It should be noted that according to this data, water covers over half of the acreage in Grand Isle, comprising 56.8% of the Town's geographic area.

Table 4.1: Grand Isle Town Land Use Land Cover

	Acres	Percent
Residential	672.20	3.00%
Transportation/Utilities	402.52	1.80%
Deciduous Forest	503.75	2.25%
Coniferous Forest	162.20	0.72%
Mixed Forest	360.89	1.61%
Orchard	104.73	0.47%
Row Crop	4731.63	21.12%
Hay/Pasture	2269.29	10.13%
Other Agricultural	464.88	2.08%
Water	12730.64	56.83%
Total	**22402.73**	**100.00%**

Settlement in the Town is typically spread out either along the main roads or along the shoreline. The overwhelming majority of development since 1980 has followed this pattern. More commercial development has occurred in the past five years. A small number of individual enterprises are scattered throughout the Town, and many home occupations are operating as well, although the exact number is unknown. The main location where commercial development has occurred is along U.S. Route 2. There are clusters of businesses at the intersections of Route 2 and 314 and in the "Grand Isle Station" area near the intersections of State Highway 314, Pearl Street, and Adams School Road.

Figure 4.1: Town of Grand Isle Current Land Use Patterns
Source: NRPC, VCGI

Grand Isle experienced a steady increase in residential development since the 1990s until the recent recession in 2009. Prior to this economic downturn, the demand for housing was generated by the growing number of workers commuting to Chittenden County. Current residential development has slowed significantly, as demand in the housing market decreased. Trends in land use in neighboring communities parallel those in Grand Isle, but the protection of large areas in South Hero through purchase of development rights by land trust organizations and various conservation easements has led to some increased pressure to develop housing in the Town of Grand Isle. The rate at which agricultural and forest lands are being developed appears to be closely related to employment growth in Chittenden County. Conversion of seasonal dwellings to year-round housing continues to occur, and has been one component of the population growth. The number of remaining seasonal dwellings that could be converted to year-round use is of some concern due to the potential of this producing a very rapid increase in the demand for Town services. The convenience of commuting to Burlington, the increase of home occupations and ease of telecommuting due to the availability of technology in addition to Grand Isle's unique quality of life will continue to create a demand for growth in the future.

Several overriding goals for future land use and development are outlined below. Specific policies are contained within each section.

GOALS

1. To promote safe and healthful housing for all segments of the population.
2. To encourage replacement or renovation of structures beyond their useful life.
3. To strive for a diversified economy by promoting the development and expansion of appropriate commercial and recreational businesses and industries.
4. To encourage and promote local agriculture and value added enterprises.
5. To enhance environmental quality, preserve the character of Grand Isle and protect its natural assets.
6. To establish public policies that balance development with the Town's ability to provide services.

COMMERCIAL AND INDUSTRIAL DEVELOPMENT

The number of small-scale businesses in the community which provide goods and services to local residents is limited. This encourages residents to shop off-island, and discourages new businesses from opening. Grand Isle needs to broaden its tax base. Expanding commercialism is one way to achieve this. Small scale and local commercial enterprises that meet the needs of residents and locals should be encouraged.

There are several ways to expand commercial enterprises within the Town. The Town has adopted amendments to the zoning bylaws to allow limited commercial uses in the agricultural and residential zones and the Town has removed some restrictions on home occupations. Businesses which serve and employ Town residents will add to the sense of community by limiting the need to travel outside of Grand Isle for basic necessities.

It is possible to encourage industrial and commercial growth without harming Grand Isle's quality of life by targeting environmentally sound industry. Tourism is a constantly growing industry in the Islands. Recent efforts in the tourism industry have included the concept of "Countryside Tourism" and "Agri-tourism." These types of tourism promote the unique resources of a community as the main attractions. It is characterized by locally owned businesses, traditional patterns of development, utilization of existing vacant or under-utilized structures, and the agricultural heritage of the region. Additionally, including the arts can create another attraction for tourists. A café utilizing local foods and exhibiting local art was approved in 2011. This and other businesses in Grand Isle provide excellent examples of this type of tourism and opportunities for how it could become more prominent. Tourism is currently concentrated in the summer season, from mid-June until Labor Day. Increased emphasis on four season tourism would enable more businesses to remain open year-round, including those providing services to residents.

It is important that the jobs created in tourism and other industries strive to provide a living wage and consistent employment opportunities allowing residents in the area to afford the cost of living and to be financially sustainable.

Future development should be planned to minimize uses that would impact smooth traffic flow on U.S. Route 2. Recent zoning amendments concentrated commercial development at the intersection of Route 2 and Route 314. It should be considered if the location and boundaries of this district should be amended in the next bylaw update.

Businesses in Grand Isle should remain small-scale, in keeping with the community's rural character. Planned unit developments which combine the traditional mix of residential and commercial uses should be encouraged in the village, commercial, and shoreline districts. The major barrier to development in Grand Isle is septic feasibility. There is opportunity and demand for business; however, permitting is limited by wastewater treatment options in many locations within the Town.

GOALS

1. Encourage clean and environmentally sound commercial and/or light industrial development in appropriate areas in the Town.
2. Continue economic planning for new locally owned and operated enterprises, and promote businesses which employ year-round and which utilize the local labor force.
3. Promote development within the village that reinforces the village's importance as the Town's social and cultural center.
4. Promote the clustering of commercial activities and discourage suburban sprawl and strip development.
5. Encourage commercial development in areas not located directly on U.S. Route 2.

OBJECTIVES

1. Maintain zoning bylaws that encourage home occupations while still ensuring that residential character is preserved. Continue to limit exterior displays and storage and any other exterior indications of the home occupation.

2. Work with the Lake Champlain Islands Economic Development Corporation, and other tourism planning agencies to ensure that the needs of Grand Isle are met.
3. Implement zoning changes to direct commercial development into areas that are not directly adjacent to U.S. Route 2.
4. Explore options for wastewater treatment and provide educational information to Town Officials and Developers about septic options.
5. Continue working to bring better telecommunications technology to Grand Isle such as the opportunities offered through Comcast and the State.

AGRICULTURAL DEVELOPMENT

Dairy farming, orchards, vegetable and berry farming are the primary agricultural activities still being practiced in the Town. Additionally, there is a beef farm, vineyard and other diversified operations in Grand Isle. Prime agricultural soils are an important Town resource. In Grand Isle, the number of acres in active agricultural use is approximately 34% of the total in agricultural use, much higher than nearby Chittenden County. Since the economic decline, residential development pressure has decreased in Grand Isle. However, it can still be difficult to farm profitably in the region. It is important to remember that agricultural and forestry landowners provide a public benefit by not developing their property, and cost the Town little in terms of municipal services. From popular scenic vistas, to important wildlife habitat, these lands significantly contribute to the Town's pastoral character and quality of life.

The State of Vermont offers the "Current-Use Program" which taxes agricultural and forestry property according to its use rather than its full market value. The purpose of these programs is to keep agricultural and forested land in production, and to slow development of working lands. In each program, the property must remain in agricultural or forestry use in order to receive benefits. Property tax revenues lost to the Town are reimbursed by the State. The programs are administered by the Property Valuation and Review Division of the Vermont Department of Taxes. The Program includes: Agricultural Land Program, Forest Land Program, Conservation Land, and Farm Buildings Use Appraisal. These programs are traditionally under-funded by the state legislature.

GOALS

1. Protect and promote the continuation of agriculture in so far as possible.
2. Work with farmers to assist them in maintaining the agricultural atmosphere of the Town wherever possible.
3. Protect areas of prime agricultural soil from development through zoning regulations.

OBJECTIVES

1. Promote Farmer's Markets and the use of local produce by businesses in Town and the wider region.
2. Raise awareness of safety issues related to farm vehicles and equipment as well as livestock on roads shared by other motorists.
3. Support the continuation of the State's current use programs and educate farmers on options to apply.

LAND USE ZONING DISTRICTS

The zoning districts outlined below and in Figure 4.2 designate the direction of future land use within the Town. The Proposed Future Land Use Map shows the location of the proposed land use districts. These districts are consistent with the current zoning regulations, and no major changes to district boundaries are anticipated. The locations on the map are approximate; the specific detail of the district boundaries will follow the guidelines of this map and will be determined when amending the bylaws.

Grand Isle Land Use Zoning Districts	
	Acres
Village District	167.72
Commercial and Industrial Light District	61.20
Rural Residential and Agricultural District	8439.87
Commercial Recreation Shoreline District	131.23
Residential Shoreline District	1060.78
Small Off-shore Island District	229.65
Flood Hazard Overlay	538.64

Table 4.2: Grand Isle Land Use Zoning Districts
Source: VGIS

Village District: Purpose and Policies

The purpose of the Village District is to support the role of the village as the focus of activity in the community and to provide for residential, commercial, and other compatible development to serve the needs of the residents. The Village District will help maintain the traditional social and physical character of the village including its historic and scenic resources.

The District boundaries will include the areas currently zoned as Village District, near the intersection of U.S. Route 2 and Hyde Road. Development in this area will be mixed use, including both commercial and residential. Development may be moderate to heavy, but will not exceed the capacity of the lands, waters, facilities or services located within the immediate area. Any new development shall be designed so as to preserve the historic, natural, and cultural character of the village and the areas surrounding commercial sites and to minimize curb cuts.

Small-scale business will be encouraged in this area, and those should be compatible with mixed commercial/residential uses. Businesses that would increase the Town's tax base, encourage tourism with low impact and high volume, and services and facilities utilized by the local Townspeople in Grand Isle and surrounding communities, will be encouraged to expand in these areas.

Vermont has established a framework of "designations" to offer incentives that encourage communities to maintain vibrant concentrated settlements separated by rural countryside. These programs provide a variety of incentives for development in the designated areas. Each program has a set of unique goals for making vibrant places.

Grand Isle intends to apply for Village Center Designation (VCD). The Village Designation boundaries will largely overlap with Village District zoning boundaries. Village Center Designation supports small town revitalization with a variety of tax credits to support improvements to historic properties and priority consideration for several State grants. The VCD program will help the Town of Grand Isle as it applies for various State Grants, including Vermont Community Development grants. Village Center designation is an important tool to further the Town of Grand Isle's goals for a vibrant village center.

Once designated, the Town will be eligible for the following benefits:

- Technical assistance provided by the state to support local village revitalization and planning efforts
- Downtown and Village Center Tax Credits
- Priority Consideration for various state grants including ACCD, VTrans and ANR grants and incentives, e.g.,
    - ACCD's Municipal Planning Grants
    - State Historic Preservation grants
    - Vermont Community Development Program (VCDP) grants
    - VTrans Bike/Ped and Transportation Alternatives grants
    - Northern Border Regional Commission Grants
    - ANR Water and Wastewater subsidies and loans
    - Various other state grants and resources
- Neighborhood Development Area (NDA) Eligibility - Another State designation program that provides incentives for residential neighborhoods within or adjacent to village centers

Commercial/Light Industrial District: Purpose and Policies

In the current zoning there is one Commercial/Light Industrial District at the intersection of State Highway 314 and U.S. Route 2. Commercial development in this district includes an excavation contractor, chocolate factory and several office suites. The Commercial/Light

Industrial District is 61.20 acres. Two parcels have no development and total 10.50 acres. Six parcels are fully developed or nearly fully developed and total 9.93 acres. The remaining 11 parcels (40.77 acres) are partially developed.

Development in this district will be mixed use, including both commercial and residential. Development may be moderate to heavy, but will not exceed the capacity of the lands, waters, facilities or services located within the immediate area. Any new development shall be designed so as to preserve the historic, natural, and cultural character of the village and the areas surrounding commercial sites and to minimize curb cuts.

Larger-scale business will be encouraged in these areas, and those should be compatible with mixed commercial/residential uses. Businesses that would increase our Towns' tax base, encourage tourism with low impact and high volume, and services and facilities utilized by the local Townspeople in Grand Isle and surrounding communities, will be encouraged to expand in these areas. Businesses and uses that are not compatible with residential uses should be segregated in separate commercial or light industrial districts in areas without substantial existing residential development.

The existing commercial area is on Route 2, which makes it difficult to avoid additional curb cuts. Establishing commercial districts that are not on Route 2 will provide opportunities to accommodate commercial development without creating additional access points.

State Highway 314 provides an attractive alternative to commercial development along U.S. Route 2. There is good access to U.S. Route 2 in both directions, and also to the ferry to New York State. There is already substantial pre-existing commercial activity along this road and relatively sparse residential development. In order to maintain a smooth flow of traffic, the Town should plan for anticipated increases in the number of motor vehicles traveling in this corridor.

Rural Residential and Agricultural District: Purpose and Policies

This is the largest district, encompassing approximately 90% of the Town. An agrarian image is an important resource to the Town's economy and should be encouraged, wherever and whenever possible. The purpose of this district is to recognize those lands with an economic capability for agriculture which are now essentially undeveloped. This district will also serve the needs of community residents by providing an area for residential growth where suitable. This district recognizes the current land use conditions; specifically, that scattered small scale commercial growth exists throughout the district. Where appropriate, certain commercial uses will be allowed on good roads within the district. The district boundaries will remain the same as with current zoning regulations.

It is a policy of the Town that this district remains rural in nature, keeping high impact uses in the Village and Commercial/Light Industrial Districts. Through development patterns and site design, the least amount of land possible may be developed, and large contiguous expanses of agricultural and forested land and other important open spaces may be protected. Public policy may promote residential development that would help maintain this image of a rural

agricultural area, such as Planned Unit Developments and cluster housing.

The permitted uses will include agriculture, residential and businesses such as a bed and breakfasts, rooming houses, non-profit clubs and home occupations. Several uses will be allowed with conditional use review. This will help to meet the needs of existing enterprises and also allow development of businesses that serve the agricultural community. Uses allowed in this district that require conditional use review and site plan approval are hotels and motels, restaurants, personal services, social services, business and professional offices, storage and agribusiness such as feed and supply stores or the slaughterhouse, that already exists in this district. Given the ability to affect municipal expenses, special attention will be given to traffic estimates, especially when located on a Town road. Commercial uses will not be allowed which will interfere with the residential and agricultural uses of the district. Specific standards and guidelines are provided in the bylaws to control these uses.

These guidelines for determining uses allowed under conditional use review within this district include but may not be limited to square footage, noise levels, estimated traffic and potential future expansion. The definitions of permitted and conditional uses are provided in the current bylaws.

Smaller scale commercial uses such as personal service establishments, business or professional offices, and indoor/outdoor recreation facilities are examples of permitted uses in this district. Size limitations and traffic flow will have to be considered when definitions are revised in the Town Zoning Bylaws, so as not to adversely impact the character of the neighborhood.

Areas immediately adjacent to Route 2 may have special rules designed to limit the impact of development on the flow of traffic and the character of the Town.

When amending the bylaws, the Town will consider zoning changes which allow for the re-use of abandoned barns, sheds or other agricultural outbuildings so that they do not become neglected.

Flood Hazard Area District: Purpose and Policies

The Flood Hazard Area designation is required in order for a Town to participate in the National Flood Insurance Program. Included in this district is all Lake Champlain shoreline up to and including the 102 foot high water mark, and certain other areas, such as swamps and small streams, which are indicated on the most recent Federal Emergency Management Federal Insurance Administration maps.

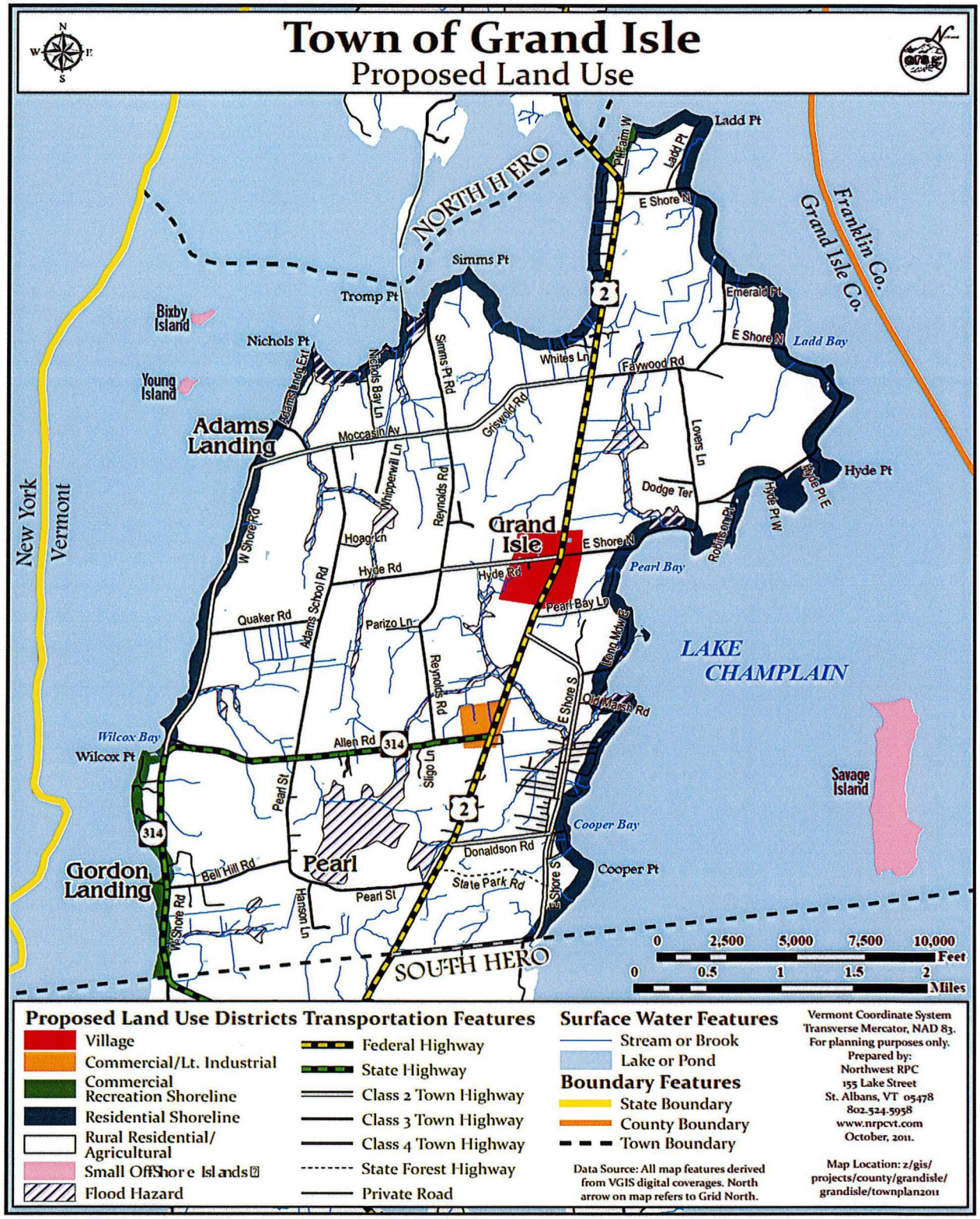

Figure 4.2: Town of Grand Isle Proposed Land Use
Source: NRPC, VCGI

The purpose of the Flood Hazard Area District is to promote the public health, safety and general welfare, to prevent increases in flood damage caused by development on land within flood hazard areas and to minimize public liability due to floods. Uses in flood hazard areas should be restricted to agriculture, conservation and outdoor recreation. The construction or use of any related structures or buildings, water or sewage facilities, roads, or land alteration within this District should be in compliance with current bylaws.

Shoreline Districts: Purposes and Policies

The Shoreline Districts described below include all of those areas along the Lake Champlain shoreline which are located between the 95.5 foot lake level and a line 500 feet back from the 95.5 foot lake level.

The purpose of the Residential Shoreline District is to provide for residential and recreational uses, at a density which is appropriate to the physical capacity and capability of the land, and which is in keeping with the existing character of already developed areas or will enhance the character of the existing area. Lakeshore residential development should include a vegetated buffer and be planned in a manner which will have the least amount of impact possible on shoreland erosion and emphasize preservation of the natural features and rural character of the shoreline.

The purpose of the Commercial Recreation Shoreline District is to provide for commercial recreation and other compatible uses which require locations on or access to the public waters of Lake Champlain. The density of such development should be appropriate to the physical capacity and capability of the land and which is in keeping with the existing character of already developed areas. Future development in this District must comply with the State's setbacks from the shoreline of Lake Champlain which is sufficient to maintain the lakeshore as a scenic and natural resource and to prevent erosion and pollution of Lake Champlain waters.

Small Off-Shore Islands District: Purpose and Policies

The purpose of the Small Off-Shore Islands District is to protect small islands which are undeveloped or poorly suited for development. The islands within this District are recognized as scenic natural resources which provide irreplaceable habitats for wildlife. Low density agricultural, residential, recreational, conservation and wildlife management development and activities are permitted or conditionally permitted provided adequate drinking water, sub-surface sewage disposal and emergency service access is possible. Development that is permitted should maintain and enhance the existing natural environment. No development is permitted which in any way alters the existing topography or geology.

LAND USE PLANNING AND ENERGY EFFICIENCY

Several strategies for land use planning and development can reduce energy consumption and improve energy efficiency in Towns. Encouraging development patterns that promote the use of multiple modes of transportation, decreasing the mileage of roads and other infrastructure maintained by the Town can save Grand Isle and its residents, may reduce costs and

conserve energy. Continuing to develop in the historic patterns that include compact villages supports these initiatives.

GOALS

1. Promote development patterns that encourage of multi-modal transportation.
2. Promote growth in developed areas such as the village center.
3. Protect natural areas and the working landscape from development through zoning regulations.

ENERGY OBJECTIVES

1. Recommend Bylaws and Subdivision Regulations to ensure that current zoning allows for maximum use of PUDs and mixed-use development in areas that are already densely settled.
2. Consider including provisions for new roads or reconstruction of existing roads to include a sidewalk or multi-use path.
3. Consider creating incentives for PUDs and development that occurs within a certain distance of the Village such as density bonuses.
4. Evaluate lot size and density requirements during the bylaw update.

CHAPTER 5
PUBLIC FACILITIES AND SERVICES

The changing population and needs of the Town impact public services and facilities. In order to plan for the future, this chapter provides information from the past and objectives for the future that will assist the Town in providing residents and guests with necessary facilities and services. The Town strives to meet the needs of the community as development occurs or as the population changes. Planning for these changes can ensure that the people of Grand Isle will continue to enjoy a high quality of life.

EDUCATIONAL FACILITIES

As depicted in Figure 5.1, the Grand Isle School is a focal point of educational and community activities. The school completed a major renovation and expansion project in 1992 raising the preschool to 8th grade school's capacity to 300. Inspection and approval by the Vermont Board of Education were completed in January of 1993. The school has a record of high academic standards and possesses a dedicated faculty and staff. In addition to regular school activities, many of the facilities are used for a variety of purposes on a nightly basis by Town residents and various groups and organizations. The current enrollment for the 2016-2017 school year is 220 students. The enrollment at the Grand Isle School in the 2010-2011 school year was 215 students. The rate of Town growth will be the greatest factor impacting educational costs and school population numbers.

As with most communities in Vermont, school funding continues to be an issue in Grand Isle. The maximum capacity of the Grand Isle School is not currently an issue. However, the cost of high school tuition, over which the Town has no control, continues to be a large cost for Grand Isle taxpayers. Students in grades 9-12 attend the area high school of their choice with the tuition paid for by the Town. The tuition rate for high school students differs depending on the school of choice however the average tuition rate was $14,483 per student for 2016-2017. There currently 85 high school students from Grand Isle that attend local high schools. For the past several years, the majority of the students have chosen to attend either South Burlington High School, Essex High School, or Colchester High School. Each of these schools provides bus service to students coming from Grand Isle. Grand Isle County school boards are to cooperate to investigate maximizing the use of current facilities and reducing operating expenses.

Continuing education for adults is generally available in St. Albans, Burlington or Plattsburgh. In St. Albans and Winooski, the Community College of Vermont offers courses and degree programs. Colleges in the Burlington area include the University of Vermont, St. Michael's College, and Champlain College.

The school building also serves as the designated emergency shelter for the Town, and has been equipped with a diesel generator to provide electric power during emergencies.

GOALS

1. To provide educational opportunities commensurate with the needs of the population.
2. To broaden access to educational and vocational training opportunities sufficient to ensure the full realization of the abilities of current and future residents.
3. To ensure that the ability to provide educational services keeps pace with the Town growth.

OBJECTIVES

1. Work with the other Towns in Grand Isle County to develop educational facilities and programs which can be shared or used jointly.
2. In conjunction with the other island Towns, continue a nonpartisan committee to carry out a feasibility study of the pros and cons of sharing educational facilities, programs, and costs.
3. Work with the State as much as possible to explore alternative means of funding education and encourage property tax reform.
4. In order to more equitably fund the cost of an expanding school system, consider adopting a capital plan which includes an educational component.
5. If a capital plan is in place, utilize the section of the subdivision regulations that requires phasing of development. The purpose of this tool is to assure that the Town's facilities and services have sufficient capacity and quality to accommodate the rate of growth.

CHILDCARE

Finding high quality and affordable childcare is a growing concern for existing and prospective families. A 2009 Legislative Report from the Vermont Child Care Advisory Board reports that the average annual cost for childcare can range from $13,000 to over $16,000 depending on the age of children enrolled. Statewide, more than 27% of low-earning families spend more than one fifth of their income on child care.

Many child development experts believe that children often do not have the maturity and self-care skills to be left unsupervised until the age of 12. The 2000 U.S. Census indicates that there were 315 children under the age of 12 living in the Town of Grand Isle. This population increased slightly from 1990 to 2000. 2010 Census figures show that 16.7% of the Town's population, 345 people, is under the age of 14.

According to State data on the Bright Future directory, the Town of Grand Isle has only 4 registered childcare homes, which would not meet the needs of the Town according to the number of children under age 12. However, data on other options, such as siblings, stay at home parents, family care providers, un-registered childcare homes or other opportunities are not available. Therefore, without additional data, including the vacancy rates of childcare facilities, as well as the quality and affordability of these services, it is difficult to assess the availability of childcare in our community.

It is also important to note that the childcare industry can contribute to the local economy by creating jobs and supporting a stable workforce. The accessibility, affordability and quality of

child care may affect a parent's ability to enter and remain in the workforce and to be a productive employee.

Table 5.1: Number of Children in the Town of Grand Isle under the age of 14.

	2000	2010	% change
Under 5 years	113	91	-19.5%
5 to 9 years	130	109	-16.2%
9 to 14 years	171	145	-15.2%

Source: U.S. Census Bureau

GOAL

1. Work to ensure that the regulation of land development in the Town of Grand Isle does not negatively impact the availability of safe and affordable childcare.

OBJECTIVE

1. Assess the need for and availability of childcare services.

POLICE PROTECTION

Limited police protection is provided by the Grand Isle County Sheriff's Department and the Vermont State Police. In 2016-2017 Grand Isle is responsible for contributing $105,248 to support the Sheriff's Department. The Sheriff has hired additional staff in recent years, which has improved the coverage provided to the Town. There is no local police department, which often inhibits the ability to address small local incidents requiring law enforcement assistance. The number of hours that the Sheriff's Department provides has increased. Currently, the Town contracts with the Sheriff's Department for 46 hours of coverage per week.

GOAL

1. Work in the future to identify methods to fund and enhance the police protection in our community, especially increased hours of coverage.

FIRE PROTECTION

Fire protection is provided by the Grand Isle Volunteer Fire Department. The department has 7 officers, 15 fire fighters, and 2 cadets, including an engineer and safety officer. The department is funded by a Town appropriation, a State appropriation from the fish hatchery, and by donations. The department works closely with other Towns to maximize county-wide fire protection and water rescue.

As depicted in Figure 5.1, the fire station is a Town-owned building located on Hyde Road in the village district. The building is 80x40 feet, divided into five bays, with a 14x70 foot shed across the back containing a meeting room and some storage facilities. The fire station is not adequate for the present inventory of equipment and size of the roster. The steady population growth continues to put pressure on the department to expand.

The Grand Isle Volunteer Fire Department has been working to build a new fire station in the near future.

The current major pieces of firefighting equipment are:

- 2002 Freightliner 3,000 gallon tanker
- 1972 Ford L900 pumper
- 2003 Chevrolet 4wd pick-up
- 1993 Freightliner FL080 pumper
- 1999 FL070 Heavy Rescue
- 19 foot Fire Rescue boat

The 1972 and the 1993 pumpers will need replacing in the next 5 to 10 years. The department anticipates purchasing one pumper to replace the both. All other equipment is in good shape for the next 5 to 10 years.

The number of calls per year has increased and the department now responds to approximately 150 calls per year. The water supply throughout the Town is not designed to meet firefighting standards and tankers are used to shuttle water to most fires. The Town does not have a hydrant system.

GOALS

1. Continue to provide first-rate volunteer fire protection.
2. Prepare for a future when adequate fire protection coverage may over burden volunteer capacity.

OBJECTIVES

1. Identify equipment and facilities that need to be upgraded and develop methods of financing the replacement.
2. Continue to support the needs and acknowledge the efforts of the local volunteer firefighters.
3. Recruit new members.

AMBULANCE AND RESCUE SERVICES

Ambulance and rescue services are provided to the Town of Grand Isle and the Town of North Hero by Grand Isle Rescue, a nonprofit fully volunteer organization. Grand Isle Rescue relies on contributions from the Town and private donations. In 2012 the rescue squad implemented fees for calls that require transportation to the Emergency Room. No one will be denied service for inability to pay what is not covered by insurance, or because of previous unpaid transports. As depicted in Figure 5.1, the rescue squad facility on the corner of U.S. Rt. 2 and Faywood Road was built in 1993. The building provides two ambulance bays, a classroom for training and meetings, and space for storage and administrative functions. The rescue squad's two ambulances, purchased in 2005 and 2015, meet Vermont and federal emergency medical standards and regulations.

Grand Isle Rescue operates under medical direction from the University of Vermont Medical Center in Burlington, where most transported patients receive medical care. If requested, patients may also be taken to Northwest Medical Center in St. Albans. In the 2016, the rescue squad responded to 297 calls.

GOAL

1. Maintain the excellent service presently provided by the Grand Isle Rescue Squad.

OBJECTIVE

1. Obtain more volunteers and equipment as required to meet the needs of the community.

EMERGENCY PREPAREDNESS

The Town has a designated Emergency Management Director/Coordinator in accordance with Vermont Statutes, Title 20, Part 1, Chapter 1, §6. The Town has signed the 2005 Grand Isle County Mutual Aid Agreement, which is a written agreement between the communities of Grand Isle County and neighboring municipalities, departments and agencies to assist each other, upon request, by furnishing personnel and equipment. As such, the Town is compliant with the National Incident Management System (NIMS), a framework for local, state and federal government to work together to respond to all hazard events. NIMS compliance will be required in order to receive federal preparedness dollars. The Grand Isle Fire Department, Grand Isle Rescue and Town of Grand Isle are members of the Grand Isle County Mutual Aid Association as well as the Local Emergency Planning Committee District 13 as required by Vermont Statute Title 20, Part 1, Chapter 1, §32. The Town has adopted an Emergency Operations Plan. The plan identifies the Grand Isle Elementary School as a designated Red Cross community shelter. The school is equipped with a diesel generator. The Town has a draft Pre-Disaster Mitigation Plan (PDM) which will be a requirement of FEMA to receive federal mitigation funding. Three major emergencies have occurred in recent history: a propane tank fire at the fish hatchery, the January 1998 ice storm and the 2011 Lake Champlain Floods.

WATER SUPPLY

There are two public water systems in Grand Isle, the Grand Isle Consolidated Water District (GICWD), formed in the mid 1990's, and the Grand Isle Fire District No. 4. The GICWD has incorporated the former Grand Isle Fire Districts 1, 2, and 3 along with the Point Farm Water System and additional areas not previously served by municipal water systems. In addition, a number of small private water systems serve up to as many as fifteen homes each. The Town does not have a record of these systems.

Grand Isle Fire District No. 4 overcame limitations to their distributive system in the summer of 2003, when several improvements were completed, including extended lines and new filters. From April of 2000 to that summer, there was a moratorium on new connections to the system. When the improvements were completed in the summer of 2003, the moratorium expired and

Fire District No. 4 now supplies quality water to the residents of Grand Isle and has sufficient capacity for new connections.

Lake water intakes are increasingly threatened by fouling with zebra mussels, even in portions of the lake not previously infested. The GICWD intakes at the Fish Hatchery and Fire District No. 4 have adopted treatments for dealing with zebra mussels. The GICWD intake at the Fish Hatchery "pigs" the line which has the effect of scouring the mussels and Fire District No. 4 treats the intake, which kills the zebra mussels. Private lake water systems must also deal with the problem of zebra mussels, as well as further filtration and sterilization to ensure potable water at the tap. Well water in Grand Isle often suffers from naturally occurring iron and sulfur compounds, which are difficult to remove and can make the water unpleasant to drink. The Town is also concerned about blue green algae and its potentially harmful impact on the water supply.

GOAL

1. Encourage consolidation of small systems into the municipal systems.

OBJECTIVES

1. Develop a long-range plan which expands municipal water into those areas of the Town where no community water services or fire districts currently exist, and which, ultimately, would solidify all municipal and private water systems into a one or two consolidated water districts.
2. Where feasible, encourage new developments be added to the existing municipal water systems.
3. Encourage resident participation in the administration of the municipal water systems.

WASTE WATER DISPOSAL

The proper disposal of sewage is crucial to the health and well-being of the community. Sewage disposal systems which do not function properly may pollute groundwater, contaminate drinking water sources, provide breeding grounds for disease, cause noxious odors, and lead to contamination of Lake Champlain.

There are no municipal waste water treatment systems in the Town. Waste water disposal is handled on an individual on-site basis. The fish hatchery maintains a specialized waste water system to treat the water from their operations. All wastewater should be discharged into a properly designed and constructed disposal system or properly constructed alternative facility in accordance with the Wastewater System and Potable Water Supply Rules, effective September 29, 2007 and as revised from time to time by the Vermont Department of Environmental Conservation. After July 2007, the Wastewater Management Division of the Vermont Department of Environmental Conservation regulates all disposal system work.

Deep or adequately drained soils which could potentially accommodate high capacity sewage disposal systems occur only in small, scattered locations. Given these conditions, the development of small lots is limited.

An analysis of the soils potential for on-site sewage was completed by Bruce Watson, a certified soil scientist, in October 1995. This report noted that a very low percentage of soils in Grand Isle met the requirements of the Vermont Small Scale Wastewater Treatment and Disposal Rules, which formed the basis for Grand Isle's then wastewater disposal regulations. Watson's report, entitled "Soil Potential for On-Site Sewage Systems, Grand Isle Town, Vermont," is herein incorporated by reference.

One of the goals of this Town Plan is to maintain the Town's rural agrarian image of undeveloped, open land. One practical way to accomplish this goal is to maintain open space by promoting the clustering of buildings within developments. In such a development pattern, individual buildings can be sited closer together, potentially sharing waste water disposal systems. The village is a prime candidate for such development. Over the long term, promoting development in the immediate vicinity of the village would make a municipal waste water treatment system for the village financially feasible.

GOALS

1. In order to maintain the Town's agrarian image of undeveloped open land, promote clustered developments which share waste water disposal systems.
2. Promote the use of alternative treatment systems in order to allow for the safe disposal of wastewater on existing lots with substandard or inadequate site conditions.
3. Ensure that Lake Champlain and other local waters are not further polluted by malfunctioning or improperly operated waste water disposal systems.
4. Any public investment in wastewater disposal should be planned to minimize development pressure on agricultural and forestry lands.

OBJECTIVE

1. Encourage developers to investigate the feasibility of using community waste water disposal systems within a development.

ENERGY OBJECTIVES

1. Investigate options for community wastewater/septic such as a cluster system or alternative methods for onsite treatment.
2. Provide information and educational opportunities to residents regarding alternative wastewater management practices.

SOLID WASTE DISPOSAL

The Town Dump was closed in 1981. Currently, refuse is hauled to the Waste USA Highgate Transfer facility run by Casella Waste Management. Grand Isle is a member of the Northwest Vermont Solid Waste Management District and has a certified solid waste plan. Recycling has been mandatory since March 1993 and is encouraged by economic incentives since recycling is accepted free of charge from Grand Isle residents.

GOALS

1. Continue membership with the Northwest Vermont Solid Waste Management District.
2. Encourage increased utilization of the central recycling facility operated by the Town.
3. Maintain a central transfer station and recycling facility operated by the Town.
4. Prohibit and prevent the improper storage and disposal of hazardous wastes in the Town.

ENERGY OBJECTIVES

1. Work with the Northwest Vermont Solid Waste Management District to expand opportunities for recycled materials and to consider an organic waste or compost collection program.
2. Encourage businesses and residents to continue participating in the current recycling program.

TELECOMMUNICATIONS

Access to high speed Internet and cellular phone service are important not only to the quality of life for residents of Grand Isle, but for economic development as well. Currently DSL is available in some areas of Town and residents on the western shore are able to connect to wireless service from New York. Cable Internet services are now also available throughout the Town of Grand Isle. In 2005, an antenna was mounted on the Bell Hill water tower, which is owned by the Grand Isle Water District, which delivers wireless broadband to a large area of Town. This project was the work of the Grand Isle Broadband Project, a group of citizens in South Hero and Grand Isle, which applied for and received one of the first Broadband grants offered by the Vermont Department of Economic Development to bring wireless technology to rural areas of Vermont.

The availability and reliability of cell phone service can be limited on the Islands. While future infrastructure upgrades are encouraged, these improvements should be consistent with the character of the Town.

GOALS

1. Achieve full broadband access Town-wide, with a choice of cost effective providers.
2. Achieve full, uninterrupted cell phone service throughout Town.

TOWN OFFICE AND TOWN GARAGE

As depicted in Figure 5.1, the Town Office is a 30 by 54 foot building which contains two 10 by 14 foot vaults, office space for the Town Clerk, Assistant Town Clerk, Listers, Zoning Office and Development Review Board Clerk, areas for researchers and public municipal meetings, a bathroom, and 820 square feet of basement storage. Built in 1967, the building was enlarged to its current size in 1984 and it has adequate storage space. Public meetings which cannot be accommodated in the meeting room are held at the Grand Isle Elementary School.

The Town Office received an energy audit in 2010, and renovations are planned which will increase the energy efficiency of the building.

As depicted in Figure 5.1, the Town Garage is a heated 28 by 50 foot building with a heated 14 by 28 foot shed addition across the back and an open, unheated 24 by 50 foot storage shed along the west side. The 28 by 50 foot part of the building has one overhead door and is used primarily for vehicle repairs. The rear shed addition contains an office and storage space.

Current major pieces of Town road equipment are:

- 1974 Fiat-Allis road grader
- 1990 Autocar 16-yard roll-off dump truck
- 1992 John Deere 6200 4WD tractor with loader and Alamo mower
- 2001 John Deere 544H loader
- 2005 Chevrolet 1 ton dump truck
- 2013 Western Star 14 yard dump truck
- 2015 Western Star 14 yard dump truck

GOAL

1. Encourage the mutually beneficial shared use of equipment with surrounding Towns.

OBJECTIVES

1. Consider building an enclosed storage shed for road salt and concrete bunker for road sand, or adapting existing structures for these uses.
2. Further inventory road and office equipment to determine necessary future expenditures and upgrades.
3. Develop strategies for the eventual replacement, retrofit, or upgrade of municipal facilities.

ENERGY OBJECTIVE

1. Conduct energy audits on all municipally owned buildings and take subsequent action to improve efficiency.

PUBLIC LIBRARY

As depicted in Figure 5.1, the Grand Isle Free Library is a historic, two room, 900 square foot brick building located in the center of Grand Isle across from the Town Office. The library contains approximately seven thousand books and is certified by the Vermont Department of Libraries as meeting the 1998 standards.

The library has very limited space, which is making the expansion of services difficult. The library is interested in adding display space for artwork, additional technology facilities for public use, and additional public information resources. The library is also seeking to expand

services to children and improve the catalog and increase meeting and performance space. An energy audit in 2011 identified several improvements to the building that would increase energy efficiency.

The library participates in the Inter-Library Loan System and is staffed four days a week by a salaried librarian. The library is open for a total of 20 hours per week. The library receives the majority of its funding from the Town.

GOALS

1. Maintain the library as efficiently and economically as possible.
2. Provide library services which meet the needs of the community.
3. Provide larger facilities for the library.

OBJECTIVES

1. Obtain additional space for the library.
2. Expand the pool of certified library personnel available to staff the library.
3. Increase library hours as resources allow.
4. Continue implementing the technology plan.
5. Complete ongoing efforts to fully comply with state and federal health, fire and accessibility standards.
6. Complete automation of the library.

RECREATION

As depicted in Figure 5.1, the Town owns or leases the following recreational facilities: those at Grand Isle School, a baseball field and playground at the former Grand Isle School Annex building, the Town beach on East Shore Road North, a boat launch ramp at the end of Folsom Harbor Road, and the Grand Isle Recreation Park on Donaldson Road. Recreation in Grand Isle is supported by a combination of user fees, local fund raising, grants, and Town appropriations.

The Grand Isle Recreation Park is located on Donaldson Road on 23.1 acres of property owned by the Town. The site has been developed with limited facilities including picnic tables, restrooms, two little league baseball and softball fields, a basketball court, an ice-rink and a children's play area.

State owned recreation facilities in the Town include the following:

- Grand Isle State Park: 226.57 acres, operated by the Vermont Department of Forests, Parks and Recreation
- Young Island: 7 acres, operated by the Vermont Department of Forests, Parks and Recreation
- Vantine's Access Area: .61 acres on West Shore Road, operated by the Vermont Department of Forests, Parks and Recreation
- Grand Isle Fish Hatchery: includes 1,000 feet of lake frontage, a visitor center and a developing archaeological exhibit owned by the Vermont Buildings Division but

operated by the Department of Fish and Wildlife

- Hyde Log Cabin: owned by the Town and operated as a museum by the Grand Isle Historical Society

Recreational facilities are an important aspect of community life. Facilities can range from a Town beach and fishing access, to hiking trails and bike paths, to a baseball diamond and skating rink. As the Town's population increases, it becomes necessary to provide more sites for recreation and to protect future recreation sites.

A great deal of effort and tax dollars has been focused on maintaining and improving the water quality of Lake Champlain. Access to the lake needs to be increased. Lake Champlain is the Town's most valuable resource. The lake provides almost unlimited recreational opportunities for both residents and tourists. Capitalizing on the lake's recreational potential by increasing public access areas and developing recreational activities which relate to tourism will benefit everyone both economically and recreationally.

GOALS

1. Continue to provide Town recreational facilities and programs for the use and enjoyment of area residents and visitors.
2. Encourage recreational uses of the land and shoreline at the Grand Isle Fish Hatchery.
3. Investigate ways to increase public use of Town lake front and beach area.

OBJECTIVES

1. The Town Recreation Committee will work in conjunction with the Town Planning Commission and Town Selectboard on any combined recreational/commercial issues which may arise.
2. Work to achieve goals of the Recreation Committee including: identification and/or creation of a community recreation center, including Recreation office space; continued improvement of playground and ball fields; make and post cross country ski trails; increase summer recreation programs for adult and youth; increase cooperation with other recreation entities in Grand Isle County to provide year-round programs; control vandalism at the park.
3. Identify and promote the development of recreational and tourist activities, services and facilities placing emphasis on the use of natural and existing man-made resources and on development which does not contribute to pollution of the lake.
4. Investigate the possibility of utilizing the Grand Isle State Park for recreational purposes during those months of the year that the park is closed and not operated by the State.
5. Investigate alternative funding options for recreation.

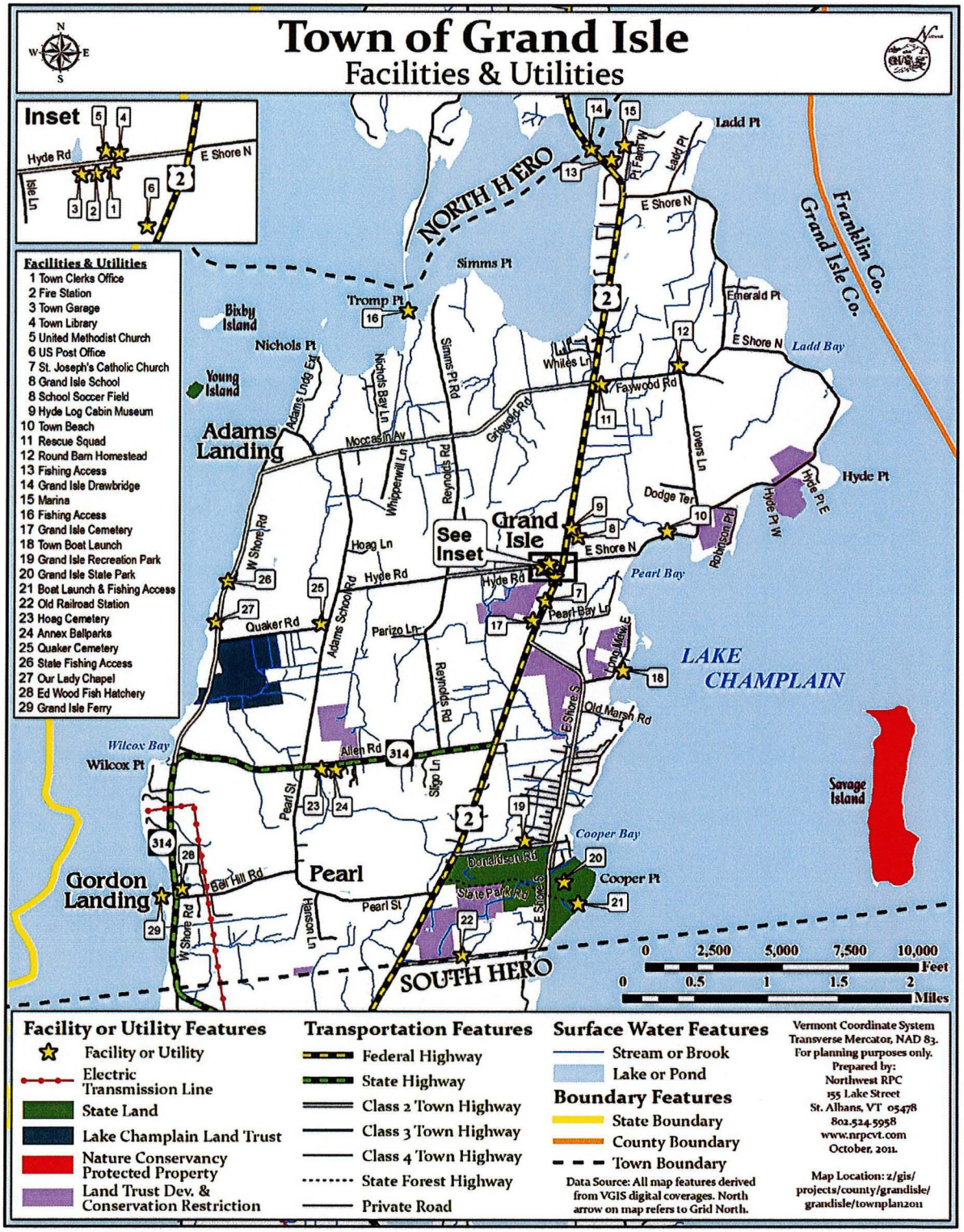

Figure 5.1: Town of Grand Isle Facilities and Utilities
Source: VGIS

CHAPTER 6
ENERGY CONSERVATION

Grand Isle is located on an island in the middle of Lake Champlain. The Town's relatively flat terrain is wind-swept much of the year. The winters can bring temperatures below zero and the summer high can be near one hundred. In addition to the climate, the Town's rural transportation system contributes to energy costs. Because of these factors, energy efficiency and conservation are important considerations in developing a comprehensive and sustainable energy plan for Grand Isle.

The Town is not involved in providing electrical service, gas service or other fuel supply for its residents. Energy for the Town is provided by private utility companies and suppliers based primarily off-island. Currently there are no locally identified unmet needs or scarcities associated with energy resources; however, prices of petroleum-based products are approaching all-time highs and are very unstable. The cost of electricity (provided by Vermont Electric Cooperative) has been an increasing concern in recent years. Local data on energy costs and uses are limited.

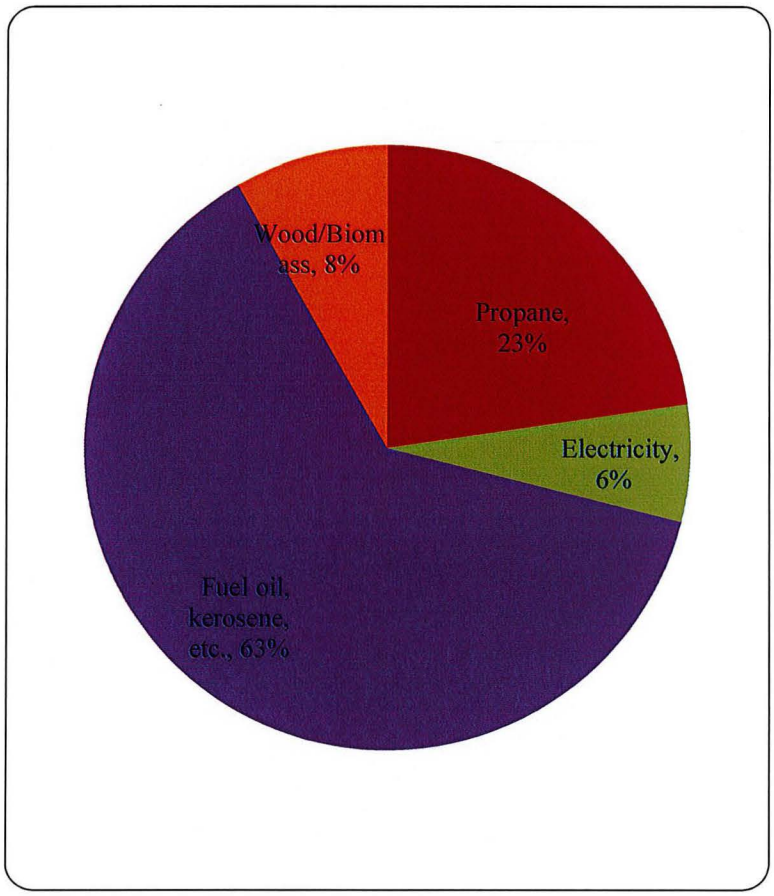

Figure 6.1: Primary home heating fuel used by households in Grand Isle in 2000; Source: U.S. Census Bureau

The demand for thermal energy accounts for approximately 27 percent of statewide energy consumption. Across Vermont, a significant majority of homes are heated with fuel oil. On a dollar-per-MMBtu basis, fuel oil is among the least efficient heating sources available. As it is delivered by truck, it also burdens local transportation infrastructure and increases carbon emissions. According to the 2000 census, fuel oil and kerosene are the most popular home heating fuels (482 units). Bottled, tank, or LP gas are second with 174 units; wood and electricity follows with 63 and 48 units respectively. With the recent volatility of petroleum prices and adverse environmental impacts associated with burning fossil fuels, this profile is unsustainable. The remainder of the households heat with other fuels. There are also a small number of homes known to use solar heat.

MUNICIPAL BUILDING ENERGY AUDITS

In 2010, Grand Isle participated in a program offered by the Northwest Regional Planning Commission through the Energy Efficiency and Conservation Block Grant to conduct energy audits on Town owned buildings.

The Town Office

The Grand Isle Town Office building is about 40 years old. Ashton Thermal determined during that energy audit the building is modestly leaky which means that some improvements can be made but the building's performance is not far from the accepted efficiency of about 40% recognized by the EPA. The main safety concern with the building is that the chimney is not structurally sound and should be investigated to determine if it will pull away from the building and collapse. Recommendations include improving the air/ heat loss and insulation of the building. Additionally, upgrading the light fixtures and utilizing energy star light bulbs will add to energy savings. It is recommended that the window unit air conditioner be removed and the space be sealed to minimize heat loss through its vents since a central cooling system has been installed. The heat ducts were determined to be leaky and should be repaired as well as cleaned to improve indoor air quality.

The cost of insulation and air/heat loss improvements is estimated to be $14,650.85. Additional safety and health improvement cost would be $1,094. The total cost to complete all recommendations for the retro-fit is $15,744.50. These improvements would result in about $731 savings per year. It would take about 20 years to earn back this amount in energy savings. If all recommended actions were completed, it would save 188 KWh annually and 37 MMBtus representing a decrease of 3 tons of CO_2 emissions.

Grand Isle is in the position to take the lead in promoting energy conservation. Making municipal buildings more energy efficient can save the municipality money in heating and lighting while helping to protect the environment. Improvements that the Town has completed in the past include replacing the oil heating system at the Grand Isle School in 1993 with a woodchip fired heating system, which is a local, low cost and maintenance heating fuel option. The Town Garage has also been converted to be heated by a wood burning stove.

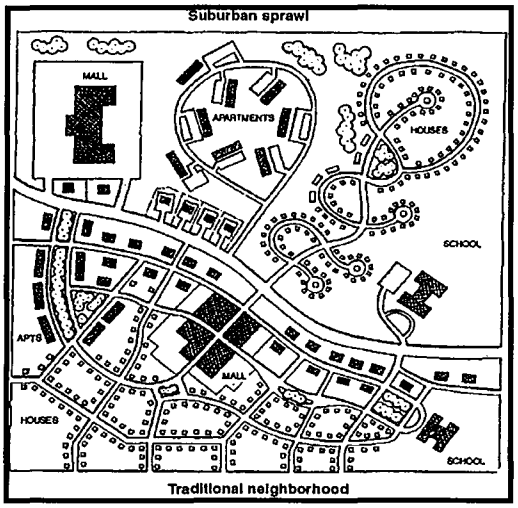

Figure 6.2: Neighborhood Development

Subdivisions and developments in the Town that come under Act 250 review are required "to reflect the principles of energy conservation and incorporate the best available technology for efficient use or recovery of energy." The Town does not currently have a building code and does not currently plan to adopt one, however new construction is expected to meet state energy requirements. Site plan review under the zoning regulations enables the Development Review Board to impose conditions that protect the utilization of renewable energy resources.

ENERGY EFFICIENT DEVELOPMENT

Energy efficient development means more than just well-constructed buildings utilizing the best technology. Clustered development provides for greater efficiency. Fewer miles of road are needed to connect the homes or commercial buildings, school buses and snow plows travel smaller distances, and electric utility lines need not extend as far. In addition, other public services such as fire and ambulance or sewage and water are all made more efficient by "well planned" development. Traditional neighborhood designs mix uses and necessitate fewer miles traveled to reach services as depicted in Figure 6.2. Carefully considered placement of a building on a lot adds to efficiency by increasing passive solar gain and decreasing wind pressures.

While the clustering of development helps decrease transportation costs, it is not the only answer. Most Island residents travel to Chittenden or Franklin Counties for employment, entertainment, medical needs, or supplies. Carpooling is beneficial for these residents not only because it conserves fuel, but also because it reduces wear and tear and maintenance costs on individual vehicles and roads. As shown in Table 6.1, 10.9 percent of Grand Isle's workforce carpooled to work in 2009.

One important component of any carpooling program is the provision of a location where carpoolers can leave their vehicles. Currently, there is no formal designated park and ride lot in Grand Isle County. The closest lot designated by the State of Vermont, near exit 17 on 1-89, is often very full, even with the recent improvements. This makes it necessary to either develop a new formal park and ride lot, or encourage the use of informal park and ride lots. These are parking lots at locations such as churches, where the mostly weekday park and ride needs do not conflict with the parking needs of the particular location.

Table 6.1: Means of Transportation to Work

	Number	Percentage
Drove Alone	1066	76.1
Carpooled	152	10.9
Public Transportation	11	0.79
Walked	13	0.93
Bicycle	6	0.43
Other Means	14	1.0
Worked at Home	138	9.9
Workers 16 and over	**1,400**	**100**

Data Source: U.S. Census Bureau American Community Survey, 2005-2009

ALTERNATIVE ENERGY DEVELOPMENT

Locally generated power from alternative sources, including but not limited to solar, wind, biomass, and methane, can provide cost saving and environmental benefits for Vermont municipalities. The more power produced locally (on a household or community basis), the less dependent communities, and the State as a whole, are on purchasing non-renewable and/or non-locally produced power. This in turn reduces the impact of volatile electric and heating fuel costs on the community and the state as a whole. Net-metering locally generated power back into the grid provides an opportunity to offset some costs and potentially generate revenue. Net-metering power requires a Certificate of Public Good under Act 248 and is exempt from local zoning, though the Public Service Board usually considers local Town plans

and regulations in the review. Locally generated power that does not connect to the grid is subject to local zoning. While Grand Isle encourages alternative energies as clean, renewable sources of power, the development and operation of power generation facilities should not place an undue burden on wildlife, ecological systems, water and/or air quality, scenic qualities and views, and cultural features in Town. In addition, measures should be taken to minimize or eliminate significant noise impacts resulting from the construction or operation of facilities. With appropriate and careful review, the development of alternative power generation facilities will help diversify and strengthen Grand Isle's energy portfolio.

GOALS

1. Encourage energy efficiency by making available information regarding groups and organizations in the State, which can provide consumers with information on how to become more energy efficient.
2. Promote car-pooling among residents; encourage the use of informal park and ride.
3. Encourage public transportation.
4. Make Town owned buildings as energy efficient as possible.
5. To help conserve public resources, encourage clustered and mixed-use development wherever possible, and encourage energy efficient site design.
6. Encourage the development of alternative and renewable energy resources.

ENERGY OBJECTIVES

1. Work with the surrounding Towns and Northwest Regional Planning Commission to encourage VT Agency of Transportation to investigate the creation of commuter parking lots in Grand Isle County.
2. Review Town energy costs on a regular basis to identify any areas for cost savings.
3. Participate in Public Service Board proceedings where appropriate to help ensure utility costs remain affordable for residents and businesses and that new infrastructure is in conformance with the Grand Isle Town Plan.
4. Review regulations for development review for wind turbines to ensure consistency with State statute.
5. Encourage residents to conduct energy audits on their homes through the use of promotional media and education.
6. Promote car-pooling and raise awareness of programs such as GoVermont.
7. Pursue efforts with adjoining Towns to establish and raise awareness of Park and Ride lots.
8. Encourage bicycling and walking to school and ensure that necessary infrastructure, education, and programs are in place to accommodate these modes of transportation.
9. Explore opportunities to generate local, community-scale, and clean energy such as wind, solar, and geothermal.

CHAPTER 7
HOUSING

The 2010 census showed a total of 1,198 total housing units in Grand Isle. Of these units, 670 were owner-occupied, 184 were renter occupied, and 344 were vacant. Of the vacant units, 280 were seasonal or recreational housing units, 23 were classified as for sale units and 17 were classified as rental units. Total housing units increased by over 14 percent from 2000 to 2010, while population has increased at a lower rate of approximately five percent. More information regarding land transfers and zoning permits are contained in Appendix One.

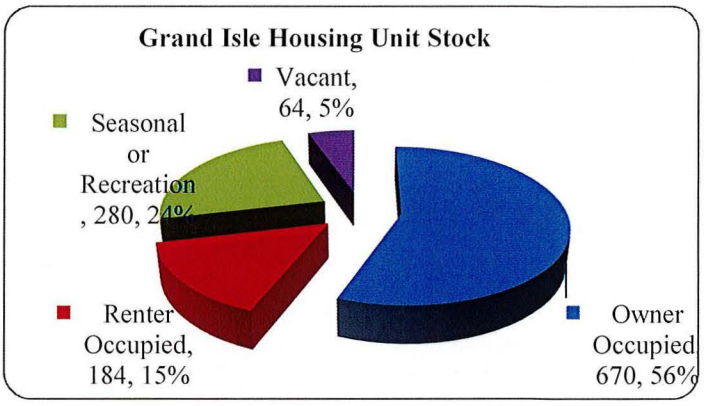

Figure 7.1: Housing stock breakdown, 2010; Source: U.S. Census Bureau

The majority of Grand Isle households are families (72 percent) and the average household size was 2.42 people in 2010 (down from 2.53 in 2000). The largest age-group of Grand Isle's population is from age 45 to 49 years at approximately 30.6 percent (see population pyramid in Chapter 12, Appendix 1), which will typically range from families with school age to high school age children in need of larger homes to "empty nesters" who are ready to downsize to smaller homes or condominiums. In addition, the senior population is increasing and is expected to continue increasing as people in their thirties and forties age. This larger population of seniors will need a variety of senior housing and assisted living arrangements. Senior housing opportunities in Grand Isle are discussed later in the chapter. The best available data from the 2010 U.S. Census indicates that there is currently a diversity of homes (both for ownership and for rent) of all different sizes in the Town of Grand Isle to meet the needs of families and non-families of different sizes and types; however this data does not take into account affordability.

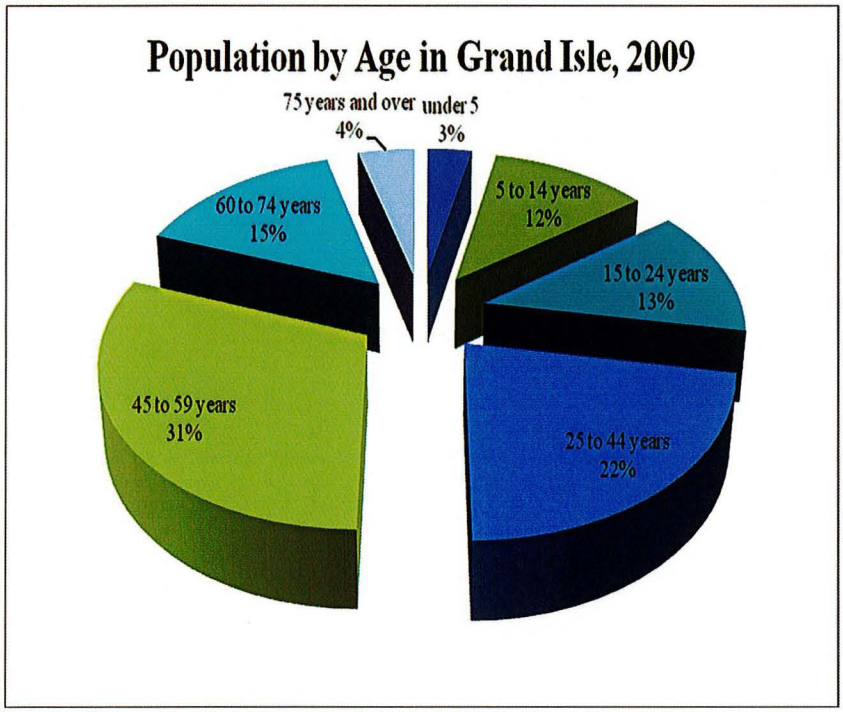

Figure 7.2: Population breakdown in Grand Isle in 2010; Source: U.S. Census Bureau

Housing availability in Grand Isle is not a problem for those in the upper levels of income; however, the supply of affordable housing is increasingly becoming an issue for median and lower income households. While adequate numbers of existing homes in higher price ranges routinely are available for sale, affordable housing can be difficult to find due to a number of factors. Affordable housing shortages in neighboring Chittenden and Franklin Counties cause the workforce in those two counties to seek housing on the Islands and the resultant increase in demand continues to push up the price of housing, as do increasing construction and development costs. At the same time, income has failed to keep pace with the rising costs of housing. Despite the economic downturn of 2008 through the present, home prices in Grand Isle County have not fallen significantly, and income has remained relatively stagnant.

Figure 7.3 shows the average and median sale prices for primary residences in Grand Isle Town. For data collected from April 1-December 31 in 2011, the median sale price for a primary residence was $196,000, while the average sale price was $304,792. Although the gap between the median and average sale price steadily increased each year from 2000 to 2005, indicating that the range in sale price was increasing, particularly on the high end, this gap has fluctuated over the past six years and has become smaller since 2005. While in 2010 the median and average sale prices returned to being very comparable, in 2011 the gap broadened significantly. Due to the sharp decrease in the number of total homes sales in 2010 and 2011, this may not represent a comparable change in the overall market.

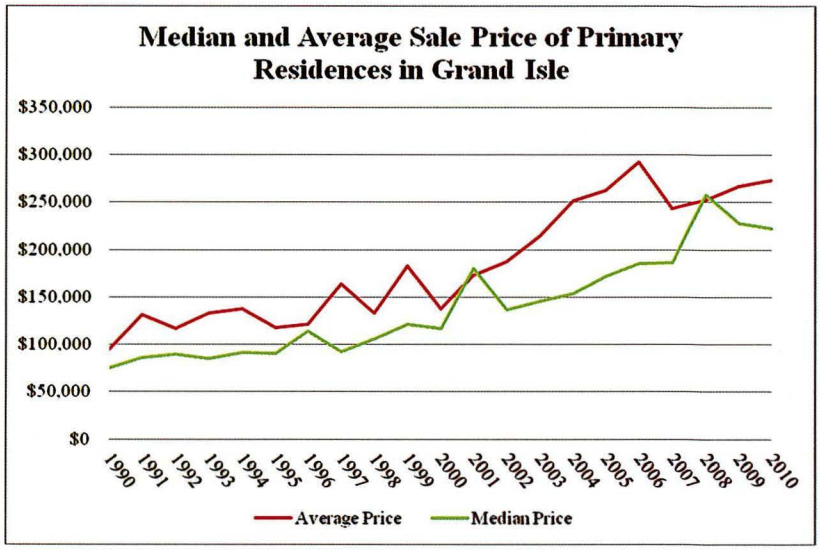

Figure 7.3: Median and average residential sale price Grand Isle in 2010;
Source: Vermont Housing Data

A snapshot of the Town's 2011 property sales data shows changes reflecting the real estate market at large. For the first time in many years, there were three property foreclosures, two on primary residences and one on a secondary residence. Almost half of 2011 real estate transactions were of secondary residences (or land used for camper parking). Lakeshore property, accounting for 29 percent of 2011 property transactions, had a median sale value of $457,750, significantly higher than non-lakeshore property, which had a median sale value of $90,000.

The State defines "affordable housing" as housing that consumes no more than 30% of a household income earning no more than 80% of the county median or metropolitan statistical

area (MSA) median income, if it applies. Housing costs include not only the mortgage, but taxes and insurance, as well, for owner-occupied units. In the case of rental units, the cost is defined as rent plus utilities. All of Franklin and Grand Isle County have recently been added to the Burlington-South Burlington MSA; however, data has not been updated to include the two counties and therefore affordability analysis uses the Grand Isle County median income. Further, using the MSA income will skew affordability analysis in Grand Isle Town due the much higher median income in Chittenden County.

In 2009, the median household income in the Town of Grand Isle was $67,941, in comparison to $56,202 in Grand Isle County as a whole. The median family income was $75,529, in comparison to $66.667 in Grand Isle County as a whole. Low income households are those in which income is 80% of the median, while very low incomes are those at or below 50% of the median. Within the last year, approximately 3.40 percent of families and 5 percent of individuals were considered below the poverty level. According to the 2000 U.S. Census, approximately 163 households in Grand Isle were considered as below median income but not low income; an additional 236 were low income; and of those 154 were very low income. A total of 81 individuals were under the poverty level.

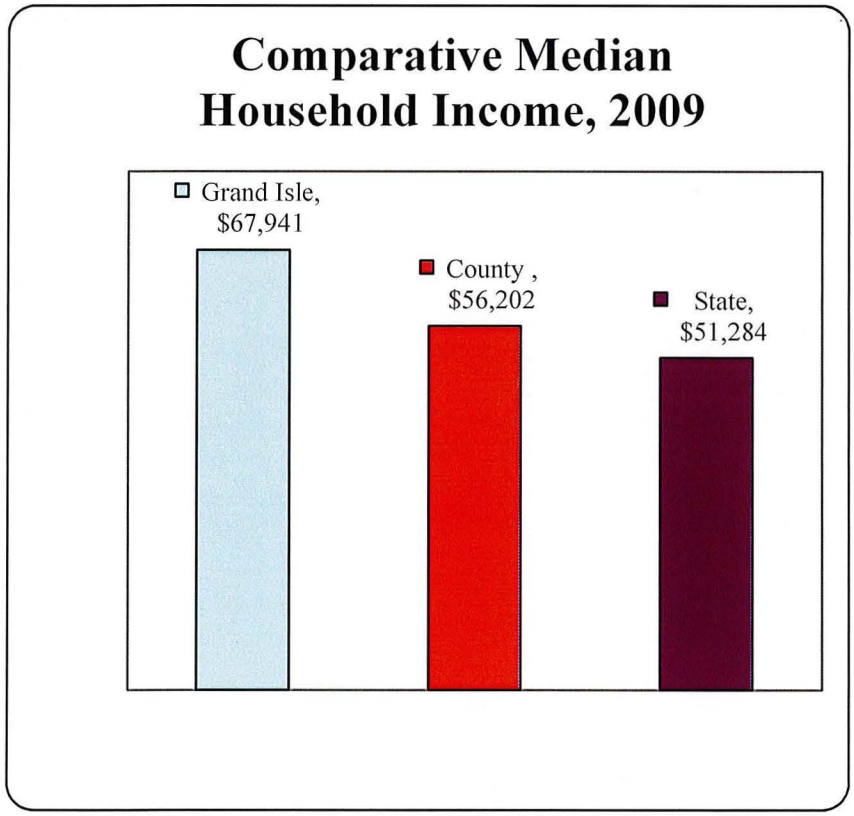

Figure 7.4: Comparative median household income, Grand Isle in 2009;
Source: 2005-2009 American Community Survey

Using the State definition of affordable housing, the following two tables illustrate the income available for homeownership and for rent each month for each of these groups, median sale price for year-round primary dwellings or median gross rent, and the difference between the two, known as the affordability gap. The maximum affordable mortgage for the median income is close to $4,500 less than the median price of homes sold in Grand Isle during 2009, while for lower incomes the gap gets even larger. Rental housing in Grand Isle appears to be more affordable for median and low incomes, while very low incomes have a gap of 44 dollars. As of 2009, the median gross rent as a percentage of household income was approximately 38 percent (Figure 7.5), an increase from 30 percent in 1999.

Table 7.1: Affordability Gap for Home Ownership in Grand Isle								
	Med. HH Income (2009)	30% of Income Per Month	Taxes & Insurance	Income Available for Housing per Month	5% Down Paymen t	Maximum Affordabl e Mortgage	Median Sale Price Primary Residence s (2010)	Owner Affordability Gap
Median	67,941	1,698	240	1,458	17,803	217,500	262,500	(4,500)
Low (80%)	54,352	1,359	240	1,119	15,175	181,000	262,500	(81,500)
Very Low (50%)	33,970	850	240	610	10,207	112,000	262,500	(150,500)
Data Source: Median Household Income (2010 U.S. Census); median home sale price (Vermont Housing Data); taxes and insurance (NRPC estimate); all other figures computed by NRPC								

There is currently one development of subsidized affordable housing in Grand Isle on Isle Lane. The development provides 16 apartments (5 one bedroom, 8 two bedroom, and 3 three bedroom), one of which is market rate and the other 15 of which are available to families making 50 to 60 percent of the median income. As the disparity between the median income and the median sale price increases, the need for more affordable housing will also increase.

Table 7.2 Affordability Gap for Renting in Grand Isle			
	Income Available for Rent/ Month*	Median Gross Rent (2000)	Rental Affordability Gap
Median	*731*	*775*	(44)
Low (50 - 80%)	365-584	775	(410) – 191)
Very Low (≥50%)	365	775	(410)
Data Source: American Community Survey 2005-2009 *Median renter income $29,250. Average monthly income is approximately$2,437, 30% is approximately $731 per month.			

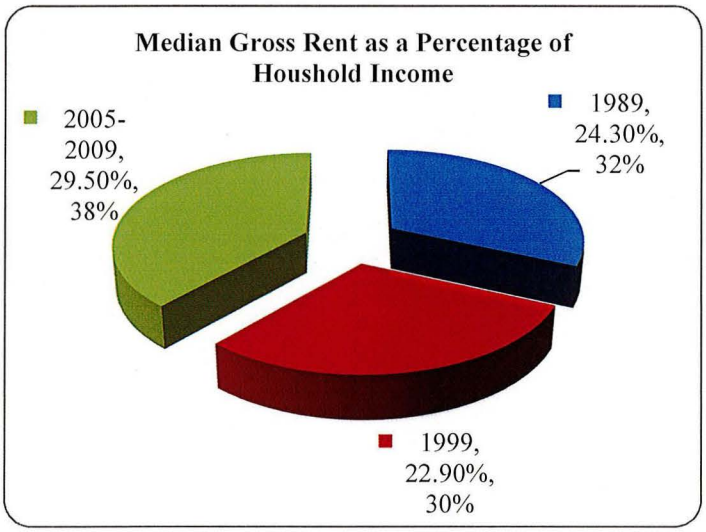

Figure 7.5: Median gross rent as a percentage of household income, Grand Isle in 2009; Source: 2005-2009 American Community Survey

There are at present, 24 units of subsidized elderly and disabled housing in Grand Isle at the Round Barn Homestead on Faywood Road. These units were built in 1980, and are consistently at 100% occupancy. CIDER, Champlain Islanders Developing Essential Resources, is an organization working in Grand Isle County to help support the needs of elderly residents. CIDER has identified a need for additional elderly housing in the county, and is working with several regional partners, including United Way, Champlain Housing Trust, Cathedral Square Corporation, and the Lake Champlain Islands Chamber of Commerce, to assess the need for an assisted living facility in the Islands. CIDER

intends to complete a marketing and feasibility study to further assess the type of facility, best location, and other details before seeking out funds and developers for the project.

The Town recognizes that there is a need for affordable housing for low and moderate income households. The topography of the Town and its limited septic capacity makes it difficult to plan land use that supports traditional affordable housing. When possible to develop affordable and elderly housing, it should be located conveniently near community services and the village area to make it easier for residents to access needed services without a vehicle. In addition, changes in Chapter 117 have required Towns to allow for limited size accessory apartments in single family dwellings and enables Towns to be less restrictive of this issue. The Grand Isle Bylaws have been amended to allow the owner of the property to live in either the primary dwelling or the accessory dwelling. By applying a less restrictive standard, accessory apartments can provide a viable and affordable option for low income residents and for elderly residents to remain in Town on a commonly fixed income.

GOAL

1. Encourage the development of safe and affordable housing of a variety of types that meet the needs of diverse social and income groups in Grand Isle.
2. Support affordable and suitable housing development for households and individuals with special housing needs, including the elderly, those with disabilities, single parent households, and low and moderate income households.
3. Support housing agencies, private lenders, developers, realtors, and builders in providing safe, affordable housing.

OBJECTIVES

1. Support innovative approaches for affordable housing.
2. Encourage cost effective land use patterns.
3. Promote mixed income/mixed use development, including planned unit developments.
4. Encourage siting of new housing development to preserve the greatest amount of open space and blend harmoniously with the natural environment.
5. New housing should be encouraged conveniently near the village area and community services.
6. Sites for multi-family and manufactured homes should be readily available in locations similar to those generally used for single-family dwellings.
7. Encourage accessory apartments within or attached to single family residences.

ENERGY OBJECTIVES

1. Provide information to new property owners and developers about utilizing energy efficient technology and designs when constructing new housing units.
2. Consider creating incentives such as density bonuses for the construction of energy-efficient designs in addition to other national and state programs.

CHAPTER 8
TRANSPORTATION PLAN

Transportation systems play a critical role in moving goods, people, and services, therefore affecting the local economy and individual quality of life. Effective interconnected transportation systems decrease travel time and congestion for drivers, providing improved mobility, which in turn can positively affect the local economy. Such efficient systems provide interconnected transportation routes through a variety of modes: roads, public transportation, bicycle and pedestrian paths. The Town's transportation plan outlines how existing forms of transportation should be maintained and improved and how new forms of transportation should be incorporated. Transportation is inter-related with many other sections of this plan, including land use, energy, recreation, and housing. Due to the significant number of commuters in Grand Isle, the roadways continue to be the area of most concern when planning for transportation.

TOWN ROAD SYSTEM

As seen in Figure 8.1, the Town of Grand Isle has a Town road system made up of 38.855 miles of State Highways and Class 2, 3 and 4 Town Highways as shown on the Transportation Map. The Town road system provides good circulation and is reasonably well maintained. In addition to the Town roads, a federal and a state highway pass through Grand Isle. U.S. Route 2 serves as the main North/South route, and VT Route 314 provides access to the Grand Isle Ferry and many residences. The federal and state roads are generally well maintained also, although increases in bicycle and truck traffic have made the narrow shoulders an increasing concern in recent years.

Table 8.1: Road Mileages in Grand Isle

State/Federal Highways:	Miles
U.S. Rt. 2	6.274
Vt. Rt. 314	3.901
Town Highways:	
Class 1	0.000
Class 2	9.310
Class 3	18.230
Class 4	1.140

The drawbridge connecting Grand Isle to North Hero is showing signs of age. The Vermont Agency of Transportation (VAOT) plans to replace the bridge; however, the project is currently in the engineering phase and construction is not estimated to begin until 2016. The Town currently has no prioritized plan for improvements to Town roadways, but is working to systematically pave all Town roads.

Most of the roadways through Grand Isle offer scenic views along their entire length, although the Town has not officially recognized any areas of scenic value. VAOT received a federal grant to conduct a scenic byway study around Lake Champlain. In northwestern Vermont, the effort focused on Grand Isle County. State designation has been achieved for Rt. 2 in Grand Isle. Several efforts to improve transportation and tourism while preserving the cultural, natural and scenic resources of the region have resulted from this designation.

As discussed in the Energy Chapter, there is currently no official park and ride lot in Grand Isle County. According to the 2009 US Census Bureau Data (Longitudinal Employment-Household Dynamics), 797 Grand Isle residents commuted to work outside of Grand Isle County. Of these commuters, 47 traveled to Franklin County and 628 traveled to Chittenden County. In addition, 86 residents commuted to other Island Towns, while 57 worked within Grand Isle.

Table 8.2 Commuter Flow Data

Place of Employment	Number	%
Grand Isle Town	57	6.1%
Other Grand Isle Co.	86	9.1%
Burlington	216	23.0%
So. Burlington	122	13.0%
Essex Town	87	9.3%
Williston	69	7.3%
Colchester	62	6.6%
Winooski	27	2.9%
Other Chittenden Co.	45	4.8%
Franklin Co.	47	5.0%
Washington Co.	43	4.6%
Lamoille Co.	12	1.3%
Other Vermont	40	4.3%
Out of State	19	2.0%
Other	8	0.9%
Total Jobs	940	

GRAND ISLE FERRY

The Grand Isle Ferry is privately owned by the Lake Champlain Transportation Company. The ferry provides a vital transportation and economic link between the states of Vermont and New York. The Grand Isle Ferry is the only ferry across Lake Champlain which operates year-round. In 1999, the ferry also began 24-hour operations. Without the ferry, travelers needing to cross the lake would need to travel to the recently rebuilt Crown Point Bridge to the south, or Rouses Point Bridge to the north, adding many miles to the trip. Another ferry runs seasonally from Charlotte, VT to Essex, NY. The ferry in Grand Isle contributes substantial additional auto and truck traffic to Route 2 and 314. The ferry parking lot has been improved to accommodate more vehicles and plans have been approved to include truck and bus lanes. The Department of Homeland Security has required that the ferry dock area be expanded.

PUBLIC TRANSPORTATION

There is currently no bus service between communities in the Champlain Islands and communities on the Vermont or New York mainland. The nearest regular public bus service is the Link Express, which leaves from the Park and Ride near exit 17. The Link then travels to Burlington, Essex and St. Albans from there however a car is required to travel the distance from Grand Isle to the Park and Ride. A significant number of Islanders commute for work, school and services to the Burlington area. Residents would greatly benefit from public transit that services Island communities. Champlain Islanders Developing Essential Resources (CIDER) provides bus service to meet the ongoing need for transportation for senior citizens and the disabled. In 2009, CIDER transported 174 individuals and made 9,482 trips.

Two airports are in close proximity to Grand Isle. Burlington International Airport and the airport in Plattsburg, NY both have international passenger flight service. Additional flight services are available at the Franklin County Airport. Rail service through the Islands was discontinued in 1961. Passenger rail connections are available in St. Albans, Essex Junction, and Plattsburgh, New York.

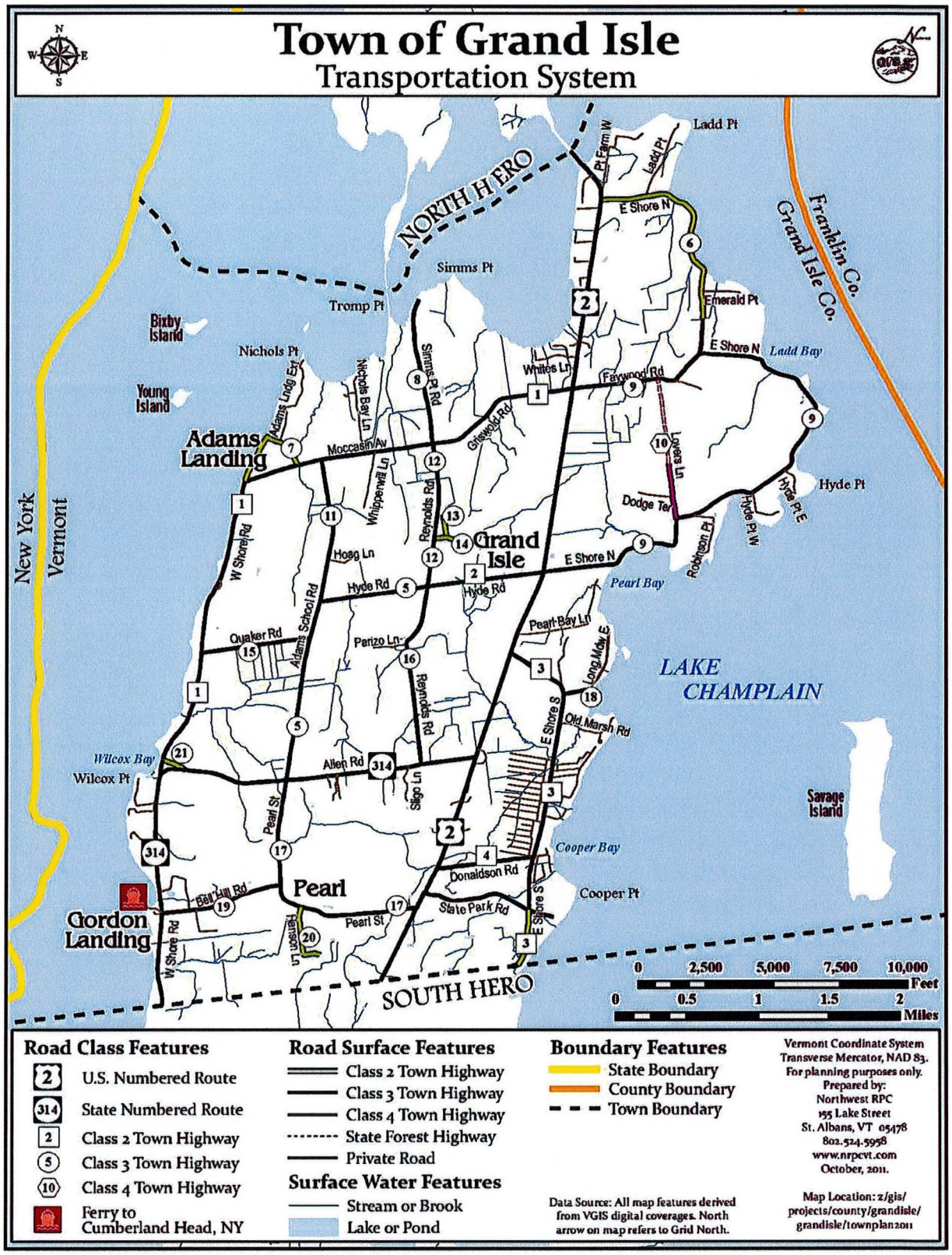

Figure 8.1: Town of Grand Isle Transportation System
Source: VGIS

WALKING, BIKING AND OTHER TRANSPORTATION

Creating more pedestrian-friendly village centers can provide safe alternatives to driving to local services. Increased opportunities for walking or biking in a village center will also attract more business to shops, grocery stores and galleries, etc. Currently, a great deal of biking and walking activity takes place along the roadways; however the infrastructure to support these modes of transportation can be improved. There is a need to continue to expand the Town's recreational facilities with a system of walking paths and hiking trails. For example, Lake Champlain Bikeways is an organization that has designated an on-road bike path around Lake Champlain. A portion of that route travels through Grand Isle. Several organizations are actively examining additional bike routes that would include segments in Grand Isle. All bicycle traffic in the Town currently travels on roads also open to automobile and truck travel. This potential increase in bicycle use could magnify existing roadway user conflicts. In 2016, the Grand Isle Recreation Committee opened a .8 mile walking trail at Donaldson Park.

The NRPC, through VAOT works on transportation issues in the region. The Commission's Transportation Advisory Committee examines issues of local and regional importance and identifies transportation improvement priorities for submission to VAOT. These priorities are then considered for state and federal funding. Grand Isle participates in this program with a representative on the Transportation Advisory Committee, and will continue to participate in the identification of local priorities, which can be considered regional projects. Currently the Grand Isle- North Hero Drawbridge is considered a high priority and a project of regional significance.

LOCAL ROAD ORDINANCES

The Town of Grand Isle Ordinance Regarding Construction and Acceptance of Public Highways was adopted in 1987 and updated in 2005 and 2011. The Grand Isle Private Road Standard was adopted in 2005 and has been incorporated into the Bylaws. All new development roads constructed as part of a subdivision or other development must adhere to these standards. The Town of Grand Isle is under no obligation to accept any new roads.

In November 2011, the Selectboard adopted the Town of Grand Isle Town Road and Bridge Standards which apply to the construction, maintenance and repair of all town roads and bridges. Any new road, whether or not that road is proposed to be conveyed to the town, must be constructed according to the minimum of these standards.

Transportation studies, such as *Safety Effectiveness of Highway Design Features* (1992, Federal Highway Administration), have shown that the number of accidents increase on a roadway as access points increase. Roadways in rural areas with no access control have over twice the number of accidents per vehicle mile traveled as rural roadways with full access control. Even partial access control can reduce accidents by one third.

New development within the Town shall be designed in such a manner as to eliminate the need for unnecessary curb cuts or access driveways off state or Town roadways.

It is recognized that cul-de-sacs provide for a type of residential development enjoyed by some residents, and at times may be necessary to avoid impact on resources. Subdivisions designed with cul-de-sacs or dead end roads may show right-of-way access to adjacent parcels for use as a future trail or roadway connection.

EXIT 17 INTERCHANGE CONCERNS

The primary access point for traffic to and from Grand Isle is the Exit 17 interchange in Colchester between Route 2 and Interstate 89. Tourists (other than from Canada) and residents who commute to jobs in Chittenden County must pass through this interchange. The Chittenden County regional plan and the Colchester Town Plan call for increased development near this interchange, including medium-density residential and retail commercial uses. This interchange is currently at capacity during morning and evening peak periods, and during popular tourist periods. Increased traffic at this interchange consistently "bottles up" access to and from Grand Isle and the other island Towns. Traffic lights have been added at these intersections to better control the flow of traffic however it does not take care of all concerns associated with the interchange. The 2025 Chittenden County Metropolitan Transportation Plan has identified this Exit as in need of safety enhancements to improve accessibility; however, there is no proposed project on the table to date.

COMPLETE STREETS

In July 2011, the Vermont Complete Streets Bill (H.198, Act 34) was signed into law. The principle underlying the Complete Streets concept is that streets should safely accommodate all transportation system users, regardless of age, ability, or what mode of transportation they prefer – walking, biking, driving, or use of transit. As approximately half of Vermont residents are unable to drive primarily due to age (those under age 16 and the elderly), disability, and economic constraints, the purpose of the Complete Streets bill is to ensure that the needs of all transportation system users are considered in all state and municipally managed transportation projects and project phases. This includes planning, development, construction, and maintenance, except in the case of projects or project components involving unpaved highways. The policy applies when new roads are being constructed, and when paved roads are being reconstructed, rehabilitated, or otherwise maintained. The Vermont Agency of Transportation will continue to develop clear guidelines and implementation measures regarding Complete Streets.

GOALS

1. Maintain a functional, economic, scenic, well laid out network of roads.
2. Establish a system of walking trails, hiking paths and recreation paths.
3. Work with the organizations conducting transportation studies or projects within the Town. These include: Lake Champlain Scenic Byways, Green Mountain Transit, the Northwest Regional Planning Commission, and Lake Champlain Bikeways.
4. Reduce air pollution by encouraging public transit and carpooling.

OBJECTIVES

1. Work in conjunction with the Recreation Committee and other local organizations and committees to establish a system of multi-use paths, hiking trails, and recreation paths.
2. Determine whether existing transportation is adequate for the needs of senior citizens.
3. Require developers and property owners to provide new or expanded roads, which meet Town standards, are appropriate in design to the project or development they serve.
4. Maintain a road maintenance and improvement program for the repair and/or rebuilding of the existing road network in an orderly cycle.
5. Maintain existing roads and public rights-of-way along the lakeshore. The location of these roads and rights-of-way along the lakeshore is an integral part of the Town's unique island character.
6. Work with the NRPC and VAOT to ensure improvements to Route 314 and Route 2.
7. Explore transportation options for school children, including the Safe Routes to School Program.
8. Continue to lobby VAOT and the Chittenden County Metropolitan Planning Organization to ensure safe and adequate traffic flow in and out of the county.

ENERGY OBJECTIVES

1. Continue to examine the possibility of a recreation path connecting the Towns of Alburgh, Isle La Motte, North Hero, Grand Isle and South Hero to provide not only an invaluable recreational facility but also an alternate transportation route for residents and tourists.
2. Identify locations in Town that are in need of sidewalk or multi-use paths to improve and increase transportation options.
3. Continue to work with Towns and organizations within the region to establish a formal commuter Park and Ride lot.
4. Promote the use of informal Park and Ride lots in the region and carpooling.
5. Explore options for linking multiple-modes of transportation.

CHAPTER 9
PRESERVATION PLAN

Grand Isle is located in a unique setting. It is one of Vermont's few island Towns. Grand Isle is situated in the middle of the largest freshwater body in New England, and the sixth largest freshwater body in the United States. The natural beauty which surrounds the Town is an integral part of the Town's very identity and is a breath-taking, irreplaceable resource. This setting has been the Town's chief calling card for settlement since 1779. It remains so today.

The preservation of this unique setting is of vital importance to the community. This does not mean that this preservation should be at the expense of other equally important goals. Rather, it is meant to be a goal which should be balanced with other goals in the plan.

It is important to consider all of Grand Isle's natural resources, for they make up the character and identity of the community. Other Town resources are the homes and businesses, the community groups and volunteers. A major resource of Grand Isle is its people.

Development poses the greatest threat to these resources. As more land is developed for residential use, wildlife habitats become smaller and the Town's historic character is lost. As more and more people commute to other communities for employment, their connection to Grand Isle diminishes. This chapter will focus on the natural, cultural and historic resources which are important to the residents of Grand Isle, and help to define the community.

CONSERVATION PLANNING

Lake Champlain, fertile soils, wildlife and scenic views are but a few of the Town's irreplaceable natural resources integral to our rural character. Fields and woodlands, marshes, wetlands and streams, rocky shoreline and small islands provide a wide variety of habitats for a diversity of wildlife. Figure 9.1 depicts the general location of natural areas, including agricultural soils, critical areas and wetlands that have been identified within the Town boundaries. Specific boundaries must be determined from official maps and/or field observations.

Large areas of land remain undeveloped in the Town, including a total of approximately 1,138 acres of public and conserved land (VT Conserved Land Database 2008). As more land is developed, the impact of this development on the natural environment becomes a matter of real concern. This impact should be monitored and interpreted. To do that, information should be gathered periodically and policies reevaluated based on the information gathered and specified criteria.

Residents depend on lake water and the ecology of the islands for their livelihood and well-being; maintaining the quality of the natural environment is crucial.

LAKE CHAMPLAIN

Lake Champlain is Grand Isle's principal natural resource (the lake's importance for recreation and transportation is noted in other chapters). The lake is the Town's main source of drinking water, as well as the Town's principal attraction for private, public and commercial recreation. The lake is also a source of visual and aesthetic enjoyment.

Much of the shoreline of Lake Champlain is experiencing erosion due to clearing of surface vegetation, uncontrolled surface run-off and increased development along the lakeshore. In addition, loss of vegetation due to the 1998 ice storm has in some cases accelerated this erosion. Many sheltered shoreline areas are experiencing an increase in weed and algae growth. This increase in weed and algae growth is due to many causes including some development and agricultural practices, pollution caused by failing septic systems, and storm water runoff. Some of these causes can and should be managed and controlled at the local level through planning and zoning practices.

The very natural features that help to define the Town's character are also susceptible to extreme weather events, significantly affecting island life. Excessive rain and severe floods swept across northern Vermont and the Champlain Valley with Lake Champlain reaching record high levels (103 feet) in the spring of 2011. A federal disaster (DR-1995) was declared for Addison, Chittenden, Essex, Franklin, Grand Isle, Lamoille and Orleans counties on June 15, 2011.

Several efforts are underway to address water quality in Lake Champlain which will have an impact on water quality along Grand Isle's shorelines. Vermont has adopted, along with Quebec and New York, a plan for reducing phosphorus in Lake Champlain. This plan was rejected by the Environmental Protection Agency and is currently being revised. In addition, the Department of Environmental Conservation completed a watershed planning effort for Northern Lake Champlain that resulted in a draft plan for the watershed in the next year. Efforts are also underway to restore some of the natural flow to Lake Champlain by removing causeways, such as the Carry Bay causeway in North Hero.

The Lake Champlain Basin Study identifies Young and Bixby islands, commonly known as The Sisters, as important wildlife habitats, particularly for waterfowl and other birds. Accessible only by boat and therefore isolated from the impact of development, The Sisters provide essentially undisturbed sanctuaries for wildlife, however in recent years the cormorant colonies have displaced native species.

Savage Island is approximately 207 acres in size and remains currently under single ownership. Current use is as a single family residence and a sheep farm. Areas which are not in agricultural use provide important wildlife habitats. Current use of the island is an excellent example of the harmonious balance that can exist between limited development and wildlife.

Long Point Island is approximately .81 acres, located north of Adams Landing and 2.95 miles from the Town of Grand Isle village center.

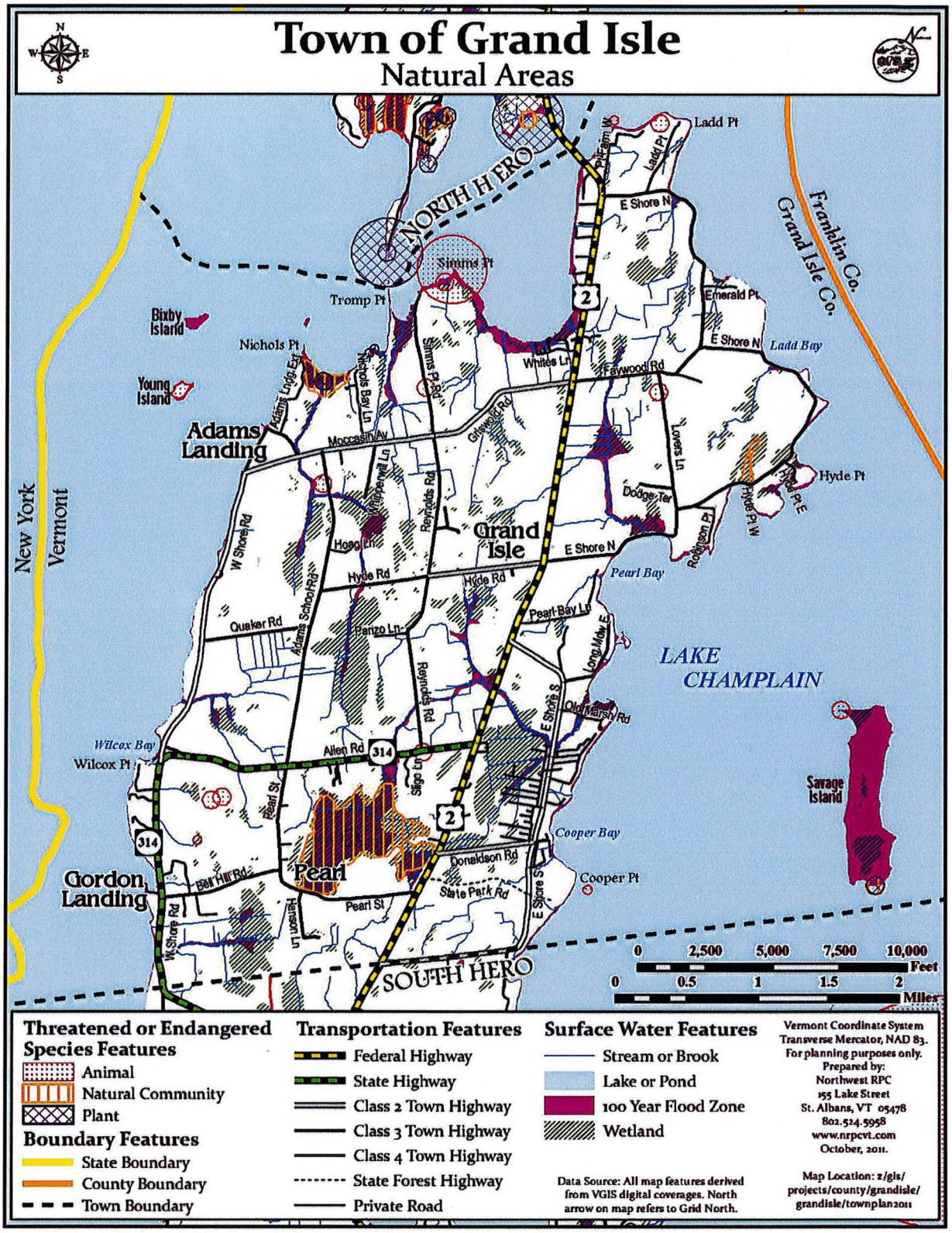

Figure 9.1: Town of Grand Isle Natural Areas
Source: VGIS

MARSHES, SWAMPS, WETLANDS, WILDLIFE AND FISH HABITAT

Wetlands regulate stream discharge and are crucial to maintaining an even surface water discharge. Wetlands store large quantities of water during periods of high run-off and gradually release water during periods of low-flow. Loss of this storage capacity will affect stream behavior by increasing the potential for flooding during rainy periods and reducing stream flow during periods of drought.

Wetland areas are also important in the maintenance of water quality. Biological activity in wetland areas absorbs and assimilates nutrients and helps purify the water which is discharged. Marshy areas such as the Pearl Swamp provide important wildlife habitats.

The Vermont Significant Wetland Inventory (VSWI) Map identifies a number of Class 2 Wetlands throughout the Town. These wetlands are regulated by the Vermont Agency of Natural Resources and the Army Corps of Engineers.

In 2009, the Vermont Agency of Natural Resources prepared the "Water Quality Management Plan for the Northern Lake Champlain Direct Drainages" (Basin 5 Plan) in accordance with 10V.S.A. § 1253(d), The Vermont Water Quality Standards, the Federal Clean Water Act, and CFR 130.6. The plan outlines strategies to restore and protect the Basin's surface waters, which significantly contribute to the quality of life of residents and visitors alike. These waters support recreational opportunities such swimming, fishing, and boating. In addition, the waters provide drinking water and are appreciated for the wildlife habitat and plant communities they support.

The plan describes existing State and federal programs that are presently in place to address identified water quality problems. In addition, the plan includes strategies to develop or improve upon the collaborative efforts of the Agency with other partners to improve water quality. The collaborative efforts have been developed over the last five years during discussions with the Agency, community members, other state and federal groups, and non-profit organizations.

In 1992 and 1993, Elizabeth Thompson, a biologist hired by the Non-game and Natural Heritage Program of the Vermont Department of Fish and Wildlife, conducted a study and inventory of wetland areas in the Town of Grand Isle. Three sites were found to have State-wide significance and were recorded in a report entitled *Ecologically Significant Wetlands of Grand Isle County.* The three sites are:

1. Site No. 076 - Nichols Point Wetland
2. Site No. 080 - Wetland West of Hyde Point
3. Site No. 092 - Pearl Swamp

Each of these sites is privately owned. There is no access to the sites without the permission of the landowners.

Nine other sites were found to have local significance. Each site was recorded on a Non-game and Natural Heritage Program Site Survey Summary form. The nine sites are:

1. Site No. 081 - Pearl Bay Wetlands
2. Site No. 083 - Hyde Road Swamp
3. Site No. 085 - Railroad Grade Swamp
4. Site No. 086 - Grand Isle Cemetery Swamp
5. Site No. 089 - Folsom Bay Wetland
6. Site No. 091 - Powerline Swamp
7. Site No. 094 - Grand Isle State Park Swamp
8. Site No. 121 - Simms Point Swamp
9. Site No. 126 - Hyde Point Bay Wetlands

Each of these sites is privately owned, except for the State Park Swamp, which is owned by the State of Vermont.

In addition to the report by Elizabeth Thompson, Bruce Watson, a certified professional soil scientist, has prepared an October 1995 report entitled "Wetlands and Hydric Soils, Grand Isle Town, Vermont." This report compared the NWI map to the US Department of Agriculture soil survey to identify potential areas of hydric soils. This is meant to be used as a planning tool when examining potential development impacts.

The reports entitled "Ecologically Significant Wetlands of Grand Isle County" and the Non-game and Natural Heritage Program's *Site Survey Summary* forms for the Town of Grand Isle, and "Wetlands and Hydric Soils, Grand Isle Town, Vermont" are hereby incorporated into the Grand Isle Town Plan by reference.

The wetland areas identified by Elizabeth Thompson and Bruce Watson may more accurately identify certain of the town's swamp, marsh and wetland resources than those areas identified on the VSWI Map. If the Town believes that these areas identified are more accurate, the Town should contact the Vermont Department of Environmental Conservation to discuss amending the VSWI Map.

Development in any Class I or II wetland must be reviewed by the Vermont Agency of Natural Resources.

WOODLAND

Forests are a renewable resource. Conservation of woodlands is important for wildlife habitat, stream bank and lakeshore erosion protection, and many other benefits. Proper forestry management is important to protect the resource, as wood and wood products are increasingly becoming valuable commodities. Forestry practices are generally exempt from any state or local regulations. Currently, Grand Isle has not formally identified and/or designated any forest lands.

MINERALS AND OTHER DEPOSITS

The excavation of minerals and other deposits can be not only a potential economic benefit to the Town but also a potential environmental liability. If erosion is not controlled during excavation, and if the landscape is not restored after excavation has ended, the ecology of the surrounding area may be irreparably damaged. Any potential excavation proposals within Grand Isle will be carefully reviewed according to local bylaws.

AGRICULTURAL SOILS

Grand Isle County has the highest percentage of prime agricultural soil (approximately 13 percent) than any county in the state. A soil survey conducted by the U.S. Soil Conservation Service in 1959 shows that soils in the county have a high natural fertility. Approximately 13 percent of Grand Isle Town's soils are considered prime agricultural. Prime agricultural soils have high fertility retention, high organic matter content, and high available moisture content. Together with an open terrain and a longer growing season due to the proximity of Lake Champlain, the ideal use for these soils is agriculture, not development.

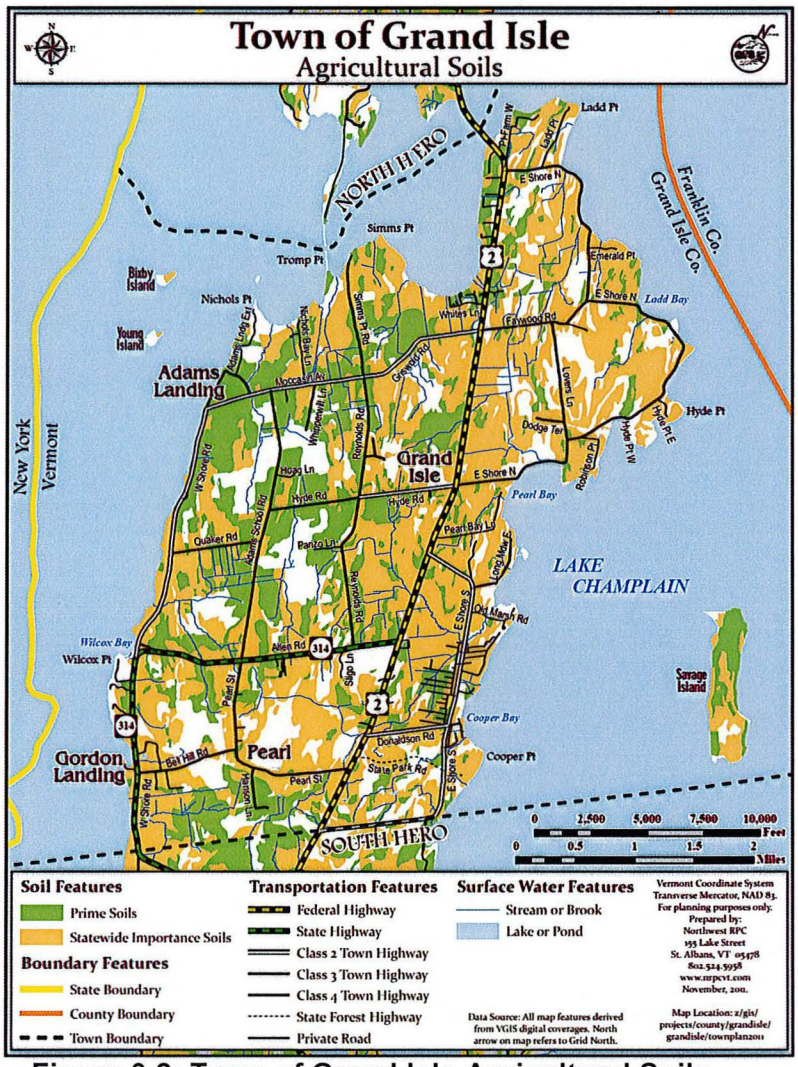

Figure 9.2: Town of Grand Isle Agricultural Soils
Source: VGIS

NATURAL AREAS AND FEATURES, WILDLIFE HABITAT

Natural areas and features have educational, scientific, or recreational value to present and future residents and visitors to Grand Isle. These may include wilderness or semi-wilderness areas, areas with unique or unusual ecologies or topographies, unique or unusual formations, and areas or features which possess scenic or recreational value. Although Grand Isle has not formally designated any local natural areas within the Town, there are many areas which contribute to the island ecosystem, some of which have received statewide designation, such as the Grand Isle State Park.

Diversified wildlife helps maintain the balance of nature and plays a key role in agriculture, private recreation and tourism. In order to maintain wildlife diversity, conservation of necessary habitat must take place. Deeryards and other designated wildlife areas should be avoided when planning new development in order to avoid adverse impacts on the natural balance of the habitat.

GRAND ISLE STATE PARK

Designated in 1959 and encompassing 226 acres, Grand Isle State Park provides significant recreational opportunities for residents and visitors alike. Characterized by 4,150 feet of Lake Champlain shoreline, the Park provides beach access and contains camping facilities, a sand volleyball court, a nature walk trail, a horseshoe pit and a play area. As a designated recreational facility and natural area, the State Park contributes to the quality of life, providing aesthetic beauty and active living opportunities.

SCENIC VIEWS, VISTAS AND ROADS

Scenic views and vistas provide aesthetic pleasure to both residents and visitors. They are valuable resources which are linked to our personal well-being and the Vermont economy and are an irreplaceable part of a community's identity.

It is important to locally identify scenic views and vistas. Whenever and wherever possible these views and vistas should be visible from areas where public access is available and utilized, such as roadways, Town and state-owned properties, and the shoreline. Development in or near a scenic view or vista should be in such a way as to preserve and maintain the value of the view or vista.

GOALS

1. Preserve Grand Isle's unique island setting.
2. Maintain the quality of Grand Isle's natural setting.
3. Work with State officials and local residents to continue protection of Lake Champlain shorelines, water quality, and overall well-being.
4. Maintain the integrity of Grand Isle's important wetlands.
5. Preserve the natural and cultural environment, including lake waters and lakeshore, streams and wetlands, fields and woodlands, wildlife and natural habitats, natural features and landscapes, scenic views and vistas.

OBJECTIVES

1. Encourage development in such a way as to preserve and maintain the value of the natural areas and features for education, science, research, aesthetics and recreation.
2. Encourage proper forestry management throughout the Town of Grand Isle.
3. Regulate the excavation of minerals and other deposits to ensure continuous erosion control during excavation operations; complete restoration of the landscape to its original condition, with appropriate contouring, site drainage and replanting.
4. Encourage development designs that do not adversely impact the natural ecological balance of wildlife habitats.
5. Encourage sound agricultural and forestry practices which minimize impacts on the environment.
6. Work with the State of Vermont Agency of Natural Resources and appropriate federal agencies to prohibit the introduction or addition of any substance to a marsh or wetland area which is likely to increase a concentration of material which is beyond the capacity of the marsh or wetland to assimilate.
7. Support federal, state, and local efforts to control harmful and undesirable algae and other lake plants and zebra mussels.
8. Discourage uses which either contribute to the erosion of the shoreline or increase the growth of lake weeds and algae.

CHAPTER 10
FLOOD RESILIENCE

The Town of Grand Isle lies within the Champlain Islands sub-basin of the "northern Lake Champlain direct" watershed. Several small streams and wetland complexes drain into Lake Champlain. Flood is the most common natural hazard within the community. Floods in Grand Isle have occurred in every season of the year. Flooding in the spring is common and is caused by rainfall combined with snowmelt. Floods in late summer and fall are usually the result of above normal precipitation. Winter floods result from occasional thaws, particularly in years of heavy snow cover.

The lake shoreline areas of Grand Isle are subject to periodic flooding caused by high water levels in Lake Champlain. In addition, there are other areas, including tributaries to the lake, Pearl Swamp and wetlands that have been designated as within the 100 year flood levels.

Historically, the high lake levels have occurred in the months of March through May. The ten highest recorded lake levels occurred in 1869, 1896, 1903, 1936, 1969, 1971, 1976, 198, 1993, and 1998. Excessive rain and severe floods swept across northern Vermont and the Champlain Valley, with Lake Champlain reaching record high levels (103 feet) in the spring of 2011. A federal disaster (DR-1995) was declared for Addison, Chittenden, Essex, Franklin, Grand Isle, Lamoille and Orleans counties on June 15, 2011.

The maximum elevation observed at USGS gaging station No. 04295000 on the Richelieu River (Lake Champlain) at Rouses Point, New York, for the period of record from March 1871 to September 2015, was 103.2 feet on May 6, 2011.

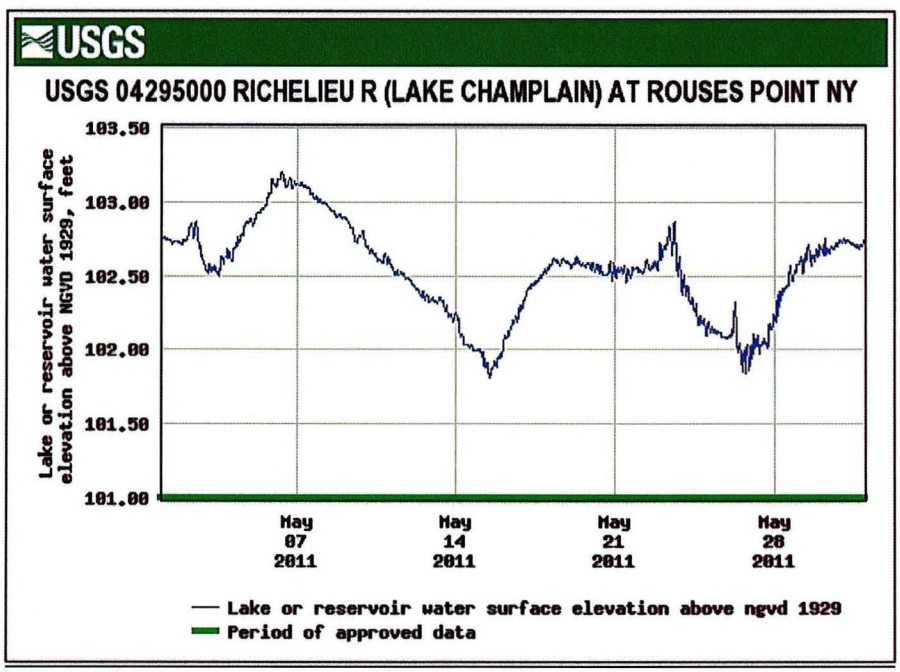

Figure 10.1: Maximum Lake Champlain Elevation, May 2011

Flooding in Grand Isle has been caused primarily by high levels of Lake Champlain and the consequent erosion of the bank materials along the shore. High lake levels compounded by wave action have caused the flooding of some recreational properties near Cooper Bay, Pearl Bay, Ladd Bay, Wilcox Bay and Phelps Point in April and May of 1971, 1972, 1976, 1990 and 1998.

The most severe flood on record occurred in November 1927. A storm brought 3.2 inches of rain in 24 hours, and a total of 6.32 inches over its entire duration. Flooding along the shores of Lake Champlain affected a considerable amount of the community in the spring of 2011. This flood resulted in property damage.

Figure 10.2: Federal Major Disaster Declarations in the County

GRAND ISLE COUNTY	
DR-160 (Nov. 27, 1963)	Drought, Impending Freeze
DR-164 (March 17, 1964)	Flooding
DR-397 (July 6, 1973)	Severe Storms, Flooding, Landslides
DR-990 (Apr. 24 – May 26, 1993)	Heavy Rain, Snowmelt, Flooding
DR-1201 (Jan. 6 – 16, 1998)	Ice Storm
DR-1784 (July 18, 2008)	Severe Storms, Tornado and Flooding
DR-1995 (Apr. 23 – May 9, 2011)	Severe Storms and Flood
DR-4163 (Dec. 20-26, 2013)	Severe Winter Storms

Flooding can occur in two ways: inundation and fluvial erosion. Inundation flooding is when water rises and covers the adjacent low-lying land. Most of the damage from flooding in Grand Isle is due to inundation, which is the type of flooding targeted through the NFIP. The Federal Emergency Management Agency (FEMA) defines a floodplain as an area of land adjacent to lakes and streams that is subject to recurring inundation or high water (See Figure 9.1 –Town of Grand Isle Natural Areas). There are several areas of floodplain in Grand Isle including along the shoreline of Lake Champlain. The base flood elevation for Lake Champlain is 102 feet above sea level. Fluvial erosion is the destruction of river and stream banks caused by the movement of rivers and streams. This can range from gradual bank erosion to catastrophic changes in a stream or river channel location and dimension during flood events. It occurs when the stream has more energy than is needed to transport its sediment load, due to channel alterations or runoff events that increase water speed in the channel.

Development within floodplains may have damaging consequences. Construction may obstruct the natural flow of water or displace soil and raise base flood elevations. One strategy to mitigate potential encroachment and flood loss is to prohibit development below the base flood elevation or set an elevation from which development is prohibited. The State of Vermont has recently implemented a statewide buffer regulation on all Lakes great than 10 acres (including Lake Champlain). The Shoreland Protection Act essentially prohibits new clearing and development within 100 feet of the mean water level of the Lake (95.5 feet above sea level) and places limits on clearing and development from 100 to 250 feet from the mean water level. The intent of the regulation is to limit bank erosion, to protect shoreland habitat, and to improve water quality.

The Town of Grand Isle has adopted land use regulations for special flood hazard areas, as defined by FEMA on Flood Insurance Rate Maps (FIRMs), in order to protect the health, safety, and welfare of its residents and to allow the community to participate in the National Flood Hazard Insurance Program (NFIP). It is important to note that the existing FIRMs are dated Jun3 3, 1988, and the Flood Insurance Study was published in December 1979. While this information is the best available, the hydrology that these maps are based on has not been updated since the study in 1979 and therefore does not account for shifts in shoreline or effects of development since 1979 in these area. The FIRMs were digitized by the Northwest Regional Planning Commission in 1999 to assist in planning efforts and are used to determine approximate locations. The digital version is not used for regulatory rulings.

To identify areas prone to fluvial erosion hazards, the Vermont Agency of Natural Resources has identified River Corridors in all Vermont municipalities. River Corridors are based on the individual conditions of streams and rivers including topography and the existence of existing public infrastructure. River Corridors are not mapped for streams that have a watershed of less than 2 square miles. Instead, the Agency has created a 50 foot buffer on each side of a stream with the intention of protecting stream stability and natural flow. All rivers and streams in Grand Isle have a surface area less than 2 square miles and are therefore unmapped and are subject only to the 50 foot buffer requirement (River Corridors are not shown in Figure 9.1 for this reason).

River Corridor regulations currently apply only to Act 250-related land development and land development not regulated by municipalities (like agriculture). Municipalities may adopt River Corridor maps and regulation as part of their development regulations. Adoption may have potential financial benefits to the Town in the event of a federally declared natural disaster due to changes in how the Emergency Relief and assistance Fund (ERAF) is administered.

Planning for future flooding and other disaster events is important to ensure that a community is flood resilient. Grand Isle has begun the process of developing a local hazard mitigation plan. Completion of a local hazard mitigation plan can help a community identify potential hazard risks to the community. Local hazard mitigation plans can also identify projects in the community that can decrease the effects of potential hazards, such as the replacement of culverts or buyouts of properties with repetitive flood risk. Approval of a local hazard mitigation plan by FEMA may also lead to increased grant opportunities for communities to implement identified projects and enable the Town to gain access to additional state and federal mitigation funding.

GOALS

1. To discourage development in identified flood hazard areas and river corridor areas. If new development is to be built in such areas, it shall not exacerbate flooding and fluvial erosions.
2. To protect and restore floodplains, river corridors, and upland forest areas that attenuate and moderate inundation flooding and fluvial erosion.
3. To encourage emergency preparedness and response planning.

OBJECTIVES

1. Review current Flood Hazard Zone district standards in the Grand Isle Zoning Bylaws and Subdivision Regulations for compliance with National Flood Insurance Program (NFIP) minimum standards. Consider adopting higher standards for this district.
2. Consider incorporating River corridor regulations into the Grand Isle Zoning Bylaws and Subdivision Regulations.
3. Develop and adopt a Local Hazard Mitigation Plan (HMP). Support implementation of high priority projects as identified in the plan.
4. Adopt a Local Emergency Operations Plan each year.
5. Adopt the most up-to-date Vermont Road and Bridge Standards.

CHAPTER 11

NEIGHBORING COMMUNITIES AND THE REGION

The Town of Grand Isle is a community on Lake Champlain within the County of Grand Isle. Grand Isle shares "land border" with the Town of South Hero to the south, and a drawbridge connection with the Town of North Hero, located to the north.

To the west of the Town, across what is commonly referred to as the "broad lake" part of Lake Champlain, lies the State of New York. The Town of Grand Isle shares a ferry connection across the broad lake with the City of Plattsburgh, New York. To the east, across what is commonly referred to as the "inland sea" or the "inner lake" part of Lake Champlain, lies the mainland of Vermont and the Towns of Milton, Georgia and St. Albans. The Town of Grand Isle shares no physical land-based or water-based transportation connection with any of these mainland Towns. Their only connection is a shared concern for the preservation and enjoyment of the waters of Lake Champlain.

Grand Isle and its adjacent island communities have experienced a substantial degree of growth since 1980. As shown in Tables 11.1 and 11.2, Grand Isle has a relatively high percentage of growth in terms of population and number of housing units among selected Island Towns.

Table 11.1: Population Totals from the US Census

Town	1980	1990	2000	2010	% change, 1980-2010
Grand Isle	1,238	1,642	1,955	2,067	+66.90%
North Hero	442	502	810	803	+81.70%
South Hero	1,188	1,404	1,696	1,631	+37.30%
Grand Isle County	4,613	5,318	6,901	6,970	+51.09%

Table 11.2: Housing Totals from the US Census, including seasonal units

Town	1980	1990	2000	2010	% change, 1980-2010
Grand Isle	723	997	1047	1198	65.70%
North Hero	734	743	907	966	31.60%
South Hero	832	958	1036	1060	27.4%

A COMPARISON WITH THE TOWN OF NORTH HERO

The goals and policies outlined in North Hero's Town Plan, adopted in 2015, are similar to those outlined in the Grand Isle Town Plan, even though specifics vary and some emphasis is different. The basic goals of the North Hero Town Plan are "to preserve the unique rural and small Town character of North Hero;" "to protect the quality of the environment and the lake;" "to maintain the visual character and aesthetic setting of North Hero;" "to maintain the community and to enhance the sense of community in North Hero;" "to foster quality growth and controlled development in North Hero;" "to engage in a continued, coordinated and comprehensive planning process and to encourage active citizen participation throughout the process;" " to assure the safe and efficient use of both town and state utilities, facilities, and infrastructure;" "to maintain a comprehensive mapping system of North Hero;" "to regularly review public and private incentives, grants, and other incentives as tools to promote Town goals and address local needs;" "to promote safe, healthy, and affordable housing located conveniently to employment, services, retail centers, and educational and recreational facilities as well as park and ride;" "to promote increased awareness and use of renewable energy resources as well as the conservation of existing energy resources;" and to "encourage and foster an all hazards disaster resilient community where the loss of life, injuries, and damages to public infrastructure that result from disasters are minimized."

The North Hero Town Plan cites the environment as the "single most important factor in the quality life in North Hero." The Town Plan also states that "the quality of the lake must be considered in every aspect of planning and zoning." The "scenic beauty of the shore lands" is cited as being in danger from erosion and the indiscriminate clearing of vegetation.

North Hero has had modest growth compared to Grand Isle. Most residential development has taken place along the lakeshore. Like Grand Isle, agriculture and tourism, including seasonal homes, continue to be the Town's two most important economic bases. U.S. Route 2 is the only arterial corridor which links North Hero with the rest of Vermont.

The Town Plan designates the following Land Use Districts: Village, Rural Lands, Conservation, Shoreland, and Off Islands.

North Hero adopted Development Regulations in November of 1990. In the revised 2014 Development Regulations, the Village, Shorelands and Off Islands districts each have a minimum lot size of 2 acres. The Conservation district highly restricts all new development and has a minimum lot size of 10 acres. Rural Lands I has a minimum lot size of 3 acres.

A COMPARISON WITH THE TOWN OF SOUTH HERO

The goals and policies outlined in South Hero's Town Plan, adopted in 2015, are similar to those outlined in the Grand Isle Town Plan, even though specifics vary and some emphasis is different. The Town Plan states that it should "increase public awareness of the unique characteristics of South Hero in an effort to help preserve those characteristics for future generations." The Town Plan defines these characteristics as the broad scenic views of farm fields, the lake, the Adirondack Mountains to the west and the Green Mountains to the east;

broad wetlands; natural areas, particularly fossil sites; wildlife habitat; the lake shoreline; and the outer islands." The Town Plan also puts a lot of emphasis on recreation, and the need to expand present facilities and add new facilities such as walking trails and recreation paths. The Town Plan also sites traffic as a growing concern, and the need for alternate forms of transportation. The South Hero Town Plan addresses water quality issues in Lake Champlain.

During the nineties, South Hero experienced more rapid growth than Grand Isle but less growth than North Hero. The highest concentration of residential development has taken place around Keeler Bay and along South Street to Allen Point. The West Shore has also been developed but more sparsely. So, like Grand Isle, agriculture and tourism, including seasonal homes, continue to be the Town's two most important economic bases. Unlike both North Hero and Grand Isle, South Hero has a direct land-based link, via U.S. Route 2 and the Sandbar Causeway, to the mainland of Vermont.

South Hero adopted Development Regulations in July of 1972. In the revised 2011 Development Regulations the Land Use, or Zoning Districts include: Rural Residential District, Conservation District, Shoreland District, and Flood Hazard Overlay District. The Rural Residential Area and Shoreland Area each have 1 acre zoning. The Conservation Area has 25 acre zoning. The Flood Hazard Overlay Area adopts the same acreage as the underlying district. Grand Isle's Agricultural and Residential Zoning District is immediately adjacent to South Hero's Rural Residential District. These districts have comparable permitted and conditional uses. The South Hero Plan does not conflict with the Grand Isle Town Plan.

NORTHWEST REGIONAL PLANNING COMMISSION

The Town of Grand Isle participates in the Northwest Regional Planning Commission to address policy and planning issues of a regional nature. All municipalities in Franklin and Grand Isle Counties are members of the Commission and have representation on the Board of Commissioners. Grand Isle is regularly represented at all Board meetings, and participates in many of the planning efforts taking place in the region.

The Northwest Regional Plan was updated and adopted in 2015. Land use planning areas in the Regional Plan encourage the conservation of valued resources and a development pattern that will maintain the character and quality of life important to the region.

Grand Isle requested regional approval of the Town Plan per 24 V.S.A. §4350. Such regional approval has confirmed the Grand Isle Town Plan is compatible with the Regional Plan.

Based on this and other analysis, none of the goals, objectives or recommendations in the Grand Isle Town Plan will adversely affect the plans or development trends of the neighboring communities or the region. Grand Isle will continue to work with neighboring municipalities when implementing this plan.

CHAPTER 12
RECOMMENDATIONS FOR IMPLEMENTING THE PLAN

The previous chapters of this Plan outlined goals, policies, and recommendations for guiding future sustainable development in Grand Isle. In order to have an effective Town plan, it is essential that the recommendations contained within it are implemented. Implementation takes many forms, from amending bylaws and Town ordinances to working with community groups and organizations on new projects. While policies can be directly implemented by the municipal legislative body, the implementation of goals and recommendations requires an ongoing planning and community engagement process. This chapter is intended to identify available tools, strategies, and opportunities that will assist the community in building to achieve its vision for the future. It is important to periodically review the plan to prioritize implementation steps and to ensure that all recommendations are being considered. Implementation steps related to energy efficiency and conservation are highlighted by this symbol.

ZONING BYLAWS AND SUBDIVISION REGULATIONS

The Grand Isle zoning ordinances were adopted June 28, 1966, and amended in 1967, 1970, 1973, 1974 and 1978. Grand Isle adopted Zoning Bylaws in 1980 and amended them in 1982. In November 1989, the Town adopted Zoning Bylaws and Subdivision Regulations which have been amended March 2, 1999, March 7, 2000, March 6, 2001, March 4, 2003, March 2, 2004, March 1, 2005, March 6, 2007, March 4, 2008, March 3, 2009, March 2, 2010, March 1, 2011, and March 6, 2012. It is important to review these regulations in light of the goals, objectives and recommendations in this plan. Many suggested changes have been outlined. The Planning Commission will need to work with the Selectboard and Town residents to ensure that these changes are made in a manner that is acceptable to the Town as a whole.

Because of the considerable amount of work involved in local planning and zoning, the Town has established a development review board to handle applications for permits. This allows the planning commission to work on planning issues that might previously have often been put aside because of the heavy workload.

RECOMMENDATIONS

1. Continue to review, revise and update the Grand Isle Zoning Bylaws and Subdivision Regulations to bring them into conformity with all Vermont State Statutes, and to reflect current conditions and circumstances, and to include all applicable policies contained in this Town Plan.
2. Continue to review the commercial uses allowed as conditional uses in the Zoning Bylaws and Subdivision Regulations.
3. Consider future adoption of the Municipal Administrative Procedures.
4. Amend regulations to ensure that current zoning allows for maximum use of PUDs and mixed-use development in areas that are already densely settled.

5. Consider provisions for new roads or reconstruction of existing roads to include a sidewalk or multi-use path.
6. Consider incentives for PUDs and development that occurs within a certain distance of the Village such as density bonuses.
7. Evaluate lot size and density requirements during the bylaw update.
8. Consider creating incentives such as density bonuses for the construction of energy-efficient designs in addition to other national and state programs.
9. Review regulations for development review for wind turbines to ensure consistency with State statute.
10. Consider limits on the construction of new roads far from already established areas of development to avoid extra mileage and increased cost of service provision.
11. Continue to support bylaw requirements for roads.

PUBLIC FUNDS

The rate of growth in Grand Isle should not exceed the ability of the community to provide services. Several chapters in the plan note the increasing need to provide more public services to a growing community. The Town needs to control the rising cost of facilities and services due to growth and the impact of such growth.

RECOMMENDATIONS

1. Review the Community Facility and Services Plan periodically to assess progress on the recommendations within the chapter.
2. Encourage phasing of projects which, in the judgment of the Development Review Board, could have a significant effect on the provision of municipal services.
3. Conduct energy audits on all municipally owned buildings and take subsequent action to improve efficiency.

FUTURE STUDIES AND OTHER ACTIONS

Implementing the plan takes many forms in additional to revising and establishing regulations and programs. For example, several studies have been recommended throughout this plan. Different groups within the Town will need to take responsibility for these studies to ensure their completion. Specific studies recommended include:

1. Create a list of Town historic sites including, but not limited to buildings, farmscapes, archaeological and other historic sites and features which contribute to the identity of the Town and the broad patterns of its history (Chapter 3).
2. Explore options for wastewater treatment such as a cluster system or alternative methods for onsite treatment and septic and provide educational information to Town Officials and Developers about septic options.
3. Explore opportunities offered through Comcast and the State to bring better telecommunications technology to Grand Isle.
4. Work with the Northwest Vermont Solid Waste Management District to expand opportunities for recycled materials and to consider an organic waste or compost collection program.
5. Explore opportunities to generate local, community-scale, and clean energy such as wind, solar, and geothermal.

6. Explore options for linking multiple-modes of transportation.

Other Actions include:

1. Promote local Farmer's Markets and the use of local produce by businesses in Town and the wider region.
2. Raise awareness of safety issues related to farm vehicles and equipment as well as livestock on roads shared by other motorists.
3. Support the continuation of the State's Current Use Programs and educate farmers on options to apply.
4. Provide information and educational opportunities to residents regarding alternative wastewater management practices.
5. Encourage businesses and residents to continue participating in the current recycling program.
6. Provide information to new property owners and developers about utilizing energy efficient technology and designs when constructing new housing units.
7. Encourage residents to conduct energy audits on their homes through the use of promotional media and education.
8. Promote car-pooling and raise awareness of programs such as GoVermont.
9. Pursue efforts with adjoining Towns to establish and raise awareness of Park and Ride lots.
10. Encourage bicycling and walking to school and ensure that necessary infrastructure, education, and programs are in place to accommodate these modes of transportation.

This plan also recommends the participation in many organizations, programs and studies which will benefit the Town. The Planning Commission will work with the Selectboard to determine how the Town should best participate.

Recommended participation includes:

1. Continue to participate in regional planning efforts including transportation planning and energy planning?
2. Continue to coordinate with the Lake Champlain Bikeways project.
3. Participate in the Lake Champlain Scenic Byways project as it develops.
4. Continue to work with neighboring communities throughout plan implementation.
5. Continue to work with Lake Champlain Housing Development Corporation.
6. Continue to coordinate with Northwest Vermont Public Transit Network.
7. Continue to coordinate with CIDER to ensure transportation options for senior citizens and the disabled.
8. Continued involvement in the Northern Lake Champlain Advisory Committee
9. Continued representation on the Northwest Regional Planning Commission's Transportation Advisory Committee (TAC).
10. Coordinate activities with the Lake Champlain Islands Chamber of Commerce.

The goals, policies and other information contained in this plan will also be used to participate in statewide regulatory proceedings such as Act 250 and Public Service Board (Section 248) applications.

CHAPTER 13
Economic Development Chapter

As a rural island community, agriculture and tourism have been important components of the local economy in Grand Isle. Farming remains a stable base for the community's economy as well as a means of maintaining the open land and rural atmosphere desired by both our recreational visitors and the permanent residents of Grand Isle. Given Grand Isle's unique island setting, the preservation of the existing Island character and the protection of natural resources are key aspects that guide the growth of the community.

Grand Isle intends to apply for Village Center Designation (VCD). The Village Designation boundaries will largely overlap with the Village District zoning boundaries. Village Center Designation supports small town revitalization with a variety of tax credits to support improvements to historic properties and priority consideration for several State grants. The VCD program will help the Town of Grand Isle as it applies for various State Grants, including Vermont Community Development grants. Village Center designation is an important tool to further the Town of Grand Isle's goals for a vibrant village center.

Local Employment Characteristics

The residents of Grand Isle are engaged in a wide range of occupations including construction, production, sales, business and professional services, education and health occupations. Table 13.1 shows the industry sectors of the Grand Isle work force. Grand Isle is both an importer and exporter of workers. As discussed in the Transportation Chapter, the majority of Grand Isle residents commute to work outside of the community with 67% commuting to Chittenden County, 5% to Franklin County and 9% to other Grand Isle County communities. As of the 2009 Census data only 57 residents stated the Town of Grand Isle as their place of work; this classifies Grand Isle as a bedroom community with the vast majority of residents commuting to other job centers in nearby regions for work.

Table 13.1: Industry of Grand Isle Employed Residents, 2007-2011

Industry	Percent of Total
Agriculture, forestry, fishing and hunting, and mining	0.2%
Construction	12.9%
Manufacturing	10.1%
Wholesale trade	3.4%
Retail trade	9.5%
Transportation and warehousing, and utilities	3.2%
Information	3.5%
Finance and insurance, and real estate and rental and leasing	7.6%
Professional, scientific, and management, and administrative and waste management services	8.3%
Educational services, and health care and social assistance	22.4%
Arts, entertainment, and recreation, and accommodation and food services	7.4%
Other services, except public administration	7.6%
Public administration	4.0%

Source: American Community Survey 2007-2011

Employment opportunities within Grand Isle are primarily based on small businesses associated with agriculture, local services, tourist services, and transportation (ferry). There are approximately 407 workers employed in the Town of Grand Isle and 66 business establishments according to the 2012 report from the Vermont Department of Labor. As noted above, most residents work outside of the Town of Grand Isle, meaning that these positions are filled largely by residents of other communities. Since 2000, the number of private sector jobs has increased while there are fewer employed in the public sector. The largest portion of the Grand Isle workforce is employed in the construction, education, retail, and leisure and hospitality sectors; one of the largest employers is the Grand Isle Elementary School. The Grand Isle Industrial Park serves four businesses that include: VT Nut Free Chocolates, Interstate Mtn. Co., Island Excavating Corp. and Cota's Propane. A comparison of employment characteristics for Grand Isle workers over the previous thirteen years is provided in Table 13.2. These numbers are based on employees eligible for unemployment insurance and therefore exclude an important portion of the workforce-sole proprietors and their partners, most farms, and some non-profits.

Table 13.2: Local employment characteristics for Grand Isle workers (2000-2012)

Private Sector	2000	2005	2009	2012
Establishments	38	44	62	58
Employees	157	191	258	334
Average Wage	$ 31,103	$ 33,950	$ 36,822	$ 36,014
Public Sector				
Establishments	8	9	9	8
Employees	86	84	77	73
Average Wage	$ 33,164	$ 37,551	$ 36,932	$ 37,593

Source: Vermont Department of Labor, Economic & Labor Market Information (wages converted to 2012$ using the CPI)

The annual average wages for Grand Isle workers in 2012 were higher than the average wage for the county of $30,545 (private and public sectors) but under the statewide average of $40,969. The Housing Chapter contains additional information on household income and affordability.

While there has been some improvement in the labor market since the lowest point of the recession, it has yet to return to pre-recession norms. As shown in Table 13.3, the most recent economic recession that began in December of 2007 and ended in June 2009[1] had a pronounced and long-lasting impact on local, regional, and statewide unemployment rates.

[1] According to the National Bureau of Economic Research

Table 13.3: Unemployment rates from 2006-2012 (not seasonally adjusted)

	May-06	May-07	May-08	May-09	May-10	May-11	May-12
Town of Grand Isle	2.3%	3.0%	4.1%	6.3%	6.1%	5.6%	5.8%
Grand Isle County	3.4%	3.8%	4.7%	7.1%	5.8%	6.0%	5.5%
Vermont	3.7%	3.5%	4.1%	6.1%	6.1%	5.4%	4.4%

Source: Vermont Department of Labor, Economic & Labor Market Information.
Note: Percentages represent those who want to work, able to work and are actively seeking work but are unable to find employment.

Long-term Economic Development Variables

Economic development should be considered from both within the community and the broader regional context. Residents travel elsewhere to reach services which create new economic opportunity for the adjacent communities and regional centers. To the same extent, people come to the Town and County for outdoor and cultural tourism such as the arts, camping, and farm touring as well as to access the ferry to New York and other areas in the Champlain Islands.

Tourism is a vital component to Vermont's economy; in 2011 the largest portion of tourism spending was in prepared meals and beverages as well as lodging expenses[2]. Tourism plays an important regional and local role for Grand Isle and current trends indicate that tourism is increasing in the islands. From 2009-2011 Grand Isle County saw the third largest increase of 19.4% in total room receipts (taxable and non-taxable) in the state[2]. In terms of restaurants, the combined Grand Isle/Franklin County region saw an 8.8% increase in meal receipts from 2009 to 2011 which is higher than the statewide increase of 6.2%[2]. For visitors to Grand Isle there are many tourist services and attractions including: the Lake Champlain Basin Program, Grand Isle State Fish Hatchery, fishing access, snack bar/delis, gas stations, bed & breakfast, ferry service, campgrounds and historic sites. In addition, the community has a flourishing arts community with a local gallery.

Outdoor Recreation. Bicycle touring is an increasing popular activity that occurs throughout the Champlain Islands, this activity is promoted through activities and brochure guides by local groups like the Lake Champlain Bikeways as well as the community supporting services to accommodate travelers. Formal and informal bicycle tours utilize local and state roads and make connections through the Islands.

Camping and visiting state owned recreation facilities are another draw to Grand Isle. The Grand Isle State Park is the most visited campground in the state system and the second largest according to the Department of Forest, Parks and Recreation. The State Park has 117 tent/trailer sites, 36 lean-to sites and 4 cabin sites. Other state and town owned public facilities are listed in the Public Facilities Chapter.

[2] Benchmark Study of the Economic Impact of Visitor Spending on the Vermont Economy 2011. The Travel and Tourism Industry in Vermont. Prepared by Chmura Economics and Analytics.

Agriculture & Local Food. Local agricultural employment in Town includes dairy, vegetable, orchard, fruit farms, as well as small diversified and specialty farms, including (vineyards and beef). There are few agricultural statistics available at the town level; the 2007 federal Agricultural Census is the first year data was collected associated with zip codes. According to the 2007 U.S. Census of Agriculture, there were 38 farm operations in the zip code 05458 (Grand Isle) in 2007. Eighteen of the 38 were between 1 to 49 acres, 19 were between 50 to 999 acres and 1 was more than 999 acres.

These farming establishments provide jobs for residents, utilize an important land resource, contribute to the scenic beauty and open spaces of the Town and also provide an important product and market for other businesses. The strong agricultural base that is present in Grand Isle easily lends itself to the current trends in agritourism to combine agriculture and tourism; this not only results in additional support for that farm's business but also greater appreciation of the land and knowledge of local agriculture. A similar opportunity is found with Community Supported Agriculture (CSA) shares which create a partnership between the farmer and the customer for a share of food produced that season. Grand Isle currently has two farms that offer CSAs to the public. In addition there are several farms and local businesses that offer value-added products from local resources such as wool, honey, handmade soap and compost. Agritourism along with value-added products could provide local businesses with a source to diversify their farming venture and maintain a sustainable business.

Supporting New Business. The community currently encourages the opportunity for new development with bylaws that allow for commercial development in both agricultural and residential zones as well as altering restrictions on home occupations. Continued support for home occupations is one of the ways to work towards providing additional employment in the community that will benefit the local economy and reduce travel on local roads. According to the 2007-2011 American Community Survey, approximately 104 Grand Isle residents work from home. Home occupations include, but are not limited to businesses such as bed and breakfasts, antique dealers, consulting services, woodworking, crafts, and agricultural enterprises.

To build on these efforts, regional partners are currently developing a strategic economic development plan for Franklin and Grand Isle Counties. These efforts coincide with the Healthy People, Strong Communities project being completed by NRPC. Grand Isle County Economic Development Corporation is collaborating with Franklin County Industrial Development Corporation to develop the strategic plan. Some of the outcomes from this effort that could benefit Grand Isle County include developing regional marketing materials and tracking visitor data and identifying the breadth and variety of existing business base.

Challenges to Economic Development

The Town is faced with some challenges to local economic development. By working on these challenges, including sewer and water capacity, calming traffic, improving the safety of pedestrian activity, and encouraging improvements to telecommunication, the Town will encourage the continued development of a healthy economy in the village area. Many of

these challenges are discussed in other chapters of the plan, but are referred to here as they relate to economic development.

Sewer and Water Infrastructure. A major barrier to attracting new business in Grand Isle is the feasibility of septic and access to water. The topography of the Town limits the location of wastewater treatment options in town creating difficulty in siting new development.

Traffic. As discussed in the Transportation Chapter, congestion along roadways has an impact on economic development. Congestion is currently a concern in relation to the exit 17 interchange with Interstate 89 as this is a primary route for tourists to travel into the community. There is a need to plan for impacts to additional travel and trips from future development both within the community and in the adjacent region.

Sidewalks. A safe pedestrian and bicycle environment in the Village will contribute to its economic vitality. Efforts to develop a safe alternative to walking and biking to access local businesses in the village area could attract future development. As new development occurs specific attention should be paid to providing safe pedestrian links to these areas. Further discussion on walking and biking is located in the Transportation Chapter.

Current Technology. To be able to both serve the small businesses and provide for opportunities for additional working at home, businesses need access to the intranet and cellular service. Hi-speed Internet is a vital tool or growing the local economic base and will make Grand Isle more attractive to home-based businesses, telecommutes, the creative economy and other businesses that increasingly rely on broadband for advertising and sales. Efforts to expand the service area for DSL and cellular service should be encouraged.

Seasonal Economy. Given the seasonality of the large tourism base related to outdoor recreation and natural resources and the small population base it can be a challenge for the startup of new businesses that may need year-round sales to be viable. Given that residents currently travel to nearby communities and regional centers to access convenience goods (grocery and pharmacy) as well as larger retail and human services, the development of new business could capture some of these revenue generating trips.

Local Economy Goals and Objectives

GOALS

1. Promote a balanced, diverse economic base, with a focus on locally owned enterprises which employ year-round and utilize the local labor force.
2. Actively encourage development within and near the village in suitable locations and incorporating mixed use development.
3. Develop a vibrant local food economy with access to healthy foods.

OBJECTIVES

1. Maintain zoning bylaws to support the development of home businesses and industries that fit with the rural character of the community.
2. Explore the feasibility and options for wastewater treatment to aid in the encouragement of future development.
3. Encourage a mixture of commercial uses including retail, personal and professional services, and restaurants in the agricultural and residential zones; avoid locations directly on U.S. Route 2 and prevent strip development.
4. Support the maintenance of and/or upgrade to reliable telecommunications services that attract commercial development, such as broadband internet and cell phone service.
5. Provide infrastructure in appropriate areas for the retention and attraction of businesses that are consistent with the town's character.
6. Support industries that utilize local resources to produce value-added products.
7. Work with regional planning and economic development partners on efforts to identify the breadth of the existing business base and promote niche markets and activities.
8. Support business education and assistance programs and the dissemination of their services.
9. The Town should support the development of hospitality or service based businesses, best suited to serve the needs of residents, seasonal residents and the tourism population.

CHAPTER 14
APPENDICES

APPENDIX ONE: POPULATION TRENDS

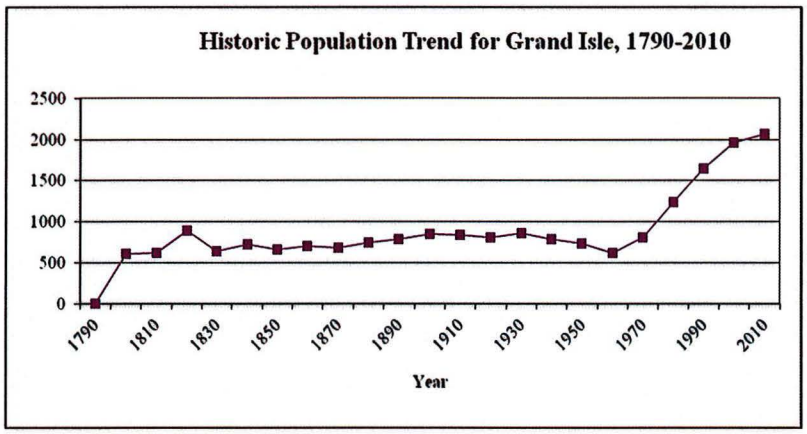

Figure 14.1: A line graph displaying historic population trend of Grand Isle, through 2010.
Source: US Census

Grand Isle's population was 851 in 1900, and fluctuated around 857 through 1930. By 1960, according to the 1960 U.S. census, the Town's year-round population had declined to 624. Since 1960, the Town has experienced steady population growth.

Figure 14.1 and 14.2, Table 14.1 and 14.2 show population growth data for the Town of Grand Isle from 1950 to 2010, with projections through 2020.

Figure 14.1 shows that the population of Grand Isle has been experiencing steady and rapid growth for the last quarter century through the first decade of this century. The best available estimate suggests this trend will continue at an increasing rate. However, the best available projection suggests growth will continue at a lesser rate.

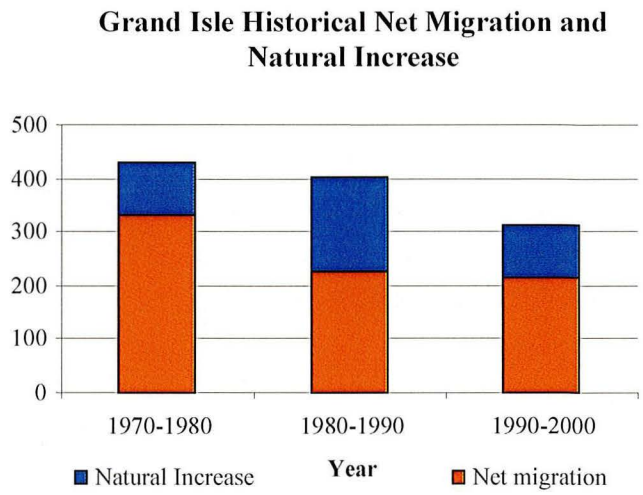

Figure 14.2: Net migration and natural increase of Grand Isle, 2000.
Source: US Census

Figure 14.2 shows that population growth in Grand Isle over the last three decades has consisted of a high percentage of migration into Town and a smaller percentage of natural increase. The makeup of growth has not changed significantly since 1970, but absolute numbers have been decreasing overall. Between 2000 and 2010, the Town had a natural increase of 61 and an estimated net migration of 51. As Table 14.1 indicates, the Town has been growing by about 30-40 people per year over the last few decades, while the 2010 population increase was significantly smaller. It is significant to note the potential affect that the national economic downturn has had on town population growth, particularly the slower growth rates during the latter half of the decade.

Population Trends In Grand Isle							
Year	**1950**	**1960**	**1970**	**1980**	**1990**	**2000**	**2010**
Population	**735**	**624**	**809**	**1,238**	**1,642**	**1,955**	**2067**
Absolute Change	**x**	**-111**	**185**	**429**	**404**	**313**	**112**
Sources: US Census							

Table 14.1: Grand Isle Population Trends
Source: U.S. Census

As seen in Figure 14.3, the largest age-group of Grand Isle's population is from age 45 to 49 years at approximately 30.6 percent which will typically range from families with high school age children in need of larger homes to "empty nesters" who are ready to downsize to smaller homes or condominiums. Similar to the state as a whole, the Town's senior population is expected to continue increasing as people in their thirties and forties age.

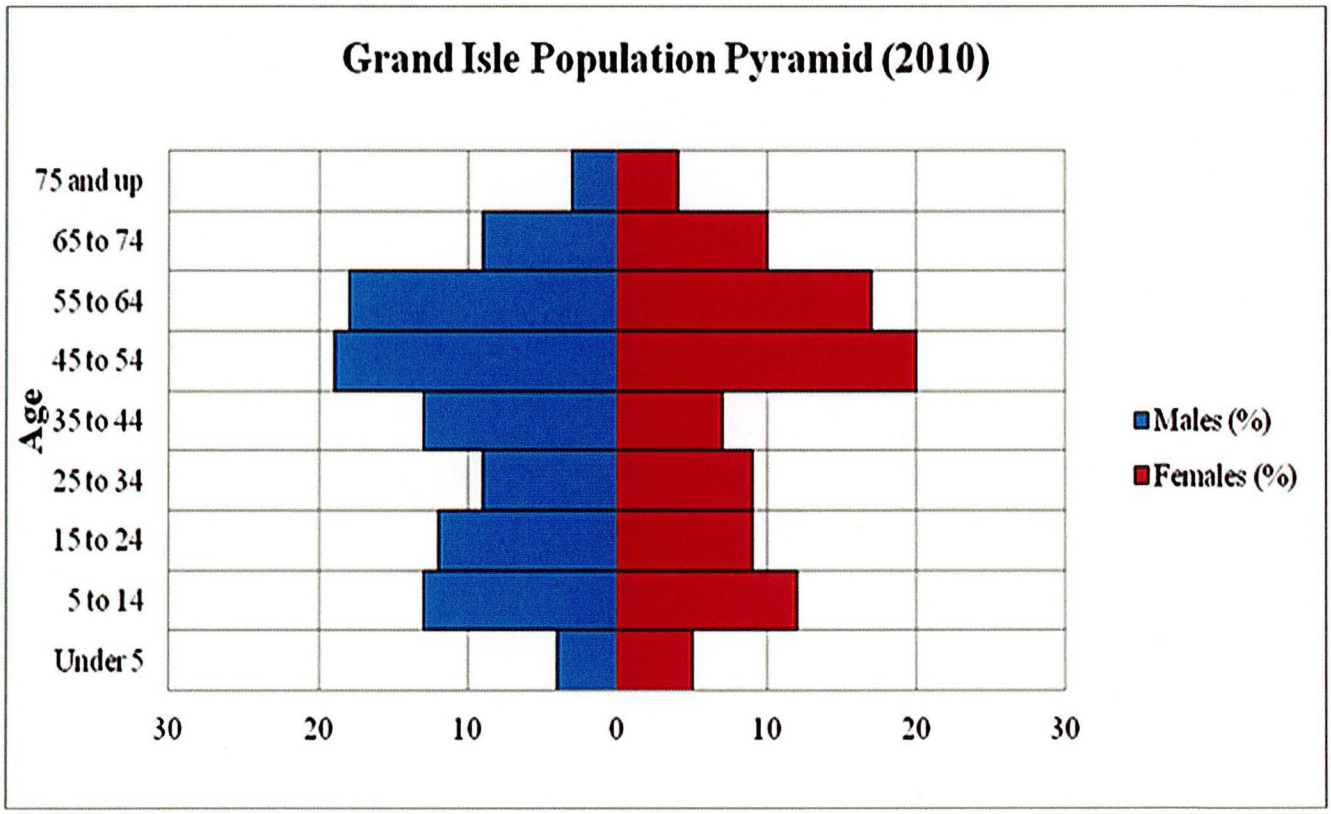

Figure 14.3: Population pyramid of Grand Isle, 2010.
Source: US Census

Comparison of Growth in Grand Isle and other Towns in the County						
Town	Pop. 1990	Pop. 2000	Pop. 2010	Change 2000-2010	% Change 1990-2000	% Change 2000-2010
Grand Isle	1,642	1,955	2,067	+112	+19.1%	+5.7%
Alburgh	1,362	1,952	1,998	+46	+43.3%	+2.4%
Isle La Motte	408	488	471	-17	+ 19.6%	-3.5%
North Hero	502	810	803	-7	+61.4%	-0.9%
South Hero	1,404	1,696	1,631	-65	+20.8%	-3.8%

Table 14.2: Grand Isle County Growth Comparison, 1990- 2010.
Source: Population 1950-2010 US Census

Figure 14.4 displays 2009 Grand Isle school enrollment. Of the 946 Grand Isle households, 37 percent have children under 18 living at home. Figure 14.5 and Table 14.3 illustrate the steady increase in school enrollments until the mid-1990s, with the highest enrollment in 1996 of 272 students. Since that time, there has been a modest reduction in school enrollments. Despite this decrease, a greater proportion of the enrolled students have been high school students, with resulting higher impacts on school budgets.

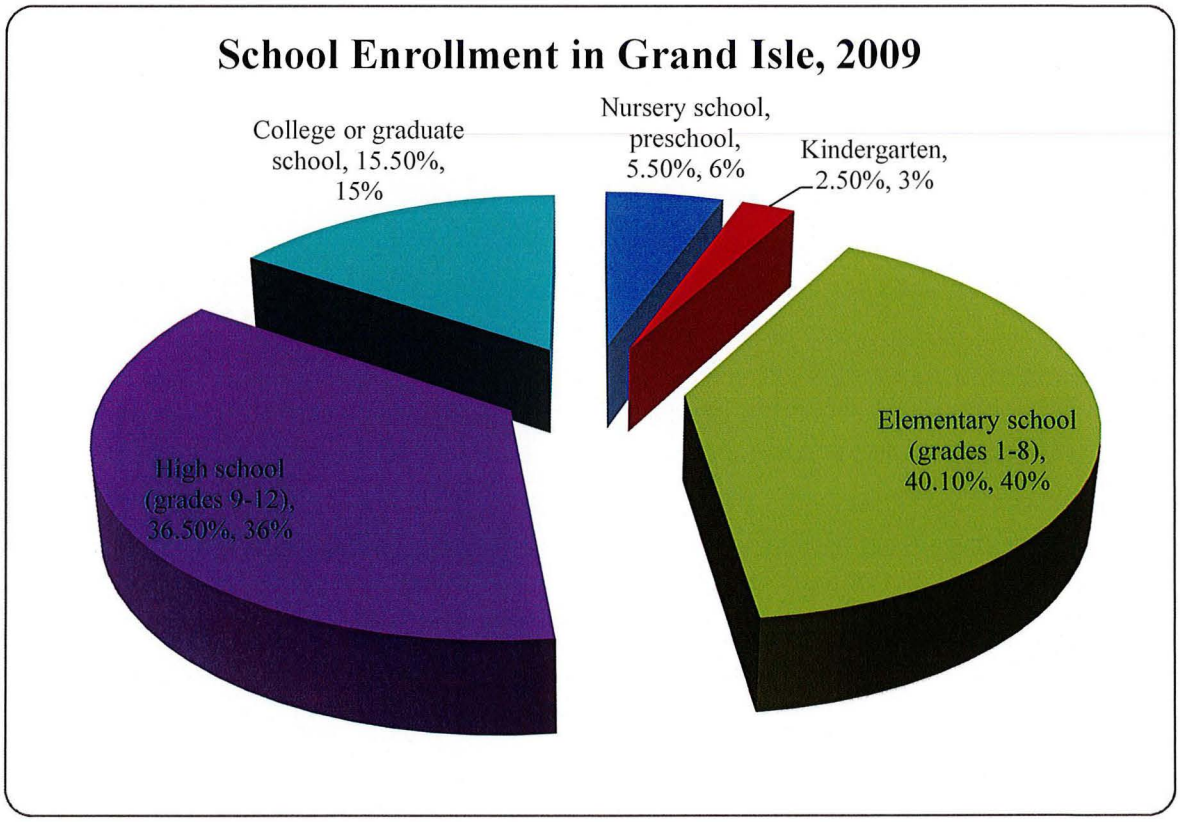

Figure 14.4: Grand Isle school enrollment, 2009.
Source: US Census

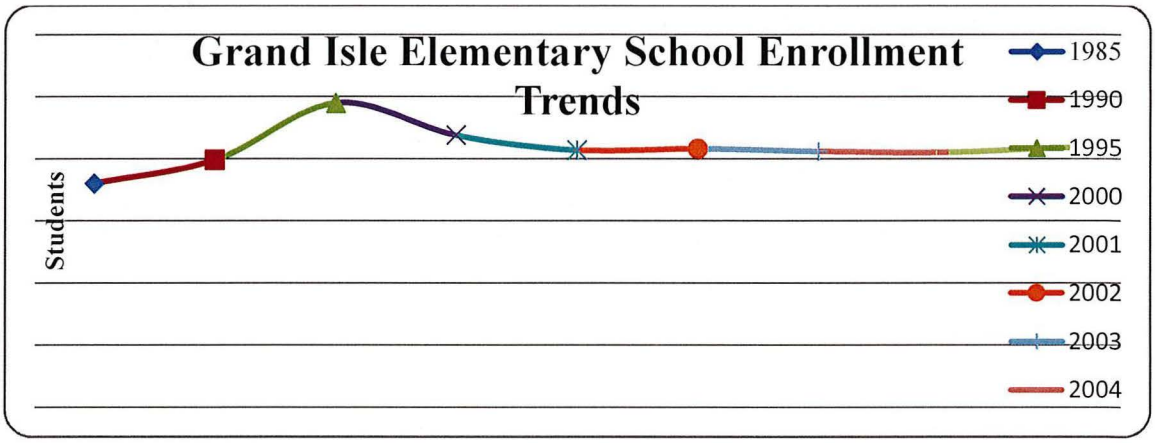

Figure 14.5: Grand Isle elementary school enrollment trends.
Source: US Census

Will this pattern of growth continue? The best available projections suggest that it will. Further, various indicators of growth indicate that from 1992 to the present, despite the slowdown in growth rates, the growth patterns have not changed significantly (see Tables 14.3 through 14.5). Thus the Town Plan must be formulated on the assumption that the growth pressures in Grand Isle will continue over the next five years, and the Plan must be attentive to the impacts of growth.

Table 14.3: Land Transfers

Type of Transfer	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Residential	26	48	43	45	40	50	48	55	60	74	63	49	52	69
Mobile Home	4	17	5	4	13	3	5	6	14	20	13	16	9	14
Camp	18	22	8	12	14	16	18	20	11	22	18	18	35	21
Commercial	2	1	0	1	1	2	1	0	0	2	1	0	1	2
Land	25	25	25	25	27	50	25	22	50	44	55	46	46	36
Total	75	113	81	87	95	121	97	103	135	162	150	129	143	142

Source: Town Reports and Town Records

Table 14.4: Zoning Permits

Type of Permit	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Subdivision	3	3	5	6	2	17	11	10	14	17	19	16	14	7
Dwellings	17	18	25	17	13	16	17	17	18	43	15	8	8	7
Mobile Homes	6	7	11	1	3	2	3	4	n/a	n/a	n/a	n/a	n/a	n/a
Sewage	32	31	38	30	45	38	46	26	n/a	n/a	n/a	n/a	n/a	n/a
Total	58	59	79	54	69	58	64	47	70	100	75	56	60	40

Source: Town Reports and Town Records

Table 14.5: Listed Parcels														
Type of Property	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Residential	508	518	523	489	509	517	522	523	558	618	598	633	650	668
Mobile	204	207	207	211	115	124	124	227	235	219	211	214	196	193
Vacation	133	133	133	175	168	166	258	180	156	122	159	135	128	123
Source: Town Reports and Town Records														

Table 14.6: Comparison of Economic Conditions; Grand Isle and other Towns in the County				
Town	Median Household Income 2010	% Receiving Public Assistance 2010*	Median Home Value 2010	% Working Out of Town 2010
Grand Isle	$65,000	5.1%	$229,800	93.9%
Alburgh	$40,855	22.0%	$172,200	92.3%
Isle La Motte	$55,625	20.0%	$233,300	98.1%
North Hero	$63,295	4.3%	$241,400	94.1%
South Hero	$64,663	6.3%	$329,600	93.3%
		*Cash or Food Stamps in the past 12 months		
Source: U.S. Census Bureau, 2006-2010 American Community Survey, 2009 Longitudinal Employment-Household Dynamics				

Table 14.6 compares some economic indicators for Grand Isle with those of other Towns in the county. Of special interest for the Town Plan is the fact that over 90% of the Town finds work elsewhere. This suggests two factors are critical to the economic viability of the community. First, many people choose to live in Grand Isle even though they work elsewhere. The Town should strive to maintain the quality of life that makes it such a desirable location. Second, these figures suggest that employment opportunities within the Town could be enhanced. In particular, the Town should look towards encouraging home-based businesses and other sources of employment consistent with the high quality of life in Grand Isle. In addition to a steadily increasing year-round population, the popularity of Lake Champlain and easy access to the greater Burlington, Vermont metropolitan area have resulted in a summer population estimated to be almost twice that of the year-round population.

APPENDIX TWO: MUNICIPAL FIRE DISTRICTS AND PRIVATE WATER SYSTEMS

The following is a list of the municipal water systems, known as fire districts, and private water systems serving more than two buildings in the Town. Included for each district or system are the number of buildings or people served.

1. Grand Isle Consolidated Water District
   Buildings Served: approximately 722
2. Fire District No. 4
   Buildings Served: approximately 360
3. Fish Hatchery System
   Buildings Served: 1 [not for drinking water]

A list of all private water systems serving more than two buildings was not available at time of printing.

APPENDIX THREE: HISTORIC SITES

The Historic Sites listed below are listed in the Vermont State Register of Historic Places for the Town of Grand Isle. The Hyde Log Cabin, Site No. 0702-17, and the Harness House, Site No. 0702-23, are also listed in the National Register of Historic Places.

Name of Site	Site No.	Name of Site	Site No.
Round Barn Farm	0702-01	Depot Gallery	0702-02
Mead Property	0702-03	Hazen House	0702-04
Dodge Farm	0702-05	Camp Marycrest	0702-06
Horican Barn	0702-07	Norton House	0702-09
Point Farms, Inc.	0702-10	Point Farms, Inc.	0702-11
Morris House	0702-12	Smith House	0702-13
Perkins House	0702-14	PTO Benefit Shop	0702-15
Morway House	0702-16	Hyde Log Cabin	0702-17
Poquette House	0702-18	St. Joseph's Church	0702-19
Watson House	0702-20	Rowen House	0702-21
Bean House	0702-22	Harness House	0702-23
Robyor House	0702-25	Powell House	0702-27
Gordon-Center House	0702-29	Lipsett House	0702-30
More House	0702-31	Starbuck House	0702-32
Hoag House	0702-34	Westerly Camp District	0702-35
Richardson House	0702-36	Macombers Cottage	0702-37
Brown House	0702-38	Norris/Kech/Sheldon House	0702-39
Church House	0702-40	Stegner House	0702-41
Sartore House	0702-42	Scholtz House	0702-44
Guibord House	0702-45	Piter Poel House	0702-46
Barrett House	0702-47	Reigelman Cabin	0702-48
Cassidy House	0702-49	Shaw House	0702-50
Griswold House	0702-51	Caswell Property	0702-52
Johnson House	0702-53	Sylvester House	0702-54
Paradee House	0702-55	Silver House	0702-56
Santor House	0702-57	Poquette House	0702-58
Parizo House	0702-59	Picard House	0702-60
Gordon House	0702-61	Paradee House	0702-62
DeMars House	070263	Hanson Property	0702-64
Trombley Property	0702-65	Hock House	0702-66
Dubuques House	0702-67	Dubuque House	0702-68
Boudreau House	0702-69	Cootware House	0702-70
DuBuque House	0702-71	Oviatt House	0702-72
Morway Farm Complex	0702-73	Yurdin House	0702-74
Gomez House	0702-75	Pelkey House	0702-76
Pearl House	0702-77	Miller House	0702-78
Prouty House	0702-79	Union Church	0702-80
Town Garage	0702-81	Grand Isle Free Library	0702-82
LaMotte Property	0702-83	Cross Property	0702-85
J Poquette House	0702-86	School District Property	0702-87
Marycrest House	0702-88		