

# **Glover Town Plan**

**Adopted: February 8, 2018**

## **Planning Commission Members:**

**Randy Williams-Chairman  
Liz Nelson- Secretary**

**Mariel Hess  
Carmela Young  
Jim Bowes  
Ann Creaven**

**Ann Lindner  
Hope Colburn  
Jack Sumberg-Selectboard  
Brian Carroll-Selectboard  
Nick Ecker-Racz-Past Chairman**

**Glover Town Plan 2018  
Table of Contents**

Table of Contents-----	1
Section 1: Overview-----	2
Objectives and Policies-----	3
Glover Town Plan Goal-----	4
Section 2: 2016 Community Survey-----	4
Section 3: LAND USE-Environment, Preservation & Natural Resources-----	5
Overview- Present Conditions-----	5
Goal, Strategy, Objectives-----	6
Understanding the Regulatory Environment-----	6
Preservation of Natural Resources and Historical Sites-----	7
Preservation of Natural Resources-----	7
Water Resources-----	7
Aquatic and Shorefront Use-----	7
Flood Hazard Area and Floodways-----	8
Present Conditions-----	8
Goals, Strategies, Objectives-----	9
Preservation of Historical Sites-----	9
Present Conditions-----	9
Goals, Strategies, Objectives-----	9-10
Section 4: Transportation-----	10
Other Infrastructure-----	10
Present Conditions-----	11
Goals, Strategies, Objectives-----	12
Section 5: Utilities and Facilities-----	12
Present Conditions-----	13
Goals, Objectives-----	14
Section 6: Education-----	14
Present Conditions-----	15
Goal, Strategies, Objectives-----	15
Section 7: Energy-----	15
Present Conditions-----	16
Goals, Strategies, Objectives-----	16
Section 8: Housing-----	17
Present Conditions-----	18
Goals, Objectives-----	18
Section 9: Recreation and Tourism-----	18
Present Conditions-----	19
Goal, Strategies, Objectives-----	19-20
Section 10: Economic Opportunities-----	20
Present Conditions, Goal, Strategies-----	21
Section 11: Health and Well Being-----	21
Present Conditions-----	21-22
Goals, Strategies, Objectives-----	23
Section 12: Flood Resilience-----	24
Section 13: Neighboring Communities-----	36
Appendices-----	39

Six additional maps are available as a separate document.

# GLOVER TOWN PLAN, 2018

## SECTION 1: OVERVIEW

[Glover](#) is a rural town in the Northeast Kingdom of Vermont. It is characterized by independent, practical, hard working citizenry in terms of occupations, recreation, and in their support of social institutions.

The Town of Glover considers itself an open and welcoming community to all individuals without regard to race, color, age, religion, ethnicity, national origin, gender, gender identity or expression, sexual orientation, sexual preference, genetics or disability.

Glover's landscape is comprised of verdant rolling hills, pastures, farmland, forest, two sizable lakes and three ponds. It has two distinct population centers - Glover Village and West Glover Village. It sits centrally in "the Kingdom", and while it has its own municipal governance, it functions interdependently and cooperatively with surrounding towns. See **Appendix A** for a history of Glover.

## GLOVER TODAY

According to U.S. Census Bureau population estimates for 2015 the year-round population of Glover is 1,122. Summertime population is much higher due to the large number of seasonal homes. Per grand list of 2016, there are 521 year round residences, 47 of which are mobile homes and 13 of which are farms. There are 204 seasonal residences.

Glover residents comprise a diverse range of occupations, skills, life experiences, class and education levels.

Glover citizens have not expressed a strong interest in large population growth or development. However, they express strong interest in technological development, especially internet and communications technology. They feel it is essential to stay connected with the broader world. For this reason, a particular goal of this updated Town Plan is better access to high speed broadband/cell/internet service. Recreation opportunities continue to be a strong interest among Glover residents and a draw to tourists. Because of this, another priority of this Town Plan is supporting and expanding the recreation and tourism industry.

Our present infrastructure and community support systems appear to be functioning reasonably well. We have a vibrant elementary school. Glover relies on facilities outside our community to address our health care needs. We do have a well trained and capable fire department and rescue squad.

We own a municipal sewer system serving Glover and West Glover villages. The wastewater is treated at the Barton treatment plant where Glover has a 25% share of the capacity.



NOTE: The following sections of the Town Plan are organized as follows: an introduction, a listing of present conditions, and a statement of goals, objectives, and strategies.

### **Glover Town Plan Goal:**

To facilitate thoughtful municipal decisions affecting growth and development in Glover as an expression of community values and recommendations, and to create capacity for obtaining additional resources such as grants.

## **SECTION 2: 2016 COMMUNITY SURVEY**

See Copy of Survey Form in **Appendix B.** [Copy of Survey Form](#)

We wrote our survey as a means to solicit feedback on the current plan and to get recommendations from the public.

The 2016 Glover Town Plan Survey - responded to by 38 residents revealed the following:

The highest ranking reasons why residents choose to live in Glover were: “community,” “beauty,” “family,” and “friends.”

Ranking highest of those things valued most about living in Glover were: “people,” “physical beauty,” “rural,” “good school.”

Most often identified areas in which respondents wanted to see Glover develop and change in the future were: “Slowly,” “Cell service,” “Internet service,” “Sewer System for Lake Parker,” “Economic opportunities.”

Highest rankings of responses to what you want most to see preserved for future generations were: “Farms,” “lakes,” “views,” “Rural Character,” “Town school,” “Currier’s Store,” “Library.” “Agriculture.”

Highest ranking recommendations for the future of Glover School were: “Keep it,” “Community usage,” “Keep local school board,” “Keep local control,” and “Keep it small.”

Highest ranking recommendations to improve access to primary medical and dental care were: “Ambulance,” “Transportation,” and “Dental in Barton.”

Highest ranking recommendations for improving job opportunities and economic growth in the area were: “Small businesses,” and “Better transportation systems.”

Highest ranking public transportation and assistance you would like to have available were: “Buses,” “Van Service,” “RCT”, and “Taxi.”

Highest ranking vistas, views, or specific historic places in Glover that you would like to see preserved were: “Churches,” “Town Hall,” “Runaway Pond.”

Support of further development in the following areas were chosen most often: “Housing,” “Recreation,” and “Tourism.”

Highest numbers of respondents wanted Planning Commission to offer information on - or organize meetings about - the following: “Sustainable Energy Resources,” “Forest and Woodlot management,” “Federal and State Land Use Tax Programs.”

### **SECTION 3: LAND USE - Environment, Preservation & Natural Resources**

#### **OVERVIEW - PRESENT CONDITIONS**

According to the 2016 Grand List, there are 864 parcels of taxable land in Glover. There are 521 year round residences. Residential houses are clustered in Glover and West Glover villages as well as around the lake areas and scattered throughout the township in the typical rural pattern of the region. There are about 204 seasonal properties, most of which are located along the shores of Lake Parker, Shadow Lake, Daniel’s Pond and Clark Pond. The State of Vermont owns a one-rod strip of land on both banks of the South Barton River and a few other parcels including 4 boat ramps.

Commercial properties are located at private residences or clustered adjacent to Route 16. Residential structures continue to be built and it is anticipated that conversions of existing seasonal homes to permanent residences will continue.

Farming and forestry have played a significant role in forming our landscape. Activities which depend upon land and natural resources continue to be a mainstay of the local and regional economy. Although the number of dairy farms has decreased over time, the amount of land devoted to agriculture has actually increased in recent years. Dairy farming operations have consolidated, currently there are only 6, and fields are rented to supplement acreage directly owned by farmers. There are Christmas tree and other non-dairy farms, including the raising of beef, poultry, hogs and rabbits. There are 2 meat processing/packaging enterprises, 24 maple sugar producers, and 1 birch sugar producer.

Forestry products are harvested throughout Glover and woodlot management is an ongoing priority for many landowners.

Glover is fortunate to have an active farming community. Leased farmland is an important component of Glover’s land use. This enables some landowners to maintain open land they are not using and generate capital, as well as reap tax benefits from Vermont tax abatement programs like Current Use (Use Value Appraisal Program). The Current Use Program insures that the land is actively managed and thus taxed as forest or farmland, not for development potential (**See Appendix C**).

<http://tax.vermont.gov/property-owners/current-use/current-use-enrollment>

Ninety-eight parcels of residential and non-residential land, totaling 14,000 acres, are enrolled in the Current Use Program. This represents 60% of the Town's total acreage. Five of these parcels, totaling 3,335 acres of agricultural and forest land - have been conserved permanently by land trusts. This represents a significant increase in conservation activity since the 2011 Glover Town Plan revision. The increase can be mainly attributed to conservation easements to Vermont Land Trust.

There are 4 recreational bodies of water in Glover: Lake Parker, Daniels Pond, Shadow Lake and Clark's Pond. All of these have fishing and boating accesses maintained by the State. Lake Parker and Shadow Lake have property owner associations whose function it is to address issues of common interest or concern with regard to their lake's usage and management.

There is a highway rest stop on Rt.16 in south Glover where the Runaway Pond Monument is featured in a small park, owned by the State of Vermont. Glover Historical Society takes responsibility for upkeep of this area.

**GOAL:**

- Preserve the rural nature of Glover.

**STRATEGY:**

- Maintain Glover Town character by encouraging and directing growth using local, non-regulatory and incentive based tools. Provide information about the non-regulatory tools, such as Land Trusts and the Current Use program.

**OBJECTIVES:**

- Facilitate a broadly inclusive discussion of how land use and regulation work to protect natural resources, the working landscape and community character.
- Consider the creation of a local working lands network composed of individuals with a stake in agriculture or forestry. The group could identify current and future challenges and regularly report to the Planning Commission.
- Rely on Act 250 to regulate potential commercial and industrial development.
- Develop a system of public use trails for hiking, biking, running, horseback riding, winter sports, and off-road vehicles.
- Have input as to the placement of modern technology such as solar farms and industrial wind towers. (See specifics under ENERGY SECTION 7 of this Plan.)

**UNDERSTANDING THE REGULATORY ENVIRONMENT**

- Glover has no zoning, however, there are already regulations that have influenced land development at the state and local level. The state regulatory environment influences land development such as the Vermont State regulations regarding onsite septic installation, shoreline zone development, and required agricultural and forestry practices.

**PRESERVATION OF NATURAL RESOURCES AND HISTORICAL SITES**

**OVERVIEW:**

There is a strong desire among its residents to preserve Glover’s rural appearance, sensitive natural environments, lakes and ponds, and historic structures.

Glover encourages the preservation and efficient use of natural and historical resources for the future. This includes maintaining a healthy environment to sustain the hunting, fishing and bird watching that are important to both the residents of Glover and visitors to the area. The Vermont Natural Heritage Program has identified sites in Glover, including rare, threatened and endangered species, and significant natural communities.

### **Preservation of Natural Resources**

The Town of Glover has relied on the good will of its residents to retain the intrinsic natural and scenic qualities of the land within the constraints of state regulations regarding logging and agriculture. The current appealing visual quality of the landscape is largely the result of the energy of generations of woodcutters and farmers. This plan hopes to reinforce the retention of our rural landscape by defining the qualities which make our town so appealing.

- Water Resources

Glover’s wetlands are designated on the Wetlands Inventory Map (Vermont Agency of Natural Resources, <http://nrb.vermont.gov/> ). [Wetlands Map](#) (See **Appendix D**). Wetlands support significant vegetation and aquatic life while also protecting lake water quality and infrastructure by controlling stormwater runoff and erosion.

Most of the land in Glover lies within the Lake Memphremagog watershed, with a small portion of southern Glover draining to the Lamoille River. The town recognizes that field work, monitoring, and ongoing education will help to maintain the water quality.

State regulations control the use of these wetlands.

- Aquatic and Shore Front Use

Lake Parker, Shadow Lake, Daniels Pond, Clark’s Pond, and Sweeney Pond are located in Glover. Their preservation is an important goal of our town.

### **Table of Lakes**

List of Lakes in Glover, VT
-----------------------------

Name	Area (Acres)	Watershed Area (Acres)	Maximum Depth (Feet)	Average Depth (Feet)	Volume (Acre-feet)
Parker Lake	239	5418	45	25	6250
Shadow Lake	210	3575	139	55	11550
Daniel's Pond	66	1079	13	8	528
Clark's Pond	33	1078	24	13	429

Source:  
<http://dec.vermont.gov/watershed/lakes-ponds/data-maps/scorecard>

- Flood Hazard Area and Floodways

A flood hazard area is one that would be statistically likely to be inundated by a flood once every 100 years. A floodway is the most hazardous section of that area. The flood hazard area includes the South Branch of the Barton River in Glover Village and the headwaters of Roaring Brook in West Glover Village. (See Section 12: Flood Resilience)

#### Present Conditions

- Significant portions of the shorelines of Lake Parker, Shadow Lake, and Daniels Pond are developed and pose a potential challenge to water quality.
- The Lake Parker Association, organized in 1971, is a Federal tax-exempt organization which has assumed responsibility for a lay water monitoring program. In conjunction with VT Center for Ecostudies, the Association also conducts a loon count. It also maintains the Hester Webster Nature Trail at the south end of the lake. Membership is not restricted to lakeshore dwellers. (<http://www.lakeparker.org>)
- The Shadow Lake Association, whose many functions include assisting the town in maintaining a high standard of water quality and ensuring recreational safety, strives to preserve and protect the healthy ecology of the lake. The popular Boat Wash, established in 2003, was the first hot-water wash station operating in Vermont. The effort has been very successful to control invasive biota. We have a lay monitor (20 years now) who tests regularly for water clarity, total phosphorus and chlorophyll counts. We are a founding member of FOVLAP (Federation of Vermont Lakes and Ponds). We also have two VIP 's (Vermont Invasive Patrollers) on the lake who are able to identify aquatic plants and other species to determine which are good for lakes and those not. It is a non-profit organization dependent on funding from the town, as well as through memberships, individual donations, state grants and fund-raising projects. (<http://www.shadowlakeassociation.org>)

- The Town Health Officer regularly samples lake water at the Shadow Lake public beach.
- The town has a flood zone ordinance which serves to restrict the building of permanent structures in the flood zone. The ordinance is a requirement of The National Flood Insurance Program, so that the town remains eligible for pre-disaster mitigation funds.

#### Goals, Strategies, and Objectives

- Support watershed studies, monitoring and education to maintain water quality.
- Help preserve and protect Glover's wetlands, ponds, and lakes according to the Vermont Water Resources Board rules.
- Maintain all lakefront areas, the South Barton River and other streams in compliance with the law.
- Adhere to current regulations and policies regarding septic systems and storm water.

#### **Preservation of Historical Sites**

Glover is lucky to have an active Historical Society that operates a small museum and works to preserve our town's cemeteries and the historical Parker Settlement archaeological site.

#### **Present Conditions**

- The Parker Settlement, abandoned in the 1840's, and now privately owned, is an active archeological site. Efforts are in progress to conserve seven acres of the Parker Settlement. The Hinman Settler Road, which runs through the Settlement, is being maintained as a hiking and snowmobile and cross country skiing trail.
- The four cemeteries in Town (Westlook, Andersonville, West Glover, and French) are maintained in large part by the Glover Cemetery Commission. Financial support comes from plot purchasers and the Town.
- The annual Pioneer Camp celebrated its 20th anniversary in 2016. The camp introduces first through eighth grade children to the history of Glover. The program is supported by town funding, private donations for campers' scholarships, and grants from the Vermont Community Fund.  
(<http://www.gloverpioneercamp.org>)

#### **Goal:**

- Identify, maintain and interpret the historic buildings and resources.

#### **Strategies:**

- Work with the Glover Historical Society, Cemetery Commission, Parker Settlement, Inc., and other Glover property owners in identifying and protecting important historic structures and sites.

#### **Objectives:**

- Assist historic preservation grant applications.

- Investigate Village Center designation for both Glover and West Glover Villages through the Vermont Downtown Board. This program encourages historically accurate rehabilitations and renovations through tax credits and improves grant access for towns so designated. See **Appendix E**.  
<http://accd.vermont.gov/community-development/designation-programs/village-centers>

## SECTION 4: TRANSPORTATION

The Town of Glover maintains just over 58 miles (14.32 Class 2, 37.29 Class 3, and 6.6 Class 4) of public highways (See **Appendix F - Glover Highway Map**). About 8 miles of these roads are paved: Bean Hill Road, Roaring Brook Road, and portions of Shadow Lake, County Road, and Perron Hill Road. Ongoing maintenance is a major component of the annual municipal plan for services (includes plowing and maintenance. (~ \$7,000 per mile). In 2001, the town adopted a Road Policy which specifies the standards to which roads will be maintained, as well as the qualifications for reclassifying or adopting a new town road. Class 4 roads and trails are not required to be maintained for year-round travel.

### Other Infrastructure

VT State Fishing Access Points: There are four Fish and Wildlife-owned public boat launches in town: Lake Parker (Access Lane), Daniel's Pond (Daniel's Pond Road), Shadow Lake (Shadow Lake Road), Clark's Pond (Route 16).

Public Transit: Rural Community Transportation, Inc. (RCT) is the only public transit provider in the Northeast Kingdom, providing transportation for a fee on its fixed bus routes. It not only provides regular bus routes, but will schedule an individual volunteer driver to drive an individual from their home to an appointment.

Railroad Service in Glover: Glover has no rail line in the town but is situated between the Lamoille Valley Railroad to the south and the Washington County Railroad to the northeast. The Lamoille Valley Railroad is no longer used as a working rail line and the entire length of the 96 mile rail bed has been converted to a four season recreational trail to be managed as part of the VAST (snowmobile) trail system.

Airports for Glover: The two state-owned airports, the Newport Airport and Caledonia Airport (in St. Johnsbury), serve the region. Newport Airport is in the process of being upgraded to an international airport with service to Canada. For national and international flights, this area is generally served by Burlington, VT or Manchester, NH, and West Lebanon, NH.

Cycling in Glover: The roads in Glover offer a variety of on-road and backroad cycling adventures. The Town recognizes the importance of biking in the area. There is presently discussion with Local Motion ([www.localmotion.org](http://www.localmotion.org)) out of Burlington to improve the quality of biking experience in Glover. A regional pamphlet, "Cycling in the

Kingdom,” has mapped several bicycle loop trails in the Kingdom. One of these trails is a nearly 60 mile loop called “Around the Block” which passes through Glover on Route 16.

Snowmobile Trails: Glover Trailwinders is the local affiliate of the Vermont Association of Snow Travelers (VAST). VAST sponsors the maintenance of Glover trails through the volunteer efforts of local club members. These trails are also often used by skiers, walkers, and horseback riders.

Commuting to Work: There is little commercial and industrial activity in Glover, with most employment opportunity outside of town. The majority of Glover residents rely on private transportation to get to work.

## **Present Conditions**

Interstate 91 transects the northeast corner of Glover, allowing highway access from the Barton exit, two miles from Glover and from Route 122 in Sheffield. State Highway 16 provides a north/south access. Regional air and rail access is poor, requiring travel time of an hour or more to reach a railhead or airport.

Glover now has radar feedback speed signs on Route 16 to calm the traffic through Glover Village.

All town roads are open to registered ATV travel.

The town’s Road Policy prohibits the use of snowmobiles along public highways unless 1) the highway is not being maintained, or 2) the operator is at least five feet away from the plowed portion, or 3) unless snowmobile access is approved by the Selectboard.

The Town of Glover does not provide any maintenance or upkeep of trails. Requests for repair, maintenance, improvement, or restoration by a private person or landowner will not be “unreasonably denied” by the Select Board.

Accident Notes According to the Dept. of Public Safety data from Jan 2013-Jan 2016, there were 26 traffic incidents/accidents and 8 injuries.

## Sidewalks, Pedestrian Trails and Crosswalks

There is an existing 4’ sidewalk on the west side of Route 16 in Glover Village, from Bean Hill to Still Hill intersections. There are also crosswalks between Currier’s Market and the Busy Bee and across Bean Hill at Glover Street (Rt 16). Another crosswalk is needed on the north side of Bean Hill to cross Glover Street. The sidewalks which were once in West Glover village are now buried under the lawn as the road has been elevated.

Patronage at Parker Pie has steadily increased in recent years, consequently, patrons are having to park at both the ambulance bay and the West Glover Church. The walking traffic to and from those parking areas creates a potentially hazardous situation for both drivers and walkers. The installation of sidewalks along the southern side and crosswalks across the Roaring Brook Road intersection and across County Road just above the ambulance parking area would help reduce the danger.

### Municipal Parking

There are municipal parking lots in Glover at the Glover School and municipal building. Parking in both Glover and West Glover villages is a source of concern. Visibility at both locations is poor when pulling onto the road. In Glover Village, parking and associated vehicular traffic from the general store and diner is a problem along both sides of Route 16. There are currently no plans to mitigate that problem. A formal traffic study, possibly funded by a VTrans grant, is recommended to see if solutions can be developed.

#### **Goal:**

- Provide walkers, bikers, and motorists with safe access throughout Glover.

#### **Strategy:**

- Continue to maintain - and improve as needed - Glover's traveled roads and sidewalks in good condition.

#### **Objective:**

- Investigate installing sidewalks and crosswalks in West Glover Village.

## **SECTION 5: UTILITIES AND FACILITIES**

Infrastructure includes water supply and distribution, sewage disposal system, solid waste disposal, electric and telephone grid including cell and broadband system (covered in Energy/Telecommunications Section 7), roads, traffic, public transportation facilities, and municipal real property and buildings.

Given the greater emphasis on telecommunications in the national economy, it is vital to the economic well-being of Glover to develop its telecommunications infrastructure, while also maintaining the traditional rural landscape which is the foundation of Glover's largely recreation-based economy.

### Facility Map (**See Appendix G**)

Towers and related infrastructure require careful consideration. These structures tend to be located on highly visible locations on mountaintops, ridge lines, and in residential areas. The need for additional facilities is projected to continue to increase. The Federal Telecommunications Act of 1996 placed certain limitations over municipal control of these structures.

As for availability of broadband, the recent community survey showed support for increasing access. Individual service providers have shown an interest in delivering wireless broadband to those portions of town which do not yet have access via cable or DSL (Digital Subscriber Line).

### **Present Conditions**

- Public land and facilities in Glover currently include upwards of 50 acres of town-owned real estate, in addition to 111+ acres held by the state, which includes the boating accesses on Shadow and Parker Lakes and Daniels and Clark Ponds, as well as multiple lots along the Barton River stream bank.
- Town offices, public library, and historical society are housed in a former residential structure. The Town Hall, built in the 1940s after a devastating fire of the Glover Liberal Institute, was renovated in 2000 after the flooded South Barton River damaged the structure. It is used for Town Meeting, Senior Meal Site, and various other community activities, and is a backup emergency shelter. A new town garage is being built in 2017.

### [Glover Real Estate Table](#) (See **Appendix H**)

- A twenty-six acre parcel purchased in 2004 is being used for an extension of Westlook Cemetery, recreation ball field, and a municipal gravel pit.
- The Glover School providing K-8 education is located in Glover Village. Renovation in 2004 included new classrooms, library, a gym/cafeteria, and playground. The school is also a backup emergency shelter.
- Land dedicated to public recreation includes Shadow Lake Beach, the Glover Village Green, the Hester Webster Nature Preserve on the south shore of Lake Parker, and State of Vermont fishing access areas.
- There are 140 sewer hookups in Glover and West Glover. Most other homes in town have private wells or springs, and private septic systems.
- There is no municipal water system. There is a small private water system that serves some Glover Village homes.
- A municipal sewer system was built in Glover and West Glover Villages in 1982. Wastewater is pumped to the sewage treatment plant in Barton. Glover owns 25% of the plant's capacity.
- Glover has a Town sewer ordinance, revised and adopted in 2015.
- Currently most solid waste goes to Waste USA in Coventry, with trash pickup done by private haulers. Glover has an active recycling center. (See **Appendix I** for more information)
- The Town Health Officer is available to service public health complaints and to monitor surface water quality. There are no public health facilities in Glover other than Rescue Squad vehicles and equipment.
- Cellular phone coverage is spotty in Glover, with large portions of town out of cellular phone range.
- High speed internet is only available via cable in Glover Village. DSL (digital subscriber line) through Fairpoint is available in many parts of town. Satellite or wireless options are also available.

- The Volunteer Fire Department operates under municipal auspices and funding, and also raises additional support through public solicitation. The Glover Ambulance Squad operates as a non-profit under its own charter. These two services are currently dispatched through the State of Vermont E-911 system.
- Glover has a Local Emergency Operations Plan. An All Hazards Mitigation Plan is in preparation.
- Glover has a four-bay fire station and emergency shelter, completed in 2002.
- The ambulance service operates out of the completely renovated former creamery building in West Glover. The ambulance service is supported by insurance reimbursements, private donations, grants, and municipal monies as requested.
- Vermont State Police and the Orleans County Sheriff provide police services. The Town Constable enforces our Animal Control Ordinance.
- A new town garage was built in 2017. The old garage is now used for recycling.

#### **GOALS:**

- Continue to provide adequate town facilities and public gathering space for government, recreation, education, waste management and recycling, and emergency use.
- Obtain town wide access to broadband internet via the Rural Broadband project, and work toward extending cellphone coverage in Glover.
- Location of cellular and other telecommunications towers and/or transmitters should both comply with state regulations and reflect our local interests and preferences, incorporating at a minimum, the following: aesthetics, integrity of residential zones, ridgeline protection, preferred locations (general and specific), and co-location or clustering of tower facilities.

#### **OBJECTIVE:**

- Develop the town green next to the Union House to make it more usable and appealing (i.e. landscaping, a gazebo, etc.)
- Appeal to our local state representatives and senators to sponsor or support any legislation that would increase access to broadband internet and cellphone coverage.

#### **SECTION 6: EDUCATION**

Historically, the town operated a system of one-room schools, with as many as 14 separate small graded school districts in the 19th century. These schools handled all grades until 1938, when the community school was built in its current location in Glover Village. It was rebuilt in 2002-2003, incorporating some of the 1960's addition, with much new construction. It includes a large auditorium, also used as a cafeteria and gymnasium.

## **Present Conditions**

The Town of Glover operates one school (K through 8) with approximately 105 students enrolled in the 2016-17 year. Pre-K is available in Barton. According to 2010 US Census data 72 children of grade school age (ages 5 to 14 years) resided in Glover.

High expectations and aspirations for our children's future result from a shared vision between the school and community. The school's planning team for the School Wide Program included school staff, administrators, board members, community members, parents and input from students. Support agencies including Health and Human Services as well as local businesses work in collaboration with the school to enhance its educational programs. The Parents Club is integral and an active part of the school culture.

As of October 2012, there were 41% of students participating in the free and reduced federal lunch program.

Busing is provided to the Glover Village School, Lake Region High School in Orleans, and to North Country Career Center in Newport.

### **Goal:**

- Provide an exceptional educational opportunity for the children residing in Glover.

### **Strategy:**

- Continue to fund relevant educational services at the facility of the graded school, and explore new funding opportunities for after-school programs and extra-educational programs housed in the facility.

### **Objectives:**

- Support the School Board in maintenance of the school building and grounds in good working order.
- Support the town library in its educational support of Glover students.

NOTE: ACT 46, regarding School Consolidation, was voted down by the Town in 2016. It is currently under review by the State. (See **Appendix J**)

## **SECTION 7: ENERGY**

There's a growing awareness of the long-term costs of our energy choices (economic, environmental, and social). The use of energy is an important consideration in local decisions about municipal services and facilities, land-use, building standards, and our local economy.

The planning Commission recognizes the importance of renewable energy resources and recommends their development and their use within the town. These would include wood, solar, small hydro, small wind-generation, and biomass based energy production. We look to reducing energy consumption, promoting greater comfort, and reduced annual energy costs for all Glover citizens, while protecting the Town's historical and natural heritage.

A main focus will be to establish a Glover Energy Committee to accomplish the goals set forth in this plan in alignment with other statewide initiatives and the State of Vermont's Comprehensive Energy Plan. (See [Appendix K: Regional Energy Goals and Strategies](#).)

### **PRESENT CONDITIONS**

- A Glover Energy Committee has been established to help accomplish the goals.
- Nearly all of Glover is served by VEC (Vermont Electric Cooperative). Municipal electric companies and Washington Electric Cooperative also have minor easements in the southernmost sections of Town.
- 4% of Glover households have net-metering.
- There are at least 5 off-grid households in Glover.
- Many residents burn wood for heat or as a backup
- Town buildings were audited in 2010. Some work was done on Town Hall to improve energy efficiency.
- Fire station, school, town garage, and ambulance bay have generators for emergencies
- Public street lighting is energy efficient
- A small park-and-ride site exists at the Town Office

### **Goals:**

- Promote local use and development of small scale renewable energy resources (wind, solar, hydro and biomass), as well as energy efficiency - to help reduce energy costs and help meet clean energy goals.
- Work toward an enhanced energy element for the Glover Town Plan after the enhanced Regional Energy Plan is approved.

### **Strategy:**

- Support the Glover Energy Committee in building robust community awareness about the available resources and ongoing activities in energy efficiency and renewable energy, both privately and publicly, and encourage further participation.

### **Objectives:**

- Intensify efforts to promote energy conservation and weatherization activities at the household and Town levels.
- Reach out to Glover School to determine areas of collaboration and coordination in identifying and implementing energy efficiencies.

- Encourage greater transportation efficiency by supporting the expansion of rural transportation, car-pooling, and bike/pedestrian access.
- Encourage greater use of electric and more fuel efficient vehicles.
- Promote use of energy efficient, limited-spread night lighting.
- Encourage home audits and resources to meet the recommendations.
  - Provide associated education sessions.
  - Distribute energy information.
  - Develop ways of reducing vehicle idling in private and public spaces
  - Promote use of energy efficient lighting.
  - Investigate resources for capturing methane as a renewable energy resource.
  - Continue to implement energy audit recommendations for town buildings
  - Identify possible sites that would meet our criteria for solar and wind facilities.
  - Use Vermont Energy Dashboard to track our progress in energy efficiency (<http://www.vtenergydashboard.org>).
  - Use NVDA's Regional Energy Goals and Strategies as a guide. See **Appendix K**.
  - Work with existing energy committees in neighboring towns, as well as local and state resources. See list of these in **Appendix L** with contact info.
  - Collaborate with NVDA on developing Glover's energy targets and goals.

## **SECTION 8: HOUSING**

The Town would like to encourage development that meets a variety of housing needs that are affordable to low and moderate-income individuals.

The Town is planning to pursue Village Center Designation consistent with NVDA Regional Plan guidelines. See **Appendix E** for more information.  
<http://accd.vermont.gov/sites/accd/files/Documents/strongcommunities/cpr/131125>

Should the need arise the town can apply for Vermont Community Development Program Grants. Municipalities with duly adopted town plans may apply for Vermont Community Development Program (VCDP) <http://accd.vermont.gov/community-development/funding-incentives/vcdp> grants to support affordable housing, which is one of the program's top priorities for funding.

The Hidden Cost of Rural Living: Even though the average and median prices of primary residences in the Northeast Kingdom may be lower than statewide, real estate is not necessarily a bargain for those who live and work here, because median and mean (average) household and family incomes are lower than statewide incomes. Travel is another cost driver for housing in the Northeast Kingdom. Travel from households to destinations (like work) varies on the location of the home, and is considered affordable when it accounts for 15% of household income or less.

Combined, housing and transportation costs are considered unaffordable when they account for more than 45% of household income.

Affordable housing benchmarks for Glover will conform to the latest NVDA Regional Plan Chapter 5 Housing. See **Appendix M**.

**Present Conditions:**

- Population of Glover (includes Glover and West Glover) per 2010 Census: 1,122
- Population below poverty level: 7.3% (per American Community Survey 2015)
- Glover has a 12 unit subsidized housing facility.
- Glover does not have zoning; landowners have the freedom to build what they want as long as it falls within Vermont Regulations or any other regulations that apply.
- Total housing units: 781 (per American Community Survey 2015)
  - Occupied housing units: 473 (60.5%)
  - Vacant housing (seasonal) units: 308 (39.4%)

See **Appendix N** for more statistics.

**GOALS:**

- Residents should have safe, healthy, energy efficient, physically accessible, attractive, and affordable housing, which satisfies activities of daily living.
- Housing should be available in a variety of types that meet the needs of diverse social and income groups.
- New housing units created within village centers should conform with existing and traditional patterns.

**OBJECTIVE:**

- Promote the use and renovation of existing buildings to meet various housing needs.

**SECTION 9: RECREATION and TOURISM**

Recreation and tourism are intertwined issues. The development of recreation opportunities for local residents can also provide activities that will encourage tourism trade, important to Glover's economy. A number of the businesses in Glover benefit from the spending of tourists - including Currier's Market, The Busy Bee, Red Sky, Parker Pie, several B&B's, and those with rental property for visitors.

There is already a wealth of public and private recreation opportunities in Glover. The Glover Recreation Committee (GREC), first organized in 2002 by a group of active citizens, has continued to create recreational activities for all citizens. (See list of these in **Appendix O(a)** and suggestions for others in **Appendix O(b)**)

Bread & Puppet Theater has been a magnet for American and international tourists since establishing residency here in 1974. Glover has also greatly benefitted from their active participation in community activities.

Another tourist magnet is Parker Pie Restaurant which not only offers dining fare, but also sponsors a host of public events.

Glover is also home to 4 museums, all of which are free to the public: The Glover Historical Society Museum, Bread and Puppet Museum, The Museum of Everyday Life, and the unofficial Museum of Taxidermy in Currier's Market.

Historically there has been a presumption that private land in Glover was open for outdoor recreation. However, a survey of the citizenry revealed that some landowners had a problem with unauthorized use of their private land for snowmobiling, hunting, hiking, and ATV use. Finding ways to address this to the satisfaction of all interested parties has been a recurrent challenge in town planning.

### **Present Conditions**

- Land dedicated to public recreation includes Shadow Lake Beach, The Glover Village Green, the Hester Webster Nature Preserve (3.7 acres on the south shore of Lake Parker), Runaway Pond Park Pull-off, and the ball field on intersection of Route 16 and 122. The State of Vermont offers boat access on Shadow Lake, Lake Parker, Daniel's Pond, and Clark's Pond.
- The Shadow Lake Association and the Lake Parker Association continue to organize summer recreation events.
- A substantial number of snowmobile trails, mostly part of the statewide VAST trail system, are maintained by local volunteers and landowners.
- ATV use is allowed on town roads in Glover and operation must be in accordance with the Town of Glover ATV Ordinance. (See under Glover Ordinances on Town of Glover Website.)
- The Glover Library sponsors occasional events including a book group, talent shows, and guest speakers.
- Glover has a Senior Meal Site Program two days a week at the Glover Town Hall (started in 2015), that attracts seniors from Glover and surrounding towns.
- Glover Pioneer Day Camp is an annual week long fun-filled event that engages youth in learning about the history of Glover on the location of one of its earliest settlements.
- Space is available (with permission) for indoor public events at numerous Glover locations: the two local churches, the Glover School, the Glover library, the Town Hall, and Parker Pie Village Hall.
- A mass gathering ordinance has been in place since 2000 . (See under Glover Ordinances on Town of Glover website)

### **Goal:**

- Promote recreational use of public land and private rights-of-way (with the permission of landowners). The fact that some landowners do not wish to have motorized vehicles using their land and that many people want to hike on land free of motorized vehicles needs to be acknowledged. The development of

separate trail systems for motorized vehicles (snowmobiles and ATVs) and non-motorized use (hiking, mountain biking, cross-country skiing) should be encouraged.

**Strategies:**

- Support the Recreation Committee in their efforts to oversee the recreation facilities and programs - and encourage broader participation on this committee.
- Support the Lake Associations and assist with protection of recreational water resources including upkeep of public access areas for swimming, and picnicking.

**Objectives:**

- Develop a plan for improving access to and use of the Hester Webster Nature Preserve.
- Develop a plan for better use of the Town Green in Glover Village. See **Appendix P** for suggestions for making use of this space.
- Appeal to Glover Historical Society to consider running tours of Historical Sites (cemeteries, Parker Settlement, Runaway Pond Park). Also, appeal to local businesses, agricultural entities (farmers, sugar makers, gardeners, artists, craftspersons, etc.) to provide tours of their facilities/collections.
- Create an area wide community calendar - in collaboration with the Barton Area Chamber of Commerce - to advertise events and increase local communication and inter-connection.
- Work on creating a pamphlet that provides information about recreational opportunities in and around Glover. Include map identifying important landmarks, trails, etc. Utilize/distribute/promote existing resources, i.e. "Northeast Kingdom Trail Guide," "Back Roads Bike Rides," and LocalMotion. (<http://www.localmotion.org/>)
- Promote handicap accessibility in all endeavors.
- Set up a committee to look into and identify possible public trails - including along the historical Hinman Road - and begin dialogue with landowners and Selectboard, as well as surrounding communities and businesses, about feasibility and cooperation.

## **SECTION 10: ECONOMIC OPPORTUNITIES**

Regional industrial and retail economic development has centered in Barton and Orleans villages. Glover has traditionally been agricultural and residential in nature. There are, however, numerous local businesses - the most visible located along the mainstreet of Glover Village (Curriers, Red Sky, The Busy Bee, Union House, Sugar Woods, NEK Communications, Labor of Love, Stoneglass Jewelry) and West Glover Village (Parker Pie). But Glover is the home of many small businesses - most located as adjuncts to private residences, employing 1-25 employees. See list of these in **Appendix Q**.

The town of Glover welcomes any environmentally sensitive economic development, but has no active program or the financial resources to assist new business enterprises.

Future business growth will likely be information-technology dependent in areas such as telecommuting, specialty foods, value-added businesses, arts and crafts producers, and e-commerce. Such businesses can be located anywhere where entrepreneurs can gain access to communication technology. Attracting such small business and sole proprietorships would increase the economic strength of Glover, but will be dependent on high-speed internet access and an improved telecommunication system.

### **Present Conditions**

- The Town of Glover does not have a designated industrial park.
- There is no Chamber of Commerce dedicated solely to Glover, but there is a Barton Area Chamber of Commerce, as well as a Northeast Kingdom Chamber of Commerce in St. Johnsbury and the Jay Area Chamber of Commerce.
- Information technology in Glover is sub-optimal.

### **Goal:**

- Promote town wide access to broadband internet via the Rural Broadband Project, and work toward extending cellphone coverage in Glover.

### **Strategies:**

- Support telecommunications infrastructure by creating effective regional partnerships and advocating for increased infrastructure. Support creation of a region-wide telecommunications strategy that will address the need for broadband access and address the issue of the growing digital divide.

## **SECTION 11: HEALTH AND WELL-BEING**

All the traditional categories of the Town Plan have a bearing on the overall well being and sustainability of the community, but addressing specifically the physical, mental, and spiritual health of our citizens is felt to be important.

Glover's many volunteers demonstrate that Glover is indeed an engaged and independent community. From its local government, committees and commissions, to the library and school boards, Glover residents still adhere to the age old tradition of civic engagement and neighbors helping neighbors. Modern pressures threaten to challenge volunteer positions such as the volunteer rescue squad and the volunteer fire department.

### **PRESENT CONDITIONS**

Emergency Preparedness: Glover has a very active, highly trained and committed volunteer rescue squad and fire department. Many members have served on these rapid response teams for many years and are increasingly subject to burn out. There is a need for new members but recruitment has been a challenge.

A Senior Meal site serves our ambulatory as well as our house-bound Seniors since 5/2015. Twice a week it helps provide not only good nutrition but also opportunities for socializing - both essential for a sense of well-being.

A summer meal program provides local children with a nutritious meal once a week in conjunction with a summer library reading program.

Glover has a Senior and Low-Income Housing facility in Glover Village which was built in 2006 and has 12 units. This is serving an important and ever increasing need.

There are no health centers or clinics in Glover - but such do exist in Barton, Orleans and Hardwick. The closest hospitals are in Newport and St. Johnsbury. There is a nurse who serves our Glover School 4 days a week. The local ambulance squad supplies donated medical equipment to residents free of charge.

Most public facilities are handicap accessible. Ongoing attention must be made to create and maintain accessibility for everyone, in compliance with the law.

There is a school garden which was started by the Farm to School Program in 2009. This supplements the school lunch program with fresh garden produce, with a goal of providing good nutrition for healthy growing bodies and minds.

There are numerous CSA's (community supported agriculture) in surrounding communities of which Glover residents can avail themselves. Glover does not have a farmer's market, although there are several during the summer in surrounding communities.

There is a Glover Local Emergency Operations Plan in place in the event of a major catastrophe. Our fire station is a Red Cross designated emergency shelter.

Glover is in the catchment area of Northeast Kingdom Community Action, as well as the Northeast Kingdom Council on Aging, and Home Health Agency, which provide numerous services including job search assistance, health care, food shelf, RCT (Rural Community Transportation), tax preparation, etc.

Glover residents have access to educational opportunities via CCV (Community College of VT), Springfield College, adult education programs at Lake Region and North Country High Schools, and the internet.

The Glover Community Church and the West Glover Church are the two active churches in their respective communities. The Glover Women's Union and West Glover Willing Workers provide outreach by identifying and assisting community members in need of food, clothing, shelter, transportation, etc. Fundraisers are run throughout the year to finance their work. Other faith-based groups and organizations can also be found within Glover and the greater community.

There are several mental health/mediation/counseling providers in Glover. There are also various support groups and hotlines available in the wider community that are listed regularly in local newspapers and online.

See Section 9: Recreation and Tourism for further programs/opportunities that contribute to our community's well-being.

**GOAL:**

- Work toward making Glover an inclusive and safe community where people from all backgrounds and identities feel welcome and at home.

**STRATEGY:**

- Encourage and expand volunteerism and citizen participation in the town's activities.

**OBJECTIVES:**

- Work to make Glover a food secure community by setting up a food shelf, maintaining a Meals-on-Wheels program, and creating community garden opportunities.
- Encourage mentoring relationships and skill sharing between school children and community members, especially seniors. This could include reading programs, talent sharing, story-telling, art exhibits and job shadowing.
- Look into the possibility of setting up a walk-in clinic, urgent care facility, addiction counseling, teen safety shelter, and after school programs in Glover.
- Assess the need for a dental program at Glover School - such as the Ronald McDonald Dental Mobile Unit.
- Work to promote community spirit by offering various community activities (See under Section 9: Recreation and Tourism for particulars).
- Remain vigilant to potential hazards with plans for quick mitigation: water, soil, air pollution, fire, flood.
- Take advantage of Lake Region Union High School community service program to help address community needs.
- Continue active participation in Local Emergency Planning Commission District 10.
- Hold a "Health and Wellness Day" inviting vendors and representatives from various organizations that promote health and well-being to set up a table. Exhibitors might include someone from Building Bright Futures, Vermont Center for Independent Living, CCV, Northeast Kingdom Council on Aging, local yoga and fitness instructors, SASH(Support And Services at Home).
- Maintain a list of volunteer opportunities - on a public bulletin board, community calendar, Front Porch Forum, at Town Clerk's office, at school, and at the library.
- Conduct an annual community survey to identify needs and desires.

## **SECTION 12: Flood Resilience**

# **FLOOD RESILIENCE PLAN for the Town of Glover, Vermont**

**Prepared by Meghann Carter**

**NorthWoods Stewardship Center**

**East Charleston, VT**

**in cooperation with the Glover Planning Commission**

**and Glover Selectboard**

**February, 2015**

**Paid for in part by the Barton Hydro Project Municipal Planning Grant**

### **Introduction**

With a Local Hazards Mitigation Plan(LHMP) now written and approved, the Town of Glover is obligated to begin to address identified pertinent hazards, one of which is flooding and fluvial erosion. The purpose of this plan is to identify key hazard areas which are most likely to be affected by flood and fluvial erosion and to propose potential actions to minimize these hazards and their impacts.

Potential major points of impact include dams, culverts, bridges, and infrastructure such as roads and buildings within the floodplains.

### **Goals**

- Identify areas of greatest risk to flooding and fluvial erosion within the Town of Glover.
- Develop recommendations for future actions to create a flood-and fluvial erosion-safe Glover, minimizing threats to public safety, property, and water quality.

### **Flooding and Fluvial Erosion in Vermont**

Flooding and fluvial erosion are Vermont's most common and costly types of natural disaster and over time, many compounding factors have increased Vermont's susceptibility to flood damage. As climate change affects global temperature fluctuations, storms of greater power and higher frequency are anticipated, and indeed this trend has been observed in recent decades. This trend had led to global, state, and regional efforts to better prepare for these events by identifying sensitive resources, key areas of vulnerability, and implementing mitigations. In the interest of promoting local flood resilience, as of July 1, 2014, according to new legislation (Act 16), any newly adopted or readopted municipal or regional plan must have a Flood Resilience Plan Element.

# Town Resources and Background

## **Watersheds**

Approximately 92% of the town of Glover (22,740 acres) falls within the Lake Memphremagog Watershed, with the remaining area lying within the Lake Champlain and Connecticut River watersheds.

The Memphremagog watershed includes 4 sub-basins; the Johns River, Black River, Barton River, and Clyde River watersheds. Of these, the Black River and Barton River watersheds include portions of Glover, with most of the town's surface waters draining from the Barton River watershed. Each of these rivers flow generally north into Lake Memphremagog, which in turn drains north via Quebec's Magog and St. Francis rivers to the St. Lawrence River. The Barton River watershed is fed by an area of approximately 162 square miles, from its headwaters in southern Glover to its outlet into Lake Memphremagog at the South Bay Wildlife Management Area in Coventry, VT. The Black River watershed runs from headwaters in the town of Albany and also empties into Lake Memphremagog in Coventry. The Black River itself does not flow through Glover.

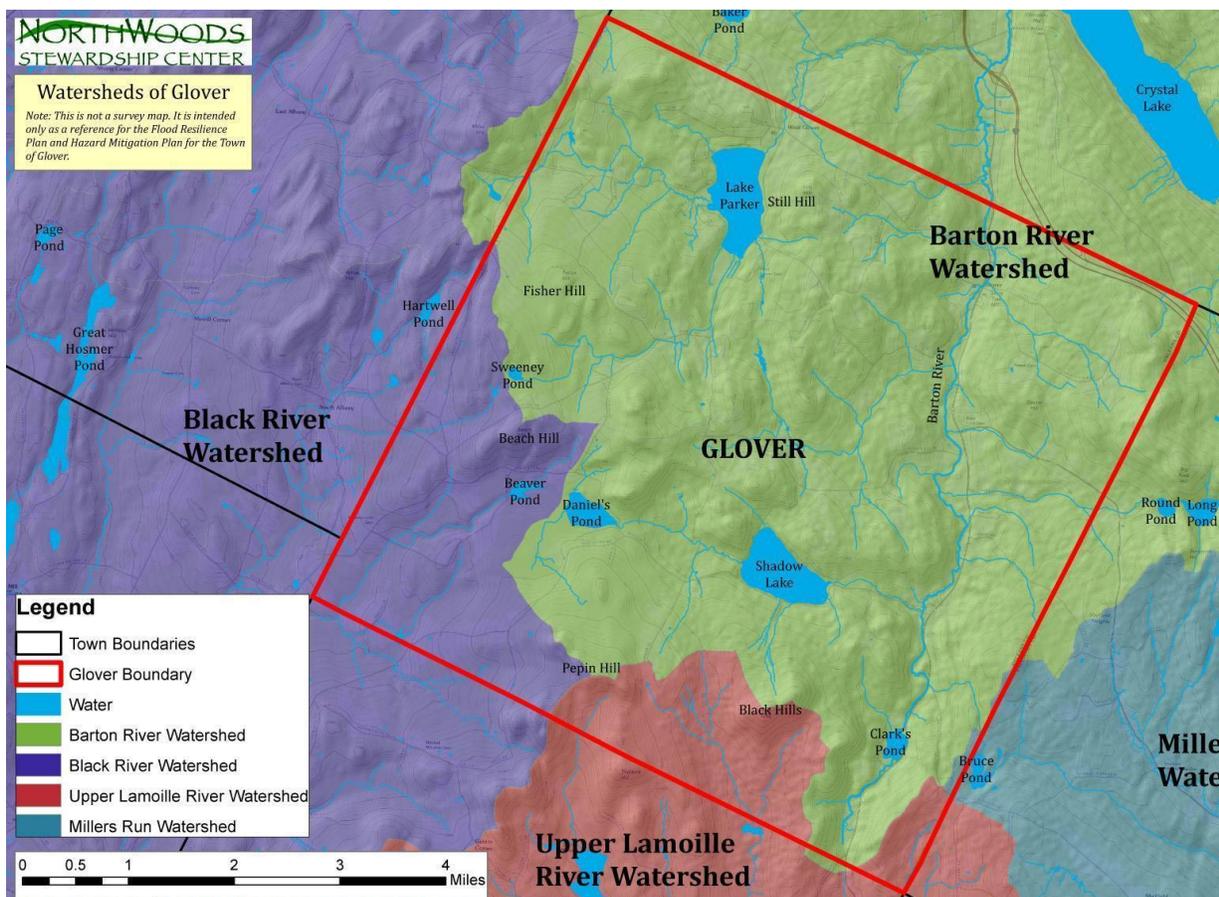


Figure : Watersheds in the town of Glover

The Upper Lamoille River watershed is fed by an area of approximately 722 square miles, beginning at headwaters located in the town of Greensboro. The Lamoille River flows southwest from Greensboro until it reaches the Jackson Dam in Hardwick, where it turns west until emptying into Lake Champlain in Milton, VT. The Lamoille River itself does not flow through Glover, but 1,856 acres of its watershed lies within the southern part of the town.

The 64 acre portion of the Miller's Run watershed, a subwatershed of the Passumpsic River watershed, that falls within Glover also excludes the Passumpsic River itself. The Passumpsic River watershed is fed by an approximately 504 square mile area, with many branches converging in the town of Lyndon and flowing south before reaching the Connecticut River at Barnet. The Passumpsic River is one of the largest tributaries of the northern Connecticut River.

The Town of Glover contains two lakes, Shadow Lake and Lake Parker; four ponds, Clarks Pond (also known as Tildy's Pond), Daniels Pond, an unnamed pond called the Beaver Pond by locals, and Sweeney Pond; and many streams and rivers including an approximately 7.9 mile stretch of the Barton River and its headwaters.

## Elevation/Topography

Glover is characterized by a highly varied topography; with tall hills contrasting sharply with low, wet valleys. In high volume rain events, this topography causes water flowing across impervious surfaces (such as roads) to pick up speed and cause erosive damage, as well as transporting sediment and debris and causing culvert blockages. Blocked culverts can lead to flooding across roads and driveways, property loss or damage, and the washing out of the culverts.

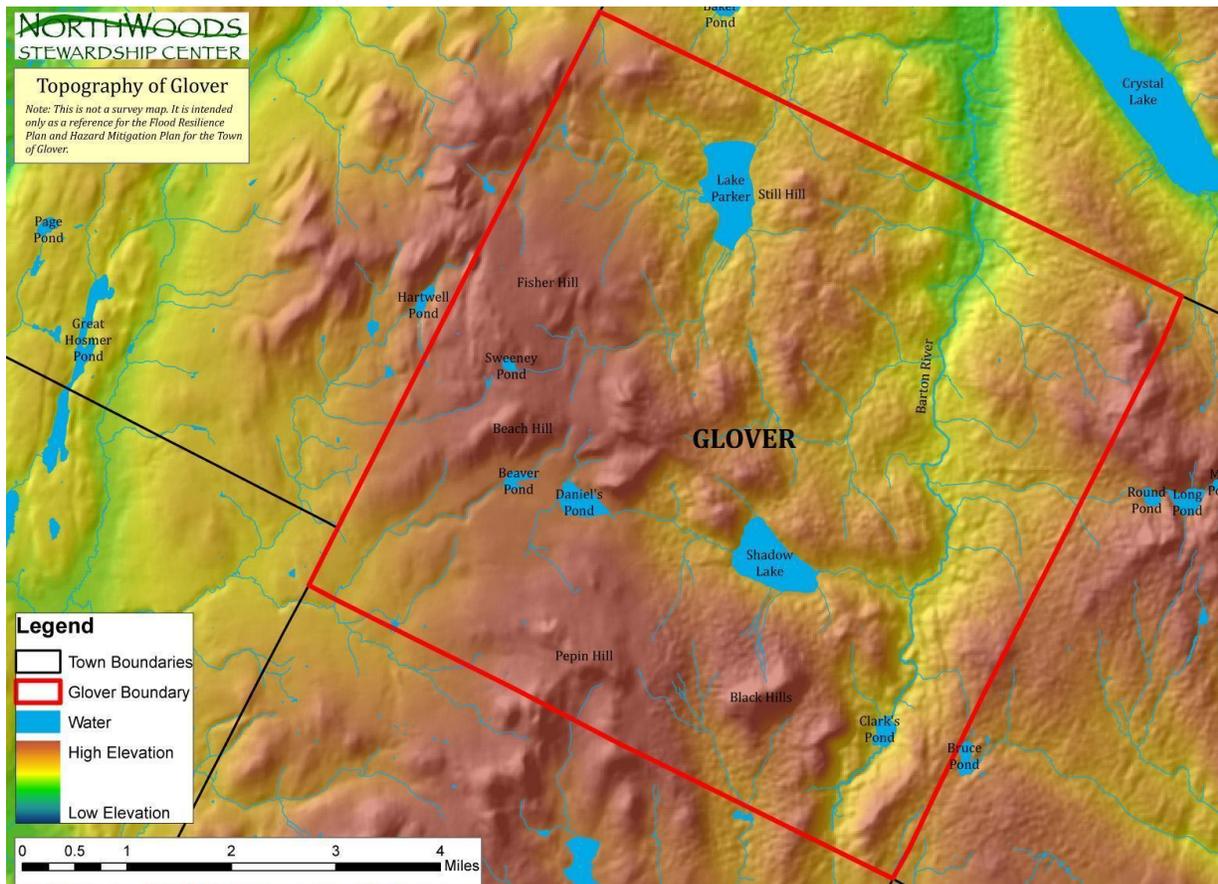


Figure : Topography of the town of Glover

The tallest prominences in Glover, all over 2,200 feet in elevation, are the two peaks of the Black Hills in the south, and Pepin Hill to the west.

## Soil Types

Within Glover, soil types fall into 4 categories of sensitivity to erosion; Highly Erodible, Potentially Highly Erodible, Not Erodible, and Unrated (NRCS HELCLASS). The majority of the soils in Glover (62%) are ranked as Potentially Highly Erodible, due to soil textures and slopes that result in a high sensitivity to erosion when the soils are disturbed or exposed.

**Table 1: Erodibility of Soils in Glover**

Erodibility	Acres	Percentage of Soils
Not Erodible	394.0	2.34%
Unrated	926.28	5.49%
Potentially Highly Erodible	10485.91	62.14%
Highly Erodible	5067.35	30.03%

Glover is located within the Northern Vermont Piedmont biophysical region, an area known for its moderate to cool climate, hilly topography, and rich soils.

At the time of the most recent glacial recession approximately 12,000 years ago, large amounts of sediment were deposited as glacial outwash. The retreating glacier also created a much larger than present day proglacial Lake Memphremagog, with a shoreline approximately 300 feet higher than its current level. The further retreat of the glacier in the next few thousand years allowed the proglacial Lake Memphremagog to disperse, leaving the lake bottom sediment composed of silts and clays, along with the coarser glacial outwash, as the parent material for today's fertile valley soils. The upland soils are more often glacial till that was deposited by the melting glacier.

### ***Flood History***

Though sudden snow melts or rain coinciding with snow melt will often bring the Barton River up into the backyards and cellars in low-lying parts of Glover Village, there have been some flood and erosion events which have been historically notable.

1810 – June 6<sup>th</sup> – a work crew consisting of 40 to 60 men and boys from Glover, in an attempt to increase water flow to power their mill, began excavating a channel from what was, then, Long Pond to Clarks Pond and then to the Barton River. The unstable, sandy soil of the area gave way, emptying the entire pond into the Barton River within a few minutes, destroying bridges, mills, riparian trees, and farm fields.

1927 – November – record-breaking rainfall and the resulting flooding caused significant damage, including one bridge lost in West Glover and a damaged sawmill. In Glover Village, one house and a blacksmith shop were lost. For more information on this infamous flood, see *History of the town of Glover, Vermont*.

1997 – July – flooding in Glover village caused damage to the town hall, church, and firehouse. Cellars were flooded in several homes and many culverts washed out (approximately 200 were replaced). Some erosion also occurred at the bridge in Glover village and Sand Hill Road was washed out.

2011 – May – heavy rain caused two culverts on Rodgers Rd to be washed out. They had previously been partially blocked by beavers.

2011 – August – during Hurricane Irene the King Road culvert washed out, and there was some erosion on Phillips Rd.

2012 – May 29 – heavy rain in north end of Glover caused significant damage to King Road and Dexter Mountain Road, the Sargent Lane Bridge abutment was undermined, and there was some damage to Sand Hill Road.

More significant, in terms of damage done and costs incurred, is the issue of fluvial erosion. More information on fluvial erosion in Glover can be found in the Areas of Special Consideration section.

## ***Barton River***

The Barton River flows south to north along the east side of Glover. The headwaters of the river are located in the southeast corner of Glover, originating with Clark’s Pond and meander and flow slowly northward through approximately 3.8 miles of forest, farm fields, and wetlands until changing to a steeper, more confined channel approaching the village of Glover. The current stream height and average volume discharged on any given day can be found on the usgs.gov website. The stream gauge for the Barton River is located near Coventry, VT, many miles north and downstream of Glover.

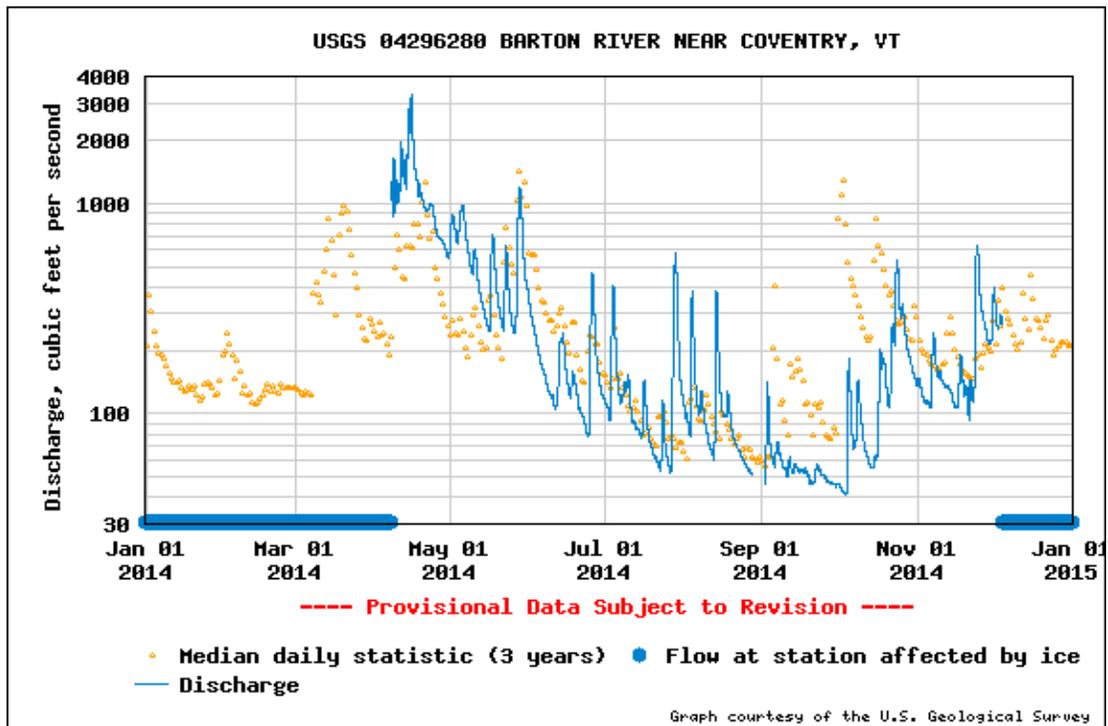


Figure : One year of daily statistics for the Barton River

## ***Dam Breaks***

There are three dams within the town of Glover. The Shadow Lake Dam is the largest of these with the potential to cause the most damage in the event of a breach. It is classified as a “Class 2” or “Significant Hazard” dam by the Vermont Dam Inventory (VDI) and at the last inspection of the dam in 2012; it was determined to be in poor condition due to a general lack of upkeep. Since this report, all cited issues (i.e. cutting of trees and brush on the dam and immediately downstream, patching concrete, filling in low spots on the dam, rebuilding stone walls at the

gatehouse outflow, and updating of the Emergency Action Plan) have been corrected. This dam drains into the Barton River by way of the Shadow Lake Brook, which runs generally parallel to Shadow Lake Road. In the event of a sunny-day failure of this dam, the report states that the result could be stream bank erosion, overtopping of at least one road crossing within the area studied, and inundation of the first floor of a house in the low area adjacent to Perron Hill Road. A storm-day failure of this dam could result in stream bank erosion, overtopping of at least 4 road crossings, and inundation of two houses in the low area adjacent to Perron Hill Road. Any major breach in the Shadow Lake Dam will have downstream consequences, not only for the 3 miles of riverside addressed in the dam break report, but for any low-lying and highly developed areas such as Glover Village and Barton. This is discussed further in the Areas of Special Consideration section.

The dam located at the outlet of Lake Parker is classified as a “Class 3” or “Low Hazard” dam. The Daniels Pond Dam does not appear on the VCGI dams layer because it consists of a granite block set across the culvert at the outlet which controls the height of the water and is not adjustable.

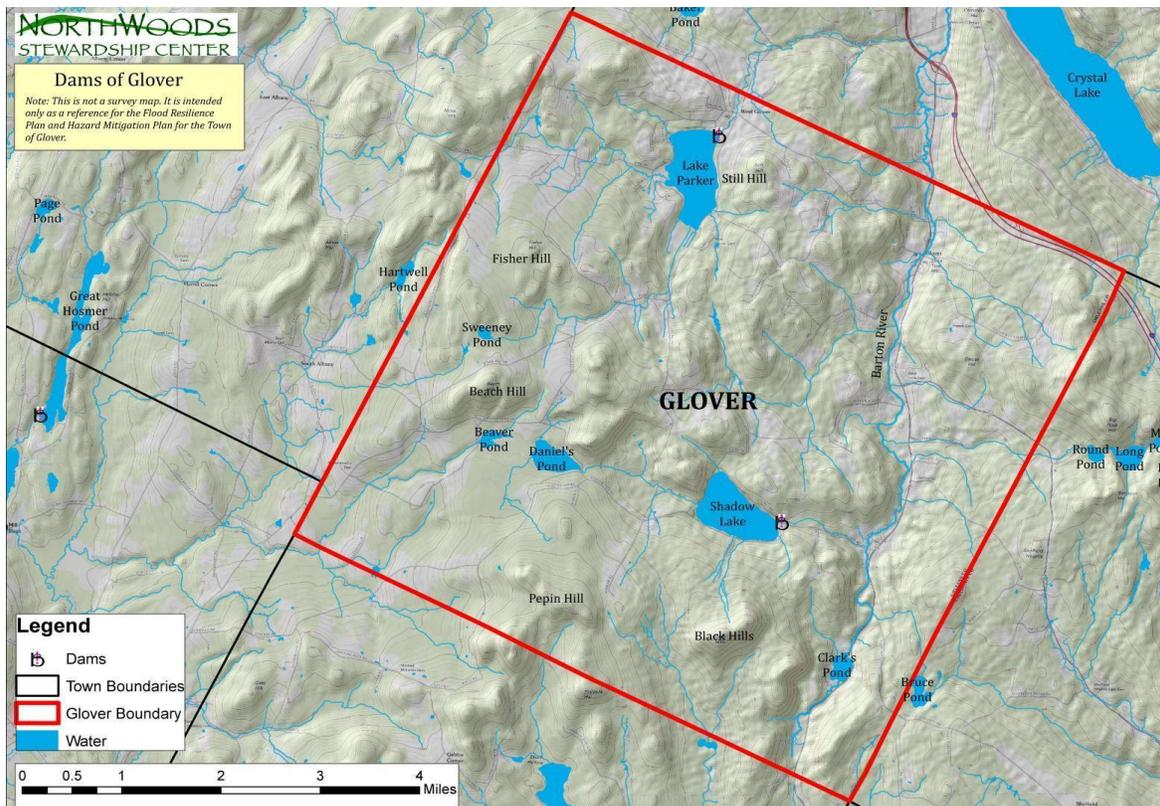


Figure : Dams within the town of Glover

## Floodplains

A floodplain is an area of flat land surrounding a stream or river where, during periods of flooding water can overflow and spread out, slowing the current. Floodplains play a critical role in diminishing the hazards of flooding by allowing natural geomorphic processes to lower the flow velocity and lessen the rate of incision during high-volume water events. When a stream or river is allowed to meander through its natural floodplain, rather than being constricted or straightened by human encroachments, the energy and speed of the water is dissipated somewhat, reducing the sediment load and debris transported downstream. If the stream is

straightened, the rate of incision will be increased and the resulting sediment and debris transported downstream will cause more damage.

## ***River Corridors***

A River Corridor map shows the areas around rivers and streams which are critical in their environmentally and economically sustainable management as they approach dynamic equilibrium. River corridors generally include floodplains and all land within the meander width of the river. Maintaining these lands free of human-generated river obstructions and allowing the river to approach equilibrium can improve channel stability and reduce the risk of downstream flooding and fluvial erosion. The Rivers Program is run by the VT Agency of Natural Resources, which provides technical assistance, outreach, and education for municipalities in restoring or maintaining their river corridors. Preliminary river corridor maps have been developed for the rivers and many streams within the entire state of Vermont.

Maps of River Corridors within Glover can be found on the VT ANR Natural Resource Atlas website at <http://anrmaps.vermont.gov/websites/anra/>.

## ***Riparian Area Restoration***

A riparian area is the zone immediately adjacent to waterways, usually containing trees and shrubs and natural regeneration of these. It serves many purposes including the filtration of runoff, decreasing the rate of erosion on stream banks, and cooling the water through shading. Maintaining a high quality riparian area can dramatically increase water quality downstream. Riparian areas fall within the floodplain, and restoring these areas provides streams and rivers the opportunity to reclaim some of their natural meander within the floodplain.

There are state-funded programs which can help landowners do restoration plantings within their unbuffered or insufficiently buffered riparian zones. Within the Memphremagog watershed, there is a program called Trees for Streams Memphremagog (TFSM), which provides an 80% funding match for trees and shrubs, and fully covers the cost of administration and labor for planting. Through the same grant which funds the TFSM program, there is also a Lakeshore Buffering program, with the same 80% funding match, but different size restrictions on planting sites. There is also the Lakewise Program, which provides technical assistance to landowners to improve their shoreline and alleviate the effects of lakeshore development. More information can be found on their website at <http://www.watershedmanagement.vt.gov>.

## ***Uplands and Wetlands***

Though upland areas are not at great risk of being flooded, the management of these areas can affect the flooding and erosion downstream. Clearing of natural vegetation and creation of impervious surfaces in upland areas hinders stormwater absorption, increasing the amount of runoff and its flow. These factors lead to more debris and sediment transport, decreasing water quality, adversely affecting stream banks and ditches, and clogging culverts. These effects can be alleviated by applying best management practices in upland forests and agricultural areas; limiting the amount of impervious surfaces associated with roads and development, managing stormwater runoff, protecting wetland natural communities, and minimizing alteration of stream channels and floodplains. Steep (>20% grade) forested upland slopes should be avoided during any development or clearing to avoid erosion due to stormwater runoff.

Wetlands are vital to the absorption of water in high-volume water events. The naturally porous nature of the ground, vegetation, and topography allow water to be retained within them,

slowing the re entry of floodwaters into the waterways and reducing the negative effects associated with flooding downstream. They are also highly sensitive to disturbance. These factors contribute to the significant value of wetlands, and the resulting regulation surrounding their management. With the exceptions of active farmland, pre-existing structures, and permitted public highway projects, all state significant wetlands are required by state law to have a buffer zone between them and any management activities in order to protect their vital functions. Any wetland classified as Class II must have a fifty foot buffer surrounding it, and any Class I wetland must have a hundred foot buffer surrounding it. These Vermont Wetland Rules can be found at <http://dec.vermont.gov/watershed/wetlands/jurisdictional/rules>.

There are no Class I wetlands found within Glover, according to the Vermont State Wetland Inventory, though there are 741 acres of Class II wetlands and 21 acres of Class III wetlands.

The protection of these valuable resources can be accomplished through the Use Value Appraisal (UVA) Program, also called "Current Use". The UVA Program allows the valuation of forest and farmland to be lowered, thereby lowering the taxes on that land, as long as the land remains in its current use as forest or farmland. Lowered taxes are an incentive to landowners to limit development on ecologically valuable land resources, preserving the natural functions of features such as upland slopes and wetlands. Landowners can learn more about the Current Use program by visiting <http://www.state.vt.us/tax/pvrcurrentuse.shtml>.

## ***Transportation Infrastructure***

### **Bridges**

Glover has adopted the Town Road and Bridge Standards, meaning any new bridges built in the Town of Glover must meet the following standards: "Replacement of existing bridges... and any new bridges... must be designed in accordance with the VTrans Hydraulics Manual, and, in the case of perennial streams, conform to the statewide Stream Alteration standards." The last town-wide bridge and culvert inventory was completed in 2010, with annual updates showing repairs and replacements submitted to the VT Agency of Transportation (VTrans) via mail. These inventories and updates are under the purview of the town road foreman.

### **Roads**

The Town Road and Bridge Standards which Glover has adopted dictate the minimum standards for road construction and maintenance, including standards for both paved and gravel roads.

All or part of the following Class 2-4 roads in Glover have been identified by the Agency of Natural Resources as being potential erosion areas: Aldrich Lane, Anderson Homestead, Andersonville Road, Apple Lane, Auger Heights, Bailey Lane, Beach Hill Road, Bear Call Road, Bickford Lane, Borland Road, Buchanan Place, Cemetery Loop, Clark Road, Cold Spring Lane, County Road, Daniels Pond Road, Deer Lane, Dexter Mountain Road, Drew Place, Duck Pond Road, Dunbar Place, Dwinell Drive, Griffin Place, Hinman Road, King Place, King Road, Larose Lane, Leland Lane, Lilac Lane, Lyman Lane, Maple Lane, Meadow Lane, Mill Place, Monette Place, Mud Island Road, North Greensboro Road, Page Place, Parish School Road, Parker Road, Perron Hill, Phillips Road, Pine Place, Quarry Hill, Rodgers Road, Salmon Place, Sand Hill Road, Sargent Lane, Shadow Lake Road, Shields Lane, Square Road, Stevens Road, Still Hill, Stone Shore, Talbot Lane, Tetrault Lane, Town Highway 19, Town Highway 21, Town Highway 35, Town Highway 49, Town Highway 53, Town Highway 54, Town Highway 79, Thompson Place, Trevits Place, Urie Drive, Vance Lane, West Shore Road, White Road, and Young Road. These represent the majority of the roads within the Town of Glover because at

least some portion of the majority of the roads in Glover is gravel and is therefore susceptible to erosion.

Several Class 4 roads within the Town of Glover are non-residential erosion risks which wash out on a regular basis during summer storms. Repairing and maintaining these roads costs the town approximately \$5000 per average sized storm. Three roads in particular fit this description; Still Hill, Sand Hill, and Swamp Road. These roads are discussed further in the Areas of Special Consideration section.

## **Culverts**

In order to be in compliance with the current Vermont Town Road and Bridge Standards, replacement of existing road culverts and any new culvert must have a minimum culvert diameter of 18 inches and any new driveway culverts must have a minimum diameter of 15 inches. Any future maintenance or replacement of culverts should comply with these standards to ensure safety from flooding.

## **Local Planning/Funding Resources**

### ***Memphremagog Watershed Stream Geomorphic Assessment (SGA)***

A Stream Geomorphic Assessment is a tool that can help predict the evolution of the hydrological landscape within a watershed, identify areas of point source pollution with greatest need for restoration, locate areas which are most susceptible to flooding, and determine the impacts of human development on rivers over time.

Stream Geomorphic Assessments were completed for portions of the Memphremagog Watershed from 2005-2011, including phases 1 and 2. Phase 1 is the initial remote sensing step, where data is collected from past studies and maps, aerial photographs, and limited field surveys. This phase is designed to determine which areas of the stream or river are in need of more in-depth study. Phase 2 is the rapid field-assessment phase, where in-depth data is collected through field visits, verifying and building on Phase 1 findings and helping to determine where remediation is most needed. SGA work was completed in 2008 by the NorthWoods Stewardship Center, following state of Vermont Department of Environmental Conservation (VTDEC) guidelines, on the portion of the Barton River mainstem that crosses Glover, as well as reaches downstream of the town. Phase 1 was completed for all of these reaches while Phase 2 was only completed for several.

### ***Emergency Relief Assistance Fund (ERAF)***

In the event of a federally-declared disaster, ERAF provides a state-funded match for Federal Public Assistance through the Federal Emergency Management Agency (FEMA), provided that the town applying for Public Assistance meets FEMA requirements. When there is a federally-declared disaster, FEMA will provide 75% of the funding for an approved Public Assistance project, with the remaining 25% non-federal match provided by the state and town where the project occurs.

As of October 23, 2014, the State of Vermont will contribute 7.5% toward the cost of recovery, leaving towns responsible for the remaining 17.5% of the total cost of the project. Communities

that take steps to mitigate the risks of the hazards associated with disasters can increase the state's funding match from 7.5% up to 17.5%.

There are four basic measures which towns can adopt in order to qualify for a 12.5% state match: "(1) adopt the most recent Agency of Transportation Town Road and Bridge Standards, (2) adopt or take steps toward adopting a flood hazard bylaw which is adequate enough to secure participation in the National Flood Insurance Program (NFIP), (3) adopt a local hazard mitigation plan, and (4) adopt a Local Emergency Operations Plan (LEOP). Participation in FEMA's Community Rating System (CRS) can increase the state match from 12.5% to 17.5%, with the town paying 7.5% of the non-federal share of the cost of the recovery project. Alternatively, the town can receive the 17.5% match by adopting a river corridor protection bylaw that meets or exceeds state model regulations and guidelines. Glover has met those criteria and is currently eligible for 7.5% state matching funds in the event of a disaster. All criteria for earning a 12.5% match have been met.

**Table 2: FEMA Public Assistance Funds Awarded to Glover 1999-2014**

DISASTER NUMBER	DECLARATION DATE	INCIDENT TYPE	FEDERAL OBLIGATED	SHARE
4163	1/29/2014	Severe Ice Storm		\$7,312.46
4066	6/22/2012	Severe Storm(s)		\$302,100.87
1995	6/15/2011	Severe Storm(s)		\$70,191.37
1715	8/3/2007	Severe Storm(s)		\$62,353.09
3167	4/10/2001	Snow		\$1,641.70
1307	11/10/1999	Severe Storm(s)		\$2,184.59

### ***Road and Bridge Standards***

The Vermont Town Road and Bridge Standards are designed to provide a minimum set of standards for the construction, repair, and maintenance of roads, bridges, and culverts. Their purpose is to improve safety, promote best management practices, and ensure functional transportation systems. Glover has adopted the Town Road and Bridge Standards, which can be found in section 7-1 of the VTrans Orange Book. Adopting these standards is one of four requirements for earning a 12.5% match in funding from the state for Public Assistance Funds.

## ***National Flood Insurance Program (NFIP)***

The NFIP is a federal program which is designed to mitigate flood losses through effective local ordinances and to provide affordable flood insurance for property owners. Towns that participate in NFIP are required to mitigate losses in Special Flood Hazard Areas (SFHAs) through floodplain management ordinances. SFHAs are areas which are inundated in 100-year floods. Glover is a member of the National Flood Insurance Program, which allows the residents of the town to purchase flood insurance.

Since 1991, Glover has had a Flood Insurance Rate Map (FIRM), which shows flood risk zones within the town. The majority of the town is Zone X, which means they are outside of the 500-year flood zone, and in little to no danger of being inundated in a flood. There are also areas which are classified as Zone A, which means they are within the SFHA, but the base flood elevations have not been determined. There are also small areas of the town, located on the northern section of the Barton River, which are classified as Zone AE, which means they are within the SFHA and the base flood elevations have been determined. These FIRMs are difficult to read and understand, are probably out of date, and provide very little useful information as stand-alone documents. .

Participating in NFIP is one of four requirements for earning a 12.5% match in funding from the state for Public Assistance Funds.

## ***Flood Hazard Area Regulation (FHAR)***

Glover adopted a set of Flood Hazard Area Regulations in July of 1991. These regulations set standards and rules for permitting and development within the FEMA mapped flood zones. More recent FHAR tend to be more comprehensive, including precautions which are not present in the currently adopted regulations.

## ***Local Emergency Operations Plan (LEOP)***

A Local Emergency Operations Plan is a guide to the immediate post-disaster period, a critical time to have an organized disaster response prepared. This plan establishes an incident command system, identifies vulnerabilities, designates operations centers, and lists local resources which will come into play in a disaster situation. Keeping an up-to-date LEOP can save lives, time, and property. Glover has updated its LEOP as of April 10, 2014. Maintaining an up-to-date LEOP is one of four requirements for earning and 12.5% match in funding from the state for Public Assistance Funds.

In 1997, the Glover Firehouse was moved to a site outside of the FEMA mapped 100-year flood zone.

## ***Local Hazard Mitigation Plan (LHMP)***

Having a local hazard mitigation plan allows a municipality to identify and prioritize actions that the community can take in order to reduce or eliminate the risks of hazards associated with natural and manmade disasters such as high wind events, flooding and fluvial erosion, terrorist attacks, or disease outbreaks. A local hazard mitigation plan is required by FEMA in order for a town to be eligible for grant funding, which can allow the community to address their vulnerabilities before disaster strikes. By designing a community to be resilient in the face of disaster, the costs to rebuild and repair, as well as the loss of life and property, are reduced.

A hazard mitigation plan for the Town of Glover has been approved by FEMA as of 2015. All four requirements for earning a 12.5% match in funding from the state for Public Assistance Funds were met.

## **Areas of Special Consideration**

In the Village of Glover, especially on the west side of the river, the shallow slope and relatively high development density creates an area that seems likely to be affected during a flood event. In this area, Red Sky Trading, the Currier's Store & Post Office, the Union House Nursing Home, and the Federated Church are fully or partially within the FEMA flood zone, the 100-Year-Flood Zone. In this flood zone, there is a 26% chance that there will be a flood within a thirty year period. Although the Glover Village School is located outside of the FEMA-mapped flood zone, it is within 100 feet of both the flood zone to the south and the unnamed brook to the north. The firehouse is located approximately 40 feet outside of the flood zone. Though these structures are within the flood zone, historically they have not been repetitive loss structures and have not suffered damage as a result of their proximity to the Barton River, including during the recent dramatic flood events which affected the rest of the state. For this reason, no actions are recommended for this area at this time.

Other areas to consider are those immediately surrounding lakes and ponds. These are also areas of high structure density, as well as areas which are likely to be affected during floods. These areas are also historically unaffected by flooding, and the VT Shoreline Protection Act restricts development and land management within 250 feet of any lake or pond which is greater than 10 acres. There are 5 such lakes in Glover including Lake Parker, Shadow Lake, Daniels Pond, Clarks Pond, and the Beaver Pond. For these reasons, no actions are recommended for this area at this time.

In the future, if (a) the predictions of a pattern of increasing severity and frequency of storms hold true and (b) these become areas of repetitive losses, then this course of inaction will need to be reevaluated.

While inundation within Glover has caused minimal structural damage, it has caused the washing-out of several Class 4 roads, which can be expensive to repair and maintain. An estimate by the town road foreman suggests that repairing these Class 4 roads after a significant storm can cost the town between \$5000 and \$6000 in labor, equipment use, and supplies. Three non-residential roads which have been most affected by fluvial erosion are Sand Hill, Still Hill, and Swamp Road.

There are a few options for mitigating this cost to the town; (a) improve stormwater management infrastructure on these steep, erosion-prone roads to prevent future washouts, and (b) reclassify these town highways as trails, thereby removing the obligation of maintaining them from the town. While reclassifying the roads as trails will save the town money in the short term, it gives rise to another issue, which is that when future storms hit, there will still be movement of sediment into waterways, reducing water quality downstream. If the stormwater management infrastructure is improved to a point where the roads are no longer regularly washing out and there is less sediment input, the town will be able to keep the roads at their current classification and save money on future repairs. If that is not an option for Glover due to the costs of improving infrastructure, reclassifying the roads as trails and then organizing planting efforts to try to stabilize the soils could mitigate the erosion and resulting sedimentation during future storms.

## ***State Land in Glover***

The State of Vermont owns approximately 319.73 acres within Glover. The majority of this is along the Barton River stream banks and the headwaters. The state is responsible for the state of the slopes, forests, and riparian zones in these areas.

### **Recommendations**

- Take advantage of all cost-share and town assistance programs which can help fund survey or mitigation efforts.
- Maintain bridges, roads, ditches, and culverts to Town Road and Bridge Standards in order to avoid incurring additional flood damage costs associated with failure of these critical structures.
- Maintain an up-to-date Local Emergency Operations Plan and Local Hazard Mitigation Plan. These are both critical for the prevention of risks to life, safety, and property in the event of a catastrophic event.
- Modify and adopt updated Flood Hazard Area Regulations based on the Vermont Model Inundation Hazard Regulations 2.
- Work with the VT ANR to fine-tune River Corridor and Flood Zone maps using a combination of modern mapping techniques and anecdotal and experiential information on flood and fluvial erosion events within the town.
- Since many mitigation actions aren't within the power of the town, but lie with the landowners and town residents, Glover should host a series of landowner education workshops including ones on ecologically sound forest management practices, water quality, and riparian buffers. In forest management practice educational presentations, there should be special attention paid to the detrimental effects of logging on hillsides with greater than 20% slope.
- To avoid continued sedimentation due to fluvial erosion of steep gravel roads, as well as the monetary costs associated with the repairs required by the same, the Town of Glover should assess the Class 4 roads which have the most frequent and costly washouts to determine the economic viability of replacing or installing storm water management infrastructure such as culverts or modifying drainages to better divert water from roadways. If improving the infrastructure is not a viable option for the town, the Selectboard should consider reclassifying the roads as trails (to remove the obligation to repair or maintain them) and taking steps to prevent sedimentation by planting trees and shrubs in areas most prone to fluvial erosion.

## **Section 13. Neighboring Communities**

The Town of Glover is a member of NVDA (Northeastern Vermont Development Association), the regional planning entity, and of VLCT (Vermont League of Cities and Towns). We participate in the program of the regional planning commission, as directed by State of Vermont Statute, and the rules and regulations of the various state agencies. Glover, located in Orleans County, shares town borders with Barton, Sheffield, Greensboro, Craftsbury, and Albany. Near neighbors are Wheelock and Irasburg. Through the Act 250 review process, Glover occasionally shares party status with one or more of the other towns when a significant development is being reviewed which will have regional impact. The Town of Barton, with its concentration of population and commercial enterprise, lies directly to the north of Glover. It is linked to us by Interstate 91 and Route 16.

Informal agreements exist with some of the other towns regarding road maintenance on roads which overlap town boundaries. Occasionally equipment or personnel are loaned back and forth, for similar reasons.

One formal agreement is a long-term contract between Glover and Barton Village concerning the jointly owned and operated sewer system and treatment plant. This system handles sewage from West Glover, Glover Village and Barton Village. The two municipalities share operating costs and consult annually on operation expenditures and program.

Another area of cooperation with neighboring towns is participation in the Orleans Supervisory Union, which share operating decisions, expenses, and investments (Vt. Educational Investment Trust). There is a history of informal consultation between municipal and school employees or officials, in the interest of inter-municipal cooperation.

The skeletal county government relates only to law enforcement and the court system.

Glover anticipates that regional transportation improvements are inevitable. We are ready to cooperate insofar as they will require changes within our own road network.

The Town of Glover Fire Department and Ambulance Squad have mutual aid agreements with other ambulance and fire departments in the EMS District. All of the squads in the district are mutually supportive in this regard, and also share training, and have certain policies in common. Under the direction of the State of Vermont, Glover participates in Emergency Planning through our membership in LEPC No. 10.

### **Greensboro (2010 Census population 762)**

Glover shares the southern portion of its border with Greensboro and Route 16 links the towns on their eastern borders with Hardwick to the South. In addition, the western parts of Glover and Greensboro are linked with a few "back" roads that are more centered around East Craftsbury's "village." These areas can be developed and could see more residential activity. There are, however, five distinct zoning districts in Greensboro restricting development within each district's guidelines. Artisanal cheese making, craft breweries, the Miller's Thumb, Willey's Market, Circus Smirkus, Highland Lodge, Highland Center for the Arts, and Barr Hill Nature Preserve have added variously to regional agricultural activity and tourist appeal. Their update of their town plan is still in process.

### **Craftsbury (2010 Census population 1,206)**

Glover and Craftsbury only touch on the southwestern corner of Glover and they share just two "back" roads: Andersonville Road and Mud Island Road. This area is very rural with residential homes and quite a few farms. Although there has been much discussion concerning zoning, and even a brief period of adoption, there are currently no zoning regulations in Craftsbury. Its development patterns are consistent with those of Glover. Glover residents both work in and participate in

Craftsbury activities and institutions, including the Craftsbury Outdoor Center, Sterling College, Pete's Greens, Antiques and Uniques, Craftsbury General and Village Stores, The Music Box, Wonder Arts, and Craftsbury Continuing Care Center.

**Albany (2010 Census population 941)**

Albany shares much in common with Glover. There are many "backroads" that connect these two towns and when one travels along the western border of Glover with Albany, it is not recognizable that there is a municipal line. These winding roads traverse around the group of hills (Burton Hill, Miles Hill, Beach Hill, Ames Hill, Fisher Hill) which give this a uniquely "back country" feel. This area has a mixture of traditional working landscape (agriculture and forestry) and is also sparsely developed. This is a likely area that could see more residential development. Albany has no Zoning Bylaws to describe the land use patterns and recommendations for the town.

**Wheelock (2010 Census population 811)**

Although Wheelock touches Glover on its Southeastern corner, there are no resources shared by the two towns with much significance.

**Sheffield (2010 Census population 703)**

Sheffield and Glover are both transected by Route 122, which runs parallel with Interstate 91 and connects Glover to Lyndonville. In addition, the Sheffield Square Road joins the two towns. Sheffield is currently working on a town plan. Its planning commission has no agenda or intention to introduce zoning. Holbrook State Park is a hidden gem for recreational purposes. Sheffield also is the site for the first commercial wind turbine operation in our region. That facility has peaked much concern about possible alternative energy installations within Glover. Both the state and regional policies have recently defined how each town's plan can guard against unbridled utility development.

**Barton (2010 Census population 2,810)**

Barton and Glover share many resources and have worked cooperatively on many municipal and non-municipal projects over the years. Both the villages of Glover and West Glover share major routes of traffic with Barton using Route 16 and Roaring Brook Road. The amount of development on these two roads has not been maximized and could possibly amount to denser populations in these areas. However, development is still somewhat limited by the rivers that run parallel to both roads: the Barton River and Roaring Brook. Within the last five years, there has been a commercial solar facility built on Route 16 just north of the Glover line. There has been much discussion about the location and esthetic impact of these facilities on the landscape.

**Regional Plan (Northeast Vermont Development Association, Draft 2005)  
(2000 Census population of Caledonia, Essex & Orleans Counties 62,438)**

NVDA's regional plan identifies traditional Vermont "Village Centers," which are typically characterized by:

- denser residential patterns than its surrounding area • businesses that mainly serve the local population (small stores, dining and some services), as well as visitors from outside of the region (inns, bed and breakfasts, and recreation)
- emergency services
- community buildings, such as libraries, schools, town halls, churches, and clubs.

The development pattern of compact village centers surrounded by less populated rural areas is certainly considered to be a hallmark of Vermont's approach toward land use. The regional plan's development goals most likely to impact Glover's village centers are as follows:

- Traditional development patterns will be maintained, and new development will be encouraged to follow these patterns.
- New development should be compatible with existing land uses and agree with local plans.
- Historic structures, community facilities, and other buildings will be preserved and adapted for reuse as necessary.

Glover's development patterns and recommendations for future land use patterns are consistent with those of the region.

## **APPENDIX A - History of Glover**

Prior to modern settlement, the area which is now Glover was frequented by several branches of the Abenaki tribe. On June 27, 1781, Congress granted the 23,040 acres that were to be Glover to Brigadier General John Glover of Marblehead, Massachusetts, and many other grantees, as a reward for their military service in the Revolutionary War. Most notably Glover's regiment ferried General Washington's troops across the Delaware River during the Battle of Trenton in 1776. Most of the sixty-two grantees of the town had served in General Glover's 14th Continental Regiment, known as the "Marblehead Marines." Although Glover bears his name, there is no record of General Glover having ever set foot in the town of Glover.

The first modern development in Glover was the continuation of the Hinman Road between Greensboro and Derby from 1791 to 1793. Most of the original Hinman Road exists today in the municipal road system, but portions have been discontinued. The town was chartered on November 20, 1783, and initial settlement of the town began in 1798, with the first Town Meeting occurring in 1802. Early settlement concentrated in the Parker Settlement, on the south side of Lake Parker, and at Keene Corner (today Dexter Mountain) where families from Keene, New Hampshire settled. The outlet of Shadow Lake at Slab City, or South Glover, was also settled early in the town's history. The Parker Settlement, named in honor of Ralph Parker, the agent who transacted the sale of the original lots, was eventually relocated to the Boardman Hollow - the current West Glover Village.

Farming and forestry were the first economic activities of Glover, which included the production of potash (used in making soap), maple sugar, and wool. The first store

(and tavern) opened in 1799; the first sawmill in 1804; the first school in 1802/03; and church in 1810.

One of Glover's most famous events was the inadvertent letting out of Long Pond on June 6, 1810, in the wilderness on the southeast corner of the town, forever thereafter known as Runaway Pond. That event also chronicles the heroics of a young runner, Spencer Chamberlain, who raced ahead of the impending flood for 5 miles just in time to save the miller, Aaron Wilson's wife. The aftermath affected the landscape for 25 miles north all the way to Lake Memphremagog, but with no loss of human life. Since 1996 the town has reenacted that fateful run, as well as a town-wide celebration, Glover Day. On both the one and two hundredth anniversaries, multi-day celebrations took place with speeches by the governors and other dignitaries.

<http://www.gloverhistoricalsociety.org/ghs/>

The letting out of Long Pond carried debris which filled in the swamp that existed where Glover Village is located today and created fertile workable land along its path. Touted as "the largest man-made disaster in North America" it was reported in many newspapers across the country. In 1820 the first hotel was established in Glover Village. Industries by this time included a blacksmith, tannery, starch factory, several mills, and a wagon shop. In 1825 Glover got a post office in the Village.

The introduction of Merino Sheep into Vermont in 1811 had unleashed an economic and land use juggernaut. By 1840 the state had six sheep for every person (1.6 million sheep total), and Glover was home to almost five thousand of them (1,507 cattle), which produced well over three million pounds of wool. Sheep raising dominated the economy of Vermont for more than 50 years. This drastically transformed the landscape of Vermont; eventually Vermont would be only 20 percent woodland, (80 percent currently). When wool and mutton could be produced more efficiently by Western ranchers - thanks in part to the introduction of the refrigerated boxcar after the Civil War - Vermont turned to dairy farming.

In 1843 there were 413 students in 13 school districts. By 1851 there were fourteen school districts and school choice had been legislated. In 1852 the Orleans Liberal Institute was chartered under the auspices of the Universalist Church. It operated for the next 25 years. The building then served as the town grammar school and town hall before burning in 1938.

The population of Glover peaked in 1860 at 1,244 residents. Ninety men from the town served in the Civil War. West Glover was granted a post office in 1861. Three other post offices followed and operated for about a decade each - at Maples, Gloverton, and South Glover.

In 1876 Glover was briefly in the national spotlight as the potential home to a national landmark, when fiscal controversy brought into doubt whether the Statue of Liberty would find a home in New York. Other communities including Boston, San Francisco, Milwaukee - and Glover (Lone Tree Hill in West Glover is believed to have been the potential site) - offered her a home before New York finally agreed to accept France's gift.

A village improvement society was started in 1892, which oversaw the building of sidewalks, street lights, and sponsored civic events. The first telephone in town was installed in 1886; the first house with indoor plumbing in 1890. 1903 was the first year women attended Town Meeting (though no women were able to vote until 1921). In 1907 the first car came to town. In 1908 a key part of the business section of Glover Village was destroyed in a fire. In 1910 the Universalist Church was destroyed by fire. The Glover Fire Department was established in 1913. World War I saw thirty-one men from Glover serve, and its aftermath - the worldwide flu pandemic - claimed the lives of several Glover citizens.

The Great Flood of 1927, with water levels rising four feet per hour on November 3, devastated much of the state, including Glover. The mill in West Glover was destroyed, as were several other buildings and bridges in both Glover and West Glover. Then the Great Depression began soon after the Great Flood. The Depression made Vermonters' struggle that much worse, despite the old joke, "Vermonters were already so used to poverty that they barely noticed the Depression." The federal New Deal program, the Civilian Conservation Corps, put many people to work and resulted in numerous infrastructure improvements through Glover, including rebuilding the bridges lost in the flood, and in 1939, municipal sewers in Glover and West Glover which had previously discharged directly into the Barton River and Roaring Brook. In 1938 the remnants of a hurricane known simply as the Storm of '38, tore through town, destroying 40 percent of the sugar maples in town.

By 1940 there were eighty-three dairy farms in Glover and no sheep farming to speak of. (In 1973 Glover was down to twenty-four dairy farms, and in 2005 there were fewer than ten dairy operations and one horse farm.) As of 2016 there are 6 dairy operations. There are also 4 other agricultural operations including farms raising beef, poultry, hogs, and rabbits, and 2 meat processing/packaging enterprises.

World War II saw 107 men and women from Glover serve in the armed forces. In the aftermath of World War II the seeds of demographic change were planted that would sweep Vermont in the 1970's. Both the "back-to-the-land" movement that began in the late 1950's and peaked in the 1970's - which brought generally young refugees from urban and suburban America seeking a simpler rural life - and the development of the ski industry after World War II - began to bring new people to Vermont [see Table 1.1]

As agriculture efficiency drove down the demand for labor on local farms, many native rural Vermonters moved elsewhere in search of work, other people leaving "mainstream" America moved to Vermont.

Population in Glover rose sharply in the 1970s. An active commune was established on Mullen Hill during this time. The Bread & Puppet Theater moved to Glover in 1974. Eventually this group's "Domestic Resurrection Circus," held annually (usually in August), would bring tens of thousands of people to Glover for the weekend. The annual Circus was last held in 1998, but several hundred still come to weekly summer performances.

## Glover Today

According to U.S. Census Bureau population estimates for 2015, the current year-round population of Glover is 1,122. Summertime population is much higher due to the large number of seasonal homes.

As of 2016 there are 6 dairy operations. There are also 4 other agricultural operations including raising of beef, poultry, hogs, and rabbits, and 2 meat processing/packaging enterprises.

## APPENDIX B - Town Survey Form

### 2016 Glover Town Plan Survey

The Glover Town Plan is reviewed and/or rewritten every 5 years. It was last reviewed in 2011, so it must be reviewed and completed by the end of 2016. Vermont State Regulatory Bodies must consider town plans before rendering decisions. The status of municipal plans is being hotly debated in the legislature right now, especially with regard to alternative energy installations. It is therefore to our advantage to be as clear about our interests as possible. Having a well thought out and articulated plan can give the Town the advantage of making it eligible for grants and other assistance toward realizing its goals. Putting together a Town Plan is a process of taking stock in our community, keeping in mind our history, identifying its assets, needs, challenges and opportunities, developing a shared vision by identifying community goals and objectives and then considering ways to work toward achieving these. Town Plans are coordinated with our neighboring towns and regional plans. The following survey will help the commission to articulate the goals and concerns of the townspeople.

1. Why do you choose to live in Glover?
2. What is your residency status? \_\_\_ year round \_\_\_part- time
3. What do you value the most about living in Glover?
4. How would you like to see Glover develop and change in the future?
5. What would you like to see preserved for future generations?
6. Do you have any recommendations for the future of the Glover School?
7. What recommendations do you have to improve access to primary medical care and dental care?
8. Do you have recommendations for improving job opportunities and economic growth in the area?
9. What public transportation and assistance would you like to have available?
10. Do you have any concerns about (please elaborate your concerns on the reverse side):
  - a. Land Use \_\_\_ yes \_\_\_no
  - b. Preservation of agricultural land \_\_\_yes \_\_\_no
  - c. Preservation of wetlands \_\_\_yes \_\_\_no
  - d. Preservation of forest lands \_\_\_yes \_\_\_no
  - e. Waterfront development \_\_\_yes \_\_\_no
  - f. Water and air quality \_\_\_yes \_\_\_no
  - g. Recreational use of land and water \_\_\_yes \_\_\_no

- h. Wildlife habitat protection \_\_\_yes \_\_\_no
11. Are there vistas, views or specific historic places in Glover that you would like to see preserved?
12. Would you be supportive of further development in the areas of (please elaborate on the reverse side):
- a. Housing \_\_\_yes \_\_\_no
  - b. Recreation \_\_\_yes \_\_\_no
  - c. Tourism \_\_\_yes \_\_\_no
13. Would you support language in the Town Plan which would help direct the location and nature of:
- a. Wind towers \_\_\_yes \_\_\_no
  - b. Solar farms \_\_\_yes \_\_\_no
  - c. Cell phone coverage \_\_\_yes \_\_\_no
  - d. High speed internet \_\_\_yes \_\_\_no
14. Would you like the Planning Commission to offer information on or organize meetings about the following?
- \_\_\_ Site planning for development \_\_\_ Fed and State Land Use Tax Programs
  - \_\_\_ Forest and Woodlot management \_\_\_ Wetlands preservation
  - \_\_\_ State and local permit process \_\_\_ Soil and water conservation
  - \_\_\_ Tax and Estate planning \_\_\_ Wildlife habitat improvement
  - \_\_\_ Conservation easements \_\_\_ Sustainable Energy Resources
- Other \_\_\_\_\_

Please return this survey in the boxes located here at: Town Meeting or at the Town of Glover Town Clerk's office.

If you prefer to mail the survey, please mail to:

Town of Glover  
51 BEAN Hill Road  
Glover, VT 05839

If you have questions, you may contact a member of the Selectboard or a member of the Planning Commission. Please go to the Town of Glover web site for contact information.

If you are interested in serving on a committee or would like to be contacted about a specific concern, please fill in the following information:

Name:

Address:

Phone number:

E-mail address:

I am interested in serving on a committee for

\_\_\_\_\_

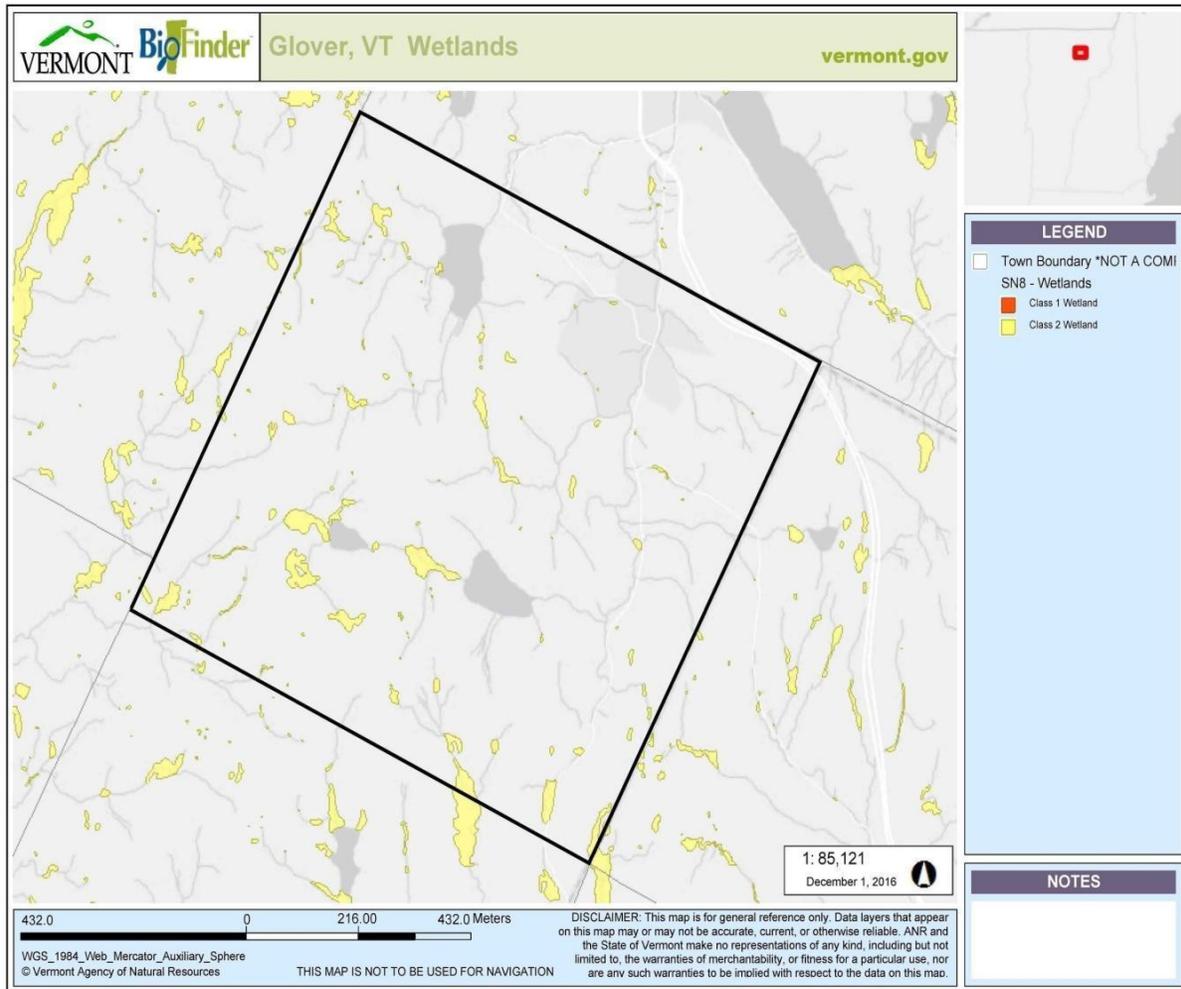
I have a concern in the following area/s

\_\_\_\_\_

### APPENDIX C - Current Use

<http://tax.vermont.gov/property-owners/current-use/current-use-enrollment>

## APPENDIX D - Wetlands Map

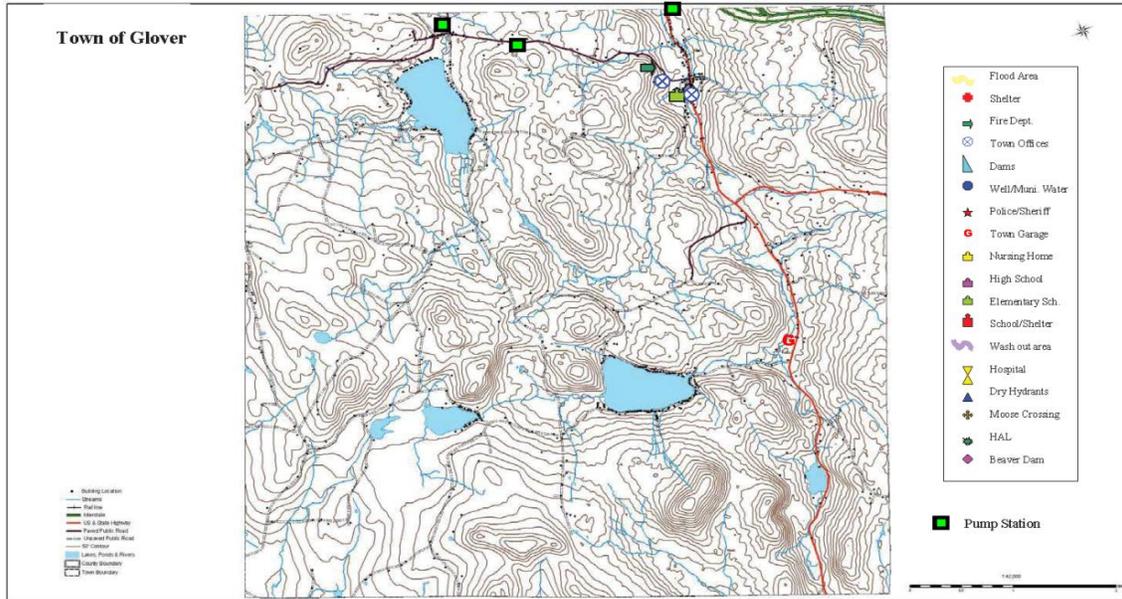


## APPENDIX E - Village Center Designation

Once conferred, the designation is valid for five years. The primary benefit of the program is eligibility for state tax credits for historic rehabilitations, façade improvements, and code improvements (including installation of elevators and sprinkler systems). Income-producing properties (including mixed-use and multi-family structures) can be eligible. Unlike federal tax credits, state tax credits are relatively accessible to private property owners because they are easy to administer and sell. To date, the Northeast Kingdom has received nearly \$3.1 million in tax credits for 16 projects that included some form of housing, including market-rate housing units. Although tax credits are awarded annually, the Northeast Kingdom has been under-represented in some funding rounds. It is possible that property owners are still not aware of the benefits of Downtown and Village Center designation. Additional benefits of designation include priority consideration for grant program (such as VCDP funds) and Low-Income Housing Tax Credits.



# APPENDIX G - Facility Map



## APPENDIX H - Real Estate Table

<b>TOWN OF GLOVER REAL ESTATE</b>
<b>Parcel</b>
Ambulance Building, West Glover
Andersonville Cemetery
French Cemetery (Dexter Mountain)
Glover Town School
Lafont Mill Site
Lake Parker, Dry Hydrant Lot
Merriam Estate
Municipal Building and Fire Station
Old Schoolhouse lot on Duck Pond Road
Shadow Lake Beach & Water Rights
The Hester Webster Nature Preserve
Town Garage and Land
Town Gravel Pit, Recreation & Cemetery
Town Hall
Water Rights, Lake Parker
West Glover Cemetery
Westlook Cemetery

## **APPENDIX I - Recycling**

Glover's Recycling Center: Located next to Town Garage. Open every Saturday from 9am-12 noon, and every Wednesday from 1pm to 3pm, May through October, and the first and third Saturdays and Wednesday of every month from 9am to 12noon the rest of the year. Glover is a member of the Northeast Kingdom Waste Management District. Residents are asked to separate their recyclables by categories: glass, paper, aluminum, metal, plastic (#1, #2, #4), box board/cardboard, and plastic bags (#2, #4). Food scraps/organic waste are also now being accepted at the recycling center for composting. There is also large appliance, electronic equipment, metal, and battery recycling available. There is no charge to town residents for use of the recycling center, costs are covered by the town and state and federal grants. The recycling center has two paid employees and is managed by the Glover Recycling Committee.

## **APPENDIX J - Act 46**

<http://legislature.vermont.gov/assets/Documents/2016/Docs/ACTS/ACT046/ACT046%20As%20Enacted.pdf>

## **APPENDIX K - Regional Energy Goals & Strategies**

1. An adequate, reliable, diverse, and secure energy supply will benefit the region.
  - Support the upgrade of regional transmission systems to continue to reduce constraints.
  - Support the maintenance and upgrade of existing energy generation facilities and related infrastructure.
  - Promote a diversified energy portfolio for the region.
  - Encourage local responders to plan for emergency energy resources (VEM Emergency Generator Grant Program generators).
2. Affordable energy alternatives will be available for the region's users.
  - Assist in the development of businesses that support alternative energy use.
  - Support the development of small-scale renewable resources, such as wind and solar, and the use of supplemental sources (wood) to stabilize energy costs.
  - Promote and support rail infrastructure as a cost-effective transportation resource for the energy industry.
3. Net-metering capacity in the region will be maximized.
  - Encourage municipalities to become "clean energy districts" and participate in the PACE program (Property Assessed Clean Energy). This would provide consumers with options to more affordably implement grid tied renewable energy systems.
4. Energy generation that provides the best cost-benefit to the region will:
  - Promote wood-based energy generation to support the region's forest industry.
  - Encourage the development of energy facilities and resources that help sustain local agriculture and forestry (i.e. grass/wood-pellets, small-wind, solar, farm-methane, woodchip, biodiesel).
5. Environmental and aesthetic impacts of energy generation and usage will be considered.

6. Energy efficiency and weatherization will be an integral part of the energy portfolio.
  - Encourage municipalities to reduce their energy costs through conservation and efficiency, and weatherization programs
  - Support Local Energy Committee/Coordinator efforts to reduce energy consumption, improve efficiency and weatherization, and develop new generation resources.
  - Encourage municipalities to conduct energy audits and weatherization programs. Encourage businesses to make energy efficiency investments and develop energy efficient production methods.
  - Promote energy efficient building design and construction methods (Green Building Design & LEED certification).
  
7. There will be broad public participation in the decision-making process.
  - Encourage the Vermont Legislature to develop policies that support the development of solar, small-wind, hydro-electric, farm methane and biomass generation facilities, while respecting current local land use and the culture of the region.
  - Encourage the PSB to examine the long-term sustainability of proposed facilities.
  - Ensure that developments subject to Act 250 consider new energy requirements.
  - Support the NVDA Board of Directors resolution for a three-year suspension of utility-scale wind development in the Northeast Kingdom until a study is completed.
  
8. Assessment of local needs and values on new energy development will be encouraged.
  - Encourage towns to address energy development in town planning and zoning.
  - Provide assistance to businesses/municipalities to develop cogeneration and other alternative energy strategies.

#### **APPENDIX L - Internet Resources on Energy**

- Efficiency Vermont: <https://www.encyvermont.com/>, 888-921-5990: For businesses and home. Find certified energy auditors. Contractors who do energy efficient buildings. Retailers of energy efficient goods and services. Rebates after purchasing energy efficient appliances. Rebates on home energy audits and cash incentives for work done. And more.
- VECAN (Vermont Energy and Climate Action Network): <http://www.vecan.net/>
- Help with going solar in Vermont: <http://www.vecan.net/going-solar-in-vermont/>, 802-223-2328
- For Energy Efficiency and Conservation: Links on lighting, weatherization, efficient windows, building efficient homes & more. <http://www.vecan.net/resources/efficiency-and-conservation/>, 802-223- 2328

- Public Service Dept of the State of Vermont (PSD): <http://publicservice.vermont.gov/>, 802-828-2811, Consumer hotline: 800-622-4496. The Public Service Department (PSD) is an agency within the executive branch of Vermont state government, and is charged with representing the public interest in energy, telecommunications, water and wastewater utility matters.
- NETO for low-income Weatherization help: <http://www.vtneto.org/>, 802-334-7378, 800-639-3212: Apply for assistance in weatherizing your home.
- Vermont Natural Resources Council (VNRC): <http://vnrc.org>, 802-223-2328.
- Energy and climate action, sustainable communities, energy planning, help for energy committees and more. VNRC has a number of new tools on their website to help people and town Committees. Here is a link: <http://vnrc.org/resources/community-planning-toolbox/tools/>
- Property Assessed Clean Energy (PACE): <https://www.encyvermont.com/For-MyHome/Financing/Financing/PACE-Overview>, 888-921-5990: A way of financing energy efficient home improvements by borrowing money and tying the payments to a property rather than the owner. PACE financing payments can be transferred to a new homeowner at any time, including before the assessment has been paid off.
- USDA Rural Development Rural Energy for America Program Renewable Energy Systems & Energy Efficiency Improvement Loans & Grants: Provides guaranteed loan financing and grant funding to agricultural producers and rural small businesses to purchase or install renewable energy systems or make energy efficiency improvements. <http://www.rd.usda.gov/programs-services/rural-energy-america-program-renewable-energy-systems-energy-efficiency>.
- LEED (Leadership in Energy and Environmental Design) It is a nationally accepted organization for design, operation and construction of high performance green buildings. This ensures the buildings are environmentally compatible, provide a healthy work environment and are profitable. <http://www.leed.net/>
- NVDA (Northern Vermont Development Association) Allison Low, contact. Assists with regional and municipal land use and Transportation Planning. <http://www.nvda.net/>
- VTCEP (Vermont Comprehensive Energy Plan) [http://publicservice.vermont.gov/publications-resources/publications/energy\\_plan/2015\\_plan](http://publicservice.vermont.gov/publications-resources/publications/energy_plan/2015_plan)

## **APPENDIX M - Regional Plan Chapter 5 - Housing**

A household's total housing costs should be 30% or less of the household income in order to be considered affordable. While the 30% rule applies to housing costs for all income brackets, Vermont statute defines affordable housing as households with an income below 80% of their county median household income who pay no more than 30% of their income on total housing costs. By statutory definition, housing costs for home-owners include principal, interest, taxes, insurance, and association fees. For renters, costs include rent, utilities, and association fees. For a housing development to be considered affordable, at least 20 percent of all the units or five units (whichever is greater) have to be considered affordable and must be subject to covenants or restrictions to keep the units affordable for at least 15 years. In the Northeast Kingdom, traditional forms of affordable housing are mobile homes, multi- units dwellings (three units or more), and accessory unit dwellings.

## **APPENDIX N - Housing/Poverty Statistics**

[https://factfinder.census.gov/bkmk/table/1.0/en/ACS/15\\_5YR/DP05/1600000US5028000](https://factfinder.census.gov/bkmk/table/1.0/en/ACS/15_5YR/DP05/1600000US5028000)

<http://www.towncharts.com/Vermont/Demographics/Glover-CDP-VT-Demographics-data.html>

<http://zipatlas.com/us/vt/glover/zip-05839.htm>

## **APPENDIX O (a)**

Glover Recreation Committee has sponsored the following:

- Dance class for children
- Santa (in cooperation with Fire Department)
- Easter Scramble
- Glover Day
- Tai Chi and Karate classes
- Pumpkin Race
- Sports clinics and training
- Maintenance/scheduling of baseball and softball fields

## **APPENDIX O (b)**

Suggestions for further recreational activities

- Coordinate public use of school playground facilities and ski trails when school is not in session
- Look into feasibility of tennis court(s)
- Look into feasibility of skateboard park
- Coordinate public participation in school/community garden
- Look into Christmas Tree Recycling - burning in a big communal bonfire - or feeding to a chipper - for use on community garden

- Promote a litter free community. Consider co-sponsoring a “Do not litter” poster contest with the local school, or some other activity to help raise - and maintain - consciousness on this issue.

### **APPENDIX P**

#### Proposed ideas for Town Green use

- Site for kiosk/bulletin board for displaying maps, trails, calendar of events, local businesses, etc. on town green
- Flooding green in winter for ice skating
- Look into purchase of old fire house or small white utility building to use as a warming hut for skaters, and storage place in winter for picnic tables, etc.
- Building a gazebo and/or purchasing picnic tables
- Planting flowers
- Organizing a weekly Farmers’ Market in the summer
- Site for food truck
- Site for Tai Chi

### **APPENDIX Q**

#### Current Commerce/Local businesses include but are not limited to:

- architect
- artists/art studios and crafts studios (painting, jewelry, pottery, fiber artist)
- authors, writers
- auto repair shops
- B&B
- blacksmith
- carpenters
- caterers
- computer programmers/services
- construction companies
- cottage industry (wreath-making, homemade food products)
- counseling and mediation services
- custom meat cutters
- dairy farming or value added dairy farming (cheese, yogurt, butter makers)
- day care centers
- desktop publishing
- eateries
- environmental consulting
- excavating
- fitness center
- furniture making
- grocery and hardware
- gravel pits
- hair salons
- landscaping, lawn care, and nursery businesses
- logging
- luthiers

- maple and birch sugaring businesses
- maple and birch sugaring equipment sales
- military surplus
- non-dairy livestock farming
- piano tuning and refurbishing
- private personal care services
- private school
- real estate
- rental properties
- horseback riding lessons
- second hand shops
- sewing and alterations
- small engine repair
- tree farming
- vegetable production farming/truck gardening
- yoga classes