



PEACHAM TOWN PLAN 2019

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PEACHAM PLANNING COMMISSION

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INTRODUCTION AND ACKNOWLEDGMENTS

A town plan sets forth the collective vision of the community for the future. It is a non-regulatory document that establishes the goals and policies of the town in broad terms. It also serves as the basis for zoning and subdivision regulation. The primary purposes of the town plan are to provide background on our people, landscape, and institutions, to document those things we value, and to provide both a blueprint and policy vehicle to help Peacham achieve its vision.

Methods of implementation, like the town itself, will forever be a work in progress. The strategies for implementation within this plan simply illustrate some of the many and diverse ways we can continue to work together toward our common goals.

Vermont's Land Use Law requires that town plans be updated every eight years for the purpose of keeping information current and taking note of development and land use trends that influence the vision the town has for its future or the town's game plan for reaching its goals. The town plan presented herein presents modest changes to the 2014 plan. Many changes are simply aimed at simplifying the plan's message and language. The substantive changes considered herein were crafted with the benefit of comments received during the "Community Conversations" held in September of 2017, and through the input the commission received via a community-wide survey made available from the spring through summer of 2017. The findings of the survey and transcription of the "Community Conversations" can be found in the appendices and by request.



COMMUNITY "LISTENING SESSIONS" & SURVEY

This plan has incorporated the public discussions taken at two public forums held on September 22nd and 23rd, 2017, and the community-wide survey conducted throughout the spring and summer of 2017. First, the "Community Conversations" were organized to allow for participants to discuss topics of community interest. These conversations were designed to lead groups to actionable next steps. These actionable next steps or projects generally fell within the realm of non-municipal action, meaning, these items would be addressed by volunteers and groups within the community.

The top action ideas from "Community Conversations" were:

- Support Working Farms & Land Conservation with Policies and Developing a Market for Their Products, including the Village Farm;
- Develop More Affordable Housing Options, especially Younger People;
- Create a Time Bank to Exchange Services Between Community Members;
- Improve Broadband & Cellular Connectivity;
- Develop an Accessible Community Calendar;
- Tennis Court Redevelopment;
- Develop a 15-Year Energy Vision;
- Volunteer and Leadership Mentorship Program;
- Redevelop Town Hall Complex;
- Revitalize Village Center;
- Develop a Community Fund for Peacham Initiatives & Projects;
- Improve Access of Activities for All;

- Pursue Liability Coverage for Community Activities & Events;
- Reboot the Peacham Events & Activities Committee;
- Improve Communication and Coordination Between Groups and Municipality;
- Engage with School to Develop Student Volunteers;
- Develop Peacham "Destination" Attraction;
- Develop Community Resiliency Center;
- Explore Ways to be More Diverse: A Diversity Initiative---Bring Together Groups and Residents;
- Explore the Development of a Performance Space Venue; and
- Explore Development of a Community Center.



While this list does not include every idea generated during the “Community Conversations”, it does include the top ideas from the four discussion groups. At the conclusion of the “Community Conversations”, participants voted to move forward with the top four ideas (listed above).

Second, the community-wide survey conducted through the spring and summer of 2017 focused on gathering feedback from the community on a number of topics. The results of the survey while not entirely surprising, are fairly consistent with the previous community survey conducted in 2003 to 2005 of challenges, opportunities and visions of the Peacham community. One question in particular is perhaps most important to this plan update, were the survey asked respondents to rate topics based on their importance to a high quality of life in Peacham. The following is that ranking (highest to lowest) based on responses received:

1. Rural Setting;
2. Quality of Education;
3. Internet Access (Broadband);
4. Scenic Views;
5. Natural Areas;
6. Protection of Agricultural Lands;
7. Access to Locally Grown Food;
8. Peace & Quiet;
9. Cellular Phone Signal;
10. Community Events & Activities;
11. Privacy;
12. Peacham Town School (Pre-K to 6);
13. Access to Locally Produced Goods & Services;
14. Services for Aging in Place;
15. Places to Socialize;
16. School Choice for Grades 7-12;
17. Pedestrian Access;
18. Farmstands;
19. Historic Buildings & Sites;
20. Farmers Market;
21. Recreational Opportunities;
22. Local Commerce;
23. Educational Opportunities in

- Agriculture & Forestry;
- 24. Local Availability of Household Goods & Services;
- 25. Access to Childcare;
- 26. Designated Historic Districts;

- 27. Educational Opportunities in the Trades;
- 28. Public Transportation;
- 29. Beach Access; and
- 30. Motorized Trail Access



In addition, the survey asked respondents to list the top three community areas the Town should focus on---areas where the municipality should focus on and pursue solutions to. The top 10 areas were:

- 1. Recreation Resources & Activities;
- 2. Community Character (agricultural, historic, aesthetic, peacefulness);
- 3. Education;
- 4. Cellular Service;
- 5. Economic Development;
- 6. Broadband Access;
- 7. Roads;
- 8. Housing;
- 9. Childcare; and
- 10. Healthcare & Aging in Place

This plan update uses the feedback from the community to create a proposed basic vision for the future. Some of the vision’s actionable next steps will fall within the realm of the municipality (or town government), while others will be really up to volunteers beyond the walls of the government. There is so much the community can do, this plan can help guide those actions. Each section contains background information, a list of the current issues and needs, and recommended actions to address these needs.

A VISION OF PEACHAM IN THE FUTURE



Peacham in the future will look much as it does today - a small scale, rural community that supports the New England traditions of farmers working the land, sap being boiled to maple syrup, a parent taking a child hunting, the democratic forum of town meeting, gravel roads lined by maple trees. The way of life is still deliberate, relaxed, and rural. Peacham continues to be a special place.

A mixture of landscapes and a diverse population contribute to its unique character. Preserving working dairy and other types of farming are a top priority for the community, as is improved management of forest lands through individual initiative. Recreation is available through the Groton State Forest, various trails, and town facilities. The special and unique places in town are protected through a variety of methods. Housing choices are available for all income levels. Educational opportunities exist for both children and adults. Peacham residents continue to be active in town government, and to meet challenges as they strive for greater efficiency in the provision of town services. As issues have become more complex, the residents contribute even more volunteer time. This tradition is important to maintain the democratic way of life.

We strive to build on the community's assets and strengths to accomplish these shared planning goals for Peacham:

1. **People and Social Capital:** Our vision is to foster a diverse community that creates multiple opportunities for people of all ages to interact, recreate, and celebrate the rich social and civic traditions of a rural community. Our vision supports a full array of housing options, including affordable housing opportunities for young people, families, and senior citizens, with an emphasis on the rehabilitation of existing structures. Quality educational services contribute to the enticement of young families to Peacham and assists in maintaining the current population of families with school-aged children. These young families are essential to the future of Peacham, as they benefit the town in a multitude of ways. We strive to ensure universal access to quality education, cultural enrichment, and lifelong learning. We also wish to establish an environment that encourages safe and affordable childcare.
2. **The Built Environment and Sense of Place:** We strive to conserve those rural, pastoral qualities of agriculture, forest, and settlement patterns that make Peacham an attractive community in which to live, work, and raise a family. Our vision supports a sustainable development pattern that conserves important historic and cultural resources for future generations to enjoy, including Peacham’s many historic and archaeological assets and scenic viewsheds. Our vision-- which seeks to minimize the fragmentation of productive farm and forest lands and avoid encroachment into flood prone areas -- may be achieved through the creative and flexible design of traditional village centers in order to allow for a mix of housing, commercial, governmental, community, recreational, and social uses. Ensuring that there is a sufficient amount of land available in traditional village areas for development at higher densities will be critical to achieving this goal.
3. **Community Wealth and the Local Economy:** Our vision is to cultivate a sustainable local economy that is rooted in the community’s strong ties to the working lands. We seek to strengthen the local agricultural and forestry-based economy by encouraging small-scale, family-owned farming and supporting businesses that promote the sale and use of local food and forestry products, as well as value-added production. As tourism is a critical component of Peacham’s local economy, we strive to develop the town as a “destination” attraction. In regard to home occupations, we encourage development of a broad range of small non-agricultural businesses that provide employment and income opportunity to those who live here.
4. **Natural Resources and Conservation:** Our vision supports the conservation of unique natural areas and ecosystems that make up Peacham’s diverse and scenic landscape by discouraging development on agricultural lands, hilltops, and environmentally sensitive areas. Our vision supports and encourages environmentally responsible land uses, as well as best practices in forestry and agriculture. We support the protection of habitats that provide for hunting, fishing, berry-picking, hiking, and outdoor interests.
5. **Services and Infrastructure:** Our vision supports the efficient provision of public services, while recognizing the limitation of the property tax system. The negative impact high taxes have on the viability of agriculture and on keeping the community open to all levels of income must be considered. Our vision also seeks to minimize the community’s collective carbon footprint by promoting and supporting efficiency and weatherization initiatives. We support the replacement of fossil-fuel burning with clean renewable energy development of a scale that is appropriate to Peacham, and we specifically support the development of community-owned renewable energy generation.



1. PEOPLE AND SOCIAL CAPITAL

ISSUES AND CONCERNS:

- At this time there is insufficient day care provided in Peacham.
- The town tennis court is in sad repair, representing a lost opportunity to establish a central gathering space.
- The trail network throughout town should be maintained. Particular consideration should be given to the possibility of a nature/cross country ski trail connecting the three villages.
- The recreational needs of residents change and facilities require ongoing maintenance.
- Abuses by boaters may detrimentally affect wildlife habitats on small ponds.
- Infestation of Eurasian milfoil into our lakes is a growing concern.
- The Community Listening sessions identified a lack of affordable housing options, particularly for young families.

PEACHAM: A BRIEF HISTORY

In 1763 Governor Sensing Wentworth of New Hampshire gave a charter for the Town of Peacham to a group of proprietors. He also gave Peacham its name. The proprietors were speculators whose main role was to survey the town, sell lots, and lay out roads. In 1775, settlers, primarily from Connecticut and Massachusetts, bought the



lots, built dwellings and developed the land. Crops, including wheat, grew abundantly in the fertile soil. Nine years later, records show about 200 people in town. The first recorded town meeting took place in 1784. Selectmen were duly elected to govern the affairs of the town. According to local tradition, as early as 1795 scholars studied in a log structure on the Bayley Hazen Road, halfway between Peacham Corner (Peacham Village) and Water Street (South Peacham). In 1795 Caledonia County Grammar School received its charter. In 1799, a library was established. A group of men established the Congregational Church in 1794. James Bayley organized a Free Will Baptist Church and served as its minister; it disbanded in 1819. Yet another group began the Methodist Episcopal Church in 1831 and built a chapel in 1832. Because of declining membership, the Methodists closed the church. The building later became the Academy gym and currently houses the town offices and post office.

The early farmers traded butter, eggs, and wheat for goods which they could not make at home. The distillation of whiskey produced a cash crop for distant markets, as did the making of potash. From 1800 to 1830, sheep farming flourished and, in 1840, the town reached its greatest population of 1,443. From that date, census numbers steadily declined. Farming methods changed and dairying became predominant. Even the labor-intensive farms of the late 1800's could not accommodate all members of the large families. Over the years Peacham had sent teachers and missionaries to distant parts. Young men and women went to the mills in Massachusetts and New Hampshire or, especially after the discovery of gold in California; they trekked west to seek their fortunes.

Almost from the beginning various trades and industries - as many as 30-35 at a given time - flourished in Peacham. Lumbering, coopering, milling, butter making, tin ware, tanneries and leather goods provided goods for local consumption. Today, carpenters, small contractors, and builders continue a long tradition, while local crafters, artisans, and artists prepare their wares for the global market.

Tourism became important during the 1900's as people opened their homes to visitors from away. With the advent of the railroad in Barnet and then motor vehicles, Peacham became a popular location for summer residents, some of whom were educators from Boston and New York. Their interest and stimulation enhanced the cultural interests of the town.



DEMOGRAPHICS

Peacham has experienced dramatic growth since 1970, with growth rates that have often surpassed county and state rates. (Figures 1.1 and 1.2. Source: US Census Bureau.) Peacham even experienced double-digit growth over the most recent decade, an era characterized by economic upheaval and outmigration. This decades-long trend may be coming to a close, however, since most current

population estimates suggest a slight population decrease at the town, county, and statewide levels.

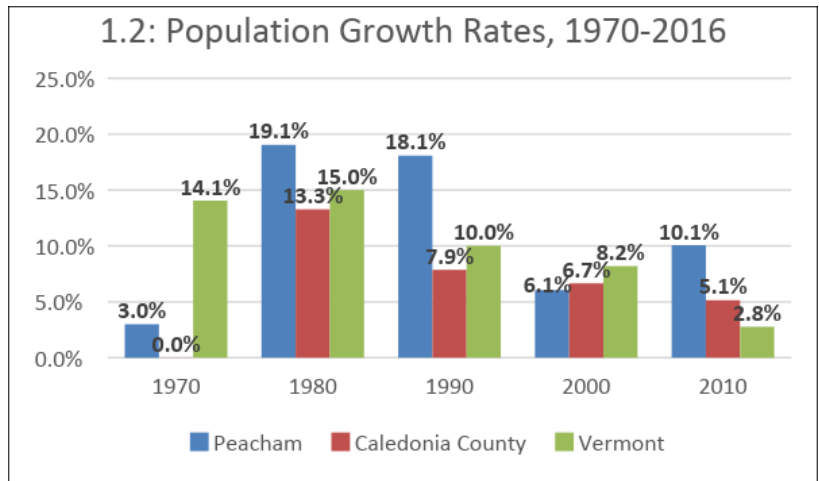
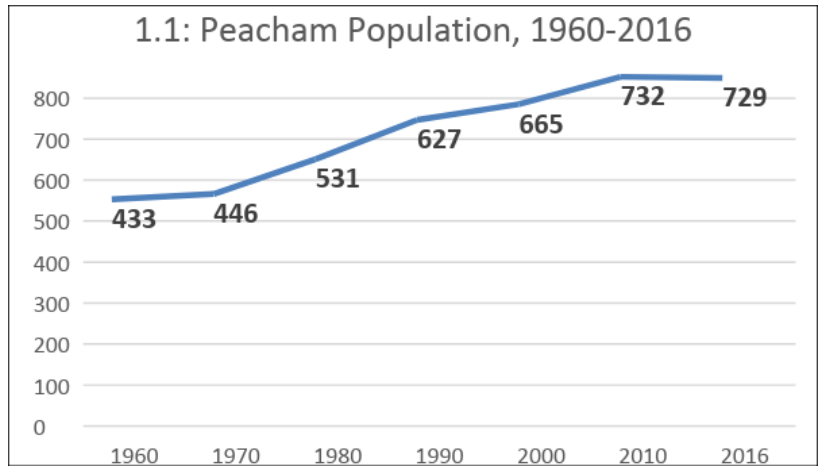
According to most recent data (Table 1.1) Peacham residents tend to be slightly older and are more likely to have some form of post-secondary education. The median household income in Peacham is significantly higher than the county median, and even slightly higher than that of the state.

Peacham seems to have experienced more in-migration than the county or state. According to American Community Survey (ACS) estimates, 58% of Peacham residents were born in another state, which is significantly higher than Caledonia County (42.7%) or Vermont (43.6%). This figure probably correlates to the town’s double-digit population growth rate over the past decade.

Data also suggest that Peacham’s population is aging. This is not surprising, since Vermont population projections for 2030

anticipate a county-wide decrease in every age group under the age of 60, and an increase in every age category over the age of 60. But does this really mean that young people are leaving Peacham?

A thoughtful exploration of youth flight in VPR’s “Brave Little State” – which profiled Peacham – suggests otherwise. Although the ACS data sampling is too small (and probably unreliable) to examine in-migration by age group for Peacham, anecdotal evidence suggests that Peacham is indeed drawing young people and families to the area. What is drawing them to Peacham are the same attributes often cited in the Peacham Community Survey: small-town charm, slower pace of life, proximity to a school, school choice, and Peacham’s Instagram-friendly scenic beauty.¹



¹ Vermont Public Radio: “Brave Little State”, broadcast April 6, 2018
<http://digital.vpr.net/post/vermont-really-losing-young-people#stream/0>

Table 1.1: Peacham by the Numbers

	Peacham	Caledonia County	Vermont
Median Age (2010 Census)	48.5	42.1	41.5
% of households with someone under the age of 18	21.0	25.7	26.7
% of households with someone over the age of 65	29.4	31.9	29.4
% Born in Vermont	40.4	54.6	51.0
% Born in another state	58.0	42.7	43.6
Median Household Income	\$56,250	\$46,931	\$56,104
% High School Graduate or Higher	94.0	90.6	91.9
% Bachelor’s Degree or Higher	46.9	27.7	36.2

Source: American Community Survey (ACS) 5-Year Estimates 2012-2016, unless otherwise indicated

EDUCATION

In 1795, Peacham voted to be the home of the Caledonia County Grammar School rather than the County Courthouse. The Town has maintained schools since that time, including various one-room schoolhouses, Peacham Academy, and presently Peacham Elementary School. This historical tradition is evidence of the commitment Peacham has shown for providing high quality education at a local level.

The Peacham School District is a member of the Caledonia Central Supervisory Union (CCSU), which maintains administrative offices in Danville. The CCSU includes the Towns of Barnet, Danville, Peacham, Walden, and Waterford. Peacham maintains an independent district that exists within the Supervisory Union and shares administrative and program services with the other districts. Members of the Peacham School Board serve on the CCSU Board of Directors. At this point, no changes are proposed to the Supervisory Union, and Peacham maintains an independent school board.



The Peacham Elementary School operates a pre-school through grade six program. In 1993, through a bond vote, the school facility was enlarged to include two new classrooms, a multi-purpose room, a library, an office, teacher's conference room, and a nurse's station. The school is on a 12-acre site. The school population is approximately 48 students (K-6). Bus transportation is offered to and from school along routes defined by the

School Board in conjunction with the service provider. Pupils in grades seven through twelve attend a school of their choice including Danville High School, St. Johnsbury Academy, St. Johnsbury Middle School, Blue Mountain Union School, Barnet School, Riverside Day School,

Stevens School, Cabot School and Lyndon Institute. Pre-school children and their families are served by the Caledonia Rural Early Education Project, CREEP, which provides shared experiences, structured activities, parental guidance, and developmental screening for three, four, and five-year-olds. This program is administered through the CCSU office located in Danville. The statewide education funding law, Act 60, combined with the 2003 amendment, Act 68, will inevitably continue to present opportunities and challenges to the Town.

The Peacham Elementary School is a community of learners and teachers dedicated to developing the ability of each individual to think and communicate clearly, to solve problems creatively, to explore the world, to make responsible decisions, and to have concern for the common good. To that end, Peacham School strives for the continuation of excellent educational opportunities for students in grades K-6. Peacham benefits from the intrinsic value of its school in maintaining the vitality and community engagement of all citizens.

Funding from the Extended Learning Opportunity, a five-year grant from the Agency of Education, has allowed each of the four schools in the CCSU to offer fun and engaging programming every afternoon. The grant period has now ended, leaving a void in childcare programming. The Peacham Planning Commission should support initiatives to expand preschool child care and education and review the Town Zoning Ordinance regarding child care centers.

A small working group has begun to work to establish a non-profit Peacham Children’s Center. The Center hopes to offer affordable, certified, high-quality day care for up to 40 children from six weeks old and up. We expect the Center to employ six to eight people, which is significant in such a small town.

There are several benefits to this endeavor. It will be a big draw for young parents looking for a place to raise children. Our small K-6 school is thriving and has survived Act 46, but pressure continues from the State of Vermont. With uncertain school funding, the Children’s Center will offer possibilities for saving tax money if some aspects of preschool and/or after-school care are shifted to the new Center.

The goal is to keep the Peacham Children’s Center in the village. Re-establishing village center designation opens up grant opportunities and tax incentives that could support this project.



RECREATION

A variety of recreational programs and activities are available in Peacham. The town provides recreation through elementary school programs and furnishes financial assistance to the swimming program which serves town residents at Harvey's Lake. There is a small poorly maintained tennis court located adjacent to the former Peacham Academy gymnasium, now the

town municipal building. While the tennis court is in disrepair it still is an important location for annual events like the town picnic and the Peacham Acoustic Music Festival.

The town gym is free and available to community members, who frequently use it for formal and informal events including basketball games, contra dances, early baseball practice, and to ward off cabin fever in the winter by letting kids run and play. The Town of Peacham manages the Luther Fletcher Parker Memorial Field and sponsors a number of recreational and educational programs using the talents and skills of residents who serve as instructors.

The Historical Association occasionally sponsors programs of old-fashioned games and recreations. Other organizations such as Scouting and 4-H are encouraged; nature programs run by citizens have been held during the summer. The Town of Peacham Trails known as Peacham Pathways is now in place. The plan and trail network is mapped and reflects the approach and goals of the Vermont Trails and Greenways Plan and represents an important step forward for the town in providing a healthy recreational outlet. The Peacham Pathways utilizes old and new trails and is expected to expand and improve over time. Maps of the network are available to the public.

The Bayley-Hazen Snowmobile Club maintains trails in Peacham. These trails which are interconnected with the Vermont Association of Snow Travelers (VAST) system are enjoyed by snowmobile operators and cross-country skiers alike; they are a valuable asset to the Community. Hiking, fishing, swimming, horseback riding, cross country skiing, snowmobiling and hunting are enjoyed on public lands and on much of the privately-owned land in Peacham. Public fishing access is available at five of the town's ponds. There is increased interest in bicycling by children to and after school. Local residents as well as bike tour groups are more commonly seen biking on our roads.



Walking and cross-country ski trails are commonly used and maintained by Peacham residents. A marked hiking trail has been constructed in the Town Forest. Interest in hiking trails is increasing, including improved access to the Peacham side of the Groton State Forest.

HOUSING

In 1989 the Peacham Housing Committee, now known as the Peacham Community Housing, Inc. (PCH), studied the needs of moderate-income residents, especially the needs of elderly residents. They found there was not a very large need for additional housing at the time. The Community Conversation held in late 2017, however, identified a lack of affordable housing options, especially for younger working families. In 1997, a resource directory for Peacham senior residents was published by Peacham Community Housing, Inc., following a survey done in 1996.

Here are some statistical insights on Peacham's housing stock:

- Peacham has long had a slightly larger share of senior citizens than the rest of the county, but that disparity is less significant in light of a more rapidly aging demographic throughout

the entire county. In 1990, 19.6% of Peacham residents were at least 65 years old, compared to only 13.2% of the population county wide. In 2000, 15.3% were 65 and older, compared to 14.4% in the county, and in 2010 17.3% of the population were 65 and older, compared to 15.3% of the county.

- Peacham's housing stock tends to be older and slightly larger than that of the rest of the county. According to latest five-year estimates from American Community Survey (ACS, 2012-2016), more than 36% of Peacham's housing stock was built before 1939, compared to just under 33% county-wide. Older houses tend to be larger and more costly to heat. In a similar vein, latest ACS statistics show that nearly 24% of Peacham's housing stock has four bedrooms or more, compared to just under 20% county-wide.
- Unlike much of the Northeast Kingdom, the growth in Peacham's population from the 2000 Census slightly outpaced the increase in housing stock over the same period -- 10.1% compared to 7.8%.
- In 2000, there were 263 units of year-round housing in Peacham, while 224 units were used for seasonal houses. The number of seasonal housing units increased nearly 20% in the 1990s. In the 2010 Census, however, the number of seasonal units actually dropped slightly from the previous period. As the Northeast Kingdom becomes an increasingly popular retirement designation, it is possible that this slight decrease could represent a broad region-wide trend of seasonal conversions.
- There were only 40 renter-occupied dwellings in Peacham in the 2000 Census and 36 renter-occupied dwellings in the 2010 Census. The drop reflects the loss of the "Science Building," which housed four apartments. The building has now been acquired by Peacham Community Housing. Apart from the twelve apartments in Peacham Corner (Peacham Village), the bulk of renter-occupied dwellings are single-family homes.

As of 2004, an amendment to Vermont statute requires most accessory dwelling units to be treated as a permitted use of an owner-occupied single-family dwelling. Peacham's zoning bylaw has been revised to meet this statutory provision, and this may be a relatively low-cost way to meet future housing demand. Discussions have been underway between Peacham Community Housing (PCH) and Housing Vermont to review the current amount and conditions of the Village Apartments and the needs of the accessibility to its residents. These discussions should continue within the larger Peacham Corner (Peacham Village) planning community.

Affordability

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 generally applies to housing costs for all income brackets, Vermont statute sets different income limits for owner-occupied housing and rental housing. Rental housing is considered "affordable" if it serves households earning no more than 80% of the area median income (AMI), while owner-occupied housing is considered "affordable" if it is priced to serve households earning up to 120% of the AMI. This change in statutory definition accounts for the number of higher-income individuals who still have difficulty finding suitable

housing.

The 120% threshold is often referred to as “workforce” housing. It is typically used to describe housing for those who are gainfully employed in occupations that are essential to the community, such as teachers, healthcare workers, first responders, as well as occupations that may pay relatively lower incomes, such as food services, retail, hospitality, and tourism. It does not typically include age- or income-restricted housing, nor is it likely to be supported through the use of subsidies.

By contrast, many affordability programs, such as HUD, are income restricted -- up to 80% of AMI. According to 2017 data from the Vermont Housing Finance Authority, there are six rental units that are age- and income-restricted, and there are three units that accept housing choice vouchers.

According to latest ACS data, homeowners -- particularly those without a mortgage -- are likely to struggle with housing costs in Peacham. (Table 1.2) ACS data is subject to a margin of error. Nevertheless, the high percentage among Peacham residents who own their homes “free and clear” may have something to do with the larger share of older and outsized housing stock.

Table 1.2: Household Costs as a Percentage of Household Income

	Peacham	Caledonia	Vermont
% of homeowners with a mortgage who pay more than 30% of income	27.5%	35.0%	34.6%
% of homeowners without a mortgage who pay more than 30% of income	40.7%	21.5%	23.2%
% of renters who pay more than 30% of income on gross rent	14.3%	54.2%	51.0%

Source: American Community Survey 5-Year Estimates, 2012-2016

ADJACENT COMMUNITIES

Peacham depends on the adjacent communities for many services. The town is part of a mutual aid agreement for firefighting, the junior high and high school students all go out of town for their education and nearly all the jobs that residents rely on are in other communities. Peacham shares boundaries with Danville, Barnet, Ryegate, Groton, Marshfield, and Cabot. The development pattern of Peacham is compatible with that of its abutting towns in almost all directions. It is unclear, however, how compatible the town's zoning ordinance is with that of adjoining towns. After adoption of the revised plan, when a review of the zoning ordinance is appropriate, the Planning Commission should communicate with adjoining towns to ensure that the land use regulations, especially those in effect near border areas are as consistent as possible. This coordination should extend, as it already does, to cooperation on reviewing and regulating, where appropriate, development that occurs at mutual borders or on land parcels with boundaries that lie within two or more towns.



PEOPLE AND SOCIAL CAPITAL: GOALS AND STRATEGIES

GOAL	STRATEGY
<p>Continue to improve and encourage the use of present recreational facilities primarily through voluntary efforts.</p> <p>Promote responsible public use of private lands for recreational use.</p>	<p>Repair the existing court or repurpose the court as a central gathering space.</p> <p>Support the State of Vermont's efforts to determine and regulate appropriate use of ponds and lakes.</p> <p>Encourage boaters to check their boats and motors for Eurasian milfoil before using Peacham's ponds.</p> <p>Obtain grant funds to support a “greeter” on Peacham Pond.</p> <p>Encourage the Conservation Commission to complete the nature trail, cross country ski and additional trails as interest and need arise.</p> <p>Work with the Groton State Forest to promote and integrate trail development and maintenance.</p> <p>The Conservation Commission should work to maintain the trail network throughout town.</p> <p>Maintain existing public rights of way and legal trails.</p> <p>Encourage residents to support the Conservation Commission through volunteer action.</p>
<p>Ensure a variety of housing units for all income levels and age groups within the town, emphasizing the rehabilitation of existing structures in favor of building new ones.</p>	<p>Continue to review the Peacham zoning bylaws to identify potential barriers to affordable housing.</p> <p>Pursue Village Center Designation for Peacham Corner (Peacham Village).</p> <p>Publicize the availability of USDA lending and subsidy programs for upgrading housing stock.</p>

GOAL	STRATEGY
<p>Improve access to community activities for all residents.</p> <p>Promote diversity in the community by bringing groups and residents together.</p>	<p>Engage with the Peacham School to develop and mentor student volunteers.</p> <p>Re-establish and revitalize the Events and Activities Committee.</p> <p>Establish a community fund for all initiatives and projects.</p> <p>Create a timebank to exchange services between community members.</p> <p>Develop an easy-to-use community calendar.</p> <p>Pursue liability coverage for community activities and events.</p> <p>Explore the development of a Community Center with performance space.</p>
<p>Improve the availability of affordable childcare.</p>	<p>The Peacham Planning Commission should review the Zoning Ordinance regarding child care centers.</p> <p>Support efforts to establish the Children’s Center in the Village.</p> <p>Pursue Village Center re-designation for Peacham Corner (Peacham Village).</p>



2. THE BUILT ENVIRONMENT AND SENSE OF PLACE

ISSUES/CONCERNS:

- The Groton State Forest represents a valuable resource available to Peacham residents. More Town input is needed in the management of the Peacham portion of the Groton State Forest, which occupies nearly 25% of the Town's area.
- The Town Plan emphasizes protection of farmland and other land resources, and the Zoning Ordinance allows for the creation of 2 acre lots throughout town. While this is a classic contradiction that exists in many town plans and zoning ordinances, Vermont law may require an increased effort to bring the two documents into conformance.
- The slow erosion of agricultural, resource, and habitat areas can be affected by poor road maintenance and careless land development.
- The potential conversion of part-time or seasonal housing to permanent housing could have significant impact on roads, septic systems, wells, and land development patterns.
- State Environmental Protection Rules require attention by the Select Board, Planning Commission and Administrative Officer.
- The historic character of the village adds to the community and should be maintained.
- Future development around the three villages could substantially change the current character of the town.
- Recently trees have been planted in and around the village under the Tree City USA Program.



LAND USE

Peacham lies in the geographic region known as the Piedmont. This area is characterized by glacial uplands with hilly terrain and the absence of true mountains. The town land formations are the result of ancient uplifting of geologic plates and the subsequent wearing down and erosion through time. The last advance of ice, known as the Shelburne drift, occurred during the Wisconsin glacial period approximately 12,000 years ago, and gave the region the last major change in landforms. At that time, the parent material for the present-day soils was laid down by the churning action of the retreating glacier. Since this glacial epoch, the formation of specific drainage patterns, soil formation processes, and ultimately the development of plant and animal life formed pre-settlement Peacham.

The advent of white settlers and the clearing of forest land for agricultural purposes shifted the predominantly forest ecosystem to one of nearly all cleared land in many areas. Today, many of the marginal farm areas have reverted back to forest cover. The Town of Peacham contains 30,530 acres of land. As illustrated on the land use map in Appendix #2, the town is primarily made up of five types of land and/or water; forests, open/agricultural, developed residential, open water, and wetlands. Forests account for 26,086 acres or 85.4% of Peacham's land cover. Open/Agricultural lands account for 3,037 acres or 9.9%; Developed is 747 acres or 2.4 %; and Open Water accounts for 660 acres, or 2.2% of land cover. Additionally, the town has 1,073 acres of wetlands.

Topographic elevations range from the peak of Cow Hill at 2,566 feet to a low of 888 feet (above sea level) along the eastern edge in the Peacham Hollow Brook; Peacham has the distinction of containing an important watershed divide. The range of hills starting with Cow Hill to the north and continuing southward including Macks Mountain, Lookout Mountain, Morse Mountain, Devil's Hill, and Jennision Mountain direct drainage on the west side primarily to the Winooski River and ultimately Lake Champlain. Drainage on the eastern slopes of these hills winds its way to the Connecticut River.

These hills have had a strong influence on the town's development. Population centers, agricultural, and business activity occupy the eastern half. Development in the west remains minimal except for occasional houses, and the recreational and seasonal use of shore lands, forests, and mountains.

The Groton State Forest includes 7,212.58 acres of land and water or about 23% of the Town of Peacham and represents a major natural resource that provides nearby opportunities for hiking, cross-country skiing, snowmobiling, swimming, and fishing, among other activities. The State

Forest is actively managed and administered by Vermont's Department of Forests, Parks and Recreation (DFPR). The State of Vermont provides payments in lieu of taxes (PILOT) to the Town of Peacham. It would seem that the State's lands are outside Peacham's direct jurisdiction, but there are some Peacham lands that are in-holdings of the State Forest. Because of the important resources shared with the State Forest, it is important that Peacham participate actively in the State Forest Plan process. Improving access to State Forest lands, advising on types of recreational use Peacham residents enjoy in the Forest, and enhancing Peacham residents' knowledge of the Forest and its resources are all important. Not only should the planning and conservation commissions maintain an active interest in the State Forest, but the planning commission should appoint a subcommittee to serve specifically as a watchdog for the Town on the future of Groton State Forest.

Peacham has, partially or wholly within its borders, eight lakes and ponds. (1) Peacham Pond (341 acres) borders on Groton State Forest with extensive cottage development on about a third of its shoreline. (2) Martin's Pond (73 acres) has extensive cottage development on half of its shoreline, with the remaining undeveloped area residing in Groton State Forest. (3) Osmore Pond (51 acres) is completely within Groton State Forest, and has only a picnic area developed along its shore. (4) Kettle Pond is in Groton State Forest with 800 feet of shoreline in Peacham. (5) Foster Pond (56 acres), (6) Ewell Pond (40 acres), and (7) Keiser Pond (34 acres, most of which lies in Danville) have little development. (8) Mud Pond (31 acres), which is largely marsh land, is owned by the Vermont Department of Fish and Wildlife. Public fishing access is available on Peacham, Martins, Foster, Ewell, and Keiser Ponds. The two notable bogs in Peacham are owned by the State. Stoddard Bog is on the northern fringe of town and Peacham Bog is in Groton State Forest. Devil's Hill, along the main mountain ridge, has glacial caves on its western slope. Owl's Head, in Groton State Forest, can be approached by car to within 1/8 mile of its summit, where there is a stone observatory with beautiful views. Extensive panoramas from the wooded summits of Cow Hill and Lookout Mountain have been available in the past. The Northeast Kingdom Audubon Society has provided land in East Peacham with an excellent platform for viewing birds and other wildlife along East Peacham brook.

SOIL CHARACTERISTICS

Soils in Peacham result from glacial activity during the recent geological past. The parent material (the material from which soils are derived) was deposited through the violent action of the ice sheet as it gouged and ground along the earth's surface. Eventually melting as the climate became warmer, the glacier dumped this material randomly over the ground. Known as "glacial till", this heterogeneous material gives rise to a variety of soil types from very fine silts and clays to areas covered by large boulders. Soil types consequently can and do change over relatively short distances as the parent material, topography, vegetation, and water regimes shift.

Soils derived from glacial till are known as loams and contain varying proportions of sand, silt, and clay. Soils are classified according to chemical and physical properties and are given common names usually associated with the locality where they were first mapped. The soil called "Peacham" is such an example, and in this case, the name refers to a poorly drained soil found in

low lying areas along streams and drain ways. This soil is too wet for tillage, but is typically found in unimproved pastures. It is often suitable for pond building, and is scattered throughout town. Buckland is a finer textured better drained soil than Peacham, and is capable of supporting agriculture although it has a restrictive layer or “pan” occurring at about 20 inches. This pan can be a limitation to house siting as slow infiltration can necessitate a mound type sewage disposal system at added costs. The Glover and Lyman soil series are also commonly found in Town and, unlike Buckland, are shallow in depth thus not well suited to tillage. These thin soils lack sufficient water holding capacity for productive forage and are often found atop knolls and hilltops covered with sparse grass or forested. Dummerston is an excellent example of a deep, very fine sandy loam with excellent drainage. Well suited to tillage, this soil has been recognized by the State of Vermont as a prime agricultural soil of high potential. Many of Peacham's more productive forage and corn fields are this soil type.

Due to Peacham's geographic location in the “upland” drainage region, it is nearly void of the rich bottomland soils found in towns along the Connecticut River. A few areas along Peacham Hollow Brook and South Peacham Brook are subject to local flooding periodically and would constitute the only farmed land in this category. Landowners are reminded, however, that they often can produce loamy soil by planting crops such as legumes and barley and use rotation as a method to improve texture and richness. The above are examples of commonly found soil types and give a representative, but not exhaustive picture of soils occurring in Peacham. The United States Department of Agriculture Natural Resources Conservation Service (NRCS) updates the soil survey periodically. For an update on this work, contact the NRCS.



CURRENT LAND USE PATTERNS AND CONTROLS

Peacham is an example of the pattern of development for which Vermont is well known. Historically, development in Peacham has occurred in and around compact villages with surrounding land uses appearing as a patchwork quilt of open farmland, managed wood lots, and large tracts of forested land. The small amount of residential development that has occurred outside of villages has, for the most part, occurred as low-density housing (housing lots of 10 acres or more).

Peacham has also benefited from many landowners who have maintained open land even if it is not actively farmed. There is strong public support for maintaining slow growth and the existing pattern of development through the town planning and development review process.

Zoning

Peacham has enforced local zoning regulations since the mid-1980s. The purpose of zoning regulation is to promote the health, safety, and welfare of the populace; protect and conserve the value of property; and guide future development so it conforms to the town's land use plans. The zoning ordinance, through its terms, conditions, and guidance, is the principal vehicle by which the goals of the Town Plan can be realized. The zoning regulations were last updated in 2017.

Act 250 and State Subdivision Review Law

Additional land use controls exist through state law. Act 250, passed by the legislature in 1970, requires that commercial and large residential subdivisions meet ten environmental and planning criteria prior to the grant of a state permit. Presently, state subdivision law requires that any subdivided lot less than ten acres in size obtain a state subdivision permit. Such lots must meet the standards for water supply and waste water disposal as provided in the State Environmental Protection Rules (EPR). Act 250 jurisdiction, in regard to residential subdivision, is generally not triggered unless the sub-divider of the lots has created more than nine lots over a five-year period within the same Environmental District (Peacham is in District 7, which encompasses Essex, Orleans and Caledonia Counties). Although Act 250 rarely plays an active role in Peacham's development review processes, it can be argued that it does, indirectly, influence land use by acting as a disincentive to the creation of subdivisions.



VILLAGES

There are three village centers in the town of Peacham: Peacham Corner (Peacham Village), South Peacham and East Peacham. This type of development with homes clustered tightly together surrounded by open farmland is the essence of the vision for the future of Peacham and should be encouraged in every way possible. However, the close proximity of homes and business in a village setting raises issues that are not shared throughout the entire community.

All three villages are concerned with safety, especially with road traffic exceeding posted speed limits.

In Peacham Corner (Peacham Village), parking is inadequate for some events. Peacham Corner (Peacham Village) was designated as a Village Center by the State of Vermont. This designation can enhance the opportunities for state financial support in the Village and carry some tax credit possibilities for houses being rehabilitated to commercial use. Unfortunately, the designation expired and will need to be renewed.

A land survey of the Village roads, buildings, trees, and other facilities has been undertaken and will help to form one basis for improved planning. In regard to the villages, an overall plan that takes advantage of coordinated planning and economies of scale is the goal. The Town also received State funding from the Department of Forest Parks and Recreation (through the Urban and Community Forest Program) to assist in conducting an inventory of the conditions of trees in the villages, cemetery and Town Forest.

The village landscape continues to provide an important and appropriate setting for the early homes and out buildings. The boundaries of the village today are much as they were in the mid 19th Century. They remain clearly defined by the surrounding rural landscape, with its mix of open agricultural land and forest. Active dairy farms sustain the traditional field patterns and uses. Further afield, the distant views to the White Mountains remain a dominant feature of the village and help explain the early appearance of inns, rest homes, and summer residences.

There are only two paved roads -- the through road from Groton to Danville that incorporates part of the early Bayley Hazen thoroughfare and a portion of the East Peacham Rd. The rest of the village roads are dirt and gravel as they always have been. The main sidewalk in Peacham Corner (Peacham Village) is a grass path separated from the paved road by a grass boulevard. There are

also two small sections of concrete sidewalk in Peacham Corner (Peacham Village). The soft edges of these roads combined with the mature trees and bushes maintain a predominance of soft landscape that has always been characteristic of Peacham. Individual plantings, including terraced flower gardens on the sloping lawns of Peacham Corner (Peacham Village), also sustain traditional landscape patterns.

UNDEVELOPED LAKESHORE LANDS

In 1992 the Northeastern Vermont Development Association (NVDA) completed a resource inventory of the undeveloped lakeshores in northern Vermont. The study identified undeveloped tracts of lakeshore on lakes over 10 acres. An "undeveloped tract" was defined as having a minimum of 1,000 feet of shore frontage with a depth of 250 horizontal feet with no human structures or 2-wheel drive roads. The study indicates that Peacham has six lakes with a total of 64,320 feet (or 12 miles) of Lake Shoreline. The Town of Peacham has more undeveloped shore land than any other community in the Northeast Kingdom with over 72% (46,150 feet) currently undeveloped.

The Planning Commission believes that the large amount of undeveloped lake shore land offers the residents of Peacham many opportunities not enjoyed by other communities. These shore lands have many valuable attributes including critical wildlife habitat and help to maintain high water quality and recreation opportunities. Therefore, the Commission suggests that undeveloped lakeshore be given high priority for the conservation efforts within the town. In fact; the current zoning ordinance differentiates between developed and undeveloped shore lands, requiring lower density residential development on the latter. The state conducts water quality monitoring programs at Foster's and Peacham Ponds, assisted by local volunteers. The Planning Commission encourages lakefront homeowners to keep lake associations aware of any water quality data collected so that future planning decisions can reflect changing conditions.

In 2014, Vermont's Shoreland Development Act began permitting clearing and development within 250 feet of the mean water level of all lakes and ponds 10 acres or larger. This permitting requirement complements rather than preempts Peacham's zoning, because this regulation focused on the protection of natural vegetation cover, and not overall densities or uses.



FARMLAND

Conserving active, prime farmland is a top priority in town. In 1989, a committee appointed by the Selectmen undertook a major initiative to evaluate and score the open land in town. Using a Land Use Evaluation Site Assessment (LESA) system, evaluation criteria were developed and each parcel scored. This study considered a field for its agricultural potential and its value to the town as open land, comparing it to other fields in town. A complete copy of the LESA study is available from the Conservation Commission.

The criteria include soils, slopes, and views to and from each field and became the basis for the agricultural overlay to the zoning maps for the town. Although the overlay can result in lots as small as two acres, consideration is given to the preservation of unfragmented tracts of agricultural lands. For example, subdivisions of three or more parcels are required to obtain Planned Unit Development (“PUD”) approval to allow for more creative design and efficient use of land. The development of additional town roads within the district is discouraged.

HISTORIC/CULTURAL RESOURCES

The unique character of a community comes from both its natural and built environments. Peacham is blessed with rolling topography and fertile soils that provide for a variety of land uses. The community is also fortunate to have many historic and interesting buildings. These add to the specialness of the community as much as the scenery.

This plan’s intent is to work toward protecting both the natural and built environments. In order to do that, a comprehensive inventory and plan need to be developed. The inventory should identify those areas with historic or cultural qualities such as cemeteries, monuments, buildings, old cellar holes, spiritual grounds, and the like. In December 2003, Peacham Corner (Peacham Village) was officially listed as a Historic District in the National Register of Historic Places, which is administered by the US Park Service. The listing of Peacham Corner (Peacham Village) recognizes the architectural and historic significance and documents historic resources in Peacham. Full text and photo documentation of the District is available through the Historic Association and specific buildings are identified on the Historic District Map (see supplement). Several other areas in town contain homes and barns dating back to the early settlement period of the town. A series of past and ongoing preservation activities has enhanced the historical integrity of Peacham. The designation as a historic district evolved from a process of study. Understanding

and appreciation of this process should continue.

THE BUILT ENVIRONMENT AND SENSE OF PLACE: GOALS & STRATEGIES

GOAL	STRATEGY
<p>Advocate for a local role in the management of the Groton State Forest</p>	<p>The Peacham Conservation Commission or a committee of the Planning Commission should monitor the State Forest's long-term management plans and maintain a dialogue with the Vermont Department of Forests, Parks and Recreation planners.</p> <p>Peacham residents should be encouraged to participate in Groton State Forest hearings and other public meetings involving the State Forest.</p>
<p>Maintain the historical character of the village centers.</p>	<p>Re-establish Village Center Designation for Peacham Corner (Peacham Village).</p> <p>The town should continue its relationship with Tree City USA.</p> <p>The Selectboard and Peacham Fire District #1 should continue to explore options to reestablish a sidewalk in the village.</p> <p>The Planning Commission should consider the implementation of form-based code for, at minimum, the Peacham villages and higher density areas. Lands outside of the villages and more densely populated areas may not be suitable for form-based code, so it may be that future zoning regulations contain a mix of traditional zoning regulatory codes and form-based code. It is believed that form-based code can help communities conserve the character of place and easing landowner conformance.</p> <p>The information developed for historic district designation should be generally available to residents and should be a primary source for the recommended form-based code update, particularly in the Peacham villages. The Planning Commission should encourage this process in other parts of town if there is interest.</p> <p>The Historical Association should publicize the Vermont State matching barn grants program and continue to provide information to interested owners about maintaining their barns. The Historical Association should continue to research and identify resources of historical and cultural significance in the town and share it to the Planning Commission.</p>



3. COMMUNITY WEALTH & THE LOCAL ECONOMY

ISSUES AND CONCERNS:

- Peacham has several small but thriving home-based businesses.
- There are limited, but important opportunities for commercial growth in Peacham. These businesses could benefit from increased visitor- and recreation-based tourism to the region.
- Promotion of family farms is essential to the overall town objective of preserving open space, scenic qualities, rural character, and local food production.
- People often do not understand estate planning or the Use Valuation Program, or use creative ways to subdivide and develop land.
- Private landowners may need advice and assistance to improve the quality, beauty and economic value of their timber.
- High property taxes often prove unduly burdensome for landowners committed to long-term ownership and management of their forest and farm lands. The Vermont Current Use Program provides critical tax relief.
- There is need for more constructive ideas on effective forest management.
- The Town should consider additional incentives for sound long-term private forest management.
- A lack of access to markets limits the number of successful farms in Peacham. The Peacham Farmers Market is a vibrant social event that supports the community.

When travel was hard and people stayed close to home, small communities thrived. People were reliant on their community for their education, entertainment and survival needs. Bartering was common. One can only imagine living in Peacham when there was over twice the population as today: 2 gristmills, 4 operating sawmills, a flax mill and tannery. Almost anything one would need was available in your community. Your neighbors were blacksmiths, tinsmiths, tailors, shoemakers, hat makers, and harness makers; some working from their homes and most everyone had a hand in farming. Stores, taverns and saloons were lively meeting places. And the production of alcoholic and malt beverages was a lucrative business.

Despite the transportation and the modernization of industry resulting in a decline of industry and commerce in Peacham, there are still a variety of home-based businesses: Christmas tree, dairy, organic vegetables and alpaca farms, maple sugaring, sawmills, small scale textiles, specialty foods, children's day care, and bed and breakfasts. There are antique shops, carpenters, furniture makers, a variety of artists and craftsmen, an insurance agency, a farmers' market and an astronomy center in town.

COMMERCIAL DEVELOPMENT, TAX BASE AND OTHER ECONOMIC MATTERS

While the vision for Peacham is often considered in terms of its natural beauty, the warmth of community life, and a continuation of the working landscape, it is important that attention be given to the economic realities and prospects for the town and its residents. Peacham is largely a residential community with few businesses providing jobs or taxes to run town government or the school system. In order for the town to continue providing the services its resident's desire and for residents to find employment, income-generating jobs either in Peacham or the surrounding region are essential. While there are a number of summer residents and retirees in Peacham who do provide valuable tax revenue and tend to demand few services, there is a difficult balance to maintain among jobs, personal income, and local tax revenues.

EMPLOYMENT

According to 2015 Census data based on W-2 forms, all but three Peacham residents with covered employment (i.e. non-self-employed positions subject to Vermont's Unemployment Compensation Law) work elsewhere. St. Johnsbury, Montpelier and Barre, Grafton County (NH), and other smaller communities provide a large portion of the employment available to Peacham residents. An increasing number of jobs, however, are found within Peacham. In addition to teachers and other local government employees, there are several in the construction trades, agricultural enterprises, retail trade, and home occupations. As communication technology advances, it is assumed that a larger number of home occupations may grow.

Currently, the job opportunities revolve around the regional economy centered in St. Johnsbury and to a lesser extent the Upper Connecticut River Valley and the Capital Region (Barre and Montpelier). Prospects in these regions for the near future are uncertain; however, the growth in the Northeast Kingdom is projected to be the lowest in the state in the next few years. The Town of Peacham must remain attentive to the region of which it is a part in projecting its own growth in population, its school age population, and its tax base.

There currently are limited, but important opportunities for commercial growth in Peacham.

Retail business could benefit from increased business through regional cultural heritage tourism programs, bicycle tours, or snowmobile travelers as well as the annual fall foliage activities and other holiday celebrations in town. Regional cultural heritage programs hold promise because they can divert tourists from typical routes that skirt Peacham in favor of those that have Peacham as a destination. Developing and advertising the historic and cultural resources of the community and providing information for self-guided tours of the community for those who visit Peacham could be important elements of these programs. Participating as part of a regional effort could also pay dividends in terms of commercial revenues.

Home occupations are another area for growth. These span traditional "cottage industries" to a range of professional services. These opportunities result largely from the communication revolution. There may be steps that can be taken by the town to further encourage and support these businesses. Favorable zoning bylaws should exist that provide substantial flexibility for commercial, industrial and home occupations.



AGRICULTURE

Peacham is a rural town where agriculture and dairy farming in particular, have long served as a touchstone for our rural identity. Increasingly, residents have expressed concern for the future of agriculture in Peacham. As dairy farmers become further challenged by higher production costs, tax burdens, and lower prices for milk, the likelihood of farms going out of business increases. In recent years the subdivision of lands formerly used for agriculture has heightened our awareness that agriculture needs to be strongly supported if it is to remain viable.

While at one time most of Peacham's land area was in open farmland, in 2010 only approximately 2000 acres remain devoted to active use. The farmland in Peacham plays an important role in providing a balance between forest cover and open land. Farmland, more than any other land type, is most vulnerable to conversion that results in a visual impact and permanent loss of agricultural uses.

While Vermont's dairy industry is experiencing some of the hardest times in recent memory, it is important to remember the value it brings to the economy. A 2016 study from the Vermont Agency of Agriculture attributed more than \$2.2 billion in direct, indirect, and induced impacts statewide. Dairy still plays a critical role in Peacham's local economy with four active dairy farms, which collectively account for more than 650 milkers and 500 young cattle. The community also

has an advantage in that Peacham's dairy farmers tend to be slightly younger than the statewide average. Nevertheless, the town should explore and support strategies that help to keep dairy farming viable, such as succession planning, diversified production, on-farm value-added processing, and agritourism.

The active farmland (cropland, hayland, and pasture) is concentrated in the southeast quarter of town, and includes the majority of Peacham's dairy farms. This core group of contiguous properties represents the most productive farmland in town, and is vital to supporting present and future agricultural enterprises. The community has also seen an expansion in diversified vegetable and fruit production and meat and animal products, such as fiber from alpaca, sheep, and goats, dairy from goats, meat from pigs, goats, and poultry, and eggs from duck and chicken. The Peacham Farmers Market, stores and restaurants with a local focus (such as members of the Vermont Fresh Network), and local hubs such as Green Mountain Farm Direct and the Vermont Food Venture Center can help to support and expand production. Because of our rural terrain, market access, including distribution and transportation is a challenge. The town supports regional efforts to support market access.

A 2016 study by the American Farmland Trust highlights the uncertain future of farming in the Northeast Kingdom. Using a special tabulation of the 2012 Agricultural Census, the study found that of the 151 farms in Caledonia County with a principal operator aged 65 or older, only five farms had identified a potential successor (i.e. an additional operator under the age of 45). With roughly a third of our region's farmer's likely to exit farming over the next two decades, technical services and public policy need to be better aligned to facilitate succession planning.



PLANNING FOR AGRICULTURE

Recognizing that some development of Peacham's remaining open farmland will occur, it is critical that local planning and development review processes guide development so as to protect important farmland and maintain its future potential for agriculture. The Vermont Department of Agriculture originally published "Sustaining Agriculture" in 1994. This handbook was significantly updated by the Farm-to-Plate Agricultural Land Use Planning Task Force into a series of

easy-to-use online training modules, covering a broad range of topics, such as conservation techniques, farmland and taxation issues, and the state and location regulatory context. The modules are periodically updated and are available here:

<http://www.vtfarmtoplate.com/features/sustaining-agriculture-land-use-planning-modules#.WvtP54AvyUk>

The town can purchase land with scenic, ecological, wildlife, or recreational values for use by town residents. The Conservation Commission should establish, advertise, and continually augment the Conservation Fund for such purchases. Where the development rights to a property have been donated or sold to a conservation organization, the value of the property may decline, in which case the town can reduce its assessment, lowering the owner's taxes. This provides an added incentive to landowners to conserve their land.

Conservation easements are a popular alternative to outright acquisition and have been used in Peacham. They are typically sold to the Vermont Land Trust, although sometimes they are donated. Under such an arrangement, the property owner retains ownership of the property, but sells the "development rights," meaning that the owner cannot further develop or subdivide the land. Landowners with conservation easements still pay taxes on the property, so many lands with easements are often also enrolled in the Current Use Program to reduce their tax burden. To date, Vermont Land Trust has conservation easements on about 173 acres of agricultural land in Peacham.

The Vermont Department of Taxes' Use Value Appraisal Program (also known as "Current Use") is a tax program designed to support the state's agriculture and forest products economy. It relieves the burden of property taxes on farmers by assessing taxes based on the productive agricultural or forestry value of the land rather than on the land's potential for development for other uses. While enrollment in current use does place a lien on the property which remains in place until the Land Use Change Tax is paid, it does NOT place a permanent deed restriction on the property like a conservation easement would. Rather, Current Use provides a financial incentive to the landowner to keep property undeveloped. More enrollment into the program does not shift the tax burden to other property owners in town. In fact, towns are reimbursed by the state, and the tax burden is spread equally across all taxpayers in the state. Studies of the cost of community services have repeatedly shown that open or forest land, even in current use, pays more in taxes than it requires in services.²

² Trevor Evans, Northern Woodlands, November 22, 2010. "Debunking Misinformation about Vermont's Current Use Program" <http://northernwoodlands.org/articles/article/debunking-misinformation-about-vermonts-current-use-program>



FORESTRY

Forests cover more than 85% of Peacham Town's land area. They are significant in the town's economy and, along with mountains, ponds and streams, and working farms, are a major feature of the town's lovely physical setting. They also provide habitat for the Town's varied and bountiful wildlife, income from timber harvesting, maple sugaring, and tourism, and enjoyment for residents and visitors. Forests and other aspects of the physical environment are critical to the sightseeing, hunting, snowmobiling, and other recreation that are vital contributors to the State and local economies. The fall foliage season in late September and early October vividly expresses the meaning of Peacham to its inhabitants and others, when many visitors come from elsewhere in the U.S. and abroad to view Peacham's splendors.

In the past two centuries our forests have come full circle. When the first colonists arrived, late in the 18th century, our area was almost entirely forested. By the 1830s and 1840s, it had been transformed into open land and subsistence agriculture, with more than double the present population. Then a few decades later the land devoted to agriculture began to recede, and over the next century the forest steadily re-established itself as the dominant factor in the landscape. Our forest is a mixed forest, typical of this region. The three major forest types are spruce-fir, pine-hemlock, and northern hardwoods. Among the latter are maple, beech, ash, and birch. The predominant softwoods are fir, spruce, hemlock, pine, and cedar. Wood products regularly harvested include saw and veneer logs, pulp, chips, and firewood. There are a few small, intensively managed Christmas tree plantations from which, in some cases, green boughs are also cut for seasonal ornaments. Maple sugaring generates income and satisfaction to sugar makers, and interest among Town inhabitants and visitors.

Peacham is home to eight small lakes, all of which enjoy excellent water quality. This is due in part to the intact forest that makes up their watersheds. Around 7,000 acres, or roughly a quarter of the Town's area, is owned and managed by the State of Vermont as a portion of the Groton State Forest. About 740 acres of this total are in a wetland known as the Peacham Bog, which attracts much attention from forestry and wildlife scholars. Aside from small parcels owned by the Town and the Village Fire District #1, virtually all of the remaining forested land in Peacham consists of private holdings. The small forests owned by the Town and the Village provide protection for water supplies, wildlife habitat, and public recreational sites. In order to improve their visibility to residents and ensure proper long-term maintenance, the Town Forester must update the management plan for these parcels.

The current predominance of forest cover in Town makes this resource less threatened at the moment than open agricultural land. But the forestry sector does have two principal problems, both of which have aroused wide public concern: poor management on the part of a few, and fragmentation through subdivision of large timber tracts into smaller lots. The former problem results either from neglect, lack of knowledge of good forestry practices or, from the desire of some landowners and loggers to extract maximum immediate financial return at the expense of long-term forest health and income. The second problem stems from the purchase and subdivision of land for profit or from residents who see in subdivision a means of enlarging their income or financing their retirement. The health of the forest is of paramount concern to Peacham. The Town looks with favor upon wise forest management on the part of both private and public owners because it enhances timber quality and beauty as well as higher long-term financial returns to owners when it is harvested. There is a need for a greater awareness in Peacham of the availability, without charge, of County Forester and State District Biologists for advice and assistance in forestry and wildlife matters. Conservation and improvement of the forest and wildlife habitat are essential to the preservation of Peacham's character. Important specific objectives include maintaining forest beauty, improving forest quality and economic potential, holding fragmentation and destructive logging practices in check, fostering wildlife habitat, and ensuring access for recreation.



COMMUNITY WEALTH & THE LOCAL ECONOMY: GOALS AND STRATEGIES

GOAL	STRATEGY
<p>Peacham should strive to be a place to live and work. Commercial activity provides employment, and a sense of well-being, and community. Commercial activities and home industry should be encouraged as long as they meet environmental and aesthetic objectives of this plan. Peacham will strive to maintain a tax burden that is moderate.</p>	<p>Continue to review bylaws to ensure that home-based occupations can be appropriately sited.</p>
<p>Develop Peacham as a “destination” attraction.</p>	<p>Re-establish Village Center Designation for Peacham Corner (Peacham Village). This will enable income-producing properties (such as the Cafe) to access tax credits for much-needed fit-up and code improvements.</p>

GOAL	STRATEGY
Support working farms and forests with conservation policies.	<p>Support the next generation of farmers with succession planning efforts through organizations such as the Vermont Land Trust and Land For Good.</p> <p>The Town Forester should develop and keep current long-term, multiple-use management plans for the Town forests.</p> <p>Conservation arrangements with the Vermont Land Trust and the formation of voluntary neighborhood woodland owners' associations should be encouraged.</p> <p>The Town should consider zoning rules that discourage subdivision of large forest tracts, which introduces housing, industry, and other human activity into the wilderness.</p>
Develop a market for local farm products, including the village farm.	<p>Ensure that zoning regulations encourage and support agricultural enterprises. For example, non-traditional agricultural uses -- such as on-farm value-added processing, and farm-based tourism -- should be appropriately sited.</p>
Ensure the potential for future agriculture by protecting prime agricultural soils.	<p>Make the development review process flexible and encourage cluster developments.</p> <p>Ensure that the sites of buildings, roads and other structures have the least significant impact on agriculture. An example might be to locate a proposed house along the edge of a field instead of in the middle thus preserving the field's agricultural potential.</p>
The Town should examine ways to encourage farming in Peacham.	<p>Consider forming a local Agriculture Committee.</p> <p>Host workshops and distribute written materials on estate planning, the Use Valuation Program, and on creative ways to subdivide and develop land to minimize the impact on the agricultural resources. Use the Farm to Plate Agricultural Land Use Planning Modules.</p>

GOAL	STRATEGY
<p>Maintain in Peacham a healthy and vibrant forest and forestry industry as well as foster wildlife habitat through improved forest practices, long-term stewardship, and protection of the land resource from degradation and fragmentation.</p>	<p>Forest landowners can obtain free assistance and advice from the County Forester, State Biologists and several local Vermont Coverts "Cooperators".</p> <p>New forest landowners should be provided packets containing information on sources of advice and assistance. One of the best sources of helpful information and advice is the paperback Working with Your Woodland: A Landowner's Guide by Mollie Beattie with Thompson & Levine, University Press of New England.</p> <p>Land owners should be encouraged to engage only loggers dedicated to acceptable agriculture practices and State rules, particularly loggers who have completed the LEAP certification program established by the UVM Extension Service. Thorough treatment of this subject is available in the</p> <p>Congressionally-sponsored Northern Forest Lands Council study (1988-94), particularly in Council recommendations to Vermont and the other three participating states. Free advice and assistance can be obtained from the Vermont Department of Fish and Wildlife District Biologists in St. Johnsbury (phone 751-0100).</p> <p>The Town should work with the County Forester to promote the education of landowners regarding the forest management practices. Those owners in the Vermont Current Use Value Appraisal Program are required to arrange any logging in accordance with their State-approved individual management plans.</p> <p>The USDA Natural Resources Conservation Service offers incentive programs to help landowners implement management practices (Telephone 748-3885). Also, local Vermont Coverts cooperators can be consulted.</p>



4. NATURAL RESOURCES & CONSERVATION

ISSUES & CONCERNS:

- Conservation of forest and meadow is important to maintenance of the beauty and unspoiled character of Peacham.
- Wildlife habitats are evermore threatened by new development and insufficient knowledge regarding what wildlife is in the woods, their likely habitat locations, and what can be done better to protect and enhance them. Fragmentation of the forest will reduce wildlife habitat for such species as bear, bobcat, and certain birds that rely on unbroken forest.
- There is need for a local pool of money to be used as a local match when trying to obtain public conservation money.
- Residents often have the interest but lack the technical knowledge to carry out proper land management and conservation planning.
- Areas important to wildlife (e.g. deer yards, beech stands, spruce/fir forests) need to be further identified and mapped.
- Flood-related disasters have had the greatest financial impact on the town.
- Beavers often run afoul of landowners and municipalities alike as their activities create substantial changes to the environment that may not be compatible with human aspirations. At the same time, the Vermont Fish and Wildlife Department recognizes the essential role beavers have in creating and improving wetlands. Peacham residents and municipalities are encouraged to study, identify, and evaluate the feasibility of maintaining beaver habitat through water flowage devices before relocating or exterminating beavers. The Vermont Fish and Wildlife Department can assist the community with this work.

LAND CONSERVATION PRIORITIES

Peacham is made up of a diverse mixture of landscapes. Its unique character comes from the

variety of land types and land uses within the town. To maintain this special character, a conservation strategy should be designed to suggest local priorities for conservation initiatives and to provide general guidance to public and private funding sources so that the most valuable lands and attributes may be protected.

As of 2018, there were 2,472 acres of private land under conservation easement (through the VT Land Trust) in Peacham representing just over 8% of the town's land area. Continued efforts will yield steady increases in protected land. Fifteen acres of public land at Stoddard Bog are also under deeded conservation easement. When the land is placed under a conservation easement its deed is amended to restrict future development on the parcel. In general the property remains in private hands and stays on the tax rolls but is restricted from future development. It is important to note, however, that often the land owner will "hold out" one or more house sites located on the property to be developed in the future.

In conjunction with the Conservation Commission, the Peacham Planning Commission suggests that some lands in town are more important to protect from development than others. The limited amount of conservation dollars should be focused on certain areas of town. The suggested local priorities are:

- Working Farms, including those practicing diversified agriculture and low-impact methods
- Open Land Used by Farms
- Undeveloped Lake Shore lands, Bogs, and Riparian Lands
- Critical Wildlife Habitat, Corridors, and Wetlands
- Hilltops and ridge lines
- Conserving these areas is important to preserving the character of the town.

NATURAL HERITAGE SITES

In 1992, the Vermont Natural Heritage Program completed an inventory of the natural heritage sites within Peacham. Although the study was not necessarily all inclusive, meaning there may be sites still not identified, it does supply a good first step at locating areas with special natural features such as rare and endangered plants and special wildlife habitat. The intent of the inventory is to make landowners aware of what they have on their land and actions they may take to conserve it. Working with the landowners to protect these sites is a priority for the Conservation Commission. The Peacham Base Map gives a general idea of the location of the sites including:

- Foster Pond Fen
- Osmore Pond
- Goslant Pond Owls Head
- Keiser Pond
- Peacham Bog
- Martins Pond

- Peacham Pond
- Stoddard Bog
- Big Deer Mountain



WETLANDS AND WATER QUALITY

Peacham contains over 1,000 acres of wetlands protected by State and Federal regulations, only those wetland areas directly associated with a wellhead recharge area or the village water supply should be given priority by the town. The Planning Commission supports protecting all the sites listed under the Natural Heritage Sites Wetlands and encourages creating buffer zones for water quality.

In accordance with the perspective of the Vermont Fish and Wildlife Department, which views beavers as a valuable natural resource, the Planning Commission encourages the town and landowners to preserve beaver habitat wherever and whenever possible. Beavers play an essential role in creating and improving wetlands. While trapping or relocating beavers can be necessary in some circumstances, the state provides alternative methods of controlling water flow in beaver habitat, including beaver deceivers and baffles. Late community member, Mike Bruton, worked with the state to install the first Peacham Selectboard approved beaver deceiver on Macks Mountain Road (a flowage device that prevents beavers from blocking culverts and flooding roadways). While both the Selectboard and the Highway Department were concerned that such a device would fail, resulting in road flooding, the device, combined with Mike's diligence in

observing water levels, was a success.

Information has been provided for the public at the library and town office on water testing and protection of this precious resource. Maintaining critical wildlife habitat (i.e., nesting areas of rare birds, feeding areas of animals) and the wetland areas associated with the public water supply are important to the town and should get priority in conservation efforts.

The Vermont Clean Water Act of 2015 was enacted to authorize and prioritize proactive measures to limit phosphorus concentrations in Lake Champlain and Lake Memphremagog and improve water quality across the state. This legislation, as well as other clean water efforts, have strengthened cooperation among municipalities, regional planning commissions, and the Department of Environmental Conservation in maintaining and implementing Tactical Basin Plans. The plans are guidance documents for the Agency of Natural Resources because they identify and prioritize the necessary actions to protect or restore specific bodies of water across each of the 15 planning basins in Vermont.

The northernmost reaches of town are located in the Passumpsic watershed, which is part of Tactical Basin Plan 15 for the Passumpsic and Upper Connecticut Basin. Basin Plan 15 was last updated in 2014. The western part of Peacham, which includes Peacham Pond, is contained in the North Branch and Headwaters sub-basin of Basin 8, the Winooski Tactical Basin Plan, which was last updated in 2012.

Most of Peacham is located in the Stevens River watershed, which is part of Basin 14. High priority stressors in the existing plan include encroachments, channel erosion, invasive species, land erosion, pathogens, toxins, nutrient loading, thermal stress, acidity, and flow alteration. The next substantive plan is update for Tactical Basin Plan 14 is scheduled for 2020. Peacham officials should work closely with basin planners and the regional planning commission to identify priority actions for Peacham.

Table 4.1: Priorities from the 2014 Basin 14 Plan

Very High-Quality Waters	<p>Mud Pond Brook – excellent fish and macroinvertebrate communities in 2017</p> <p>Peacham Hollow Brook – excellent stream macroinvertebrate community in 2017</p> <p>Martins Pond – Identified as one of Vermont’s Best Lakes by the VT Lakes and Ponds Program</p> <p>Lucy Mallary Bugbee Natural Area – 12 acres including Stoddard Swamp</p> <p>Peacham Bog</p>
Recommended Reclassification of Water Bodies	<p>Peacham Hollow Brook – Recommend reclassifying Peacham Fire District’s Water Supply from A(2) to B(1). A(2) is a designation specific to a public water source. If the water is no longer being used as a water source, it should be evaluated for reclassification.</p> <p>Peacham Bog – Recommend Class I wetland designation</p>

Recommendation for Assessments	Agriculture assessments on Peacham Hollow Brook and South Peacham Brook Road Erosion inventory and capital budgets for water quality projects Assess erosion sources from municipal winter sand storage area
Project Recommendations	Replace or retrofit high priority stream crossings that have been identified through previously completed or new the bridge and culvert assessment process. Conduct additional assessments as necessary. Complete shoreland and lake habitat surveys on Ewell Pond and Martins Pond to better direct lakeshore protection and restoration efforts (to be completed by VT DEC)
The Stevens River – River Corridor Plan – 2010-2011 (Focused on Peacham Hollow Brook and South Peacham Brook)	River corridor protection through bylaws and river corridor easements – historical straightening of the river has led to incision (deep stream bed) with lack of access to floodplains which results in more extreme flooding events in comparison to rivers that have floodplain access Stream riparian buffer plantings Livestock fencing Stream crossing structure replacements

HIGHEST PRIORITY FOREST HABITAT AND CONNECTIVITY BLOCKS

Here and there in the Town are undeveloped and relatively undisturbed forest areas of several hundred to two thousand acres, these are important for wildlife and also for the sturdy hiker and skier who likes to explore the wilderness. Peacham members of Keeping Track, a statewide non-profit organization devoted to wildlife information have identified areas in town that are important to wildlife (i.e., deer yards, beech stands, spruce/fir forests) This information can be used to encourage landowners to maintain the areas most important to wildlife. It should also be used in an advisory fashion by the Zoning Administrator and Development Review Board. (<http://keepingtrack.org/>)

When assessing the quality of our forested wildlife habitat, it is critical to think beyond the town’s boundaries. The effects of forest fragmentation are minimized when we maintain an ecologically functional landscape that supports the region and beyond. In Vermont, an ecologically functional landscape is one with large areas of connected forest, riparian areas, wildlife habitat, and natural communities. A high degree of diversity and connectivity is needed to be resilient to shifts in ecological processes and to allow species to access required habitat. For single species, this ecological function is especially important, as it allows for genetic exchange among wildlife populations.

The Agency of Natural Resource’s new “Biofinder” mapping tool, provides critical insight into the ecological function of Peacham’s largest unfragmented forest blocks, which provide for core habitat, as well as movement east and south of the town’s borders. They may be viewed here: <http://anrmaps.vermont.gov/websites/BioFinder2016/>

This mapping tool identifies forest blocks larger than 20 acres, which are generally identified at “habitat blocks.” Although smaller areas may support some biological diversity and connectivity, such areas provide little interior forest habitat. An assessment of Biofinder data subsets helps to identify priority planning areas for Peacham, as shown on maps in Appendix A:

- **Highest priority interior forest blocks (Peacham Wildlife Habitat Map):** Areas with high-quality interior, unfragmented core forest cover (i.e. land that is more than 100 meters from the non-forest boundary, are shown in red and include state conserved lands, as well as important water bodies, such as Peacham Pond, Osmore, Goslant, and Mud Ponds.
- **Highest quality connectivity blocks (Peacham Wildlife Habitat Connectors Map):** Land or water that function as “stepping stones” between core forest, as well as riparian habitat, or strips of forest cover between developed areas include most of the western portion of town, including Macks Mountain, Lookout Mountain, and Cow Hill.

FLOOD RESILIENCE

Peacham’s history of flooding has primarily affected culverts, bridges, and roads. Flooding caused by severe storms in 2011 resulted in the greatest financial impact and damage, with more than \$380,000 in FEMA public assistance funding for 36 damage repair projects.

Table 4.2: Summary of Peacham Declared Disasters where Public Assistance was Received

Disaster #	Date	Category	Projects	Total Amount
1559	9/23/2004	Severe Storms	8	\$28,489.46
1790	9/12/2008	Severe Storms	8	\$210,082.72
4001	07/08/2011	Severe Storms	36	\$382,344.10
4022	09/01/2011	Hurricane	10	\$44,127.64
4178	6/11/2014	Flood	1	\$3,202.75

Source: FEMA

River Corridors and Fluvial Erosion

The 2011 storm also affected a private residence, when a stream channel suddenly and violently changed course, causing tens of thousands of dollars’ worth of damage. The property required flood insurance, which was not available through the National Flood Insurance Program, since Peacham had never joined the program. FEMA had never published any flood insurance rate maps, which are generally required for administering flood hazard regulations. Fortunately, the Agency of Natural Resources published a fluvial erosion hazard study, which enabled the Town to join the program under an interim bylaw. The regulations became permanent in 2017.

This flooding incident highlighted the serious limitation of flood insurance rate maps. About two-thirds of Vermont’s flood-related losses occur outside of mapped floodplains, and this reveals the fundamental limitations of the FEMA FIRMs: A mapped floodplain makes the dangerous

assumption that the river channel is static, that the river bends will never shift up or down valley, that the river channel will never move laterally, or that river beds will never scour down or build up.

In reality, river channels are constantly undergoing some physical adjustment process. This might be gradual, resulting in gradual stream bank erosion or sediment deposit – or it might be sudden and dramatic, resulting a stream bank collapse. The latter is what occurred in the May 2011 storm.

The Vermont Department of Environmental Conservation, Agency of Natural Resources, has now identified river corridors, which consist of the minimum area adjacent to a river that is required to accommodate the dimensions, slope, planform, and buffer of the naturally stable channel and that is necessary for the natural maintenance or natural restoration of a dynamic equilibrium condition. In other words, the river corridor provides “wobble room” for a stream as its channel changes over time. Although the river corridor data is very similar to the fluvial erosion hazard areas adopted by the Town in 2011, there are some essential differences:

- Unlike the fluvial erosion hazard areas currently adopted by the Town, the river corridors include a 50-foot setback from the top of the bank to allow for stream bank stability. (For streams draining .5 to 2 square miles, a 50-foot setback from the top of bank on either side is generally deemed sufficient.)
- The River Corridor Map covers all the streams in Peacham. The existing fluvial erosion hazard layer only includes Peacham Hollow Brook and South Peacham Brook.

Keeping development out of the river corridors therefore reduces vulnerability to erosion. River corridors are drawn with the expectation that new and existing structures outside the corridor may be protected from lateral channel migration using bank stabilization practices without creating new or additional hazards. Within a river corridor, existing infrastructure and buildings may be at a heightened risk from erosion and are more likely to require river management in order to protect them over time. Avoiding new encroachments within river corridors, where meanders, bed forms, wooded banks, and floodplains function to dissipate flood energy and distribute flood deposits, is the least-cost method of mitigating flood damages. The Town, led by Peacham Planning Commission should investigate the potential for adding the River Corridors to its flood hazard regulations.

Upland Areas and Wetlands

Peacham’s mountainous terrain can contribute to flash flooding. Limiting clearing of upland slopes will help to attenuate flood flows and reduce stormwater runoff. Proper management of forest cover, particularly in areas with steep slopes and high elevations (where headwaters are located) is therefore critical. Conservation easements, enrollment in the Current Use Program, and encouragement of best management forestry practices will protect existing forested cover.

Wetlands also have the capacity to retain significant amounts of water. The State of Vermont regulates activities in and adjacent to wetlands. These rules apply to the wetlands and associated

buffer zones within 100 feet of Class 1 wetlands, and 50 feet of Class II wetlands. Any activity in a Class I or II wetland requires a state permit.

Emergency Relief and Assistance Fund

As Table 4.2 demonstrates, the Town has received more than \$668,000 in public assistance for five federally-declared disasters. When a community requires public assistance to repair infrastructure, FEMA funds generally cover 75% of the loss. Prior to 2014, the State’s Emergency Relief and Assistance Fund (ERAF) has provided half of the matching funds (about 12.5%), and the town has assumed the remainder of the cost. In October 2014, however, new legislation tied the level of ERAF funding to specific local initiatives to reduce flood-related risks and prepare for emergencies. ERAF will now contribute half of the required match only if the town has taken all the following steps to reduce flood damage. Otherwise, the level of State funding will be reduced to 30% of the remaining match, which will usually be about 7.5% of the total cost:

- Adopt the most current Town Road and Bridge Standards (which can be found in the VTrans Orange Book: Handbook for Local Officials).
- Adopt flood regulations that meet the minimum standards for enrollment in the National Flood Insurance Program (NFIP)
- Maintain a Local Emergency Operations Plan (adopt annually after town meeting and submit before May 1)
- Adopt a FEMA-approved Local Hazard Mitigation Plan.

Towns that have adopted river corridor regulations will receive an even larger share of financial assistance from ERAF. The town currently has this advantage because of its “early adopter” status when it joined the NFIP. This provision, however, will eventually sunset, unless the town revises its regulations to include the river corridors. Peacham has recently submitted a Local Hazard Mitigation Plan to FEMA for approval, and the Town currently satisfies all other requirements.



NATURAL RESOURCES & CONSERVATION: GOALS AND STRATEGIES

GOAL	STRATEGY
Support and reinvigorate the Conservation Commission.	Encourage the expansion of the local conservation fund which can be used for conservation projects. The fund accepts donations and municipal funds raised at town meeting.
Educate the public about conservation priorities.	Cooperate with Keeping Track and Vermont Coverts Programs to develop a better understanding of the areas important to wildlife. Refine and support wildlife mapping efforts. Host and promote workshops showcasing Biofinder mapping tools.
Protect and promote water quality.	Participate in and support basin planning activities. Water quality testing may be needed to establish land conservation priorities, such as riparian strips. Continue to work with the State in water quality testing in the ponds of the Town.
Minimize the fiscal impact of flood-related losses.	Continue to meet all four ERAF requirements. Continue fluvial geomorphology assessments in collaboration with the Department of Environmental Conservation (ANR) and develop strategies and regulatory actions response to identified risk.

GOAL	STRATEGY
<p>Reduce flood-related impacts through infrastructure upgrades, improvement projects, and floodplain management activities.</p>	<p>Within political and financial restraints, re-engineer certain sections of roads to lower overall maintenance costs, improving snow plowing speeds, and improve overall capacity to handle current and projected traffic volumes. Specific areas of attention include Aiken Farm culvert, which is undersized; paved shoulders on Village Road, paving of Old Cemetery Road near library; paving of Church Street by Town Offices, engineering work on Governor Mattocks Road, and County Road, stone ditching on Macks Mountain Road, and reshape and re-graveling of a section of Green Bay loop.</p> <p>Develop and implement communication plan with potentially affected property owners.</p>



5. SERVICES & INFRASTRUCTURE

ISSUES AND CONCERNS:

- Cemetery maintenance is a continuing challenge and involves expenses for cutting, trimming, removing, planting, and replacing trees
- Safety is the primary transportation concern in Peacham, but every effort should be made to conserve (and enhance) the beauty of the roadways.
- The long-term costs of road maintenance are substantial.
- New driveways can produce erosion and drainage problems.
- The classification and maintenance of roads affects development patterns and access for recreational vehicles.
- Road safety and the effect upon it of traffic speeds, intersections, and the size of trucks continues to be an issue in Peacham, especially along the main road through Peacham Corner (Peacham Village).
- Improved surveillance, road signs and new sidewalks and pathways can all contribute to reducing the risk to both pedestrians and vehicles.
- The Select Board has prepared a ten-year plan to guide decisions and timing of investments and repairs. Annual updates of this plan will greatly assist the town in making cost-effective investment decisions.
- There could be significant public health threats due to failed septic systems. Revised state all-site septic system regulations have changed the way potential developers determine the size of lots.
- Many of the Town's buildings are of an advanced age.
- A storage shed for sand may be required near the Town Garage in the next few years.
- The Town Garage is increasingly inadequate for the maintenance and storage functions it serves.
- The Fire Department will continue to upgrade its equipment. The plan for fire hydrants

around town needs to be completed.

- The Fire Department is always looking for, and in need of, others who are available to join their efforts. Volunteers who remain local during the day continue to be a priority.
- There is limited cellular and broadband service in the Town of Peacham. If trends continue, Peacham residents will be unable to perform even the most basic transactions in the public, private and governmental spheres. In addition, with an region who's demographics are shrinking, having sufficient broadband and cellular service will make the region and town more attractive to returnees, new residents and second homeowners.



PEACHAM CEMETERY

Peacham contains four public cemeteries. There is one on the Peacham/Groton town line, the Worcester Cemetery, the Old Cemetery, and the current cemetery that is on a beautiful site overlooking South Peacham. The Woodard Cemetery is a private cemetery. The main cemetery has been enlarged to accommodate future needs. The Select Board is the Cemetery Committee and appoints sextons., The Select Board is in the process of developing a long-range plan for all of the Town's cemeteries.



TRANSPORTATION

Peacham residents are dependent on a well-maintained road system, summer and winter. They are also concerned with safety for travelers and pedestrians and that the roads support and enhance the rural and scenic character of the town. Except for travel along the Groton-Peacham,

Danville-Peacham and Macks Mountain Road there is little through traffic. The major routes in the region (1-91 and U.S. Rte. 5 to the east, U.S. Rte 2 to the north and west, and Rte. 302 to the south) provide excellent access to the region, to Canada, and to other parts of New England.

Table 5.1: Status of Major Roads In and Out of Peacham

Road	Current Status (2018)	Future Status
Danville-Peacham Road	Resurfaced in 2004	Needs attention soon, from the Danville town line to Ewells Mill Road.
East Peacham-Danville Road	Reconstructed in good condition	Maintain as is
East Peacham Road (East)	Gravel in good condition	A few short sections of this road have been reconstructed or repaved over the past five years. The segment from Shatney residence to East Peacham Village is in very poor condition and needs attention soon.
Peacham-West Barnet Road	Resurfaced in 2004	Maintain as is
Macks Mountain Road	Gravel in good condition	Maintain as is
Peacham-Groton Road	Reconstructed and repaved within the past years.	Maintain as is.
Bayley-Hazen/Main Street (Peacham Corner South)	Paved and in fair condition	Maintain as is

The road network consists of:

- **Class I Town highways - 1.6 miles:** Class I town highways are those town highways that form the extension of a state highway route. The Agency of Transportation shall determine which highways are Class I highways. The only Class I highway in Peacham is the 1.6 miles of the Groton-Marshfield highway - Route 232.
- **Class II Town highways -9.950miles:** These are the most important highways in each town. As far as practicable, they shall be selected with the purpose of securing main lines of improved highways from town to town and to places which by their nature have more than the normal amount of traffic. They are designated by the Select Board and approved by the Vermont State Highway Board.
- **Class III Town highways -53.28 miles:** These are all traveled highways other than Class I or II. The Select Board, after conferencing with a representative of the State Agency of Transportation, shall determine Class III highways. The minimum standards for Class III highways are that they be negotiable under normal conditions all seasons of the year. This

would include, but not be limited to, sufficient surface and base, adequate drainage, and sufficient width to permit winter maintenance.

- **Class IV Town highways -6.18 miles:** Class IV town highways include all other town highways as designated by the Select Board. These roads are typically 3 rods wide (unless otherwise recorded), are not eligible for state aid funds and are not maintained for winter use. These highways are maintained for summer service only; persons erecting dwellings served by these roads cannot expect winter service. There has been little change in the classification of roads in the past five years, and there is no anticipated change during the current planning period.

Road and Roadside Safety

The quality of roads and their surfaces affect their safety for vehicular traffic as well as the safety of pedestrians, and bicyclists. In addition to effective signage in the villages, other techniques for traffic control and calming should be considered. Guidelines have been developed by the Local Roads Program of the State of Vermont to assist the road crew including guidelines for erosion control, the issuance of driveway permits, and cost-effective solutions to protect water quality near town roads. Peacham should continue to take full advantage of these materials and others provided by the Agency of Transportation, the Vermont League of Cities and Towns, NVDA, and others.

In 2011, Vermont’s “Complete Streets” bill was signed into law. The legislation is based on an concept that state and town streets, roads and highways should safely accommodate all transportation system users, regardless of age, ability, or what mode of transportation they prefer – walking, biking, driving, or use of transit. The purpose of the Complete Streets bill is to ensure that the needs of all transportation system users are considered in all state and municipally managed transportation projects and project phases, including planning, development, construction, and maintenance, except in the case of projects or project components involving unpaved highways. The policy applies when new roads are being constructed, and when paved roads are being reconstructed, rehabilitated, or otherwise maintained.

Typical elements that make up a complete street include sidewalks, bicycle lanes (or wide, paved shoulders), shared-use paths, safe and accessible transit stops, and frequent and safe crossings for pedestrians, accessible pedestrian signals, and curb extensions. In rural areas examples could be the striping of shoulders on paved roads to accommodate bicyclists and others or the development of a separate multi use path. Balancing safety and convenience for all users is the common denominator. Note that the bill is not a mandate to retrofit existing roads. There are instances when these principles would not be incorporated, such as when use by pedestrians or cyclists is prohibited by law, or when the cost of retrofit is disproportionate to the need or probable use.

Town Short Structures

VTrans is required to inspect all bridges with a span of 20 feet or longer, whether they are located on a federal-aid system or a town highway. These inspections occur once every two years, and reports of the inspections are sent to the Town. The bridge and culvert inventory does not, however, contain information on town highway “short structures,” which are bridges with a span

of less than 20 feet but equal to or greater than 6 feet. These are neither inspected nor prioritized by the state, and no formal system for identifying or assessing them currently exists. In fact, short structures have not been depicted on the Town Highways Maps since 2003. Towns are responsible for the inspection of their own short structures. In 2015, the regional planning commission conducted condition assessments on town short structures, classifying them as “Good,” “Fair,” or “Poor.” The condition of Peacham’s “short structures” should be evaluated for capital budgeting and planning concerns.

Storm drainage and Water Quality Concerns

Without adequate facilities, such as drainage ditches or underground pipes, erosion can and does occur, consuming time and expense in road maintenance. Areas that consistently suffer from erosion or drainage into streams and other water bodies should be identified and corrected.

Act 64, the Clean Water Act, now requires municipalities to develop and implement a multi-year plan to stabilize their road drainage systems and reduce erosion. Towns will need to apply for a Municipal Roads General Permit (MRGP) each year, and will be required to phase in a stormwater management plan. The management plan will be based on a comprehensive inventory of road segments connected to surface waters through ditches, culverts or other drainage structures. On average, about half of all town roads are considered “hydrologically connected” i.e. connected to a water source. NVDA has already completed this inventory for Peacham. Ongoing support is available through organizations such as Better Back Roads and NVDA. The deadline for applying for the MRGP is July 31, 2018.

Road Policy

The Select Board has adopted road policies, which need to be re-evaluated and consolidated into a single cohesive set of regulations.

WATER AND SEWER

Peacham Fire District #1

The Peacham Fire District #1 supplies water to all homes, apartments and public buildings in the Peacham Corner (Peacham Village) (as defined in 1927). This service is managed and paid for by those to whom water is provided in Peacham Corner (Peacham Village). In addition, the Fire District provides and maintains the street lights within the Village and the Village Picnic Ground on Macks Mountain Road. The Fire District's major responsibility, the water system, was originally put in place in 1927 using spring water from Kettle Springs on Macks Mountain Road to supply a reservoir located just below the Kemble property and near the Shenck property. As supplemental sources, two wells were drilled, one in 1968 and a second in 2000. The water system currently uses all three water sources (the spring and the two wells) in a rotation year round. Testing has confirmed that this provides the best quality water at the lowest cost.

A major upgrade to the system was completed in 2000. This upgrade included new

reservoirs further up Macks Mountain Road. There were additional, smaller upgrades in 2011 and 2013. The Fire District has been working on plans to replace the original pipeline in the village since 2017. A bond vote in 2018 was passed that will allow physical work to begin in the spring 2019. The Line Replacement Project will add no new users.

Additional users could be added when the mainline passes their property and a curb stop is in place. If there were to be new residents within the Village boundaries, the system would be obligated to serve them. Any expansion beyond the Village limits and significant changes and improvements to the system would require approval from the Village residents. The water system has strict engineering limits that would require both state and Prudential Committee approval to add new customers outside the designated village boundaries.

Sewage Disposal Systems

Peacham has two community sewage disposal systems. Statewide, many private systems have annual periods of failure, causing pollution of the ground surface, the surface waters, and the atmosphere. Failure usually results from the system's being located in soils that are naturally saturated during wet periods, inadequate capacity of the system in relation to the volume of sewage and the soil's ability to absorb the effluent, and/or faulty installation.

While a survey of systems in Peacham has not been undertaken, recent statewide research has discovered that up to one-third of septic systems constructed in an average year are installed to replace systems which have failed. The State of Vermont has revised its on-site sewage regulations. It is important for the Town of Peacham to keep abreast of these changes, especially those that affect provisions of the Town Zoning Ordinance and the Town's management of septic system design and management.



LIBRARY

The Peacham Library exists for the enrichment of the Peacham community. It provides free access to library materials and information services. It promotes reading for enjoyment and self-education for library users of all ages. It also serves a point of access to inter-library loans, and

as a center for community activities and concerns. The Library Board and Staff believe that:

- Reading and study are essential to individual growth and enrichment, and are among the most enjoyable forms of recreation.
- Free and reliable access to information and cultural resources is a right of citizenship in a democracy and fundamental to the preservation of democracy.

Interest in a library in Peacham can be traced to December 21, 1798, when a notice appeared in the Green Mountain Patriot, convening a group that eventually called itself Proprietors of the Federal Library. There are records of books arriving in July 1799, but there is no indication as to how long this first library in Peacham lasted. It is known that a debating society, organized August 9, 1810, in preparing for their debates, keenly felt the lack of a library and therefore organized the library which continues to exist. A major benefactor was Thaddeus Stevens, who in 1868 left the town \$1,000, with the interest to go to the library. Some of the money needed to operate the library today is the result of similar gifts.

The first library building, built in 1909, and a collection of approximately 3600 books, was destroyed by fire on January 27, 1959. A new building was erected in 1960 which included a meeting room used by groups in the community. In 2001 an addition was added to the existing building thanks to a bequest from Horace Gilmore and the generous contributions of local residents and other long-time supporters of the library, and the State of Vermont. In 2003 a Freeman Foundation Vermont Public Library Foundation Grant provided funds to refurbish the 1960-era portion of the building. The Library currently has four high-speed public access computer stations. The collection numbers over 9,000 items. The Library is now open 20 hours per week, and the number of patrons using the library is increasing and is expected to continue to increase. Because public funds are contributed toward the Library's operating budget, the Town elects one member of the Board of Trustees. Since 1900, the library has been free to all residents of Peacham.

The Peacham Library strives to be an important part of the Peacham community's intellectual, educational, leisure and cultural life. The Library Board envisions a future in which all of the community's interests are represented in the Library's collection and all residents use the Library to enrich their lives. The Board envisions meeting the needs of all residents for information and other library resources, either from its own collection or through networks to which it belongs.



PUBLIC BUILDINGS AND LANDS

Peacham has many public buildings that serve the different community needs. They include: Town Hall (including gymnasium and tennis court)

- Roller Barn Fire House
- Cemetery Tool Shed School
- Town Garage

Peacham's public buildings are vitally important to the functioning of town government and must be maintained and upgraded periodically. Evolving issues center on the Town Hall (gymnasium access), crowding at the Town Garage, and the possible need for a Sand Storage Shed. To an increasing extent, the town depends on the generosity of the Peacham Congregational Church for town events. A plan for future town facilities is needed and should be reflected in a realistic capital budget. Such a plan should take into account state and federal guidelines and standards, growing demands of town organizations and commissions and the need for functional offices and meeting space.

Town owned lands include the school yard, cemeteries, the town forest, the athletic field, and the area around the municipal building. The Peacham Fire District # 1 (Fire District) owns a 100 acre parcel that includes the Picnic Grounds. In addition to rights-of-way along the town highways, the Fire District also has easements for underground water supply pipes from Kettle Spring to the Peacham Fire District #1 reservoir and from the reservoir to the water main near the store in Peacham Corner (Peacham Village), as well as various other water lines. The town also has an easement for sewage disposal across the main street (Bayley-Hazen Road) from the municipal building to the septic field. The school secondarily shares this septic field with the municipal building. The school's primary septic field, installed when the school built an addition in 1993, is located southeast of the school on the Davis property.

On town roads, many of the public rights-of-way have been determined through surveys and are of varying widths (typically 2, 3 or 4 rods). Others have not been surveyed. Of these, most are assumed to have a right-of-way width of 3 rods (49.5 feet), measured from the center of the road. It's important for landowners as well as the town to know the location of boundaries of rights-of-way. This can assist the landowner in knowing what land he/she has a right to manage, and the town (particularly the road crew) will know in what areas the town has jurisdiction (see also Transportation section of this plan). There are no plans for new public roads in Peacham, or for new public rights-of-way.

As land surveys become available, however, more accurate information on these public rights-of-way may emerge. Public and private rights-of-way for telephone, electricity and cable services also exist throughout Peacham. The companies responsible for those services also are responsible for the rights-of-way. They should be encouraged to continue to work cooperatively with the town and individual landowners as these rights-of-way and the services they accommodate are modified or expanded over time.

PUBLIC SAFETY

Fire Protection

New equipment has been purchased and a much-needed expansion of the firehouse has been built. The next several years will feature more modest, yet important, improvements. Using Homeland Security funding has permitted the purchase of some communication equipment, and it is assumed that with continued funding from this source that additional radios can be acquired.

Currently, the fire department has three dry hydrants in different parts of town. These are ponds that can be used in emergencies to refill the tanker. Two of these are in operation; one at the Hartong's farm outside South Peacham and a second on Old Cemetery Road. The third, on Thaddeus Stevens Road in East Peacham, is not currently in operation. The long-range plan is to have these three ponds operating and to add two additional sites, one of which would be located in the northern part of town, toward Danville.

As for personnel, the department now has 14 members and no junior members. These numbers are down from the last plan report of 18 members and two junior members. These needs include those who can play a secondary role (e.g., traffic control and maintaining supply lines). All firefighters are required to attend formal training sessions. Additional help, especially for daytime fires, is needed.

Police Protection

Police protection is currently provided by the Vermont State Police, Caledonia County Sheriff, and local constable.

Emergency Services

Medical services are provided at the Danville Health Center and in nearby communities of St. Johnsbury, Monroe, Woodsville, and Littleton. Emergency medical services are provided by Danville Rescue Inc. and in the Peacham Pond area by Cabot Ambulance, which are supported by the town through an annual appropriation. Peacham Fire Department provides medical first response to the Town of Peacham. These services are adequate at this time.

911 Programs

Since the town plan was adopted in 1993, efforts have been underway to develop dependable emergency services for Peacham through the Enhanced 911 program. In this program, developed primarily to assist in medical, fire and police emergency situations, all the roads of the town have been named, and all residences and businesses assigned a number related to their location on town roads. All streets and roads in Peacham are designated by signs.

Emergency services need cooperation from residents in posting their house numbers to make them easier to find in an emergency, especially at night. A list of the revised town road names, past and present is available at the Town Clerk's office.

Disaster Contingency Planning

In 2000, the Town, the Peacham School, and the Peacham Congregational Church entered into "Shelter Agreements" with the American Red Cross. Unforeseen circumstances, such as the disastrous ice storms that severely impacted parts of northern New England, New York State, and Canada in 1998, could result in an extended period of the loss of electric power, telephone, and other such essential services in town. The town has prepared for such an event by considering alternate means for providing its citizenry, particularly those most vulnerable such as the elderly, the infirm, and the very young, with heat, food, adequate shelter, and access to emergency medical care and firefighting support. Public buildings located in town designated as shelters and emergency operations center will be staffed with personnel to dispense such services.

In planning for catastrophic events the town needs to identify not only sources of emergency food supplies, equipment such as electric generators for power and emergency cellular phone service, but personnel to be trained and organized in advance of a disaster to operate equipment and to provide guidance to townspeople on obtaining such services. Peacham maintains a Local Emergency Operations Plan (LEOP), which establishes lines of responsibility during a disaster and identifies high risk populations, hazard sites, procedures and resources. It is crucial that the LEOP has the correct people and phone numbers listed – so it should be updated every year after Town Meeting. NVDA is available to help the Town keep the LEOP up to date.

CAPITAL FUND FOR FUTURE EXPENDITURES

Peacham has a capital funding program to help spread the costs of certain new expenditures over a number of years. Setting aside money on an annual basis to meet future anticipated capital expenditures is a tool for the Town to use. This can be financially beneficial if the Town can take advantage of sales incentives or minimize costly annual repairs. Moreover, because there are often cost-share programs using state or federal programs, having a capital fund allows the town to be flexible in responding to such opportunities.

ENERGY



Issues and Concerns

- Historically unprecedented warming trends will have catastrophic impacts throughout the country. In-migration to northern Vermont from regions more affected by climate change is likely.
- Peacham will not be immune to warming impacts and can expect to experience more extreme weather events, especially flooding, and severe storms.³ As a result, Peacham faces a risk of extended power outages.⁴
- Rising temperatures and altered precipitation patterns will affect all food-producing regions, including Vermont. While local food producers may find new opportunities from longer growing seasons, shifting climate patterns will exacerbate current stresses from pestilence, disease, and weeds. Cost of animal feeds is likely to rise as well.⁵

³ National Oceanic and Atmospheric Administration: Vermont State Summary.

⁴ Peacham Local Hazard Mitigation Plan, adopted October 2, 2019

⁵ Vermont Farm to Plate Strategic Plan: Climate Change and Vermont's Food System (draft)

- Peacham must strike a balance between protecting the carbon sequestration value of our vast forested areas with residents’ continued reliance on biomass for heating.
- Climate change is changing species distribution in our forests, introducing non-native pests, and placing a stress on our biomass resources.⁶
- The State of Vermont has a Comprehensive Energy Plan (CEP) that calls for meeting 90% of all energy needs through the use of renewables by 2050.
- Limiting global warming to 1.5°C may reduce catastrophic risks to ecosystems, but it will require a 45% reduction in carbon emissions from 2010 levels by 2030, and net zero emissions by 2050.⁷ This would require a sea change in the way Peacham residents live and work – and will likely entail efforts that exceed benchmarks of the CEP.
- Long commutes and incidental trips make transportation the largest energy use in Peacham. Less than 1% of that use currently comes from electricity.
- Peacham residents rely almost exclusively on private passenger vehicles for transportation.
- Cost, challenging multi-season terrain, and “range anxiety” deter Peacham residents from purchasing electric vehicles.
- There are no public EV charging stations in Peacham.
- More than half of energy used to heat Peacham’s homes come from fossil fuels.
- More than 40% of Peacham’s 267 occupied housing units predate 1940. Older homes are likely to have “leaky” thermal envelopes and be less energy efficient.
- As many as one-third of Peacham homeowners may be cost-burdened, making them less likely to invest in weatherization or fuel-switching technologies.⁸
- Peacham’s existing electricity use is a fraction of what it will be in the future, due to “beneficial electrification,” such as switching from fossil fuel burning sources to heat pumps and electric vehicles.

Peacham’s Challenge for 2030 and Beyond

This amendment to the 2019 Peacham Plan is intended to outline our strategies for achieving the goals and policies of the Vermont Comprehensive Energy Plan of 2016:

- Meet 90% of all energy needs from renewable resources by 2050;
- Reduce greenhouse gas emissions to 50% below 1990 levels by 2028 and 75% by 2050;
- Improve the energy efficiency of 25% of homes by 2025; and
- Establish a distributed energy future in which a significant portion of Vermont’s energy is produced near where it is consumed.

In support of the above goals, this plan amendment has been written to exceed the minimum statutory requirements of a duly adopted plan. Specifically, we aspire to meet the “enhanced energy planning standards” of Act 174,⁹ which includes:

- **Current and Future Energy Use:** An analysis of the needs, scarcities, problems, and costs across all

⁶ Vermont Agency of Natural Resources: Climate Change and Vermont’s Forests, May 2011

⁷ United National Intergovernmental Panel on Climate Change: Summary for Policymakers, 2018

⁸ American Community Survey, Five Year Estimates, 2013-2017. (23.5% of homeowners with a mortgage and 39.4% of homeowners without a mortgage pay more than 30% of their income on housing.)

⁹ Act 174 (2016) establishes a new set of municipal and regional energy planning standards, which if met allow those plans to carry greater weight in the siting process for energy generation.

<https://publicservice.vermont.gov/content/act-174-recommendations-and-determination-standards>

- energy sectors – thermal, transportation, and electrical;
- **Conservation and Energy Efficiency:** A statement of policy
- **Land Use:** Development patterns that are likely to result in the conservation of energy (e.g. clustering, southern facing exposures);
- **Local Energy Generation:** Identification of potential areas for the development and siting of renewable energy, as well as areas that are not suitable for certain types and scales of renewable energy development.

There are clear advantages for developing a plan that meets the standards of Act 174. Towns receive heightened consideration in Section 248 proceedings, the Public Utility Commission’s process for reviewing grid-connected energy generation. Equally important, however, an enhanced energy plan establishes a blueprint for local action in order to minimize the impact of climate change.

We have just about 10 years to limit the most devastating impacts of climate change. The 2018 report issued by the U.N.’s Intergovernmental Panel on Climate Change finds that human activity has already caused a 1.0°C increase above pre-industrial levels, and that an increase of 1.5°C between 2030 and 2052 is likely, significantly worsening the risk of floods, drought, extreme heat, poverty, and suffering for millions worldwide. Just to hold the increase to 1.5°C would require a 45% reduction in carbon emissions from 2010 levels by 2030, and net zero by 2050. Achieving net-zero means that emissions would be lowered to a point where any remaining emissions could be recaptured (such as through carbon sequestration in forest blocks). The sooner our emissions peak, the greater chance we have to reach net-zero in order to minimize impacts of the climate crisis.

This plan represents Peacham’s proverbial “skin in the game” for the 2050 vision. While it can educate, inform, and hopefully inspire others to make the necessary changes, the plan has limited power to effect change on its own. We recognize that substantial progress is only possible through the buy-in, innovation and actions of residents, businesses, partners, and regional and state entities. The transformation of Peacham’s energy landscape can increase energy security and economic stability among residents and business owners, if we meet our goals of weatherization, fuel-switching, and energy generation equitably.

Note: Peacham’s 2019 Town Plan was organized into “planning realms,” broad topic areas such as social capital, the economy, and natural resources. Current and future energy use in Peacham, however, has far-ranging implications for all of the above, as well as issues addressed in other parts of the plan, such as land use, housing, local food production, maintenance of unfragmented forest blocks, and transportation infrastructure. While this plan addresses energy as a single planning realm, the whole of this plan supports Peacham’s energy vision.

Current and Future Energy Use

Peacham has a small village center surrounded by extensive rural settlement and open space. According to latest American Community Survey 5-Year Estimates, about 96% of the community’s housing stock consists of detached single-family homes. The majority of its residents travel out of town for work, shopping, and other necessities. This pattern of development is linked to considerable energy use to meet transportation and heating needs.

Peacham’s energy use estimates were developed by Northeastern Vermont Development Association and follow the same data methodologies used for the 2018 amendment to the Regional Plan for the Northeast Kingdom. (www.nvda.net). Energy use data were based on the best available data and **should be**

considered approximations rather than a precise count. Fuels are measured in different ways – by cord, by gallon, by kilowatt – so this plan converts units of measurement into British Thermal Units (BTUs) in order to compare their energy output consistently.¹⁰

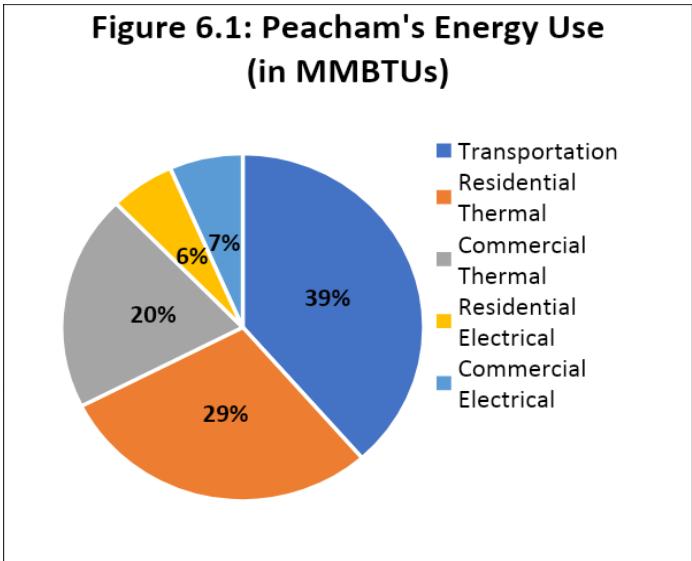
According to NVDA estimates, the town of Peacham uses roughly 1.8 billion BTUs annually to meet its energy needs (Figure 6.1). The majority of energy use is for transportation, followed by residential thermal (heating space and water).

Peacham’s existing energy use is dominated by fossil fuels. Although Peacham residents rely heavily on the use of wood for heating, more than 53% of heating sources still come from fuel oil and propane. Just 6% of Peacham’s transportation energy use can be attributed to renewable resources, nearly all of which consists of ethanol.

To meet the 90% of its energy use through renewable resources, Peacham will need to pursue an aggressive two-fold strategy:

1. Reduce overall energy use: Peacham’s housing stock has grown, while its average household size has dropped, leading to increased energy demand. Growth may intensify as northern Vermont attracts people from outside of the region who are relatively more climate-challenged. We need to maximize our energy efficiency to reduce long-term energy demand. Aggressive efficiency and conservation measures can neutralize increased energy demand, but they require a sustained effort between local and regional entities and residents. This plan recognizes the need to continuously educate the public about efficiency and weatherization opportunities and other opportunities for savings.

2. Switch to clean-burning sources: The 90x2050 model replaces traditional fossil fuels with electricity, which can come from clean renewable sources like solar and hydro.



What is a LEAP Analysis?

The following analyses of Peacham’s transportation, thermal, and electrical utility sectors are based on projections from a statewide LEAP analysis. LEAP, which stands for Long-range Energy Alternative Planning Systems, is a widely used software tool for energy policy analysis. Peacham’s projections are derived from the statewide figures by using the town’s population as a percentage of the statewide population. The LEAP targets should NOT be viewed as hard counts, nor do they depict the only path to 2050 energy goals. Rather, these projections help to illustrate the scope and scale of change that must take place if we are to minimize impacts of the climate crisis.

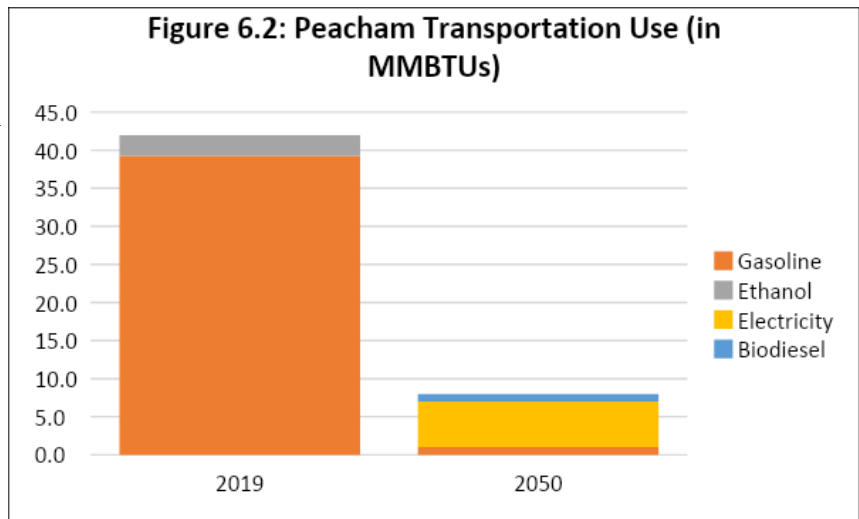
Transportation

While the average Vermonter drives about 12,000 miles a year, residents in the Northeast Kingdom tend to have even longer commutes and more incidental trips for harder-to-reach goods and services, leading to an

¹⁰ According to the US Energy Information Administration a BTU is the measurement of the quantity of heat required to raise the temperature of one pound of liquid water by 1° F at the temperature that water has its greatest density (approximately 39 °F.) One BTU is a miniscule amount, so BTUs are often measured in the millions (MM BTUs) or thousands of MMBTUs (billions of BTUs).

average of about 14,000 vehicle miles per year.¹¹ Collectively, Peacham residents consume nearly 42,000 MMBTUs in transportation energy each year, and the vast majority of this energy is from gasoline (more than 320,000 gallons a year). Just about 6% currently comes from ethanol, and a mere 8 MMBTUs from electricity.

Much of the dramatic reduction of energy use in the 2050 LEAP projections is predicated on anticipated efficiency improvements in electric vehicles (EVs) over time (Figure 2). Electric end-uses are three to four times more efficient than the combustion versions they replace. For example, latest figures from the EPA (2016) show that an EV in the northeastern US typically has the efficiency equivalent of about 102 miles per gallon, up from about 78 miles per gallon in 2009. With even more efficient models coming onto the market, increased average efficiency will lead to lower greenhouse gas emissions. Despite the lack of infrastructure and rough rural terrain of the region, industry forecasts predict that more than half of all new car sales will be EVs by the year 2040.



With even more efficient models coming onto the market, increased average efficiency will lead to lower greenhouse gas emissions. Despite the lack of infrastructure and rough rural terrain of the region, industry forecasts predict that more than half of all new car sales will be EVs by the year 2040.

Table 6.1: Transportation Fuel-Switching Targets for Peacham (LEAP Projections)

	2025	2035	2050
Estimated # of cars in Peacham	630	709	797
% of car powered by electricity	12%	24%	58%
% cars using biofuel blends	66	38	7

The Town should embrace the future by encouraging public charging infrastructure in places visitors and residents are likely to stop and congregate, such as Peacham Corner (Peacham Village). Funding mechanisms are available to establish charging stations for [Designated Village Centers](#). Optimization of public EV charging stations, however, also will require improvements to the grid and telecommunications.

Limiting our reliance on single-occupancy vehicles is also an important strategy to reduce overall energy use. Ideally, promoting compact, dense development to create places where people live, work, and play can reduce annual vehicle miles traveled. While Village Center Designation can promote vitality in Peacham Corner (Peacham Village), there are obvious limitations to how much compact, dense development a rural community like Peacham can support. With limited public transit options, the town’s clearest path to reduced reliance on automobiles may be through better telecommunication infrastructure that allows more

¹¹ NVDA estimate.

residents to work from home and access employment opportunities. The town can also help to coordinate and promote ride sharing opportunities through Front Porch Forum and similar community-focused media.

Thermal

According to NVDA estimates, Peacham’s existing residential thermal use (heating space and water) is about 31,500 MM BTUs annually, with a mean of 118 MM BTUs per residence. The latest American Community Survey 5-Year Estimates of primary heating fuels indicate that wood and oil are the popular choices for owner-occupied dwellings, accounting for 48% and 44% of households respectively. The ACS estimates attribute the use of propane to account for the remaining owner-occupied dwellings. The same estimates show that Peacham has only about 16 renter-occupied units, and more than half rely on oil as a primary heating source.

There are seasonal uses in Peacham, and collectively, these probably contribute about 1,300 MM BTUs in annual use. There are no published datasets on fuel use in seasonal dwellings, but NVDA estimates assume that seasonal uses in Peacham account for only 5% of the average year-round thermal load.

Commercial thermal estimates are more difficult to calculate. The estimates from the Department of Public Service and the Vermont Department of Labor’s Economic and Labor Market Information assume that total commercial thermal use is about 21,947 MM BTUs annually. The methodology identifies just seven commercial uses, and all but the Peacham School are very low thermal users. The Peacham School has installed a wood pellet heating system and 48 kW capacity solar panels on its roof.

LEAP Projections for Peacham show a substantial reduction in total thermal use by 2050: for residential, a reduction of about 48% from 2015 levels, and for commercial, a 25% reduction over the same period. Even though these estimates assume a slight increase in residential and commercial structures by 2050, the projections reduce overall use because of:

- aggressive weatherization projects (ones that reduce thermal use by 20% to 30%)
- fuel switching, such as replacing residential heating units with heat pumps, and efficient wood burning systems (like wood pellet furnaces)

Cold climate heat pumps, which are sometimes called “mini splits”, are another significant form of fossil fuel replacement. Thanks to major technical improvements in recent years, these units can be two to three times more efficient than propane and fuel oils. Unlike geothermal units, they do not require excavation or duct work and can be much less expensive to install. Cold climate heat pumps have the capacity to heat about only 50% to 70% of a building, depending on the size and layout of the structure. Some of Peacham’s housing stock with multiple heating zones may be difficult to heat with heat pumps alone, but the pumps may still be effective for boosting colder underserved zones. They also may be useful in outdoor workspaces. Despite recent improvements in effectiveness on extremely cold days, a backup heating source is usually required for sub-zero temperatures.

Table 6.2: Thermal Fuel-Switching and Weatherization Targets for Peacham (LEAP Projections)

	2025	2035	2050
Total residential structures	283	300	318
Residences weatherized	68	119	127

Residences using heat pumps	53	112	142
Residences using wood heat	177	146	106

Note: Peacham’s share of commercial structures in the LEAP analysis is simply too small to produce any targets. However, there are opportunities to weatherize non-residential structures.

Electricity

Peacham is served by two electric utilities, Washington Electric Coop and Green Mountain Power. (See attached Electric Utility Service Coverage Map.) Residential and commercial and industrial customers achieved a savings of \$34,999 over that same period. Nevertheless, residential use has increased slightly over the most recent three-year period. (Table 6.3)

Table 6.3: Annual Electricity Usage

	2016		2017		2018	
	kWh	MM BTUs	kWh	MM BTUs	kWh	MM BTUs
Commercial & Industrial	257,951	880	256,393	875	242,878	829
Residential	1,841,145	6,282	1,809,238	6,173	1,846,523	6,300
Total	2,099,096	7,162	2,065,631	7,048	2,089,401	7,129
Count of residential premises (service address)	301		302		301	
Average residential use (service address)	6,117	21	5,991	20	6,135	21

Data compiled by Efficiency Vermont shows that there were 113 residential projects and 34 commercial and industrial projects completed over the past three years, resulting in a collective reduction of 79,932 kWh and 1,319 MM BTUs. A “project” is defined as one or more efficiency measures implemented at a service address. Measures include a broad range of activities ranging from the comprehensive Home Performance with Energy Star®, to replacement of individual appliances, and lighting (CFL, LED, dimmers and timers). These numbers are not unique addresses. In fact, one residence or business could have been responsible for multiple projects. Lighting and bulb replacement are by far the most common efficiency measure in our region.

The same reports indicate that over the past three years, Peacham residents installed 13 heat pump hot water heaters, 12 cold climate heat pumps, and one advanced wood heating system. (such as pellets). There were two advanced wood heating system installations in the commercial and industrial sector.

Even though electricity currently accounts for the smallest share of energy use, it will increase exponentially in the future due to fuel switching, making demand-side management essential. As fuel switching increases electrical use, Peacham will need to aggressively pursue electrical efficiency upgrades, such as hard-wiring, lighting fixtures, advanced power strips, energy monitoring devices, and updated

appliances.

Table 6.4: Targets for Electrical Efficiency Upgrades (LEAP Projections)

	2025	2035	2050
Projected number of residential customers	425	450	477
Residences with upgraded equipment	116	182	267

Considerations and Challenges for Peacham’s Energy Future

Energy Smart Development

The U.S. Energy Information Administration estimates that new homes generally consume about one-fifth less energy for space heating than homes built before 2000. Nevertheless, there are several siting techniques for new residential development that are likely to result in additional conservation of energy. Building on south facing slopes will generally make a house less expensive to heat. Earth sheltered homes may also be less expensive to heat. Shade trees can also be planted to reduce cooling costs on warm days. The Town must ensure that the town’s zoning going forward effectively promotes green, energy-smart development practices.

Challenges of older housing stock

According to American Community Survey (ACS) 5-year estimates, roughly 42% of Peacham’s owner-occupied housing units and 38% of renter-occupied housing units predate 1940. In other words, the town has a higher-than-average share of old houses, which are likely to be “leaky” and poorly insulated, accounting for as much as 80,000 BTUs per square foot. (By comparison, statewide estimates put average thermal residential use to be about 63,000 BTUs per square foot). Although 30 housing units in Peacham have been comprehensively weatherized to date, which represents roughly 10% of Peacham’s occupied housing stock. Clearly more effort is needed to meet statewide goals of 25% in the next five years.¹²

Energy Burden

Energy burden, which is expressed as energy spending as a percentage of income, is fairly high in the rural Northeast Kingdom. A new report from Efficiency Vermont estimates the average energy burden statewide to be about 10%. The greatest determinant of energy burden is income, not fuel cost, so even though many residents are able to reduce their costs by burning wood, they still struggle to make ends meet.

Energy burden further complicates meeting 2050 challenges of the statewide energy plan because more burdened households are less likely to pursue weatherization or fuel switching. Even if those measures save money in the long run, they simply can’t afford it. The same economic challenges that drive inequities across the state are likely to reduce energy program participation among low-and moderate-income Vermonters.¹³ While energy efficiency utilities typically focus on large users to achieve more dramatic savings, services must be aligned to energy-burdened users as well. Heat Squad makes affordable whole energy audits available to all households and provides assistance with procurement and oversight to

¹² Vermont Community Energy Dashboard, accessed December 6, 2019

¹³ Vermont Energy Burden Report, October 2019

homeowners seeking contractors for their efficiency projects. Similar programs through Northeast Employment and Training Organization and Efficiency Vermont are needed to ensure participation for the more than 100 households in Peacham with incomes below the county median income.

Food

The food we eat has a profound impact on our region's energy use and carbon footprint. The complexity of processes and practices along every point in our food system -- from production, to processing, to distribution, to waste -- has significant environmental and ecological implications. Fortunately, the region's agriculture sector has helped to make Vermont a leader in access to local food. The 2017 Census of Agriculture shows that despite the overall loss of farms in Vermont, the number of farms in Caledonia County continues to rise¹⁴. There are now 585 farms in Caledonia County, up from 560 in 2012. The largest sector of farms in Caledonia (more than 40%) are comprised of small farms between just one and 50 acres. The largest share of Caledonia farms (nearly 35%) report less than \$2,500 in value of sales, the second largest sector (nearly 17%) report sales of more than \$100,000 or more. Average market value of agricultural products sold by farm was \$72,076, still a modest increase of 1.2% over 2012 when adjusted for inflation. Crops, including nursery and greenhouse crops, account for about 17% of market value while livestock, poultry, and their other products account for 83%.

Mounting energy expenses are of concern to area producers. According to the 2017 Census, 385 farms reported utility expenses. Collectively their utility expenses amounted to \$1.4 million, up by \$1.3 million from the previous census. The use of on-farm renewables is helping to offset costs to keep farming operations viable. According to PUC records, on-farm renewable generation in Caledonia County has a collective capacity of 107.25 kW, and 50kW have been added since 2017. Nevertheless, investment in renewable energy can be cost prohibitive for small agricultural producers. Access to three-phase power is a barrier to the full utilization of renewables in Peacham. The town therefore supports grants and loan programs such as USDA Rural Development and Vermont Economic Development Authority and encourages new partnerships to assist Peacham's agricultural producers.

While traditional agricultural practices contribute to global warming, intensively managing agricultural lands for soil building can sequester carbon. "Regenerative agriculture" describes an array of holistic farming and grazing practices that can build soil health, improve water retention, reduce runoff, and sequester carbon at greater depths to draw down damaging levels of atmospheric CO₂. Practices include no-till or minimum tillage; application and management of cover crops, crop rotation, and well-managed grazing practices. The result is improved plant growth, increased soil carbon deposits, and overall pasture and grazing land productivity. No-till practices and rotational grazing are on the rise throughout Vermont, but more technical assistance and peer-to-peer support is needed.

Biomass

The attached Woody Biomass map illustrates Peacham's potential for providing wood energy: 15,009 acres, 12,476 of which are privately held. Forests cover about 85% of the town's land mass, making the use of residential wood heat a time-honored tradition. Peacham residents use forests predominately for firewood, timber, wood chips, and maple sugaring.

Peacham's large areas of forest cover provide critical wildlife habitat as well as opportunities for non-motorized recreation. They also provide critical ecological function by fostering biological diversity and passage for wildlife adapting to changing weather patterns. Upland forests provide flood control through water infiltration and retention capacity that also recharges groundwater and reduces flood flows

in increasingly erratic and severe weather.

Forests are a critical tool for mitigating the effects of climate change because of their potential to reduce carbon dioxide emissions (CO₂). Just how much carbon a forest can take in varies widely and depends on a number of factors, including the size of the forest block; the number, species, and age of trees; soil type and depth; amount of dead organic material; and disturbances such as insect defoliation and storm damage. Nevertheless, Vermont forests, on average per acre, store the rough equivalent of annual emissions from 62 cars.¹⁴ Overall, Vermont's forests are considered a net sink (i.e. they take in more CO₂ than they release). Incremental fragmentation and poor management practices of privately held lands, however, can diminish their ecological function and threaten their viability. It is essential that forests and fields be managed for carbon sequestration

Existing Renewable Energy Generation and Potential

According to most recent data from the Vermont Renewable Energy Atlas, Peacham generates about 315 MWh annually. All of this production is solar, more than half of which is roof-mounted. There are five solar hot water installations with the collective capacity of 0.41 MMBTUs. Peacham's existing generation is depicted on the attached Solar Resources Map. To date, there is no wind production in Peacham, even at a residential scale.

According to NVDA's Regional Plan, Peacham's regional net generation target for meeting 2050 energy goals is only 216 MWh. (This target is based solely on the town's share of the Northeast Kingdom's total population.) However, that target does not reflect the town's goal to achieve energy independence. Using LEAP analysis projections for 2050 energy demand, the town will actually need to generate 4,102 MWh to meet all of its energy needs.

The attached solar and wind resource maps identify potential areas for siting and quantifying generation output. Underlying assumptions were made about suitability factors, such as slope and direction of land, elevation and wind speeds, and access to three-phase power. Prime areas for renewable generation are locations with no known or potential constraints.

Known constraints are considered unsuitable for renewable energy because they contain one or more of the following: vernal pools; river corridors; FEMA floodways; significant natural communities; rare, threatened and endangered species, national wilderness areas, and wetlands (Class 1 and Class 2).

Possible constraints are areas that would likely require mitigation because they contain the one or more of the following: agricultural soils; special flood hazard areas (outside of the floodway); protected (conserved) lands; deer wintering areas; Act 250 mitigated agricultural soils; hydric soils, and highest priority forest blocks.

An additional layer of possible constraints has been added to the solar map to show where inter-connectivity issues may exist. Transmission Ground Fault Over Voltage – TGFOV – is the ratio between load (use or demand) compared with the actual solar generation. (As of this plan's adoption date, the solar panels on the Peacham School are not connected to the grid for this reason.) Circuits where generation may greatly exceed load currently have the potential to cause voltage issues. Green Mountain Power has received regulatory approval to mitigate this issue. developers in areas that experience TGFOV will have to assume a

¹⁴ Vermont Department of Forests, Parks and Recreation, November 2016

prorated cost for interconnection based on the size of the system looking to connect.

Additional unsuitable areas are shown in yellow in the wind and solar map. These are lands with an elevation of 2,000 feet or more merit that should be protected from any large-scale commercial or industrial development characterized by a constructed height of 100’ or more, and an acre or more of permanent site disturbance, such as clear-cutting. These lands, as indicated on attached siting potential maps, contain one or a combination of factors that make them unsuitable to such development – contiguous forest cover; sensitive wildlife and plant habitat; conservation lands and recreational assets; managed forestland; and headwaters and ephemeral surface waters, which are highly vulnerable to erosion and man-made disturbance. This high-elevation forest cover must be kept unfragmented for the attenuation of flood flows, the benefit of wildlife habitat and linkage, and public enjoyment through passive recreation.

To calculate total generation potential, this plan uses generous contingencies to conservatively account for potential constraints and connectivity issues.

Table 6.5: Total Generation Potential for Peacham

	Capacity (MW)	Output (MWh)	Assumptions
Roof-mounted solar	.21	261.5	One out of every 10 existing residences, each with a 4 KW capacity, and a capacity factor of 14% ¹⁵
Small commercial rooftop structures (including barns)	.06	73.6	Three structures, each with a 20 KW capacity, with a capacity factor of 14%
Ground-mounted solar	6.43	7,886.8	One MW for every 60 acres of prime solar land, all with a capacity factor of 14%
Wind	.21	370.2	One 9.5 kW system for every 25 acres of prime wind, with a capacity factor of 20%. (High elevation lands are unsuitable for utility scale development, so only home-scaled systems are used in this calculation.)
Small hydro	.016	56.06	Based on a 2008 study on existing dams. Stringent licensing requirements make the establishment of small hydro very unlikely.
Total	6.926	8,648.16	

¹⁵ Solar estimates only assume a capacity factor for a fixed system to err on the conservative side. Trackers might have a capacity factor closer to 19%.

Preferred Sites

Under the new net-metering (NM) regulations of 2017, the only way to build a net-metered facility larger than 150 kW is on a preferred site. This makes the identification of preferred sites critical to the future of renewable electricity generation in Peacham.

Preferred sites are locations that encourage renewable energy development in areas seen as strategic and beneficial to the community. (See below for a list of preferred sites under the Net Metering Rules.) Preferred sites incentivize development through a financial benefit in the form of a favorable purchase rate for every kilowatt hour (kWh) of electricity generated at the site and a streamlined regulatory process. In other words, renewable energy developers will find it easier to develop on a preferred site and will receive higher reimbursement for the power they produce there.

In addition to the preferred sites identified under the net metering rule, the Town of Peacham designates the following preferred sites:

- Roof mounted solar, including barn roofs and outbuildings;
- Sites (except for the town forest) that serve municipally-owned and non-profit offtakers
- Developments that are capable of “intentional islanding” i.e. distributed generation that can support local supply to critical customers in the event of extended power outages. Critical customers include, but are not limited to, municipally owned properties, water systems, schools, and emergency shelters.

Preferred sites under the NM Rule

- *A new or existing structure whose primary use is not the generation of electricity*
- *A parking lot canopy over a paved parking lot*
- *A tract previously developed for a use other than siting a plant on which a structure or impervious surface was lawfully in existence prior to July 1 of the year preceding the year in which an application for a Certificate of Public Good was filed*
- *A brownfield – as certified by ANR*
- *A sanitary landfill – as certified by ANR*
- *The disturbed portion of a gravel pit, quarry, or similar site for extraction of a mineral resource*
- *A site listed on the National Priorities List (a.k.a. Superfund Sites) as confirmed by the EPA, provided development will not compromise or interfere with remedial action on the site and the site is suitable for development of the facility*
- *The same parcel as, or directly adjacent to, a customer that has been allocated more than 50% of the NM system's electrical output.*

Siting policies

- Peacham’s high elevation lands are deemed unsuitable for large-scale commercial and industrial development, and only small-scale and mid-scale wind power generation is appropriate in the town. Small-scale systems are appropriate at homes, businesses, schools, and other institutions. Mid-scale wind turbines are only appropriate for the purpose of supplementing onsite energy consumption for farms and other businesses.
- The Northeast Kingdom has an agricultural economy that is rapidly diversifying. The Town discourages siting ground-mounted solar in a manner that fragments productive agricultural soils, effectively removing farmland from production for decades.
- Notwithstanding the above concern, the Town of Peacham recognizes that successful integration of solar into active agricultural uses can help farms reduce expense, generate extra income, and

remain viable. We specifically encourage on-farm solar that, to every extent feasible, uses existing farm structures, or is sited in a manner that supports grazing, the establishment of pollinator crops, or simply to create buffers between organic and non-organic production areas.

Energy: GOALS AND STRATEGIES

GOAL	STRATEGY
<p>Demonstrate municipal leadership.</p>	<p>Support the ongoing efforts of the Peacham Energy Committee.</p> <p>Collaborate with neighboring energy committees.</p> <p>Review and update the 2011 energy audits for the Peacham Fire Department, Peacham Town Garage, and the Peacham Library.</p> <p>Review the recent energy audit of the town clerk’s office and gymnasium.</p> <p>Conduct an energy audit of the school.</p> <p>Establish a capital budget and plan that includes expenditures for energy investments in public buildings.</p> <p>Support use of biomass and heat pumps in public buildings.</p> <p>Explore a new legal framework that provides the option for local renewable energy certificates (RECs¹⁶) to be pooled and sold so that proceeds could fund new municipal energy development.</p> <p>Explore and advocate for a legal framework that can establish vehicle-to-grid and vehicle-to-house networks.</p> <p>Adopt a policy that prioritizes energy efficiency and fuel switching when purchasing new town vehicles.</p> <p>Explore cooperative relationships with neighboring municipalities to surmount initial costs of new vehicle purchase.</p> <p>Explore and promote the use of biofuel in town vehicles. Encourage the use of bio-fuels for home heating.</p> <p>Support school energy policy and K-12 education plans.</p>

<p>Reduce total transportation energy demand and reliance on single-occupancy vehicle use.</p>	<p>Promote ride sharing by establishing a park and ride.</p> <p>Support and promote programs that reduce the use of single-occupancy vehicles. (e.g. GoVT www.connectingcommuters.org)</p> <p>Improve telecommunications infrastructure.</p> <p>Establish a flexible office space in town.</p> <p>Install EV chargers in places where visitors are likely to use them, such as in the village center.</p> <p>Educate citizens on the benefits of using EVs.</p> <p>Improve walking and cycling infrastructure through master planning and “complete streets policies,” and walkable towns.</p> <p>Support regional and statewide efforts to develop seed oils and other biofuel crops.</p>
<p>Promote land use and development patterns that are likely to consume less energy.</p>	<p>Promote compact, village-scale development in Peacham village. This can be supported by securing and maintaining village-center designation to incentivize reinvestment in the village.</p> <p>Review and update the town’s zoning bylaw to allow for innovative planned unit developments that reduce or eliminate carbon emissions (e.g. passive design, small footprint homes, net zero development).</p> <p>Establish municipal policy on directing infrastructure investments (e.g. grid upgrades, water systems) to traditional development centers.</p> <p>Support public outreach about priority forest blocks and their key role in carbon sequestration.</p>
<p>Reduce barriers for cost-burdened residents.</p>	<p>Support distributed energy generation developments that lower costs for participants (such as community solar).</p> <p>Pursue local tax stabilization for energy generation projects.</p> <p>Educate residents about existing resources, such as Heat Saver loans, USDA lending programs, and Button Up.</p> <p>Support efforts to revive the Property Assessed Clean Energy district program – or a similar program. Consider participating in a regional/sub-regional effort to reduce administrative overhead.</p>

<p>Promote energy conservation and efficiency.</p>	<p>Conduct, attend and promote workshops that showcase weatherization and electrical efficiency programs and opportunities.</p> <p>Ensure that all new development meets existing residential and commercial energy codes.</p> <p>Consider revision to the Zoning Bylaw that requires compliance with energy stretch codes for developments that require Act 250 review.</p> <p>Consider zoning incentives, such as density bonuses or reduced fees for projects that meet or exceed energy stretch codes.</p> <p>Establish a municipal policy on town-owned properties that requires compliance with Commercial Building Energy (CBES) Stretch Codes during new construction or major renovations.</p>
<p>Promote fuel-switching for thermal uses.</p>	<p>Promote, facilitate, and attend local and regional workshops that showcase heat pump technology.</p> <p>Host local open houses that showcase heat pumps.</p> <p>Encourage and showcase best practices for local woodlot management. Work with the County Forester to promote the education of landowners regarding the forest management practices. Those owners in the Vermont Current Use Value Appraisal Program are required to arrange any logging in accordance with their State-approved individual management plans.*</p> <p>Ensure the new forest landowners receive packets containing information on sources of advice and assistance. One of the best sources of helpful information and advice is the paperback <i>Working with Your Woodland: A Landowner's Guide</i> by Mollie Beattie with Thompson & Levine, University Press of New England.*</p> <p>Revise zoning regulations to minimize fragmentation of priority forest blocks and key biomass resources.</p>

<p>Promote a local, healthy, and sustainable food system.</p>	<p>Explore local funding options for renewable energy projects for farms and food producers.</p> <p>Pilot a solar leasing program for barns.</p> <p>Revise zoning regulations to minimize fragmentation of valuable farming assets.</p> <p>Support regional efforts to reduce food miles through shared distribution channels.</p> <p>Establish a community farm.</p> <p>Identify opportunities to promote the Vermont Farm to School program.</p>
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SOLID WASTE

Peacham maintains a solid waste transfer facility and recycling center in an enclosed, secure area located on the East Peacham Road. There are dumpsters for trash that is not recycled. Recyclables are collected in a separate building. Two large 30 cubic yard containers are provided for metal and construction materials. Tires and other materials may also be left off. The Town has set up a collection center for used oil at the transfer site. The used oil is then burned at the Town Garage to provide heat. All of the above are available to Peacham residents for a nominal fee. The recycling effort has been ongoing for many years.

Statewide, the rate of materials diverted from the waste stream for recycling has stagnated at around 30% to 36% for more than a decade. Act 148 was signed into law in 2015 to introduce sweeping changes to the way we manage wastes. The Act has been phased in over a six-year timeframe to give municipalities and waste districts an opportunity to better align their facilities and services in order to comply with the law. In essence, the Act enforces unit-based pricing (also known as “pay as you throw”) to minimize waste generation, bans recyclables from the landfill. Additionally, all organics – such as food scraps and yard wastes – are banned from the landfill by 2020. A 2014 study estimates that the region generates about 330 tons of food waste each week, with about 67 tons coming from rural areas like Peacham, which are unlikely to be served by dedicated food scrap collection routes. The region currently has the capacity to process only 40% of food scraps. Nevertheless, the Peacham solid waste facility collected nearly three tons of food wastes in 2017.

TELEPHONE, CELLULAR & BROADBAND SERVICE

Telephone service is provided for the most part by FairPoint. FairPoint, as well as Charter Communications (cable) and the power companies should continue to work with the town in the expansion of services, the maintenance of poles and other facilities, and the modification of services over time. There is an increased potential for wireless communication towers to be sited

in Peacham, as has been the case in other communities, resulting from the demand for cellular phones. In years past, Peacham developed a communication tower ordinance in anticipation of possible proposals, this ordinance should be revisited in light of the growing necessity of cellular and broadband services by residents and visitors alike.

While cellular service remains severely limited in the town, so does broadband. According to the Federal Communications Commission, broadband is defined as bandwidth with minimum download speed of 25 Mbps (megabits per second) and minimum upload speed of 3 Mbps. That speed is considered to be the minimum necessary to conduct business and personal use of the internet and related services. Accordingly, there are very few properties in the town with access to the minimum defined level of broadband. Much of the town remains severely underserved. With a growing level of engagement in online content, not just for personal or business use, but for official municipal and government transactions, ensuring every resident in the town has access to the minimum defined level of broadband is critical.



SERVICES AND INFRASTRUCTURE GOALS AND STRATEGIES

GOAL	STRATEGY
Maintain the quality of Peacham’s cemeteries in a cost-effective manner.	Refine and adhere to the long-range maintenance plan.

Maintain the rural, scenic quality of Peacham's roads.	<p>Tree removal along roads should be minimized.</p> <p>The Planning Commission should develop a scenic byways plan to guide road management for scenic purposes.</p>
Ensure safety on Peacham's roads for motorists, cyclists, and pedestrians.	<p>Re-evaluate road policies and revise if necessary.</p> <p>Replace guard rails throughout town where appropriate.</p> <p>Travel speed is a major concern in the villages. The Select Board should consider strategies for controlling the speed of vehicles, including posted speed limits in the villages.</p> <p>Set up speed radar equipment to inform travelers of their speeds and caution them to be more attentive the neighborhood through which they are driving.</p> <p>The Select Board should consider providing additional police protection to town roads.</p>
GOAL	STRATEGY
Minimize the long-term costs of road maintenance.	<p>The Select Board should continue its no new roads policy for Peacham, and consider the long-term costs and effects of upgrading roads from one class to another.</p> <p>Monitor and refine the Capital Budget and Plan to account for MRGP Stormwater Management Plans and Short Structures inventory.</p> <p>Apply to the Better Backroads Program for grants.</p>
Minimize erosion runoff from Peacham's roads.	<p>Maintain the VTrans Roads and Bridges Standards (aka Orange Book).</p> <p>Consider state guidelines in issuing new driveway permits.</p> <p>Participate in the Regional Road Foreman Group facilitated by NVDA and the VTrans District.</p>

<p>The town should consider the impact of state rules and the effect they have on the potential locations for new development in town. Prevent groundwater contamination from failed septic systems.</p>	<p>The Planning Commission should review zoning by-laws to ensure that it adequately protects water quality. This may include requiring proof of compliance with state septic regulations before issuing a permit.</p>
<p>Maintain and enhance the current public buildings and lands to meet the needs of Peacham residents.</p>	<p>The Select Board should continue to review municipal assets and capital plans. Identify and map all public rights-of-way in town.</p>
<p>Be prepared for the next disaster, such as an ice storm or extended power failure.</p>	<p>Make the Local Emergency Operations Plan for Peacham known to its residents and leaders. The Selectmen should work with the Emergency Management Coordinator, Town of Peacham Volunteer Fire Department, and NVDA to ensure that the plan is revised annually.</p>
<p>Reduce the town’s carbon footprint by reducing overall energy use and the use of fossil fuels.</p>	<p>Establish and support a local Energy Committee. Perform energy audits on public buildings. Support efficiency upgrades and weatherization efforts.</p>
<p>GOAL</p>	<p>STRATEGY</p>
<p>Increase awareness of the importance of recycling and investigate methods of encouraging the reduction of waste and more recycling.</p>	<p>The Select Board should increase awareness of the costs of solid waste disposal and carefully monitor the costs and revenues of the transfer station operation. It should also consider incentives and techniques for separating recyclables from other trash.</p>

Seek out and support bringing broadband to rural areas.

The Selectmen should consider the development of a telecommunications fund that could enable the community to build out infrastructure where state, federal and private industry will not, helping to bring equity and equality to all those in the Town of Peacham.

The Selectmen should continue to work with broadband and cellular providers as well as regional, state and federal officials and grant funding sources to encourage and help along the buildout of broadband and cellular service in the Town.

The Selectmen should consider the development of a cellular/broadband mesh network utilizing public femtocells and/or wireless routers strategically placed throughout the area around the Town core village area, e.g. Town Office, Peacham School, Library, and Fire Department. Providing this mesh network will allow visitors and residents to access cellular and broadband service in at least one location in the community, a sort of stop gap measure while the forces outside of the community's control work on last mile buildout of broadband and cellular service throughout the rest of the Town.