

# WORKING LANDSCAPE: AGRICULTURE AND FORESTRY

# 6



*Ware Farm: Tunbridge* | Source: ©First Light studios

## A. Introduction

The Two Rivers-Ottawaquechee (TRO) Region has had a strong history of our residents making their living through their land. Like much of Vermont, historically much of the work done in our region once had its roots in the land, whether through farming, forestry or mining. While the face of agriculture and forestry has changed significantly since the 1800's, these vocations remain an essential part of what makes our region what it is. Businesses that utilize the land help to shape it and give it the character that it has today. Without good forestry practices, we would not have healthy forests. Without farming

we would not have open rolling fields. In order to maintain our working landscape and the occupations it supports, we must recognize their contributions to our region and be prepared to address the challenges to their sustainability.

## B. Agriculture

In 2014, the Vermont Agency of Agriculture, Food & Markets conducted a survey for their report on agricultural enterprises. Respondents to the survey identified the preservation of open space and access to locally grown and processed food as the primary reasons land should be kept in agriculture. Farms provide

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open space for wildlife habitat, scenic views and a connection to the land that is hard to find in other places. In addition, agriculture is an important piece of our local economy, providing opportunities for entrepreneurship that extend well beyond the farm. As such, to continue to receive the benefits farming has to offer, the TRORC and our communities must continue to support agriculture.

### Farming Trends

An analysis of the United States Census of Agriculture data between 2002 and 2012 (2012 being the most recent period of data collected) shows that farming in Vermont is slowly shifting away from the larger scale farms that developed as a result of trends toward consolidation. Between 2002 and 2012, the number of farms in Vermont increased by more than 11%. Growth in farms was at its highest among smaller farms, specifically in the 10 to 49 acre range.

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The overall trend in farm growth in Vermont and the Two Rivers-Ottawaquechee region is in farms that are considered “small scale.” “Small-scale” farms are those that sell under \$2,500 in agricultural products per year. While the number of small-scale farms continues to grow, these farms only produce 2.3% of Vermont’s agricultural income. Generally, these small-scale farms tend to be more

diversified and not dependent on a single source of production like dairy.

While the number of larger farms (between 180-1000 acres) has declined between 2002 and 2012, there has been growth in Vermont’s largest farms (2000 acres or more) as operating farms purchase the land and stock of neighboring farms when they stop operating. The Region’s largest farms are primarily dairy farms.

### Farm Economy

Vermont is within easy reach of millions of people in cities like Boston and New York City. Additionally, Vermonters are increasingly seeking locally-sourced, sustainably-produced farm and forest products. Fluctuating fuel prices have led to an increased interest in food and energy security. Vermont is a national leader in innovative education programs based on local food, agriculture, and healthy eating. It is also widely recognized for its strong network of land trusts and other nonprofits that are models for conserving farm and forest lands. As such, there is a growing mix of emerging entrepreneurs and long-time land-based businesses that are constantly evolving to stay competitive. They’re producing biofuels, artisan cheese, specialty wood products, produce, breads, and other value-added items – all of which rely on the farm economy.

According to the Vermont Farm to Plate Strategic Plan (2013), between companies responsible for farm inputs such as feed and labor, farms themselves, food processors and wholesale food distributors, Vermont’s agricultural economy has

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*\* Unfortunately, aggregated data at the regional level is unavailable.*

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almost 9000 businesses employing nearly 30,000 people.\* This economic boon is due in great part to the growing movement in sustainable diversified agriculture—which involves increased local food production and consumption, value-added processing, and diversified farms. In 2012, USDA data indicated the estimated agricultural revenue in Vermont to be \$775 million per year. That number increased to \$2.9 billion when food product output is also considered.

Vermont has continued its efforts to encourage the continued diversification of on-farm businesses and more broadly support rural economic development in both the farm and forestry economic sectors. In 2012, the Vermont Legislature passed Act 142, which created the Vermont Working Lands Enterprise Initiative, which is a state supported grant program aimed at investing in Vermont’s farm, food and forest economies.

## Challenges

### **Loss of Farmland:**

Vermont has lost (on average) nearly 8000 acres of farmland each year, including 1,100 acres of prime crop and pastureland; while the amount of developed land has increased nearly 4,700 acres annually.<sup>1</sup> This trend has slowed since 2013, but the loss of farmland remains a concern, particularly in more populated areas where the pressure to utilize land for commercial or residential purposes is greater.

For many farms (particularly dairy farms), a significant percentage of the lands actively managed do not actually

belong to the farm, and instead are leased through agreements with the landowner. Much of the production on these lands is focused on the generation of feed through hay or corn, although some grazing takes place as well. The need to generate feed locally is a strong one, as grain costs are often unstable due to external market fluctuations (such as fuel costs). Local farmers are dependent on a wide range of property owners who are willing to lease their property for the purposes haying or growing corn for feed.

### **Vermont’s agricultural economy has almost 9000 businesses employing nearly 30,000 people.**

This relationship can create potential challenges for the farmer. When landowners sell their property to someone who intends to build a home on it, it takes that farmable land out of production. During a survey of farmers in Tunbridge, for example, one farmer indicated that if he were to lose 20 acres of land it would seriously impact his ability to produce his feed locally.<sup>2</sup> While not without expense, local feed production is more cost-effective than purchasing feed. Keeping farmland in farming is a critical concern as good agricultural land is developed, it is permanently lost to farming and the production of food, forage, and fiber.

### **Aging Farmers:**

The average age of Vermont farmers is 56 and over a quarter are 65 and older.<sup>3</sup> This means that many farmers are reaching retirement age. While farm operations are often family owned, there is no guarantee that a family member will take over the farm.

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A growing number of young people are interested in becoming farmers or starting a food enterprise business. The challenge is that most farms require one or more family members to hold a full-time job to supplement farm income and maintain access to health insurance. The average wage for farm workers is just over \$11 per hour.

#### **Land and Taxation:**

Rising tax rates due to increased property values and education costs find owners of farmland faced with a tax bill on land that exceeds its economic value for agriculture purposes. These high property tax bills coupled with the low prices paid in this country for commodity agricultural products like milk, population growth and in-migration, a demand for more housing and accompanying development land in general, and their own lack of retirement savings have all pushed landowners to place their land on the market.

Unless the cost of owning farmland or commercial forest land is reduced, meaning a reduction in property taxes, it becomes difficult to rationalize conventional farming and forestry pursuits. The general problem of taxation is exacerbated because towns and school districts are primarily dependent on property taxes to raise local revenues. Furthermore, any reduction in the amount of taxes received from active open land needs to be made up by non-farm, non-forest, or non-enrolled taxpayers, many of whom are unable to pay more.

## Solutions

### **Current Use and Tax Stabilization:**

The most common method used to reduce the tax burden on farming and forestry operations is through the Vermont Current Use Program. This program requires that agricultural lands or working forests have management plans to ensure they are actually not just simply being left wild (there is no Current Use program for conservation purposes). The main incentive for Current Use is that it allows participating landowners to have their forest or farmlands valued for their productivity, rather than for development potential, creating a large tax savings. In order to keep the program from being used to simply avoid taxes, there is a penalty for withdrawing from the program, but it is widely seen relatively small, compared to the savings.

The primary objectives of the Program have been to preserve Vermont's agricultural and forestlands, and keep them in production, and achieve greater equity in property taxation based on use. Forty-six percent (46%) of the Region's total land is enrolled in some form of Current Use, a significant percentage of these lands are forested. Out of the total lands enrolled in Current Use, only 15% are agricultural lands. This is due to the Program's strict definition of agricultural use. However, land that is enrolled as agriculture receives a significantly greater tax benefit than forest land. Both figures under represent land actually in agriculture and forestry since not all owners take advantage of the program and

**Table 6-1: Current Use Enrollment by Town, TRO Region**

Town	Total Acres by Town	Total Enrolled Acres	Enrolled Forest Acres	% of Total Acreage Enrolled as Forest	Enrolled Agricultural Acres	% of Total Acreage Enrolled as Ag
<b>Barnard</b>	31,057	18,367	16,701	54%	1,667	5%
<b>Bethel</b>	29,282	16,410	14,665	50%	1,745	6%
<b>Bradford</b>	19,144	5,960	4,445	23%	1,515	8%
<b>Braintree</b>	24,680	14,632	12,454	50%	2,178	9%
<b>Bridgewater</b>	31,680	17,097	16,388	52%	709	2%
<b>Brookfield</b>	26,447	11,371	8,090	31%	3,281	12%
<b>Chelsea</b>	25,655	16,470	12,182	47%	4,287	17%
<b>Corinth</b>	30,943	15,992	13,836	45%	2,156	7%
<b>Fairlee</b>	13,467	6,619	5,636	42%	983	7%
<b>Granville</b>	32,626	13,210	13,033	40%	177	1%
<b>Hancock</b>	24,696	1,551	1,443	6%	108	0%
<b>Hartford</b>	29,434	5,557	4,431	15%	1,126	4%
<b>Hartland</b>	28,988	13,969	11,162	39%	2,806	10%
<b>Newbury</b>	41,294	16,979	13,076	32%	3,903	9%
<b>Norwich</b>	28,617	13,401	11,410	40%	1,991	7%
<b>Pittsfield</b>	13,418	1,432	1,335	10%	97	1%
<b>Plymouth</b>	31,118	7,491	7,415	24%	77	0%
<b>Pomfret</b>	25,251	17,583	13,684	54%	3,899	15%
<b>Randolph</b>	30,796	14,490	8,604	28%	5,886	19%
<b>Rochester</b>	36,560	13,895	12,396	34%	1,498	4%
<b>Royalton</b>	26,102	9,516	7,519	29%	1,997	8%
<b>Sharon</b>	25,797	12,713	11,776	46%	937	4%
<b>Stockbridge</b>	29,471	16,453	15,839	54%	615	2%
<b>Strafford</b>	28,328	16,264	13,305	47%	2,959	10%
<b>Thetford</b>	28,382	13,102	11,051	39%	2,052	7%
<b>Topsham</b>	31,369	12,972	12,041	38%	932	3%
<b>Tunbridge</b>	28,665	16,777	12,919	45%	3,858	13%
<b>Vershire</b>	23,136	15,231	13,664	59%	1,567	7%
<b>West Fairlee</b>	14,616	8,869	8,017	55%	853	6%
<b>Woodstock</b>	28,374	16,308	13,248	47%	3,059	11%

Source: Vermont Department of Taxes, 2016

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some small farm operations are under the 25-acre threshold for the program.

Municipalities have the authority to enter into tax stabilization contracts with owners, lessees or operators of existing or new forest, agricultural, or open lands in order to promote agriculture and open space preservation. These contracts can be designed to stabilize taxes in a number of ways, including: By fixing property values, tax rates, or the amount or percentage of annual tax assessed. Local stabilization can be enacted by town vote or by Selectboard vote (although the Selectboard option has more limitations as to the scope). The choice to offer tax stabilization to farmers impacts the entire community as all other property taxpayers would bear the burden of any tax loss resulting from local tax stabilization.

#### ***Farmland Preservation:***

Preserving farmland is often achieved by utilizing a mix of programs that provide incentives for landowners to keep their land in farming, and regulations that limit the impacts of development on the land. The most common non-regulatory method of farmland preservation is through the purchase of agricultural conservation easements. While preservation efforts may begin at the local level, they often include organizations such as the Vermont Land Trust or the Upper Valley Land Trust, both of which work to actively conserve working lands in the Two Rivers-Ottawaquechee Region. Partners in this process may include the municipality, Vermont Agency of Agriculture, Food and Markets (VAAFAM) and UVM's Center for Sustainable Agriculture. The Vermont

Housing and Conservation Board, which is the primary funder of land conservation projects in the state, may also play a critical role in local farmland preservation efforts.

Regulatory methods use zoning and/or subdivision rules to regulate the location, density and design of development within selected areas to minimize harmful impacts while allowing for a reasonable level of development. Regulatory methods include:

- **Overlay Districts** - The creation of overlay districts is the most common method of regulating specific areas for the purpose of protecting wildlife and other natural resources. Overlay districts can be used to exclude development on or to impose resource protection or conservation standards within overlay areas. These districts can be used to protect many types of resources.
- **Resource Protection Districts** - Protect wildlife resources and open space areas or resource based uses such as farming, forestry, recreation from incompatible development.
- **Large Lot Zoning** - Large lot zoning refers to the designation of a very large minimum lot size within certain zoning districts to accommodate resource-based uses, such as farming or forestry, or to require a pattern of very scattered, low-density development to limit, for example, impervious surfaces and protect surface and groundwater quality.
- **Fixed Area and Sliding Scale**
  - Fixed area and sliding scale

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zoning are two zoning techniques (typically applied in association with subdivision regulations) that are used to differentiate allowed densities of development from district lot size requirements.

- **Conservation (Open Space) Subdivision Design** - Conservation or open space subdivision design is a subdivision design process wherein subdivisions are intentionally designed to protect rural character and open space.

Each of these methods has its own set of benefits and pitfalls and all of them should be thoroughly evaluated before they are implemented. However, there are many examples of successful regulatory land protection strategies in Vermont. The key to success is to ensure that the community on a whole supports the regulations.

***Encourage the production of value-added products:***

Farm innovation and diversification is essential to sustaining our working landscape. Instabilities in traditional markets such as dairy, means that farmers need to embrace broader ways to utilize their farms and sell their products such as direct to consumer sales, on farm events, participation in farmer's markets, agritourism and the production of value added products.

Direct to consumer sales represents a step away from the traditional model established by the dairy industry. As farms try to take advantage of the growing market for locally produced foods, they

are often challenged by the perception that food should be cheap. The artificially low cost of our industrial food system impacts demand for local products. To counter this, farmers must improve consumer education, helping them recognize the broader benefits of buying locally and regionally produced food (social, economic, environmental, etc.). Marketing and market development are key components to educating and encouraging new customers.

Utilizing on farm assets to develop agripreneurial enterprises beyond food production is a way to increase sustainability and encourage economic growth. Many farms are encouraging on-farm events such as weddings, concerts or festivals. Some farms have developed dining establishments that can take advantage of the types of food produced to create seasonally developed menus that focus on fine dining.

As farmers develop these new markets, it is important that existing land use regulation is capable of dealing with the potential impacts. Programs that support new and growing agricultural businesses can be stifled due to planning and implementation barriers at the regional or local level. Regulations that intentionally or unintentionally prohibit value added processing of products not principally produced on farm, on farm events, farm stays or other forms of agritourism where the public is invited on to a property must be reevaluated and the impacts of these potential uses must be balanced with the need to support these new innovations.

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It is important to recognize that the “value added” concept goes beyond the development of products. When approached in an ecologically sound manner, farming adds value to our ecosystem. Regenerative agriculture techniques such as permaculture and holistic management utilize a range of approaches, including maintaining a high percentage of organic matter in soils, minimum tillage, biodiversity, composting, mulching, crop rotation, cover crops, and green manures, to improve soil health and biodiversity. By utilizing ecologically sound farming techniques, farmers are adding value to the lands in our region by improving their health. This has broad benefits from an ecological standpoint, but also allows for more sustainable agricultural production. Better quality soils can produce better quality products, whether through growing crops or grazing livestock. Better quality products will have an increased marketability and may ultimately bring additional income to the farmer.

### C. Forestry

Healthy forests provide a significant number of benefits to our communities, including environmental services (such as clean water supply, clean air, mitigation against climate change, wildlife habitat and biological diversity), and economic benefits (such as tourism, recreation and the wood products industry).

Trends in forest health have been changing over the past decade. In the 2013 US Forest Service’s National Forest Inventory and Analysis Program (FIA) report, figures

indicated that since 2007 there has been a continuing, though gradual, loss of about 75,000 acres of forestland in Vermont. Developed land in Vermont increased significantly between 1980 – 2010 (67%), as well as subdivision of forest into smaller parcels. This pattern of development growth has led to significant forest fragmentation throughout the state.

### Forest Resources

Vermont is one of the most heavily forested states with 4.6 million acres or 75% of its lands covered in trees. The Two Rivers-Ottawaquechee region is situated within the larger Northeastern forest corridor, which contains the Green Mountains (running down the spine of Vermont), the Adirondack Mountains (in eastern New York), and the White Mountains (in western New Hampshire). Accordingly, two famous hiking trails run through the TRORC area: the Long Trail (which stretches from the northern to southern border of Vermont) and the Appalachian Trail (which cuts a path between Georgia and Maine).

At the local level, forestlands might be owned by the federal, state, or even local government, or by private individuals. Some of the private properties have been conserved with the assistance of local land trusts (for example, the Vermont Land Trust or the Upper Valley Land Trust), while others are enrolled in the State’s Use Value Appraisal Program (UVA or ‘Current Use’).

These areas represent the “anchor areas” that provide for habitat connectivity. However, because they are not all

**Table 6-2: Some of the Major Blocks of Forestlands in the Region**

Name	Description
<b>Brushwood Community Forest</b>	In 2009, Brushwood Community Forest was established on approximately 475 acres of relatively undeveloped forestland in the Towns of Fairlee and West Fairlee. With the help of the Trust for Public Land, an additional 580 acres was added in northern Fairlee that had been owned by the Town of Bradford. The area is now owned by the Town of West Fairlee and protected from development through a conservation easement that is held by FPR. The Community Forest abuts the separate West Fairlee Town Forest and the large 1500 acre Fairlee Town Forest. The Community Forest comprises just a small section of the greater 28,000-acre Brushwood Forest area that boasts an extensive trail network, vast undeveloped forestlands, wetlands, and wildlife habitat. The unprotected lands in the larger Brushwood Forest area are facing increasing residential development pressure.
<b>Chateaugay No Town (CNT) Conservation Project</b>	The CNT Conservation Project spans more than 50,000+ acres across Barnard, Bridgewater, and Stockbridge (in the TRO Region), as well as Killington (outside of the TRO Region). Town representatives convened the project in 1997 to encourage voluntary conservation of private lands in order to maintain current wildlife habitats, promote sustainable forestry, and further other objectives.
<b>Coolidge State Forest (CSF)</b>	CSF encompasses 21,500 acres of land in Plymouth and Woodstock. These lands are part of Coolidge State Park where campsites, hiking trails, and beautiful scenic views are abundant. CSF is the state's largest landholding, and is managed by the Vermont State Parks' Department of Forests, Parks, and Recreation (FPR).
<b>Current Use Lands</b>	Forty-six percent (46%) of the land in the TRO Region is enrolled in the State's Current Use Program.
<b>Green Mountain National Forest (GMNF)</b>	With over 400,000 acres, the GMNF is located within several Two Rivers towns, including: Woodstock, Rochester, Hancock, Pittsfield, Stockbridge, Granville, Bridgewater, Pomfret, Hartford, and Norwich. The lands contain portions of the Long Trail, Appalachian Trail, and the Robert Frost National Recreation Trail.
<b>Orange County Headwaters Project (OCHP)</b>	The OCHP was started by landowners in the Towns of Washington and Corinth who had an interest in conservation. Through the Vermont Land Trust and the Upper Valley Land Trust, 31 OCH landowners have conserved 4,500 acres. Much of this land is forested.
<b>Pine Mountain Wildlife Management Area (WMA)</b>	Pine Mountain is one of the larger WMAs in the TRO Region. It spans the towns of Topsham and Newbury (within the Region), as well as Groton and Ryegate (outside of the Region). It is 2,274 acres in size, 95% of which is forested. Managed by the Vermont Fish and Wildlife Department, the Pine Mountain WMA is home to white-tailed deer, black bear, moose, and many other mammals, birds, fish, and amphibians. The area is open for hiking, fishing, trapping, and hunting.
<b>Private Conserved Lands</b>	Many privately-owned lands are protected through conservation easements held by one of the local land trusts, such as the Vermont Land Trust or Upper Valley Land Trust.
<b>Taylor Valley</b>	Taylor Valley is a forested area of approximately 18,000 acres that spans Chelsea, Vershire, Tunbridge, and Strafford. Approximately 1,200 acres of this have been conserved by The Nature Conservancy. The area is managed by the Taylor Valley Conservation Project, which includes private landholders, as well as members of the community who want to maintain what they see as an "ecologically rich and productive area for future generations."

connected, there is a significant amount of land between these areas that is being developed.

## Challenges

### **Forest Fragmentation:**

The health of many natural communities and wildlife depend on large,

uninterrupted areas of forestland, commonly referred to as “forest blocks.” Forest fragmentation is the division or conversion of forest blocks by land development (excluding recreational trails). These areas can be “divided or converted” through the clearing of land, building structures, and other activities associated with development. Even the seemingly simple act of installing roads can affect wildlife

movement and increase invasive plants and pests. Development that causes forest fragmentation creates barriers which limit species movement over the landscape, interrupts ecological processes, and impacts genetic diversity.

Since the 1980’s, Vermont has experienced “parcelization,” which is the result of larger tracts of land being divided into smaller ownerships or land holdings. The more individuals that own smaller parcels of forest, the more likely that the land will

ultimately be developed with infrastructure (such as roads and utilities) and buildings. The 2015 Vermont Forest Fragmentation Report identifies the following causes for this trend:

- Escalating land prices;
- Increased property taxes;
- Conveyance of land from aging landowners; and
- Exurbanization (the trend of moving out of urban areas into rural areas)

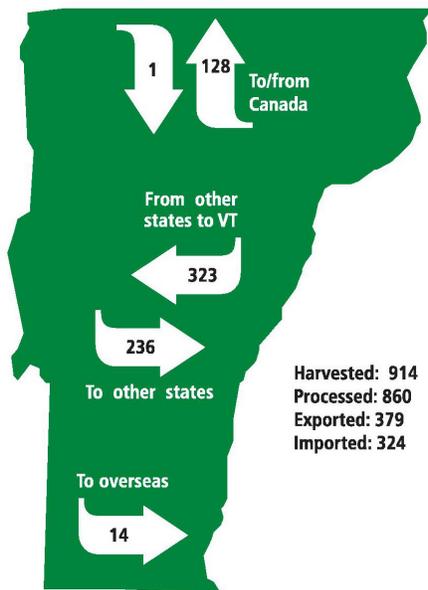
While development pressures have slowed in Vermont since 2010, the damage done to our forestlands has been significant. In several of our communities (including Randolph, Hartland and Brookfield), there are no longer large, contiguous, forested areas to serve as significant wildlife habitat or to act as connections to larger areas of habitat.

### **Changing Forest Economy:**

Forest product manufacturing and recreation represents a significant economic driver in Vermont. In 2011, the wood manufacturing industry generated over 1.4 billion in economic benefit for the state, during the same year, forest recreation (e.g. skiing) generated 1.9 billion. Timber harvests are an essential component of the forest economy and for those landowners who are motivated to improve the health of their forestland.

Since 2011, however, the forest industry has experienced several significant changes that threaten its viability. Due primarily to outside forces, paper mills in Maine, which were a significant buyer for a majority of low-grade pulp wood, have stopped

**Wood Flows to and from Vermont  
- in 1000 cords**



Source: North East State Foresters Association

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operating. While there are opportunities for low-grade woods to be used in renewable energy generation, these have yet to materialize at a scale that off-sets changes to the paper industry.

### ***Changing Forest Health:***

As the pattern of climate change worldwide progresses, the habitat ranges of many North American species are moving north and to higher elevations. According to the US Environmental Protection Agency in recent decades, in both land and aquatic environments, plants and animals have moved to higher elevations at a median rate of 36 feet per decade, and to higher latitudes at a median rate of 10.5 miles per decade. While animals can move faster than plants, some animals still can only move slowly and only if there is uninterrupted and suitable habitat. Grass and shrub species, including invasives, move faster than trees, which typically can only advance about 100 yards per year. This is significantly slower than the rate habitats are shifting northward. While this climate shift means a range expansion for some species, for others it means movement into less hospitable habitat, increased competition, or range reduction, with some species having nowhere to go because they are already at the top of a mountain or at the northern limit of land suitable for their habitat.

Significant changes in our forest ecosystem will challenge our current forestry management techniques, and our forest economy. Without sound ecological forest management practices, adapting to new forest species and combating invasive species will be challenging.

Another separate, but related, threat to forest health is the spread of invasive species, primarily forest pest insects and diseases. Just as we lost our native chestnut forests and many of our elms, we now face pests to ash (emerald ash borer) and hemlock (wooly adelgid) that could decimate these trees. Many other pests and diseases are on the rise that also threaten maple, beech, and even oak.

### ***Challenges to Maintaining and Enhancing Our Forestlands:***

In 2011, TRORC formed a Forest Stewardship Committee to explore threats to forest stewardship in this region and develop strategies to maintain and enhance our forestlands in the future. The Committee was comprised of forest landowners, consulting foresters, loggers, and members of local forest health organizations, such as the Linking Lands Alliance and the White River Partnership.

They identified the following as this region's top three threats:

1. The lack of personal and cultural connection to forests in general, actual forested lands in Vermont, and the many forest products we use and take for granted on a daily basis.
2. The lack of a 'buy local' forest products movement, or lack of successful branding/marketing techniques for forest products.
3. The decreasing number of manufacturing or wood processing sites in Vermont, which has resulted in Vermonters shipping more raw materials out-of-state to become finished products.

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Additional threats were also identified. These include: parcelization; fragmentation; property tax assessments based on the highest potential market value of land; the presence and spread of invasive species; the lack of social, cultural, and institutional support for young adults interested in pursuing a forest related career; state and federal estate and inheritance tax laws (which have placed family landowners into financial predicaments in which they need to subdivide or develop forest land in order to cover the taxes); vulnerability of timber and wood markets to short-term price fluctuations.

## Solutions

### *Support Current Use:*

Like Agriculture, one of the key state-based efforts to maintain forest lands across Vermont is the Current Use Program (Current Use). Funding of the Current Use Program has been identified by the Northern Forest Lands Council as vital to ensuring that landowners do not over-harvest their forests or opt for liquidation cutting of tracts. In their study that used cost data, stumpage prices, and taxation scenarios, the Council concluded that timber management is only profitable at low taxes per acre (\$2 per acre) and even at that level, only the better sites are profitable. In addition to the problem of high property taxes, forest landowners must grapple with the fact that property taxes are assessed on a yearly basis, and unlike most agricultural crops, timber harvests are not an annual event (indeed, they are usually set apart by decades). In addition to the tax benefits of the program,

those lands in current use that are forested require a forestry management plan. The maintenance of these plans contributes to the overall health of our forests. Of the total lands in Current Use in the TRORC region (380,681 acres), a vast majority (321,765 acres) of them are enrolled as forestland.

### *Reduce Parcelization of Forests:*

A sustainable and economically viable forest products industry clearly depends on the availability of harvestable wood. Protecting forestlands from parcelization is a key component of maintaining forestry in our region. This can be done through non-regulatory and regulatory means.

- **Conservation Planning** – As part of a local planning process, communities can identify the extent and location of forest resources, prioritize which areas are suitable for resource protection and recommend strategies for conserving these lands. This Plan takes a similar approach through the identification of Resource Conservation Areas in the Future Land Use chapter.
- **Estate Planning** - Municipalities can encourage landowners to engage in estate planning so that forestland can be maintained over multiple generations, thus reducing the future threat of subdivision due to a death in the family, an unforeseen illness, or other events.
- **Land Conservation** – Municipalities can be involved in the land conservation process through the development of a conservation fund (generally managed by a Conservation Commission with oversight from the

Selectboard) that acts as a “savings account” which can be used to help conserve land.

Regulatory methods, such as those mentioned in section #, above can also be utilized to protect forestland.

**Encourage the Growth of New Forest Product Markets:**

With changes to the forest industry throughout Vermont, it will be necessary to support programs and initiatives like the Forest Products Value Chain Investment Program (A collaboration between the Vermont Sustainable Jobs Fund, the Northern Forest Center, and the Vermont Working Lands Enterprise Board) that seek to enhance the economic competitiveness of the forest products industry in the region by exploring ways to access new markets outside the state,

developing new products that could be produced using Vermont wood and encouraging innovation and facilitating collaboration among industry members.

**Encourage Ecologically Sound Forestry Management Practices:**

Just as farms can be managed in a way that improves soil health, forests can also be managed for both fiber production and to improve habitat and maintain water quality. In order to effectively manage our forestlands in an ecologically sustainable manner, it will be necessary to properly educate landowners and the foresters who manage their lands as to what the best management practices are. Focusing on methods that support and improve biological diversity and forest vitality will help maintain good forest function.

**Goals, Policies and Recommendations: Working Landscape**

**Goals**

1. Sufficient locations of contiguous forestlands ensures that all indigenous species have adequate access to necessities, including, but not limited to food, water, and varied habitat under a changing environment.
2. Agriculture and forestry continues to preserve, reinforce, and revitalize the best characteristics of the Region’s landscape and communities, while also improving soil and forest health.
3. A dynamic diversity of farms, forestry operations and value-added producers in the TRO Region not only feeds our citizens but also serves as a driver for Vermont’s economic development, providing jobs and prosperity in our rural communities.
4. An environment (physical, social, regulatory, and fiscal) that encourages entrepreneurship in agricultural and forestry activities, including those which add value to the Region’s agricultural and forestry products.

*Goals, policies, and recommendations continued on next page*

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## Goals, Policies and Recommendations: **Working Landscape**

### *Policies*

1. The development of renewable energy generation methods and facilities that utilize woody biomass is encouraged.
2. Forestry practices shall maintain or enhance the diversity of ecosystems existing in the Region.
3. Businesses that are sited and designed in accordance with this Plan and promote the local processing, sale and distribution of native raw materials and products are encouraged. Planning and regulatory review at the state and local level should not unduly restrict the development of “home cottage” industries which complement farm and forestry.
4. To minimize point and non-point source pollution, loggers and foresters must use Accepted Management Practices (AMP) and are encouraged to implement Best Management Practices (BMP) in their operations; while farmers must meet state standards for Required Agricultural Practices.
5. It is the policy of TRORC to minimize or mitigate the loss of these resources to development. As an alternative to conventional methods, TRORC endorses use of off-site mitigation techniques to offset the loss of these resources. However, endorsement of off-site mitigation must be conditioned on finding that the project proposal is:
  - a. Consistent with this Plan and the Plans of affected municipalities; and
  - b. Provides an equal or greater public benefit than conservation of the development site itself.
6. Where important natural features, soil conditions, or special resources including, but not limited to, agricultural and forested land are identified, clustered or peripheral development is required to protect such resources and prevent fragmentation and sprawling settlement patterns.
7. Agricultural land and forested land form the separations between town centers, villages, and hamlets in the traditional regional settlement pattern. Tangible efforts shall be made to preserve this patch-worked balance of open and forested space, to promote compact settlements through creative regional planning, municipal planning, private initiatives, purchases, leases and transfers of development rights and efficient site designs. Contiguous forest and significant agricultural areas shall remain largely in non-intensive uses unless no reasonable alternative exists to provide essential residential, commercial and industrial activities for the Region’s inhabitants.
8. TRORC strongly supports property tax reform efforts at the local and state levels that would reduce the costs of land ownership for farming and forestry, while protecting against the Current Use Program’s use as a low-cost vehicle for speculative holding of property for future development.
9. The construction of utilities, roads or other physical modifications should skirt tracts of productive agricultural and forest land rather than divide them.

*Goals, policies, and recommendations continued on next page*

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## Goals, Policies and Recommendations: **Working Landscape**

### *Policies (continued)*

10. The use of public or private funds for purchase of development rights, or fee purchase of agricultural and forest land for conservation purposes from willing landowners, is supported and should be promoted. Town officials and landowners are encouraged to work with private non-profit conservation organizations to identify options. Factors to be utilized in determining the relative conservation value of land should include:
  - a. Evaluation of an active farm operation, a sound financial plan for returning as a viable farm unit, or an active forest management plan with history of planned harvesting;
  - b. The project must conform to duly adopted regional and/or municipal plans;
  - c. The resource value of the site incorporating such factors as parcel size, soil productivity values, and accessibility;
  - d. Threat of loss or conversion to non-farm or forestry use;
  - e. Adequacy of existing infrastructure and public investments to serve the use;
  - f. Location of the use relative to similar uses; and
  - g. Adequacy of past resources management practices.
11. Septage, sewage sludge and any other product of municipal waste processing shall not be applied or injected upon agricultural and forest lands without consistent chemical component testing of both disposal material and receiving medium for potentially harmful substance concentrations. Applications or injections of such products should only occur according to the protocols established and agreed upon by the State of Vermont and the affected municipality for public health and environmental protection.
12. Use of streambank and shoreline buffer strips are necessary for forestry and farming activities. To reduce erosion, buffer strips can consist of certain types of cover crops as well as woody vegetation. The Natural Resource Conservation Service, Conservation Districts, University of Vermont Extension and others should continue efforts to educate landowners as to the benefits of maintaining and improving streambank vegetation and to implement river-long coordinated stabilization programs. Efforts to revegetate streambanks eroded from natural or human activities are supported. Erosion control methods which use vegetation and other natural materials and which protect wildlife habitat are favored over other methods. Rip-rapping of shorelands can be used in appropriate circumstances to protect farmlands from erosion.

*Goals, policies, and recommendations continued on next page*

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## Goals, Policies and Recommendations: **Working Landscape**

### *Policies (continued)*

13. TRORC recognizes that certain local land development or subdivisions may conflict with policies to minimize the loss of existing or potential agricultural or forest resources. Furthermore, the TRORC acknowledges that in certain areas agricultural or forestry uses may no longer be viable due to a variety of factors including:
  - a. The existence of or planning for roads or sewers in the immediate area which dictate that involved land should be converted to more intensive uses; and
  - b. The presence of parcel sizes or site conditions which affirm that conservation efforts to minimize loss of the resource result in marginal public benefit.
14. Support programs that are designed to provide new farmers access to farms and farmland, as well as programs designed to assist retiring farmers with the transition to a new generation.

### *Recommendations*

1. TRORC, as part of its on-going Technical Assistance Program, will provide planning advice and support to town Planning Commissions, Conservation Commissions, non-profit conservation organizations, and other groups interested in sustaining agriculture and forestry.
2. TRORC will evaluate proposed developments involving primary agricultural and forest lands, and their related industries. Where appropriate, it will provide information to federal and state agencies, town boards and commissions, and other parties regarding the probable impacts these resources have on the welfare of the Region.
3. Local land use planning activities and programs affecting agriculture and forestry should consider the following as ways to promote these industries:
  - a. Development of local plan components, including an inventory, and assessment of farm and forest lands. Although far from satisfactory, past use of the Land Evaluating and Site Assessment (LESA) method for identification of priority lands has been referenced;
  - b. As part of local bylaws, creation of farm and forest land conservation programs, including:
    - (1) Agricultural zoning;
    - (2) Area based allocation;
    - (3) Cluster development;
    - (4) Impact fees;
    - (5) Overlay districts;

*Goals, policies, and recommendations continued on next page*

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## Goals, Policies and Recommendations: **Working Landscape**

### *Recommendations (continued)*

- (6) Performance standards;
  - (7) Purchase of development rights;
  - (8) Transfer of development rights.
- c. Utilization of the Vermont Housing and Conservation Board program (VHCB) to acquire interests or easements on significant farm and forest lands. Such easements are perpetual voluntary agreements between landowners, the State, the Town, or a conservation trust, such as the Vermont Land Trust or Upper Valley Land Trust;
  - d. Setting up a town fund for conservation purposes to leverage other public funds or donations for conservation purposes. Note that farm and forest conservation may be a wise move for the long-term fiscal health of the community;
  - e. Stabilization of property taxes for farmers and timberland owners enrolled in the Current Use Program by agreeing to pay the difference that the State does not fully fund under the Program;
  - f. Purchase of lands outright by governmental agencies or conservation organizations; and
  - g. Support for local and regional marketing and value added industries to improve the economies of farm and forest operations;
  - h. Support of educational and community programs.
- 4. To promote a better understanding of the farming and forestry practices, and natural resource management in general; the industry, conservation organizations, public schools and the tourism and recreation industries should sponsor continuing educational opportunities to the public.
  - 5. TRORC should organize a regional committee of stakeholders to focus on how TRORC can support the local agriculture and forest products industries.

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## Working Landscapes End Notes

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1. Sustaining Agriculture: Agricultural Land Conservation, Agriculture Land Use Planning Task Force, Farm to Plate Network, 2013.
2. Tunbridge Town Plan, 2013.
3. Farm to Plate Strategic Plan, Executive Summary, July 2013.