

Introduction



Vermont's forests are dynamic. Native American influences to the landscape of Vermont were minimal, and early European settlers found nearly all the state covered by forests. Forest clearing became widespread around 1800 as Vermont's farmers began supplying wood products, food and wool to a rapidly growing nation. By 1860, less than one-half of the state remained forested and Vermonter George Perkins Marsh, arguably the nation's first environmentalist, warned of the impacts of soil erosion from clearing forests. The migration of people to the western United States led to a decline in agriculture allowing forest succession to reclaim Vermont's landscape.

Vermont's forests are an invaluable resource. Forested ecosystems provide the basis for numerous natural communities that support biological diversity. Forests underpin our economy and enhance our quality of life. We depend on the forest for timber, maple syrup, firewood, along with values and services such as watershed protection, wildlife habitats, carbon sequestration, outdoor recreation opportunities and scenic beauty. Vermont has a working forest landscape; one that provides goods and services through stewardship, management and conservation.

From the 1940's to the present, there has been a transformation of Vermont's forest on a wide scale. Forests are maturing as shown by increases in tree size and number. This has resulted in decreases in growth rate and changes in species composition. At the same time, human social pressures have resulted in forest habitat fragmentation from development, and we've witnessed the introduction and spread of invasive plant and insect species. Coupled with changing climate conditions, future forest conditions may not favor all native biota. Many landowners lack the knowledge and skills to manage forests at a time when concerns for the role of forests as a source of both biomass and carbon storage emerge. Against this backdrop, there is evidence in the decrease in the forest products industry region-wide. We must work with partners to better understand and monitor these changes so we can adapt our strategies to maintain the health and productivity of Vermont's forests.

Background

The Food, Conservation and Energy Act of 2008, commonly referred to as the Farm Bill, was enacted June 19, 2008. The Farm Bill requires each state to complete a Statewide Forest Resource Assessment and Statewide Forest Resource Strategy (SARS) within two

years of the bill's enactment in order to be eligible to receive funds under the US Forest Service, Cooperative Forestry Assistance Act of 1978.

The Division of Forests has a long history of proactive planning. Documents such as the Vermont Forest Resources Plan and the Forest Stewardship Program Plan have offered a vision for Vermont's forests. However, they have not necessarily been linked to specific programs and have lacked clear and measurable indicators. Other planning documents such as the Urban and Community Forestry Program Action Plan and the Forest Resource Protection Action Plan have provided program specific goals, actions and metrics, but have not been linked within the broader vision. As a result of the planning requirements in the Farm Bill, we have the opportunity to identify landscape scale resource opportunities and have addressed this challenge with the **Vermont 2010 Forest Resources Plan - *State Assessment and Resource Strategies***, creating a forest sustainability strategy that will link the over-arching vision to program specific approaches.

The Division began this process by reviewing the charge as outlined in the Farm Bill and advice provided by the Northeastern Area of State and Private Forestry (NA) in relation to other strategic plans completed or being conducted by the Division and partners. Appropriate elements from all these planning efforts were used for the ambitious process of meeting the requirements for SARS. They include:

- **Vermont Forest Resources Plan - *A Forest That Works for All*** - The Forest Resources Plan provides overall guidance and strategic planning for the Division of Forests. This is an ongoing effort since the 1960's, covering a ten-year timeframe and articulates a vision for Vermont's forests, the roles and responsibilities of the department, other agencies and the public in the stewardship of public and private forest land. The plan identifies specific programs and actions to meet those objectives. Although ten years old, much of this document was still relevant.
- Division of Forests, **Appreciative Inquiry Process**, Forest Health and Sustainability Working Groups - The Appreciative Inquiry process is a unique planning tool that focuses on the best of an organization's strengths and identifies steps on how to replicate those strengths throughout the organization. At the initial planning meeting, staff unanimously agreed that all our work should be based on maintaining or restoring forest ecosystem health. Working groups met after the initial planning meeting and have set the stage for an ambitious

program of measuring and evaluating the health and sustainability of Vermont's forests.

- **Criterion and Indicators of Forest Sustainability in the Northeastern Area** - Seven criterion and 18 base indicators were agreed to be the foundation of measuring and tracking forest sustainability by the Northeastern Area Association of State Foresters (NAASF) and the Northeastern Area State and Private Forestry (NA). The commonality of this approach across almost one-half of the country highlights the importance of this on-going effort. We have decided to use components of this framework in conducting our assessment and developing resource strategies.
- **“The Vermont Way Forward”** - A Vermont Agency of Natural Resources (ANR) initiative to transform the ANR into the next generation of environmental stewards. The Forestry Division was charged with making recommendations on managing Vermont's forests of the future with an eye toward sustainability. The timing of this effort was concurrent with the 2008 Farm Bill and provided an opportunity to utilize this process to begin public involvement and develop recommendations to incorporate in SARS. This plan incorporated input from twenty-eight stakeholder groups.
- **Vermont Wildlife Action Plan** - This plan represents a similar requirement by the US Fish and Wildlife Service to state wildlife agencies, and led to the creation in 2005 of Vermont's Wildlife Action Plan. These proactive plans examine the health of fish and wildlife, and prescribe actions to conserve species and vital habitats.
- **Primary Industry Summit** - The Department of Forests, Parks and Recreation hosted a day long summit in December, 2006 for members of the forest products industry to identify key issues and problems facing the forest products industry. A list of possible solutions and recommendations were presented to Governor Douglas later in the day.
- **Forest Plan** – Management of the Green Mountain National Forest is guided by the Land and Resource Management Plan (Forest Plan), which was most recently revised in 2006. The revised plan is strategic in nature, with emphasis on ecological, social and economic sustainability over the long-term. The Green

Mountain and Finger Lakes National Forests' held a series of collaborative, monthly public meetings during the Forest Plan revision project.

- **USDA, State and Private Forestry (SPF), “Redesign”** - State forestry agencies partner with the SPR on the delivery of several federal forestry programs as outlined in the Cooperative Forestry Assistance Act. This partnership recognizes the federal role in supporting private forest landowners and the role of states in providing technical assistance. Changing threats to our forest resources and limits in financial support offered by the USFS have led to a “Redesign” effort to identify new opportunities for collaboration. Through the re-authorization of the Farm Bill in 2008, melding of programs into a targeted, yet comprehensive landscape level approach to resource management, will improve state delivery. Three ‘priorities’ are at the core of the 2008 Farm Bill: ***Conserve and manage working forest landscapes for multiple values and uses; Protect forests from threats;*** and ***Enhance public benefits from trees and forests.***
- **Forest Legacy Program, Analysis of Need (AON)** - In order to participate in the Forest Legacy Program, each state must document the threat of loss of traditional forest values and benefits and, with the approval of the USDA Forest Service, delineate an area or areas (Forest Legacy Area) in the state in greatest need of assistance from the program. The process for doing this is referred to as the Assessment of Need (AON). It was drafted in 2009 and awaits final USDA Forest Service approval.
- **Economic Resurgence in the Northern Forests** – The Sustainable Economy Initiative, including the states of Maine, New Hampshire, Vermont and New York, identified the regions assets and opportunities, and developed strategies for revitalizing the Northern Forest economy.
- **State Comprehensive Outdoor Recreation Plan (SCORP)** – Updated every five years, Vermont’s SCORP identifies essential issues that affect the future of outdoor recreation and recommended actions for the preferences and needs of a statewide recreating public.
- **Imaging Vermont** - The Vermont Council on Rural Development (VCRD) led a two-year project, Council of the Future of Vermont, where they learned from Vermonters about their hopes, aspirations and visions for the future of the state. The results are outlined in the final report, Imaging Vermont. VCRD determined

the areas of critical need in the state and their next project work areas: revitalizing Vermont communities, creating a working landscape partnership, stimulating the need for broadband across Vermont, and working with Vermont leaders to forward the results of the Council.

- **Vermont’s Changing Forests** – Key findings on the health of forested ecosystems from the Vermont Monitoring Cooperative. This report is a multidisciplinary synthesis of research conducted on monitoring forest ecosystem health in Vermont over the past 18 years.
- **Internal Division Plans** - A number of Division of Forests programs have plans including Urban and Community Forestry, Forest Resource Protection and Forest Resource Management. Some engaged stakeholders in development and are strategic while others are truly internal work plans. Long-range management plans are prepared for parcels under the direction of the Agency of Natural Resources. Community Wildfire Protection Plans have also been created for two communities.

Throughout the Plan’s development, public input was sought from a variety of partners and stakeholders; see Appendix A: Planning Process Summary for public involvement for details.

Methodology

Although there is a specific methodology and required components for developing the SARS, the Division of Forests decided to imbed these conditions within the framework of our past forest resources planning efforts. As a result, we began the planning process by taking a step back and reviewed the vision statement for Vermont’s forests and the mission of the Division of Forests.

After careful consideration, it was decided to keep the vision statement as outlined in the 1998 Vermont Forest Resources Plan. As stated earlier, this is a reoccurring planning effort that engages a broad group of constituents within the state and is tied to our long-standing partnership with the USFS. It has served us well in the past twelve years, connects well with the three priorities outlined in the Farm Bill, and plots an appropriate course into the future. The vision statement for Vermont’s forests is:

‘The forests of Vermont will consist of healthy and sustainable ecosystems, a prosperous and sustainable forest products industry, abundant recreational opportunities and a combination of ownership patterns supporting a working forest

landscape and large, unbroken forest tracts. Citizens, government and businesses understand their proper roles, responsibilities and rights, and work together to support the values of forests for this and future generations.'

Extensive dialogue with staff offered during the Appreciative Inquiry process made the beginnings of a revised mission statement for the Division of Forests:

'The Forestry Division will lead the state in fostering a land ethic that recognizes our responsibility to manage for and promote healthy forests and is founded upon the principles of respect for the land, sustainable use and exemplary management. This ethic is the foundation which guides all of our decisions and actions.'

A mission statement for any organization is only valuable if it is clearly defined. The following definitions serve as the foundation within the Plan and are the basis of the Division's mission statement:

- **Healthy Forest Definition:** A healthy forest has the capacity for self renewal of its ecological productivity, diversity, complexity and resiliency.
- **Sustainable Use Definition:** The production and use of resources to meet the needs of present generations without compromising the needs of future generations.
- **Respect for the Land Definition:** Appreciating the value of the land and understanding and accepting responsibility for our impacts on a finite, non-renewable resource.
- **Exemplary Management Definition:** Forestry practices which serve as a model and are deserving of imitation because they reflect a sustainable land ethic with thoughtful strategies used for planning, implementation and evaluation.

From these statements, came the definition of sustainable forestry:

"Sustainable forestry is the management of forests that maintain their health, productivity, diversity and overall integrity in the long-run, in the context of human activity and use."

Forestry has traditionally been defined as the management and use for human benefit of the natural resources that occur on and in association with forest lands. However, the Division of Forests felt that the definition would be strengthened by recognizing that maintaining the health of the forest is critical to its sustainability. By focusing on the health of the forest, the productive capacity of the soil, water and air, maintenance of the diversity of flora and fauna and the interaction and relationship between all those forest systems, we can sustain our working forest landscape and the services they can provide.

In order to effectively monitor progress in fulfilling our mission and a vision for Vermont's forests, while addressing the forest-related issues as outlined in the Farm Bill, we decided to build upon Criterion and Indicators (C&I) for the conservation and sustainable management of temperate and boreal forests. The Montreal Process, named after the meeting location, encompasses a set of 7 criteria and 64 indicators as the framework for assessing forest sustainability.

The criteria define categories of conditions or processes by which sustainable forest management may be assessed while the indicators provide the means for describing and measuring various aspects of the criteria (The Montreal Process, 2005). The C&I have been further refined within the northeastern area of the United States, by the NAASF and NA, streamlining the critical indicators (Forest Sustainability and Planning, 2001). The Division of Forests integrated the existing Desired Future Condition (DFC) statements from the previous forest resources plan with criteria in the **2010 Vermont Forest Resources Plan - *State Assessment and Resource Strategies***.

When building the Plan and reflecting on the mission and vision statements that will serve as the guide, we determined that the seven criteria needed some modification to build upon existing planning efforts and tie into the three national priorities. Because forest ecosystem health and vitality is at the core of forest sustainability and key to the mission of the Division, we combined the elements of Northeastern Area criterion 2 and 3 into one criterion unique to Vermont. The wording was changed slightly on several criteria to better reflect needs in the state. In addition, we merged elements of criterion 4 into a new criterion 3 and criterion 6 into a final criterion 5. Table 1 shows the relationship between the Northeastern Area Base Criteria, the Farm Bill priorities and the Vermont 2010 Forest Resources Plan's Desired Future Conditions.

Relationship between Northeastern Area Criteria, Desired Future Conditions and Farm Bill Priorities

Northeastern Area Criteria	Desired Future Conditions	Farm Bill Priorities
1) Conservation and biological diversity	→ 1) Biological Diversity - Conserve biological diversity across all landscapes	Conserve working forest landscapes
2) Maintenance of productive capacity of forest ecosystems	→ 2) Forest Health and Productivity - Maintain and enhance forest ecosystem health and productivity	Protect forests from harm
3) Maintenance of forest ecosystems health and vitality	↗	
4) Conservation and maintenance of soil and water resources	→ 3) Forest Products and Ecosystem Services - Maintain and enhance forest contribution to ecosystem services	Enhance the benefits from trees and forests
5) Maintenance of forest contribution to global climate cycles	→	
6) Maintenance and enhancement of long-term multiple social economic benefits to meet the needs of society	↗ → 4) Land Ethic - Maintain and enhance an ethic of respect for the land, sustainable use and exemplary management	All three
7) Legal, institutional and economic framework in place for forest conservation and sustainable management	→ 5) Legal, Institutional and Economic Framework - Vermont has a legal, institutional and economic framework in place for forest conservation and sustainability	All three

Table 1: Relationship between Northeastern Area Criteria, Desired Future Conditions and Farm Bill Priorities.

Outline for Strategies

The vision and mission statements serve as the foundation for the Plan. Desired Future Condition statements, derived in part from the Montreal Process criterion, describe those conditions that are needed if the vision for the future is to be realized. These five statements are the basis for long-term goals, strategies and the specific actions needed to achieve them. They recognize the many benefits of Vermont's forests and the rights and responsibilities of all forest owners, public and private, to manage and use their land in a sustainable manner. The Desired Future Conditions should be viewed as a whole; they are not mutually exclusive, nor are they intended to apply to every landowner or acre of land in the state.

The five Desired Future Conditions and associated indicators characterize the health and sustainability of Vermont forests. The first three relate specifically to forest conditions, attributes or functions. Ecosystem services include the values or benefits associated with the environmental and socio-economic goods and services that forests provide to the people of the state. The fourth condition and indicators represents Vermonters understanding of the resource, its benefits and how we can all be stewards. The last condition and indicators relate to the overall policy and legal framework within Vermont and the Division that contribute to sustainable forests.

To assist in understanding the outline of the Resource Strategies, the following definitions are provided:

- **Desired Future Condition:** A category of conditions or processes by which the vision may be assessed. They are based upon criterion; characterized by a set of related indicators which are monitored periodically to assess change. The Division of Forests has identified five Desired Future Conditions that must be met to maintain forest sustainability in Vermont.
- **Indicator:** An indicator is a quantitative or qualitative variable which can be measured or described and when observed periodically demonstrates trends. As a starting point, the Division of Forests utilized the 18 base indicators as adopted by NAASF and NA. These base indicators were recommended for use in forest sustainability assessments.
- **Threats:** A set of issues and factors that influence a Desired Future Condition in a negative manner.

- **Strategies:** Within a set of goals, the strategies are designed to mitigate identified threats, monitor indicators and achieve the Desired Future Condition.

Resource Strategies



The strategies to be carried out by the Division of Forests in the upcoming five years are the key components of this Plan. Strategies selected for the Plan include those that continue programs with measured need and success; meet obligations under state statutes, rules and procedures; and new initiatives that will aid progress toward Desired Future Conditions.

The strategies are presented by Desired Future Condition - a broad statement that collectively leads to achieving the vision of Vermont's forests. Under each Desired Future Condition are goals and strategies which could, as a whole, direct the state towards a desired future.

As with previous Forest Resources Plans, this Plan builds on a foundation of partners. At the end of this section is a matrix summary that lists strategies followed by Division programs engaged in the activities, partner organizations that may be involved, financial resources needed to carry out each strategy, and its relationship to the national priorities.