NORTHERN FOREST WEALTH INDEX:
Exploring a Deeper Meaning of Wealth
"This Northern Forest project has been extremely exciting to me as a development specialist. To share with others who have the same interests and problems leads me to the conclusion that none of us is 'an island' separate from each other and each other's concern. I want this collaboration to continue for our mutual benefit."

—Jim Ellis
Adirondack
North Country Association

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Exploring a Deeper Meaning of Wealth

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# Table of Contents:

## Chapters

- **Introduction** ............................................. 3
- **A Path Forward** ........................................... 5
- **Acknowledgements** ...................................... 8
- **About the Northern Forest** ............................. 9
- **Community** ............................................... 13
- **Culture** .................................................. 19
- **Economy** ................................................ 25
- **Education** ............................................... 35
- **Environment** ............................................ 41
- **Endnotes** ................................................ 50
- **Comments & Commerce** ............................... 55
- **Tell Us What You Think** ............................... 56
- **About the Northern Forest Center** .................. Inside Back Cover

## Indicators

### Social Capital
- Voter Participation .................................... 14
- Public Libraries ........................................ 14

### Healthy People
- Preventable Deaths .................................. 15
- Suicide Rates ......................................... 15

### Safety
- Property & Violent Crime .......................... 16
- Domestic Assault ................................... 16

### Built Environment
- Registered Historic Sites ...................... 17

### Maintenance of Cultural Identity & Traditions
- Local Historical Societies .................. 20

### Opportunities to Participate in Cultural Events
- Community Arts Orgs. ....................... 21

### Self Reliance & Resourcefulness
- Proprietors in the Work Force .......... 22

### Personal Connection with the Landscape
- No Indicator Selected ....................... 23

### Local Control of Financial Capital
- Deposits in Locally Controlled Banks ....... 26

### Livable Wage
- Food Stamp Payments ....................... 27

### Diversity of Employment Opportunities
- Jobs per Industry ............................. 28
- Change in Jobs per Industry ........ 28
- Earned Wages per Industry .......... 29
- Change in Earned Wages per Industry .................. 29

### Forest Product Manufacturing
- Forest Product Manufacturing Jobs ........ 30
- Salaries in Forest Product Manufacturing .................. 30

### Tourism & Recreation Industry
- Tourism & Recreation Jobs ............. 31
- Salaries in Tourism & Recreation .......... 31

### Diversity of Land Ownership
- Land Ownership Patterns ................ 32

### Infrastructure
- Road Surface Conditions .................. 34
- High Speed Internet Access .......... 34

### Grades 1 – 12 Education
- High School Diplomas ..................... 36
- Enrollment in High School Vocational Courses .................. 37
- High School Seniors Planning to Pursue Further Education .................. 37

### Early Childhood Education
- Preprimary School Enrollment ............ 38

### Post Secondary Education
- Bachelor’s Degrees ......................... 39
- Investment in Technical Training .................. 39

### Lifelong Learning
- No Indicator Selected .................... 40

### Air Quality
- “Good” Air Quality Days .................. 42
- Acidity of Precipitation .................. 42

### Water Quality
- Impaired Rivers ................................ 43

### Healthy, Productive Forests
- Net Tree Growth & Removal ............. 44
- Standing Sawtimber .................... 45

### Forest Areas Sufficient to Maintain Biodiversity
- Forest Land ..................................... 46
- Forest Reserves ......................... 47

### Access to Land & Water
- Hiking Trails ...................................... 48
- Snowmobile Trails ...................... 49
- Boat Launches ................................. 49
Over the past dozen years, the Northern Forest of New York, Vermont, New Hampshire, and Maine has emerged as one of the most special and distinct places in the United States. During this time, rapid change has spawned far reaching debates about the region’s future. Change also has brought a growing recognition of the Northern Forest as a place united by cultural, economic, and environmental interests, and by people who care deeply about its future. We offer the Northern Forest Wealth Index as a tool for people working together toward a better future in this great region.

Awareness of the Northern Forest region first grew from recognition of the contiguous boreal and northern hardwood forest that blankets its mountains, hills and valleys—the largest stretch of intact forest in the eastern United States. The region’s identity is further shaped by a forest-based economy, rural communities far removed from state policy centers, and a culture shaped by generations of people working to carve lives for themselves from the forest.

The term Northern Forest first came into use in the late 1980’s as residents, and state and federal policy makers sought to understand and address changing land ownership and economic patterns. Since then, the global economy and rapid advances in technology, communications, and commerce have continued to exert a powerful, but often poorly understood, influence on the region.

In this context of change, the Northern Forest Wealth Index represents an effort to identify and understand the core assets and values that contribute to the region’s overall wealth, or well-being. It builds on the region’s emerging identity, and looks beyond ongoing debates to explore a deeper meaning of regional wealth—one which considers the well-being of the Northern Forest’s communities, its culture, economy, educational systems, and environment. The Wealth Index focuses on areas of agreement around which people can converge and begin working together toward a future marked by a prosperous economy, healthy ecosystems, and satisfying human lives.

With this report, we—the Wealth Index Steering Committee and the Northern Forest Center—hope to stimulate reflection, dialogue, and action toward a new approach to development and conservation—one based on people working together as stewards of the Northern Forest.

ABOUT THE
Northern Forest Wealth Index

During the past decade, people across the country have come to recognize that the overall well-being of their communities is a function not just of financial wealth, but of a wide range of other factors such as health, safety, and the integrity of natural ecosystems. In short, true wealth stems from the interrelation of a wide range of sometimes hard to understand assets.

In the Northern Forest, for example, economic issues and the health of the forest clearly are important to regional wealth. But the true wealth of the Northern Forest is deeper and more complex. The true wealth of the Northern Forest has to do with leaving the door unlocked, fishing in clear mountain brooks, and taking pride in craftsmanship and hard work. It involves access to well paying jobs, quality health care and education, and a tradition of people helping their neighbors.

With this premise in mind, the Wealth Index Steering Committee met for the first time in April 1999 to explore a seemingly simple question: What are the assets and values most important to the overall wealth, or well-being, of the Northern Forest?

Our initial discussions generated a list of hundreds of assets. During the following summer, we engaged dozens of other Northern Forest residents in community meetings designed to gather additional ideas and identify common regional themes. Based on these discussions, we concluded that the Northern Forest’s overall well-being could be described as a function of the interrelationships among five types of assets.

“I have always believed that cooperation among all the parties that can contribute to enhancing life in our communities results in a better final result. The challenges that we face every day need to involve others with similar challenges to come up with the best solution. The thread within these regions revolves around common challenges and opportunities with common assets and liabilities.”

–Jim Tibbetts
First Colebrook Bank
I believe the true wealth of the Northern Forest is in our communities, way of life, and landscape. Jobs and companies come and go. It is the land that stays, and the people who choose to live here that shape the character of our lives.

—Andrea Colnes
Northern Forest Alliance

Elements of Wealth in the Northern Forest

**Community:** The web of relationships that allow us to live and work together and that ensure the physical, mental, and social well-being of individuals and families.

**Culture:** The characteristics that help define who we are as a people and how we experience and share the traditions that evolve in the region.

**Economy:** The sustainable use of natural, human and other resources to meet human and community needs by generating financial wealth that stays within the region.

**Education:** The learning of skills, information, values and attitudes necessary for both children and adults to fulfill their potential as members of communities within or outside the region.

**Environment:** The health and productivity of the natural systems which support the diversity of life, economic and recreational activities, and opportunities for personal renewal.

With these five categories as a framework, we narrowed our list of assets to a set of 24, and developed indicators to assess the status of each in the Northern Forest.

Indicators are pieces of information that tell us something about a larger system. They do not reveal all the details about what is going on, but they do provide insight. The Dow Jones Industrial Average, for example, is an indicator of what is happening in the stock market.

As with the original list of assets, we generated a long list of potential indicators. Each indicator was then evaluated on the basis of three major criteria:

- Does this indicator accurately tell us something we want to know about the related asset?

- Can we efficiently gather data for this indicator that is comparable across the four-state Northern Forest region?

- Can we track this indicator over time?

Based on these criteria, we narrowed the list of potential indicators and began collecting and analyzing the data included in this report.

Whenever possible, we have used data collected at the national level according to consistent standards. In most cases we have presented information about the Northern Forest in comparison to the other parts of the four Northern Forest states. In some cases we have presented trends over time.

In a few cases, assets important to regional wealth are so personal and individual in nature that we have not attempted to quantify them. We have identified such assets, and attempted to describe their importance to the region, but we have not included related indicators in this report.

The data and findings in this report are by no means the last word. They simply provide insight into the region’s condition. We expect to learn of other data sources that can improve, supplement, or even correct, the data presented here. We will use our website, www.northernforest.org, to post these improvements and corrections. Please visit us there. Suggestions and comments also can be sent to us at nfc@northernforest.org.
A Path Forward

That the world is changing is beyond doubt. New technologies, communication systems, and financial practices are dramatically speeding up the movement of information and financial capital around the world, and changing the way we live our lives. The Northern Forest is not isolated from these forces of change, but neither are we powerless.

The Northern Forest Wealth Index provides a tool for guiding change in the Northern Forest. Though it does not draw conclusions or offer solutions, it does provide:

- A consensus-based framework for understanding the assets and values important to well-being in the Northern Forest;
- Specific information about regional strengths and challenges;
- Points of agreement around which people can converge and begin working together; and
- A system for tracking the region’s well-being as we move into the 21st century.

The Wealth Index also presents a snapshot of the Northern Forest as a place defined by shared community, cultural, economic, educational, and environmental issues. Given this set of information, and the commonalities it reveals, we believe now is the time to think even more deeply about the following questions:

- Where is the Northern Forest heading?
- Where do we want the Northern Forest to go?
- What are the regional assets we can build upon?
- How can we work together to get where we want to go?

Answering such questions will not be easy. We hope the Wealth Index will help guide our efforts by providing a starting point from which people in the Northern Forest can work together to build on regional strengths, and address common challenges.

Important next steps will involve gathering further information, facilitating local and regional dialogue, taking action to address regional challenges and opportunities, and continually reflecting upon the actions we take.

**Information:** Each of the assets in the Wealth Index, and their interrelationships, represents fertile ground for additional research. Academic institutions, public agencies, businesses, and other organizations can continue to explore these and other regional assets, address information gaps and inconsistencies, and help track regional well-being over time.

**Dialogue:** We will use the Wealth Index to engage people across the Northern Forest in dialogue about the assets and values that support well-being at local and regional scales, and to address opportunities and challenges. We are confident that such dialogue will lead to improved relationships among people in the region, innovative ideas, and increased capacity for action.

**Action:** We look forward to working with individuals, business people, non-profit organizations, and policy-makers to identify and undertake collaborative action to increase local and regional well-being. Actions may enhance a specific local asset, or take the form of regional economic or educational initiatives. All together, we hope they will lead to comprehensive local and regional development strategies that build upon our strengths, and address the full range of assets important to well-being in the Northern Forest.

**Reflection:** Whatever form our actions take, we must develop and evaluate them in the context of community, cultural, economic, educational, and environmental well-being. As the Northern Forest develops, we must pause periodically to reflect on our actions, and ensure that they are leading us in a healthy, productive, and sustainable direction. Such a process of reflection will help us identify ongoing information, dialogue, and action needs.

“I believe that sitting down and finding common ground between individuals, or groups, is the best way to find solutions to some of the problems that face the region.”

—Mark Steele
Pulp and Paper Workers Resource Council
The immediate challenge before us is to learn from the information provided in this report, and move into the dialogue phase of this process. To help guide this process, we suggest that people consider the following set of questions about regional assets, and about the opportunities and challenges facing the Northern Forest:

**Community**: What additional information do we need about Northern Forest communities? How can each of us contribute to dialogue about community well-being? What can we do to ensure that Northern Forest communities, individuals, and families thrive physically, mentally, and socially?

**Culture**: How can we bring people together to better understand and appreciate regional culture and heritage? How can this understanding inform sustainable community and economic development? What can we do together to keep our culture vibrant?

**Economy**: What additional information would help us further understand the Northern Forest economy? How can we shape local and regional economic development strategies that are sustainable and rooted in the particular strengths of our human, cultural, community, and natural resources? Who should come together to consider these issues?

**Education**: What information do we need about educational strengths and needs in the region? How can we bring people together to talk about educational challenges? What actions can we take together to provide educational opportunities that more effectively meet the region’s needs?

**Environment**: How can we bring people together to better understand the many factors affecting the Northern Forest’s environment? What actions can we take together to conserve and,
A Path Forward (continued)

To guide our future, we must know what we value.

where needed, restore the ecosystems that support us, and provide a foundation for our economy, communities, and culture?

The Northern Forest: What does the Wealth Index tell us about the Northern Forest as a place? How do the assets and values described here interact to shape regional character? How can we bring people together to advance understanding of regional assets and values? What can we do together to foster community, cultural, economic, educational, and environmental well-being in the Northern Forest?

In the coming years, forces of change will exert an ever stronger influence on the Northern Forest. To effectively guide the region’s future, we must know what we value. We must understand what makes the Northern Forest special. We must be stewards of our existing wealth. We must create a vision for the region that builds upon our strengths and encompasses the full range of assets and values that contribute to regional well-being. Above all, we must find ways to work together to turn that vision into reality.

The Northern Forest is a place filled with potential. The Northern Forest Wealth Index provides a framework around which people can converge and work together to take full advantage of that potential. We are confident that by working together, understanding regional assets, and remaining mindful of regional values, people in the Northern Forest can secure a future marked by a prosperous economy, healthy ecosystems, vibrant communities, and a dynamic culture.

We look forward to taking part in that journey.

Guiding Principles

The Wealth Index represents a first step in a long process of understanding and building upon regional assets and values in the Northern Forest. As we continue this process, we offer a set of principles that we believe will lead us in the right directions. These are:

- Increase awareness of the connections between people and the places we live—our communities, landscapes, and culture. Seek wisdom and insight in the history, art, language, music, and stories of the Northern Forest.
- Invest in and conserve local and regional strengths and assets—community, cultural, economic, educational, and environmental. Find and plug the "leaks" where wealth drains from the region.
- Act as stewards of regional wealth and assets—from the ecosystems that power our economy and support life to the people whose creativity, compassion, initiative, and commitment make life worth living. Accept the responsibility that comes with our role as stewards.
- Invest in people. Foster connections and networks. Promote listening and dialogue. Build relationships, and provide opportunities to learn and grow.

“The Wealth Index gives real meaning to the concept of 'place-based policy.' Policy makers need to shift their attention away from sectoral emphasis and look at the total context of PLACE. The index and indicators define the parameter of that context. It is a valuable tool for public policy, education and development.”

—Bob Ho
Maine Rural Development Council
Among the scores of people who contributed to the Northern Forest Wealth Index, first on the list to thank are the members of the Steering Committee. All contributed invaluable time, insights, and energy to the ambitious process of crafting this report. Each member brought not only important ideas to the process, but also constructive energy and a real dedication to finding consensus about the assets and values they considered most important to the region. Without the guidance, wisdom, and good will of the Steering Committee, this report would not exist.

Many other people played important roles in developing the Northern Forest Wealth Index. Laura Tam of the Northern Forest Center staff was involved with the project from the start, contributing innumerable good ideas and playing a key role in researching and building many of the indicators. Michelle Witten and Nick Rosenberg of the Green Mountain Institute for Environmental Democracy, Amy Ferrero, David Lewis, and Michael Giammusso all contributed greatly to researching the indicators included in the report— and many other indicators that didn’t make the cut. We also owe a debt of thanks to the dozens and dozens of people from state and federal agencies and private organizations who provided the data upon which each indicator was built. Finally, we are thankful to the more than 100 citizens of the Northern Forest who attended community meetings, listened to our ideas, and helped shape the concepts in this report.

The Northern Forest Center is deeply grateful for the generous financial support, and the expressions of confidence and enthusiasm, provided for this project by the Surdna Foundation, Robert and Patricia Switzer Foundation of the New Hampshire Charitable Foundation, Merck Family Fund, Jessie B. Cox Charitable Trust, Moriah Fund, Sudbury Foundation, American Conservation Association, and the Philanthropic Collaborative. We are also grateful to the individual donors, too many to mention, who have supported our work. Not least, we wish to thank all of the friends, advisors, and colleagues, who, perhaps without knowing it, have helped us think about the Northern Forest and our own work in new and constructive ways.
An Emerging Region

The Northern Forest is the largest area of intact forest remaining in the eastern United States. Stretching across 30 million acres from northern New York, across Vermont and New Hampshire to northern and eastern Maine, the Northern Forest is home to a 10,000 year history of people working to carve lives for themselves from a rural, often remote, forested landscape. It is a landscape of boreal and northern hardwood forests, innumerable lakes and wetlands, rolling hills, and rugged mountains. It comprises the headwaters of the major rivers of the northeastern United States from the Hudson and Connecticut to the Androscoggin, Kennebec, Penobscot, and St. John.

The Northern Forest first came to regional prominence in 1988 with the sale of nearly one million acres of timberland by Diamond International Corporation. Though it is not unusual for large tracts of land to change hands within the forest industry, the “Diamond sale,” in the context of the fevered real estate market of the late 1980s, raised significant questions about the region’s economy and traditional way of life.

In response to the Diamond sale, Congress authorized the USDA Forest Service to conduct the Northern Forest Lands Study (NFLS). The governors of the four Northern Forest states appointed a four-state Governor’s Task Force to advise the Forest Service. In this context, the Northern Forest was loosely defined as the area of large forest ownerships across New York’s Adirondack Park and Tug Hill Plateau, Vermont’s Northeast Kingdom, Coos County in New Hampshire, and the unorganized territories and rural communities of northern and eastern Maine.

The NFLS identified policy options ranging from tax reform to land use planning but stopped short of recommendations. In 1990, with support from the four states, Congress authorized the Northern Forest Lands Council. For the next four years, the Council conducted an intense examination of the region which included extensive public listening sessions and involvement by thousands of Northern Forest residents. The Council’s final report, “Finding Common Ground: Conserving the Northern Forest,” was released in 1994, and contained nearly forty recommendations. Since then, numerous public and private initiatives have sought to implement one or more of these recommendations.

Population Density

<table>
<thead>
<tr>
<th>State</th>
<th>Population</th>
<th>Area</th>
</tr>
</thead>
<tbody>
<tr>
<td>NY</td>
<td>1,650,055</td>
<td>49,709 sq. miles</td>
</tr>
<tr>
<td>VT</td>
<td>32,819,900 acres</td>
<td></td>
</tr>
<tr>
<td>NH</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ME</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Left bars (dark colors) indicate counties in the Northern Forest; right bars (light colors) indicate all other counties.
In its report, the Northern Forest Lands Council noted that:

“For its one million residents, this region is home. They have a connection to the land few Americans experience or understand. They have grown up hunting, fishing, trapping, and walking in the woods here. They are loggers, farmers, and business people. They work in the mills that have been the backbone of the region’s economy for decades. . . . Living in the Northern Forest has often been difficult but its people are proud of their endurance, their heritage, and a way of life so different than in the urban areas around them. . . .

These discussions have also given us a strong sense of the forces for change. The conditions which have up to now conserved the Northern Forest can no longer ensure its perpetuation. In our discussions time and again we faced a fundamental conflict—between market-driven efficiency that encourages maximum consumption of resources with the least amount of effort in the shortest time, and society’s responsibility to provide future generations with the same benefits we enjoy today.”

(NFLC, p.3; 11)

Since 1994, people have become more and more aware of the powerful connections that run east and west across the Northern Forest—connections ranging from economics to ecosystems, history, and culture. Communities across the northern tier of the four states have much more in common with each other than any do with their densely settled urban and suburban counterparts to the south.

AN HISTORICAL CONTEXT

A brief human history of the Northern Forest begins with Native Americans moving in after the post-glacial reestablishment of vegetation and wildlife. Iroquoian and Algonquian groups subsisted for centuries by establishing territories in the forests and trade routes along the rivers and coasts. Sparse French and English settlements developed in the late 17th century as Europe’s demand for timber and furs grew. The 18th and 19th centuries saw English and other European settlers move up rivers into the Northern Forest, farming and logging where they went. The industrial revolution and development of urban areas in southern New England and New York led the region to become the world’s leading timber producer in 1850. The 20th century
witnessed the growth of paper making and a growing demand for paper, pulp, and timber.

Since the early 1970s, many forest lands and mills owned by the regional companies that historically made up the Northern Forest’s economic backbone have been absorbed by large multinational corporations. As the region’s forest products economy has become transnational, economic pressures facing landowners have increased. Adding to these pressures is the presence of more than 70 million people within a day’s drive of the region who visit the Northern Forest for outdoor recreation and the opportunity to experience the last truly wild region in the Northeast.

In the past dozen years, the increasingly global economy has brought significant change to the Northern Forest. Several large paper mills have closed and millions of acres of forest land have changed hands. As logging and forest products manufacturing jobs have declined, jobs in the tourism, recreation, and service sectors have increased. Some areas have experienced significant out-migration and population decline as young people seek opportunities elsewhere.

### The Northern Forest Today

Today, for the most part, Northern Forest communities have not experienced the sprawling development that has led to homogenization in many parts of southern New England and New York. Nor have they experienced the strength of the economic boom currently enjoyed in those areas. Northern Forest communities often feel isolated from the rest of the region and forgotten—or ignored—in discussions of state policy, economic development, and social needs.

While the Northern Forest region may still be most clearly distinguished by the forest itself, it can also be described by a wide range of factors that are explored in depth in this report. These factors range from an economy based largely on forest product manufacturing and forest-based tourism and recreation, to a culture and communities that have been shaped by generations of people working to carve lives for themselves from the forest landscape.

Perhaps the best way to describe the Northern Forest today is as that part of northern New York, Vermont, New Hampshire, and Maine where economically, historically, culturally, and ecologically, the forest holds sway and where people always have made their lives in and around that forest.
Community:
The web of relationships that allow us to live and work together, and that ensure the physical, mental, and social well-being of individuals and families.

Social Capital
• Voter Participation
• Public Libraries

Healthy People
• Preventable Deaths
• Suicide Rates

Safety
• Property & Violent Crime
• Domestic Assault

Built Environment
• Registered Historic Sites
**Community:** Social capital

Social capital refers to the web of personal connections among people, and their willingness to help one another and to work together for the community good. It is reflected by people’s tendency to participate in community events, to volunteer for local organizations, to vote and participate in town governance. It refers to tolerance of differences and a willingness to help neighbors in need. It is exemplified by people who may disagree on political issues working together to build a playground for local kids. In rural Northern Forest communities, where financial resources and community services are often limited, people rely on this web of relationships to provide necessary services and to sponsor local events and activities that contribute to community well-being.

**Indicator:** Voter Participation

When people vote, they do more than select the next board of selectmen or state representative. They invest themselves in the future of their community, their state, or the nation. People who vote often spend time learning about local, state or national issues before casting their ballot. They take an active, involved role in the civic life of their community—in the democratic process of self governance. This indicator is based on voter participation in statewide general elections in each of the Northern Forest states.

*Data Source: Secretary of State’s Offices, NY State Board of Elections; Endnote 1*

**Indicator:** Public Libraries

In addition to their role as repositories of books, information, and ideas, public libraries contribute to social capital by serving as meeting places, providing notices of local events, and offering other services such as free access to the internet. The presence of a public library reflects social capital because it requires community members to work together for a common good. This indicator reflects the total number of public libraries divided by the total number of towns.

*Data Source: State Libraries, Endnote 2*
Good physical and mental health is critical to people’s ability to fulfill their potential and to contribute to the well-being of others. When children are healthy they are more able to concentrate and learn in school. Healthy adults are able to perform effectively in their jobs and are more likely to volunteer for community events or to simply play with their kids. When people make unhealthy lifestyle choices, they increase the likelihood of becoming dependent on expensive physical and mental health services. The health of people in our communities provides us with insight into the accessibility and effectiveness of physical and mental health services in the region.

**Indicator: Preventable Deaths**

Preventable deaths are the untimely deaths of people in our communities who are unable or unwilling to take good care of themselves. The rate of preventable deaths in the region provides insight into the accessibility and effectiveness of health care services, and into the numbers of people engaging in high risk behaviors such as cigarette smoking, alcohol consumption, poor diet, and lack of exercise. This indicator examines the rate of deaths from five preventable causes which are tracked consistently in each of the four Northern Forest states: cerebrovascular disease (stroke), chronic obstructive pulmonary disease, diabetes, cirrhosis of the liver, and accidents.

**Data Source:** State Departments of Health, Endnote 3

**Indicator: Suicide Rates**

Suicide often can be traced to undiagnosed or untreated mental health problems, substance abuse, and family violence. Stress from financial and social pressures also can lead people to take their own lives. While it is impossible to understand the motivation behind every suicide, suicide rates are an indicator of the overall mental health of the population and of the accessibility and effectiveness of mental health and social services. Please note that these data reflect only deaths from suicide, not the many unsuccessful suicides attempted each year.

**Data Source:** State Departments of Health, Endnote 4
Freedom from threats to ourselves, our families, and our property is one of the most basic forms of personal and community well-being. When we feel free from crime, we are more likely to go out for a walk in the evening, to interact with our neighbors, and to let our kids play outside in the yard. Low crime rates reduce the need for expensive police and other emergency services, and create a positive environment for economic activity. Our physical and mental health can be enhanced when we feel free from crime and are secure in the knowledge that our bodies and our property will be cared for in an emergency. In this context, safety refers not only to freedom from crime, but also to the ability of local fire and rescue services to respond to our needs quickly and effectively.

**Indicator: Property and Violent Crime**

The clearest indicator of the safety of our communities is the rate of crime to which we are exposed. This indicator reflects a standard set of violent and property crimes that includes: homicide, rape, robbery, aggravated assault, burglary, larceny, auto theft, and arson. Data include all reported crimes as recorded in Part I of the FBI Uniform Crime Reports (UCR).

**Data Sources:** New York State Police; Vermont Department of Public Safety; New Hampshire Department of Safety; Maine Department of Public Safety; Endnote 5

**Indicator: Domestic Assault**

Domestic assault refers to aggravated or simple assault by one household or family member upon another. Aggravated assaults are unlawful attacks with the intent of inflicting severe bodily injury or death—often involving the use of a weapon. Simple assaults include all other unlawful attacks. Most domestic assaults are perpetrated by men upon women or parents upon children. They can often be tied to substance abuse and mental health issues. This indicator reflects all reported incidents of domestic assault. The New Hampshire Department of Public Safety was unable to provide county-level information on domestic assaults. As a result, New Hampshire is not reflected in this indicator.

**Data Sources:** New York State Division of Criminal Justice Services, Uniform Crime Reporting; Vermont Department of Public Safety; Maine State Police, Endnote 6
The buildings, parks and other built structures in our communities serve as important gathering places and service centers, and contribute to our sense of place and community connection. While the term “built environment” can apply to all human-made structures, we are particularly concerned about downtown areas and other public gathering places that contribute to community character—historic churches, town halls, post offices, village greens, and playgrounds. As Northern Forest communities grow, it is important to promote development that maintains community values and the character of our open spaces and villages. By maintaining the integrity of existing buildings and public places, we keep our downtowns vital and preserve the character that makes Northern Forest communities distinct from those in more developed areas.

**Indicators:** Registered Historic Sites

While many other buildings and facilities are important to community life, historic sites play an important role as a base upon which sense of place can be built. When community members work to identify and protect a local historic site or building, it indicates that they understand and value the historical significance of the place, and that they are willing to work to maintain its integrity. The vast majority of historic sites listed on the National Register of Historic Sites are buildings. They include churches and meeting halls, schools, residences, bridges and barns. This indicator represents the total number of registered historic sites divided by the total number of towns.  

**Data Source:** National Register of Historic Sites; Endnote 7
Culture:

The characteristics that help define who we are as a people, and how we experience and share the traditions that evolve in the region.

Maintenance of Cultural Identity & Traditions
- Local Historical Societies

Opportunities to Participate in Cultural Events
- Community Arts Organizations

Self Reliance & Resourcefulness
- Proprietors in the Work Force

Personal Connection with the Landscape
- No Indicator Selected
Understanding and appreciating the Northern Forest’s history and diverse cultural and ethnic characteristics is critical to the region’s overall wealth. From the Iroquoian and Algonquian tribes that first settled the region, to the Europeans who moved to the area to farm and cut timber, to the myriad people who live in the region today, the culture of the Northern Forest has been defined by people working to carve lives for themselves from the forest. The region’s history allows us to learn from the experiences, successes, and mistakes of those who have lived here before us and to share a sense of common identity, place, and pride. Boat building, wood carving, basketmaking, cooking, dancing, music, and story telling are just a few of the ways people in the region express their cultural identity and traditions. The integrity of our culture and traditions also support heritage-based tourism and economic development.

**CULTURE: Maintenance of cultural identity & traditions**

Cultural identity and traditions serve as sources of wisdom and a shared sense of place.

**Indicator: Local Historical Societies**

Local historical societies are established specifically to serve as repositories of local history—the source of our culture and traditions. While the number of people directly involved with their day-to-day operation is usually small, local historical societies often contain rare archives which can be used by local residents to research community or family histories. They also sponsor celebrations of local history and cultural traditions that contribute to our understanding of the places we live. This indicator reflects the number of local historical societies relative to population. It does not reveal the number of towns which support local historical societies or address issues of accessibility in rural areas.

**Data Source:** NY State Museum; Vermont Historical Society; Association of Historical Societies of NH; Maine Historical Society, Endnote 8
**Culture:** Opportunities to participate in cultural events

*The arts provide outlets for creative expression and opportunities to experience new ideas and ways of thinking.*

Observing and participating in creative arts provides opportunities to broaden our human expression, and to appreciate the heights of human experience. Cultural events in this context may include seeing a play or a concert, visiting an art exhibit, performing in a theater group or chorus, or learning to paint, draw, or sculpt. Performances and exhibitions by artists from outside the region expose us to new ideas and ways of thinking. When members of our communities, adults or children, volunteer time to stage a play or a concert they contribute to the fabric of the community and the region through their volunteerism and by revealing their own creativity and talents to their neighbors.

**Indicator:** Community Arts Organizations

Community arts organizations work to sponsor and cultivate cultural events and awareness for people in the Northern Forest. They sponsor educational events for adults and children, provide opportunities for local artists to present their work, and expose us to new ideas and forms of expression by hosting performances and exhibitions by artists from outside the region. This indicator reflects the number of community arts organizations relative to population. In the Northern Forest, though, arts organizations must deal with the challenge of a widely dispersed audience.

**Data Source:** NY State Council on the Arts; Vermont Arts Council; NH State Council on the Arts; Maine Arts Commission, Endnote 9

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Community Arts Organizations

Left bars (dark colors) indicate counties in the Northern Forest; right bars (light colors) indicate all other counties.
People in the Northern Forest, as in many rural areas, tend to pride themselves on their self-reliance and resourcefulness—their ability to provide for many of their own needs. For some, self-reliance is embodied in the ability to piece together a decent living from a variety of different jobs. For some it means fixing their own truck or building their own house. For others it may mean living “off the grid” or simply heating their house with wood they cut and split themselves. People’s ability to take care of their own needs saves money and contributes to an unofficial barter economy where community members trade services rather than pay for help. Self reliance often requires innovation, patience, and endurance. In the Northern Forest, it also reflects a sense of community responsibility and a tradition of neighbors helping neighbors.

**Culture:** Self-reliance & resourcefulness

Self-reliance and resourcefulness allow people to take responsibility for their own needs and their communities.

People in the Northern Forest, as in many rural areas, tend to pride themselves on their self-reliance and resourcefulness—their ability to provide for many of their own needs. For some, self-reliance is embodied in the ability to piece together a decent living from a variety of different jobs. For some it means fixing their own truck or building their own house. For others it may mean living “off the grid” or simply heating their house with wood they cut and split themselves. People’s ability to take care of their own needs saves money and contributes to an unofficial barter economy where community members trade services rather than pay for help. Self reliance often requires innovation, patience, and endurance. In the Northern Forest, it also reflects a sense of community responsibility and a tradition of neighbors helping neighbors.

**Indicator:** Proprietors in the Work Force

Self-reliance and resourcefulness are difficult assets to quantify. One important measure is the ability of people to make their own living. While some people may be forced into self employment by a lack of large employers, the fact that they are able to support themselves without the help of such employers indicates that they have valuable skills and the motivation to put them to work. Many other people simply choose self employment because it allows them to be independent. This indicator looks at proprietors as a percentage of all working people. Proprietors include the owners of unincorporated businesses owned by a single person, unincorporated business associations of two or more partners, and nonprofit business organizations that are collectively owned by their members (tax-exempt cooperatives).

**Data Source:** US Department of Commerce, Regional Economic Information Service, Endnote 10
Maintaining a close personal connection with the Northern Forest landscape involves experiencing, understanding, and caring about the natural processes taking place in the forests, waters, and landscapes that surround our homes and communities. People in the Northern Forest historically have lived closely with the land. As other regions become more developed, and as people’s lives become more abstracted from the natural world, a close, personal relationship with a vibrant, intact landscape becomes more and more valuable. Understanding the lands around us helps us appreciate the natural resources we use every day—from clean drinking water to wood and paper products. Equally important, maintaining a personal connection with the landscape reminds us of our place in the natural world and of our responsibility as stewards of the land. Hearing the hoot of an owl or watching the leaves return to the trees in the spring helps us retain a sense of wonder at the natural world around us and provides respite from the commercialism to which we are often subjected.

**Indicator:** None Selected

We believe it would be impossible to quantify the strength or extent of people’s relationships with the Northern Forest landscape because those connections are so intensely personal. Some people express this connection by gardening, others by hunting or hiking, fishing, biking, boating, or camping. For many loggers, foresters, biologists and naturalists, work is an extension of their personal connection with the landscape. Regardless of the form it takes, such a relationship contributes immensely to the quality of life enjoyed by Northern Forest residents. We felt it was important to acknowledge this asset even if we could not quantify it.

**Culture:** Personal connection with the landscape

*Personal connection with the landscape helps remind us of our place in the natural world.*
**Economy:**

The sustainable use of natural, human and other resources to meet human and community needs by generating financial wealth that stays within the region.

**Local Control of Financial Capital**
- Deposits in Locally Controlled Banks

**Livable Wage**
- Food Stamp Payments

**Diversity of Employment Opportunities**
- Jobs per Industry
- Change in Jobs per Industry
- Earned Wages per Industry
- Change in Earned Wages per Industry

**Forest Product Manufacturing**
- Forest Product Manufacturing Jobs
- Salaries in Forest Product Manufacturing

**Tourism & Recreation Industry**
- Tourism & Recreation Jobs
- Salaries in Tourism & Recreation

**Diversity of Land Ownership**
- Land Ownership Patterns

**Infrastructure**
- Condition of Roads
- High Speed Internet Access

Laura Tam; photo Andrea Bruce

Northern Forest Wealth Index
Local control of capital refers to the ability of people within the region to exert discretionary control over investment capital, and to the capacity of the region to retain the profits gained through local enterprises. It also refers to people’s willingness to purchase products from local merchants and to keep local dollars in our communities, rather than allowing them to be drawn off to distant corporate headquarters and shareholders. While it is unwise, and unrealistic, to expect the Northern Forest to be purely self-supporting with no inflow or outflow of financial capital, it is important for the region to retain as much capacity as possible for economic self-determination. By retaining control over the financial capital already within the region, we are more able to influence decisions about the way the region develops and to ensure that profits derived from the Northern Forest’s natural and cultural resources remain in the region.

**Economy: Local control of financial capital**

Maintaining local control of financial capital allows us to influence and guide the region’s development.

Local control of capital refers to the ability of people within the region to exert discretionary control over investment capital, and to the capacity of the region to retain the profits gained through local enterprises. It also refers to people’s willingness to purchase products from local merchants and to keep local dollars in our communities, rather than allowing them to be drawn off to distant corporate headquarters and shareholders. While it is unwise, and unrealistic, to expect the Northern Forest to be purely self-supporting with no inflow or outflow of financial capital, it is important for the region to retain as much capacity as possible for economic self-determination. By retaining control over the financial capital already within the region, we are more able to influence decisions about the way the region develops and to ensure that profits derived from the Northern Forest’s natural and cultural resources remain in the region.

**Indicator: Deposits in Locally Controlled Banks**

This indicator looks at the deposits held by banking institutions with headquarters in the Northern Forest. Most of these banks are small and local. Much of the money deposited into them is earned within the Northern Forest, and decisions about how it is invested and loaned are made by people with an understanding of and commitment to the region’s prosperity and well-being. Profits earned by locally controlled banks are also more likely to stay within the region than those earned at financial institutions based elsewhere. The data include financial institutions insured by the Federal Deposit Insurance Corporation. Local control is based on the location of the institution’s headquarters, not its branch offices. Data do not include deposits in credit unions.

**Data Source:** Federal Deposit Insurance Corporation (FDIC), Endnote, 11
A basic function of the economy is to create jobs that allow people to earn what is known as a livable wage. Livable wages allow people to pay for their basic needs, and the needs of their families, without relying on public assistance. Among the basic needs that livable wages must support are food, housing, heat, electricity, transportation, clothing, and health care. People who earn less than a livable wage are forced to either live without certain basic necessities or to seek public assistance to help pay for them. Living without the satisfaction of such basic needs can adversely affect people’s physical health and their ability to contribute to the well-being of their community. Dependence on public assistance can lower self esteem among recipients and lead to higher tax burdens for other community members. The availability of jobs that pay livable wages is a critical factor in the overall well-being of the Northern Forest.

**Indicator: Food Stamp Payments**

A person’s ability to provide food for themselves and their families is a basic indicator of their ability to earn a livable wage. Federal Food Stamp program transfer payments to the states provide insight into the levels of dependence on public assistance among people in our communities, and reflect the ability of people to find jobs that pay livable wages. This indicator reflects per capita spending on the Foods Stamp program. People eligible for Food Stamps may include those receiving some form of welfare assistance, or who are unemployed, employed part-time, working for low wages, or living on limited pensions.

*Data Source: U.S. Department of Commerce, Bureau of Economic Analysis; Endnote 12*
Diverse employment opportunities are important to the economic well-being of individuals and the region as a whole. For individuals, diversity of employment opportunities means people with varied interests and skills can find or create work that meets their needs, abilities, skills, and lifestyles. For the region as a whole, diversity of employment opportunities helps provide economic security in a rapidly changing global economy. Diversity among employment sectors ranging from manufacturing to professional services, government, construction, and retail trade makes the region less vulnerable to economic down swings. For example, manufacturing can help support the region’s economy if tourism declines for a period of time, and vice versa. Creating a diversity of economic opportunities is the economic equivalent of “not putting all our eggs in one basket.”

**Indicator: Jobs Per Industry**

This indicator reflects the range of job opportunities available to people in the Northern Forest, and reveals those industries where jobs are most highly concentrated. Note that the data do not include self employed people, farmers, or government employees. This indicator reflects the percentage of full- and part-time employees found in each of a standard set of industries in the Northern Forest.

**Data Source:** US Department of Commerce, County Business Patterns; Endnote 13

**Indicator: Change in Jobs Per Industry**

The rate of change in the number of jobs in each industry provides insight about which industries are growing or declining, and how dramatically change is taking place. It helps us understand the directions in which the economy is moving and plan accordingly. This indicator reflects the percent change in total number of jobs per industry in the Northern Forest between 1987 and 1997. Note that in small industries, a small change in the total number of employees can result in dramatic percentage changes.

**Data Source:** US Department of Commerce, County Business Patterns; Endnote 14
**Economy:** Diversity of employment opportunities (continued)

**Indicator:** Earned Wages Per Industry

This indicator offers information about the extent to which various industries contribute direct wages to the Northern Forest economy. It provides insight into the contribution of each industry to the overall economy and, in conjunction with the percentage of jobs per industry, into the relative wages of each industry. Note that the data do not include self-employed people, farmers, or government employees. This indicator reflects the percent of total wages earned by full- and part-time employees in each industry in the Northern Forest.

*Data Source:* US Department of Commerce, County Business Patterns; Endnote 15

**Indicator:** Change in Earned Wages Per Industry

The rate of change in the total wages earned in each industry provides information about the changing contribution of each industry to the Northern Forest economy. Viewed in the context of changing numbers of employees, changes in earned wages provide important insight into wage trends in each industry. This information helps us understand the directions in which the economy is moving. This indicator reflects the percent change in total wages earned by full- and part-time employees in the Northern Forest between 1987 and 1997. Note that for industries with low total wages in 1987, a relatively small increase in actual wages could result in a large percentage change.

*Data Source:* US Department of Commerce, County Business Patterns; Endnote 16
For two hundred years, forest product manufacturing has been a mainstay of the Northern Forest economy. From forestry and timber harvesting, to saw milling, paper making, and solid wood manufacturing, to basket and wreath making, extractive, productive forest industries continue to provide a wide range of job opportunities. Associated industries like transportation and equipment sales and repair provide additional employment to thousands of people. While some sectors have experienced significant volatility in recent years, characterized by employment declines and major land sales, forest product manufacturing remains the number one source of employment in some parts of the region. Many of these jobs, particularly in the paper industry, are among the region’s best paying.

**Indicator:** Forest Product Manufacturing Jobs

The number of jobs provided by the forest product manufacturing sector is a measure of the use of the wood harvested from the forest to support families in the region. Investments in the mechanization of timber harvesting and manufacturing have increased the productivity and safety of individual workers, but have also led to declines in the number of people employed in forest product manufacturing. The data include full- and part-time employees but do not include self-employed people.

*Data Source: US Department of Commerce, County Business Patterns; Endnote 17*

**Indicator:** Salaries in Forest Product Manufacturing

The salaries earned by employees in forest product manufacturing are a measure of how we add value to the wood harvested in the Northern Forest. Even as mechanization reduces the number of harvesting and manufacturing jobs available, these jobs provide many people with excellent incomes. The data include full- and part-time employees but do not include self employed people.

*Data Source: US Department of Commerce, County Business Patterns; Endnote 18*
Economy: Tourism & recreation industry

The Northern Forest is well positioned to take advantage of the surging tourism economy.

The exceptional scenic beauty and recreational opportunities available in the Northern Forest make it a major vacation destination for the 70 million people who live within a day’s drive of the region. For 150 years, the tourism and recreation industries have played a critical role in the region’s economy. Visitors to the region support lodging places, campgrounds and restaurants. They buy supplies and souvenirs from local retailers, outfitters and craftspeople. They visit museums. They purchase hunting and fishing licenses and hire guides. The region’s combination of natural and cultural resources provide exceptional opportunities for value-added tourism like guided river trips and interpretive heritage tours. In some parts of the region, tourism and recreation are the primary sources of employment.

Indicator: Tourism & Recreation Jobs

The number of jobs provided by the tourism and recreation sectors is an important measure of our ability to take advantage of the Northern Forest’s unique natural and cultural assets to support families in the region. In recent years the number of jobs in these industries has increased. This indicator does not tell us how many of these jobs are seasonal or part time, or how many provide benefits. Data include full- and part-time employees but do not include self employed people.

Data Source: US Department of Commerce, County Business Patterns; Endnote 19

Indicator: Salaries in Tourism & Recreation

The salaries earned by employees in the tourism and recreation industry are a measure of how we derive value from visitors to the Northern Forest. While some jobs in this sector provide people with excellent, year-round incomes, many are relatively low-wage and seasonal. The data include full- and part-time employees but do not include self employed people.

Data Source: US Department of Commerce, County Business Patterns; Endnote 20
The pattern of land ownership in the Northern Forest is one of its most defining characteristics. From the expansive tracts of state-owned land in New York’s Adirondack Park, to the smaller woodlots and farms of Vermont, to the mix of national, state, and private forest in New Hampshire, and the industrial, investment and conservation timberlands in Maine, diversity among land owners, and ownership objectives, supports a wide range of economic opportunities in the region. The majority of large, private landowners in the Northern Forest actively manage their forest lands for wood production. Some lands owned by public agencies and non-profit organizations are managed solely as reserves, others support timber harvesting. Some small land owners manage their lands for commercial purposes, others harvest a few cords of firewood each year, others simply enjoy the idea of owning a small tract of forest.

In recent years the Northern Forest has seen a series of major land sales. Many of these sales have involved industrial landowners selling land to other industrial landowners. In other cases, industrial landowners have sold lands to private investment and conservation organizations or public agencies. In some cases, multinational corporations based overseas have purchased large tracts of forest land. These shifts in land ownership have major implications for the region’s economy and quality of life. Identifying the mix of land ownership that holds the greatest promise for the region’s economy, environment, communities and culture is an important challenge.

Economy: Diversity of land ownership

Diversity among land owners, and ownership objectives, supports a wide range of economic opportunities.

The pattern of land ownership in the Northern Forest is one of its most defining characteristics. From the expansive tracts of state-owned land in New York’s Adirondack Park, to the smaller woodlots and farms of Vermont, to the mix of national, state, and private forest in New Hampshire, and the industrial, investment and conservation timberlands in Maine, diversity among land owners, and ownership objectives, supports a wide range of economic opportunities in the region. The majority of large, private landowners in the Northern Forest actively manage their forest lands for wood production. Some lands owned by public agencies and non-profit organizations are managed solely as reserves, others support timber harvesting. Some small land owners manage their lands for commercial purposes, others harvest a few cords of firewood each year, others simply enjoy the idea of owning a small tract of forest.

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**Economy:** Diversity of land ownership (continued)

**Indicator:** Land Ownership Patterns

This indicator reflects the mix of ownership of undeveloped forest land in the Northern Forest. Different types of landowners may have different management objectives and vary in their economic role in the region. Detailed definitions of the various landowner types listed here can be found in the End Notes to this report. Please note that the land ownership chart for New York reflects land uses rather than landowner types, and reflects 1993 rather than 1999 data.

*Data Source: Appalachian Mountain Club/James W. Sewall Company; NY State Office of Real Property Services; Endnote 21*
**Economy: Infrastructure**

Sound infrastructure is critical to our ability to attract and support businesses and the jobs they provide.

Infrastructure refers to the basic installations and facilities that provide a foundation for the region’s economy. It includes transportation infrastructure such as roads, bridges, rail lines, and airports that allow businesses to move materials and products in and out of the region and that allow visitors to travel comfortably through the region. It also includes technological infrastructure like fiber optics, cable networks and internet and wireless services that allow us to access, move and manipulate information. It includes financial institutions like banks and other lenders that provide the capital necessary for small businesses to start and for established businesses to grow. It includes public utilities like electrical generating stations and water treatment facilities. Sound infrastructure is critical to the Northern Forest’s economic competitiveness.

**Indicator: Road Surface Conditions**

Despite the importance of airports, railroads and sea ports, roads remain a critical element of our transportation infrastructure—and our economic infrastructure. This indicator reflects the percentage of state-maintained and federal-aid highways which receive pavement surface ratings (PSR) of “poor” in each of the Northern Forest states. Although state transportation agencies use different scales (1-5 or 1-10) PSR systems consistently track road surface distress, rutting, cracking, patching and ride comfort. Pavement surface condition often reflects the capacity of a road to handle the volume and type of traffic it receives, as well as its design and structural soundness.

**Data Source:** State departments of Transportation; Endnote 22

**Indicator: High Speed Internet Access**

Ten years ago high speed internet service was not critical to the Northern Forest economy. Today it is. Today’s information-based businesses rely on the ability to access, manipulate and move huge amounts of information quickly and effectively. Access to high bandwidth via cable networks, DSL, and wireless systems is increasingly essential to participating in the information economy. Unfortunately, because the technology is so new, and because it changes so rapidly, little information is available about how many people or communities are able to make high speed connections to the internet. Anecdotal evidence across the region, though, indicates that high speed access is typically not available or is prohibitively expensive in the Northern Forest.

**No Data**
The learning of skills, information, values and attitudes necessary for both children and adults to fulfill their potential as community members, within or outside the region.

**Education:**

**Grades 1–12 Education**
- High School Diplomas
- Enrollment in High School Vocational Courses
- High School Seniors Planning to Pursue Further Education

**Early Childhood Education**
- Preprimary School Enrollment

**Post Secondary Education**
- Bachelor’s Degrees
- Investment in Technical Training

**Lifelong Learning**
- No Indicator Selected
Elementary, middle and high schools are the backbone of our education system. Ensuring that all students have access to high quality education that enables them to grow and develop intellectually and socially is critical to the future of the region. In the modern economy, a high school diploma is a minimum requirement for securing quality employment. Quality elementary and high school education provides students with a critical reading, writing, mathematics and science background and provides opportunities for children to experience music, art, vocational training, sports and other activities. Perhaps most important, elementary and high school education provides children with the ability to think critically, solve problems and serve as active, responsible community members. Earning a high school diploma contributes self esteem and the confidence to pursue further education, and people with high school diplomas tend to make more money as adults than those without.

Indicator: High School Diplomas

A high school diploma is a minimum requirement for entry level employment. The percentage of people with high school diplomas reflects the success of our schools in shepherding students through the education system. It also reflects our ability to provide adults with opportunities to earn diplomas through GED programs. Data include people 18 and over with high school diplomas as reported in the 1990 U.S. Census.

Data Source: US Census Bureau; Endnote 23

Left bars (dark colors) indicate counties in the Northern Forest; right bars (light colors) indicate all other counties.
**Education:** Grades 1–12 Education (continued)

**Indicator:** Enrollment in High School Vocational Courses

The availability of technical and vocational training in our high schools reflects our ability to provide a range of educational services to all students. Just as we prepare students for further schooling, we must also provide appropriate educational experiences for those who plan to move directly into the workforce. Technical and vocational training creates opportunities for all students to learn practical skills that can be directly applied to work. This indicator reflects students enrolled in courses at regional vocational and technical centers as a percentage of all students. Please note that the five counties that make up New York City are not included, and that data for different states reflect different time periods.

Data Sources: New York State Education Department; Vermont Department of Education; New Hampshire Department of Education; Maine Department of Education; Endnote 24

![Graph of Enrollment in High School Vocational Courses]

**Indicator:** High School Seniors Planning to Pursue Further Education

The percentage of high school seniors committed to continuing their formal education offers insight into the confidence they have developed in their own ability to learn, and about the value they place on learning. As the economy develops and post-secondary education becomes more important to securing well-paying jobs, these values become increasingly important. Further education in this context includes all forms of post secondary education—from one and two-year community or technical colleges, to four-year bachelor degree programs. Please note that data for New York represent actual enrollment in post-secondary education.

Data Source: NY State Education Department; Vermont Student Assistance Corporation; NH Department of Education; Maine Department of Education; Endnote 25

![Graph of High School Seniors Planning to Pursue Further Education]
Early childhood education prepares children for the formal education system, laying a foundation for future learning. It helps ensure that children are adequately prepared for elementary school, and that they are familiar with the school environment. At the same time, early childhood education provides teachers with an opportunity to identify students with potential learning disabilities and other impediments to learning such as malnutrition and abuse, and to begin providing appropriate necessary services. The earlier in a child’s life that such services are provided, the more likely that child is to succeed in future learning.

**Indicator:** Preprimary School Enrollment

This indicator provides insight into the availability of preprimary school programs in the Northern Forest, as well as the willingness of parents to enroll their children in such programs. This indicator reflects children identified as enrolled in nursery school or kindergarten programs during the 1990 U.S. Census as a percentage of all children ages five and under.

**Data Source:** US Census Bureau; Endnote 26
Educa**t**ion: Post secondary education

Post secondary education increases people’s ability to earn a good living, and to think critically and creatively.

Whether it’s a Ph.D., an associate, bachelor, or master’s degree, or a technical certificate, post-secondary education significantly increases a person’s employability and earning potential. As the regional economy changes, it is important that people’s skills and ways of thinking develop with it. While a good high school education is a critical first step in preparing for the modern workplace, it is often no longer enough. In some cases, the most appropriate post secondary education may be technical or focused on the skills necessary to perform a specific job or to work in a specific industry. In other cases, it may be oriented toward new ideas and ways of thinking. Whichever the case, the skills and capacities gained through post secondary education contribute to people’s ability to participate in the work force, to earn a good living, to think critically and creatively, and to contribute to their communities.

**Indicator:** Bachelor’s Degrees

For many people, earning a bachelor’s degree is the key step to entering the workforce. For many employers, a bachelor’s degree is a minimum requirement. A four-year college education typically provides people not only with skills that are valuable in the work place, but also offers exposure to new ideas and ways of thinking. This indicator reflects the percentage of people 25 years and older with bachelor’s degrees as reported in the 1990 U.S. Census.

Data Source: US Census Bureau; Endnote 27

**Indicator:** Investment in Technical Training

Technical training is a vital element of our education system. For those who choose not to pursue a four-year college education, it is a source of important primary job skills. For people who have chosen or been forced to look for a new job, technical training provides an opportunity to learn new skills and find a place in the rapidly changing economy. This indicator reflects total expenditures per full-time student in the state technical college systems. Please note that Vermont has only one technical college and it is located outside of the Northern Forest.

Data Source: SUNY Community Colleges, SUNY Office of Budget and Finance, Vermont State College System; NH Community Technical College System; Maine Technical College System; Endnote 28
When we refer to lifelong and informal learning, we refer to a person’s desire to continually broaden their base of knowledge and skills and to remain intellectually active throughout life. Such learning may include participation in weekend seminars, evening courses, or one time programs. In some cases, participation in such activities may be directly related to employment, and paid for by an employer. In other cases, such participation may represent a purely voluntary, personal interest in a particular topic. Informal learning such as from one’s family and friends and from reading also are a part of the continual process of making a human being. Commitment to lifelong learning helps ensure that people are continually able to participate effectively in the work place and as community members.

Indicator: None Selected

Lifelong learning is more of a personal habit or state of mind than a quantifiable asset. It is something that can be pursued and embodied in as many ways as there are people. Because it is so personal in nature, we have not attempted to quantify it.

No Data
ENVIRONMENT:

The health and productivity of the natural systems which support the diversity of life, economic and recreational activities, and opportunities for personal renewal.

Air Quality
- “Good” Air Quality Days
- Acidity of Precipitation

Water Quality
- Impaired Rivers

Healthy Productive Forests
- Net Tree Growth and Removals
- Standing Sawtimber

Forest Areas Sufficient to Maintain Biodiversity
- Forest Land
- Forest Reserves

Access to Land & Water
- Hiking Trails
- Snowmobile Trails
- Boat Launches
Airborne acid precipitation increases the acidity of the Northern Forest’s lakes, ponds and streams, change species composition, and can prevent some water bodies from supporting life at all. Acid precipitation also can damage forest foliage and reduce the availability of essential soil nutrients like calcium, thereby slowing forest growth. Acidity is measured by the pH scale in which lower numbers represent higher acidity. This indicator reflects pH of precipitation recorded at monitoring stations maintained in each state by the National Atmospheric Deposition Program averaged over a ten year period. Data Source: National Atmospheric Deposition Program; Endnote 30

The U.S. EPA monitors air quality through the Pollution Standards Index (PSI)—created to communicate ambient air quality in the context of human health-based regulatory standards. The system relies on a network of air monitors which track five “criteria” pollutants: ozone, carbon monoxide, sulfur dioxide, nitrogen dioxide and particulate matter. Monitor results are presented on a scale from good to moderate, unhealthful, very unhealthful, and hazardous. This indicator reflects the percent of monitored days which rated “good” on the EPA scale. Data Source: U.S. Environmental Protection Agency; Endnote 29

**Indicator:** “Good” Air Quality Days

The quality of the air we breathe is directly related to our physical health—specifically to incidences of asthma and other respiratory disease. Clean air also allows people to enjoy clear, scenic views without the dulling effect of ground level haze. The Northern Forest’s reputation as a place where people can escape the air pollution common to urban areas supports our tourist economy, and clean air is important to the health and productivity of the region’s forests and agricultural enterprises. In the Northern Forest, air quality is harmed by emissions within the region such as those from manufacturing and electrical generating facilities, and local cars and trucks, as well as pollutants from upwind sources—coal burning power plants, manufacturing facilities, and automobiles. Global climate change caused by the emission of carbon dioxide and other “greenhouse gases” presents a significant unknown that may have major effects on the Northern Forest.

**Indicator:** Acidity of Precipitation

Airborne acid precipitation increases the acidity of the Northern Forest’s lakes, ponds and streams, change species composition, and can prevent some water bodies from supporting life at all. Acid precipitation also can damage forest foliage and reduce the availability of essential soil nutrients like calcium, thereby slowing forest growth. Acidity is measured by the pH scale in which lower numbers represent higher acidity. This indicator reflects pH of precipitation recorded at monitoring stations maintained in each state by the National Atmospheric Deposition Program averaged over a ten year period. Data Source: National Atmospheric Deposition Program; Endnote 30
**Environment: Water quality**

Clean water is critical to all life, provides recreational opportunities, and supports the economy.

The Northern Forest is home to the headwaters of all the major river systems in the northeastern United States. The Mohawk, Hudson, Lamoille, Connecticut, Merrimack, Androscoggin, Kennebec, Penobscot and St. John rivers all originate in the region’s mountains, forests, lakes, ponds and small streams. Water quality in the Northern Forest affects the quality of life of people who live within the region, as well as those who live in more developed areas downstream. Activities like fishing, swimming and boating in the region’s waters are important recreational activities for residents and contribute to the region’s economy. Clean water maintains public health, and saves money on water treatment systems. The region’s water bodies support a wide range of life, from fish to frogs to algae, and the health of those aquatic systems is critical to the health of the region’s broader ecosystems. Threats to water quality in the Northern Forest range from point sources, such as paper mills and other manufacturing facilities, to non-point sources like inadequate septic systems and run-off from farmland. Poor forest management also can harm water quality. Acid rain poses one of most serious threats to aquatic life. Other airborne pollutants, notably mercury, pose serious threats as well. In recent years, fish consumption advisories have been posted on water bodies across the region because of mercury pollution.

**Indicator: Impaired Rivers**

A river or stream segment is considered “impaired” if it does not meet state water quality standards. Pollutants most frequently cited as contributing to river impairment include sediments, excess nutrients, pathogens, and toxics including metals, mercury and pesticides. Data here are drawn from reports submitted by the states under sections 305(b) and 303(d) of the Clean Water Act. Please note that the Connecticut River has tested high for mercury in a few places and its entire length has been determined impaired by the state of New Hampshire. This river highly affects the percentage of impaired rivers in the Northern Forest region of New Hampshire. Because the methodologies used by each state to identify and monitor impaired rivers vary, data should not be compared among the four states.

**Data Sources:** NY Department of Environmental Conservation, Vermont Department of Environmental Conservation, NH Department of Environmental Protection, Maine Department of Environmental Protection; Endnote 31
The northern hardwood and boreal forest that stretches across the four states literally defines the Northern Forest region. It is the basis of our economy and our culture. It supports an important diversity of plant and animal life. It surrounds our homes and our communities, and provides us with unsurpassed opportunities for recreation and personal renewal. And, even as it distinguishes the Northern Forest region from more developed areas to the north, south and west, the forest contributes to the environmental health of those areas as well. Its abundant plant life filters the air and serves as a collector, or sink, for carbon that would otherwise contribute to global warming. Those same plants filter water and shade the mountain streams that make up the headwaters of all the Northeast’s major rivers. The forest is a complex, dynamic system, and its ecological health and productivity is determined by a wide range of factors. Those factors include plant and animal species diversity, and age and size diversity among the trees themselves. They include soil productivity, nutrient holding capacity, insect infestation, disease, and fire. Maintaining the ecological health and productivity of the forest, at the landscape scale and the scale of micro flora and fauna, is critical to quality of life within the Northern Forest and beyond.

**Indicator:** Net Tree Growth & Removal

This indicator measures the rates at which trees are growing and at which they are being harvested from the forest, and provides insight into the basic sustainability of timber harvesting in the region. It includes all live trees of commercial species classified as sawtimber, poletimber, saplings, or seedlings—all live trees of commercial species except those that are rough and rotten. Please note that the calculation of net growth involves subtraction of trees that die from natural causes. Data represent 10- to 15-year periods between Forest Service surveys.

*New York data do not include Oswego County. In Vermont, the data for Northern Forest counties include Orange County. In New Hampshire, the data for Northern Forest counties include Carroll and Grafton Counties.

**Data Source:** USDA Forest Service; Endnote 32
Environment: Healthy productive forests (continued)

Indicator: Standing Sawtimber

Sawtimber trees are the largest, oldest trees in the forest. They are typically found in the region’s most mature forest stands, which tend to be less common than younger stands. Maintaining a high volume of sawtimber trees over a long period of time requires allowing forest areas to grow to maturity. This provides habitat for the many species that depend on mature forest ecosystems. When harvested, sawtimber trees provide a wider range of economic uses than smaller trees.

*New York data do not include Oswego County. In Vermont, the data for Northern Forest counties include Orange County. In New Hampshire, the data for Northern Forest counties include Carroll and Grafton Counties.

Data Source: USDA Forest Service; Endnote 33

Standing Sawtimber

Based on Forest Service Surveys for the years indicated.

Northern Forest Region*
Biological diversity, or biodiversity, refers to all the forms and varieties of life. It refers to trees and other plants, invertebrate and vertebrate animals, and all microorganisms. It includes differences at the genetic, species, ecosystem and landscape levels. When we talk about maintaining biodiversity in the Northern Forest, we are talking about the diversity of all life that is, or would be, naturally occurring in the region. Reasons for maintaining biodiversity in the region range from scientific, to economic, to aesthetic, to moral. Naturally occurring life forms and ecological processes serve a vital role in scientific research. They provide opportunities to understand how life forms in the region operate and interact with one another, and provide a baseline against which we can measure the impacts of human activity. Biodiversity provides a myriad of useful products and life services. The diversity of life also contributes to the Northern Forest’s aesthetic beauty, which in turn attracts tourist and economic activity to the region.

Maintaining large tracts of forest land is critical to maintaining biodiversity. These large areas of forest are one of the great gifts the Northern Forest offers the world. While human activity in the forest can harm biodiversity, forest land—however managed—supports greater biodiversity than lands that have been developed for commercial or residential purposes. Human management also can contribute to biodiversity by creating scarce habitats and by recreating natural ecological processes. This indicator reflects forested land as a percent of all land.

**Data Source:** USDA Forest Service; Endnote 34
**Environment:** Forest areas sufficient to maintain biodiversity (continued)

**Indicator: Forest Reserves**

Forest reserves are an important piece of the overall forest mosaic. They allow us to examine how forests evolve in the absence of human intervention and provide a baseline against which the impacts of human activities in other areas can be measured. Reserves also provide the only places where species that cannot live on managed lands are able to survive. Reserve lands in this context are those on which timber harvesting does not occur. They are not necessarily “wilderness” areas, though many are. Many reserve areas allow motorized access and other human uses. The data include publicly owned wilderness areas and other areas where timber harvesting is prohibited by statute or administrative designation. Administrative designation does not include areas left in a natural state by management direction, thus the effective total amount of natural areas may be somewhat higher than shown here. This indicator also does not include private reserve lands such as those owned by The Nature Conservancy and local and regional land trusts.

*Data Source: USDA Forest Service; Endnote 35*
Since the retreat of the glaciers 10,000 years ago, humans have roamed the Northern Forest landscape. Traditions of public access to both private and public lands in the region are strong, though norms do vary. Recreational access to the forests and waterways contributes significantly to the Northern Forest’s economy, and, as a result, to our ability to keep large tracts of land forested and wild. Equally important, access to the region’s lands and waters supports the close personal connection with the landscape felt by many residents. This connection, in turn, supports a commitment among people to stewardship of the region’s lands and waters. While access to lands and waters is clearly important to quality of life in the Northern Forest, not all forms of access are appropriate in all locations. Motorized access is not appropriate in some ecologically sensitive areas, and it is important to ensure that areas exist for those who want to escape the noise of engines.

Environment: Access to land and water

Access to the forest supports a commitment to act as stewards of the region’s land and water.

Since the retreat of the glaciers 10,000 years ago, humans have roamed the Northern Forest landscape. Traditions of public access to both private and public lands in the region are strong, though norms do vary. Recreational access to the forests and waterways contributes significantly to the Northern Forest’s economy, and, as a result, to our ability to keep large tracts of land forested and wild. Equally important, access to the region’s lands and waters supports the close personal connection with the landscape felt by many residents. This connection, in turn, supports a commitment among people to stewardship of the region’s lands and waters. While access to lands and waters is clearly important to quality of life in the Northern Forest, not all forms of access are appropriate in all locations. Motorized access is not appropriate in some ecologically sensitive areas, and it is important to ensure that areas exist for those who want to escape the noise of engines.

Indicator: Hiking Trails

Hiking trails are the primary means of access to the forest for many people, residents and visitors alike. They are the only means of accessing many reserve lands and wilderness areas—areas many people seek as places of solitude and spiritual renewal. Many trails used for hiking in the Northern Forest are informal in nature. They include old logging roads and access trails to ponds and rivers. Data here include formally maintained and mapped hiking trails, most of which are located on public land. The high figure for New Hampshire reflects the concentration of trails in the White Mountain National Forest. Comparable data for counties outside the Northern Forest are not available at this time.

Data Source: Appalachian Mountain Club, SUNY College of Environmental Science and Forestry; Endnote 36
**Environment:** Access to land and water (continued)

**Indicator: Snowmobile Trails**

Snowmobile trails are a major point of winter access to the forest. They facilitate access to the forest by some people who would otherwise rarely experience it. The region’s extensive trail systems draw many people and tourist dollars to the Northern Forest each winter. As with hiking trails, many snowmobile trails are informal in nature. Data here include official state-designated trail networks. Data do not include local trail networks maintained by private groups.

**Data Source:** NY State Office of Parks and Recreation; Vermont Association of Snow Travelers; NH Department of Resources and Economic Development; Maine Department of Conservation; Endnote 37

**Indicator: Boat Launches**

Public boat launches provide valuable access to the Northern Forest’s lakes, ponds, and rivers. It is important to ensure that residents and visitors to the region have a wide variety of access points to the region’s waters. It is also important, though, to ensure that many of the region’s water bodies, such as those on reserve lands and wilderness areas, remain remote and accessible only by foot. Diverse forms of access help secure a wide variety of recreational opportunities and experiences for both residents and visitors.

**Data Source:** NY State Office of Parks and Recreation; Vermont Department of Fish and Wildlife; NH Fish and Game Department; Maine Department of Conservation; Endnote 38
ENDNOTES:

General
Information:

Unless otherwise noted, the indicators in the Northern Forest Wealth Index are based on county level data related to the 27 counties (Northern Forest counties) which are either wholly or partially included in the land area examined by the Congressionally sponsored Northern Forest Lands Council (see page 6 for a complete list). Most indicators provide comparisons between the Northern Forest counties and other counties in each of the four states. In some cases we have presented trends over time rather than geographic comparisons because such trends provided a more relevant context, or because data for other counties were not available.

Population and land areas used as a basis for analysis in this report are based on county level data. Population figures come from the U.S. Census Bureau Population Estimates Program (www.census.gov). Land area figures are from the U.S. Census Bureau report of “Land Area, Population and Density for State and Counties, 1990”. The number of towns within and outside the Northern Forest in each state reflects the number of uniquely named ZIP codes within each county group, and is based on GIS zip code data provided by the Postal Service and digitized by Geographic Data Technology, Inc.

Community:

1. Voter Participation
Data Source:
- New York State Board of Elections
- State of Vermont, Office of the Secretary of State, Vermont State Archives
- New Hampshire Department of State, Office of the Secretary of State, Elections Division
- Maine Department of the Secretary of State, Bureau of Corporations, Elections, and Commissions, Division of Elections

Because federal or regional scale data for many of the assets examined here is unavailable, many indicators are based on data collected from state agencies or organizations in each state. Data collection methodologies often vary from state to state so regional comparisons should be considered with caution. In such cases we have provided regional overviews as a point of general information or perspective only.

This document represents a first attempt to gather regional-scale information about this wide range of assets and values. Many of the assets explored here are intangible in nature, and we have sought creative approaches to assessing or quantifying them. We welcome comments and suggestions about this data and how we may improve it in future editions of this report.

Following is a list of specific data sources used in building each indicator, and additional notes intended to clarify the data and explain how it was compiled.

2. Public Libraries
Data Sources:
- New York State Library
- Vermont State Library
- New Hampshire State Library
- Maine State Library
Note: This indicator reflects only successful suicide attempts. The 1996 suicide rate for Northern Forest counties in Maine is higher than average because of an unusually high incidence in one county. Average suicide rate for Maine’s Northern Forest counties from 1993-1995 was 1.6 per 10,000 people.

3. Preventable Deaths
Data Sources:
- New York State Department of Health, Bureau of Biometrics
- Vermont Department of Health, Agency of Human Services, Annual Vital Statistics reports
- Maine Department of Health & Human Services

Note: This indicator examines deaths selected preventable causes that are tracked consistently across the four-state, Northern Forest region. These include: cerebrovascular disease, chronic obstructive pulmonary disease, diabetes, cirrhosis of the liver, and accidents. While many forms of cancer, such as lung cancer, are clearly preventable, they are not included in this analysis because of inconsistencies in data from state to state.

4. Suicide Rates
Data Sources:
- New York State Department of Health, Bureau of Biometrics
- Vermont Department of Health, Agency of Human Services, Annual Vital Statistics reports
- Maine Department of Health & Human Services

Note: Data reflect ballots cast in 1998 gubernatorial elections in each Northern Forest State.

5. Property & Violent Crime
Data Sources:
- New York State Police, Division of Criminal Justice Services
- State of Vermont Department of Public Safety, Criminal Justice Services
- New Hampshire Department of Safety, Division of State Police
- Maine Department of Public Safety, Maine State Police

Note: The data are compiled annually by each state in compliance with the FBI’s Uniform Crime Reporting Program. Data are reported to the program by municipal, county and state law enforcement agencies. Data reflect all reported incidents of the following set of violent and property crimes: murder, rape, robbery, aggravated assault, burglary, larceny, auto theft, and arson.

6. Domestic Assault
Data Sources:
- New York State Division of Criminal Justice Services, Uniform Crime Reporting
- Vermont Department of Public Safety, Vermont Incident Based Reporting System
- Maine State Police, Crime in Maine 1997

Note: The New Hampshire Department of Public Safety was unable to provide county-level data. See text for additional information about this indicator.

7. Registered Historic Sites
Data Source:
- National Register of Historic Sites (www.nr.nps.gov)

Note: A small percentage of sites included in this indicator are historic sites rather than buildings.

Culture:

8. Local Historical Societies
Data Sources:
- New York State Museum, Chartering Department
- Vermont Historical Society
- The Association of Historical Societies of New Hampshire, Directory of Member Societies, Program Schedules and Museum Information
- Maine Historical Society
Note: Data for New York includes chartered and unchartered historical societies. In all cases, data reflect only local historical societies known to, or listed by, the data sources.

9. Community Arts Organizations
Data Sources:
- New York State Council on the Arts, 1996-97 Funding Report, Decentralization Grant Recipients
- Vermont Arts Council, Community Arts Organizations
- New Hampshire State Council on the Arts, Cultural Yellow Pages, Arts Councils and Organizations
- Maine Arts Commission
Note: New York data reflect local organizations which received Decentralization Grants through the New York State Council on the Arts Regranting Program—1996-97 funding cycle. Data for Vermont, New Hampshire, and Maine reflect only organizations known to, or listed by, state arts organizations.

10. Proprietors in the Work Force
Data Sources:
- Oregon State University, Government Information Sharing Project, [http://govinfo.kerr.orst.edu]
- U.S. Department of Commerce, Bureau of Economic Analysis, Regional Economic Measurement Division, Regional Economic Information System, 1997

11. Deposits in Locally Controlled Banks
Data Sources:
- Federal Deposit Insurance Corporation, [http://www2.fdic.gov]
Note: Data reflect financial institutions insured by the Federal Deposit Insurance Corporation. Local control is based on the location of the institutions' headquarters, not its branch offices. Data do not include deposits in credit unions.

12. Food Stamp Payments
Data Source:
Note: Data reflect dollars transferred to individuals in each of the states as part of the federal Food Stamps Program. According to the Catalogue of Federal Domestic Assistance, individuals, or households are eligible for Food Stamps if local welfare officials determine they are in need of food assistance. Examples include most households who are receiving some form of welfare assistance, or are unemployed, part-time employed, working for low wages, or living on limited pensions. Eligibility is based on family size, income, and level of resources. Able-bodied adults with certain limited exceptions must meet a work requirement.

13. Jobs Per Industry
Data Sources:
Note: Data are compiled from U.S. Department of Commerce, County Business Patterns reports (1987, 1992, 1997). Data reflect the ten “division” level industries as reported by Standard Industrial Classification Codes. Each of these classification levels includes many sub-levels. Of particular note is the service sector which includes industries ranging from hotels and other lodging places, to personal services, business services, engineering and management services, social services, educational services, health services, and legal services. These data do not include self-employed people, farmers, or government employees. See County Business Patterns for a complete description of each major industry.

14. Change in Jobs Per Industry
Data Source:
Note: Data reflect the percent change in total number of jobs per industry in the Northern Forest between 1987 and 1997. Note that in small employment sectors small changes in the total number of employees can result in dramatic percentage changes. See also “Estimates of Nondisclosure” under Jobs Per Industry above.

15. Earned Wages Per Industry
Data Sources:
Note: Total earned wages were calculated by multiplying the total number of jobs in each industry by the average wage for that industry. See also “Estimates of Nondisclosure” under Jobs Per Industry above.

16. Change in Earned Wages Per Industry
Data Source:
Note: Data reflect the percent change in total earned wages per industry in the Northern Forest between 1987 and 1997. Note that for industries with low total wages in 1987, a relatively small increase in actual wages could result in a large percentage change. See also “Estimates of Nondisclosure” under Jobs Per Industry above.
Food Stores: 4%
Eating & Drinking Places: 4%

20. Salaries in Tourism & Recreation

Data Sources:

Note: See “Estimates of Nondisclosure” under Jobs Per Industry. For this indicator, it was necessary to generate estimates for the following percentage of counties in each industry:
Forestry: 69%
Furniture & Fixtures: 70%
Lumber & Wood Products: 7%
Paper & Allied Products: 54%

18. Salaries in Forest Product Manufacturing

Data Sources:

19. Tourism & Recreation Jobs

Data Source:

Note: See “Estimates of Nondisclosure” under Jobs Per Industry. For this indicator, it was necessary to generate estimates for the following percentage of counties in each industry:
Museum, Botanical & Zoological Gardens: 67%
Hotels & Lodging Places: 4%
Amusement & Recreation Srvs: 9%
Miscellaneous Retail: 20%
General Merchandise Stores: 6%

21. Land Ownership Patterns

Data Sources:
• Appalachian Mountain Club, 1999 (J.W. Sewall Company)
• NY State Office of Real Property Services (also known as the Division of Equalization and Assessment), 1993 Tax Rolls

Notes: Data from Vermont, New Hampshire, and Maine were generated by the Appalachian Mountain Club based on information provided by the J.W. Sewall Company. New York data were published in 1994 based on 1993 Assessment Rolls. The category definitions for Maine, New Hampshire and Vermont data are below:
Industrial: Multinational timber/paper companies with landholdings over 5000 acres.
Indian Tribal Land: Federally designated (in Maine only).
Institutional: Large corporate investment companies.
Large Private: In general, ownerships over 5,000 acres, including smaller mill and timber company ownerships, large single-family holdings, ski areas, real estate or development companies, etc.
Small Private: All other private land.
Public and Private Conservation: Includes ownership by public agencies, state and federal, and private conservation organizations.

The category definitions for New York data are below:
Private Wild and Forest Land: Private wild and forest lands, including plantations and timber tracts having merchantable timber.
Forest Preserve: State owned land in the Adirondack Park.
Other Public Land: State, county, city, or town-owned public parks, recreation areas, and other multiple uses.
Agricultural Land: Land used as part of an operating farm, livestock, field crops, orchards, etc.
Other Rural Vacant Land: Waste lands, sand dunes, salt marshes, swamps, rocky areas, woods and brush of noncommercial tree species not associated with forest lands.
Other Use: All other land uses (commercial, residential, industrial, etc.)

22. Road Surface Conditions

Data Sources:
• New York State Department of Transportation, 1998
• Vermont Agency of Transportation, 1998
• Maine Department of Transportation, 1998
• New Hampshire Department of Transportation, 1998

Note: Pavement surface ratings, or pavement condition ratings (PSR/PCR) are determined by mile for state-maintained and federal aid highways as required by the federal Highway Performance Monitoring System (HPMS). Although state transportation agencies may use different scales (1-5, 1-10) to rate highways, almost all PSR data monitors surface distress, rutting, cracking, and patching, and ride comfort.

23. High School Diplomas

Data Sources:
• U.S. Census Bureau, Community Profiles, Social Characteristics, 1990
(http://factfinder.census.gov)
Note: Includes people who earn diplomas through GED programs.

24. Enrollment in High School Vocational Education

Data Sources:
• University of the State of New York, State Education Department, Information Center on Education, "School District Totals for Secondary Enrollment, 1997-98," by BOCES location
• New York State Education Department, "Public School Enrollment by BOCES area of grades 9-12, 1997-98"
• Vermont Department of Education, "Enrollments by Site—Technical Education Daytime Programs", FY1997
• New Hampshire Department of Education, Division of Program Support, Bureau of Information Services, "Enrollments in grades 9-12 in NH approved Public Secondary Schools and Approved Public Academies as of October 1, 1999."
• "Vocational Enrollment by Centers", NH Department of Education, Enrollments for School Year 1998-1999
• Maine Department of Education, Division of Workforce Education, "1997-98 Jr. & Sr. Vocational Participation"
Note: Data reflect students enrolled in vocational or technical courses as a percentage of all students. The data do not include New York City. Each state reported their most recently assembled data to us, which included the school years: Maine 1997-98, New Hampshire 1998-99, Vermont 1996-97, and New York 1997-98.

25. High School Seniors Planning to Pursue Post-Secondary Education

Data Sources:
• NY State Education Department, University of the State of New York: Distribution of High School Graduates and College Going Rate, 1994-97
• Vermont Student Assistance Corporation, Senior Survey, 1994-97

Education
Post-secondary education

Data for this indicator include Data reflect all children identified as enrolled in nursery school or kindergarten during the 1990 census.

Note: Post-secondary education includes all 1-, 2-, and 4-year educational institutions. New York data reflects students who actually did pursue post-secondary education.

26. Preprimary School Enrollment

Data Sources:

- U.S. Census Bureau, Community Profiles, Social Characteristics & General Population and Housing Characteristics, 1990 [http://factfinder.census.gov]

Note: Data reflect all children identified as enrolled in nursery school or kindergarten during the 1990 census.

27. Bachelor’s Degrees

Data Sources:

- U.S. Census Bureau, Community Profiles, Social Characteristics, 1990 [http://factfinder.census.gov]

28. Investment in Technical Training

Data Sources:


Environment:

29. “Good” Air Quality Days

Data Sources:

- U.S. Environmental Protection Agency, Pollution Standards Index, 1994-99 [http://www.epa.gov/airprogram]

Note: The Pollution Standards Index (PSI) was created by EPA as a way to communicate ambient air quality in the context of health-based regulatory standards. EPA sets National Ambient Air Quality Standards (NAAQS) for five “criteria” pollutants: ozone, carbon monoxide (CO), sulfur dioxide (SO2), nitrogen dioxide (NO2), and particulate matter (soot, dust, particle, etc.). Each pollutant has a standard associated with it (e.g., 12 ppb for 8-hr period). A national network of air monitors continually tracks air quality. By comparing the ambient concentration of a pollutant to its standard, one can create a “PSI” for each pollutant. For example, if ozone is at 50% of its standard, the ozone PSI is 50. If ozone levels are twice the standard (200%) then the PSI for ozone is 200. When computing the overall PSI, EPA takes the PSI’s for each criteria pollutant, and reports the HIGHEST for any individual pollutant, as the overall PSI. So, if ozone is at 75% of the standard, and NO2 is at 50%, and PM is at 50%, the PSI is reported as 75, because of the ozone. To make reporting the PSI more relevant, EPA has developed a coding system for ranges of PSI values. Each range is given a descriptor (and a color which is often seen reported on news weather reports), as follows:

From 0 to 50 ............good
From 50 to 100 ..........moderate
From 100 to 200 ........unhealthful
From 200 to 300 ......very unhealthful
Above 300 .............hazardous

It is important to note that PSI standards are based on potential human health impacts, which do not necessarily reflect potential impacts on environmental health. In some cases environmental health can be adversely impacted by air quality levels that pose little or no risk to human health.

Please note, also, that data for this indicator are based on information from a small number of monitors relative to the size of the Northern Forest.

31. Impaired Rivers

Data Sources:

- NY Dept. of Environmental Conservation, Division of Water, 1998 305(b) Water Quality Report, Priority Waterbodies List
- VT Dept. of Environmental Conservation, Water Quality Division, 1998 303(d) list of Impaired Waterbodies
- NH Dept. of Environmental Protection, Watershed Management Bureau, 1998 305(b) Water Quality Report, Priority Waterbodies List
- ME Dept. of Environmental Protection, 1998 305(b) Water Quality Report, Nonattainment List

Note: Data for this indicator include all perennial and intermittent streams. States do not, however, monitor every mile of every stream every year. Typically, each state looks at a limited number of monitoring stations in each major watershed each year—often selecting one or several watersheds for closer analysis. In some cases only a single segment, or section, of river is declared impaired. In other cases, when a series of monitors show consistently high levels of impairment, an entire river may be considered impaired—especially in the case of the Connecticut

Northern Forest Wealth Index
River in New Hampshire. Note also that fish consumption advisories have been levied by state health departments on all water bodies in the four Northern Forest states due to elevated mercury levels in fish tissue. These advisories are not factored into the more specific “impaired segments” lists used to build this indicator.

32. Net Tree Growth & Removal

Data Sources:
- USDA Forest Service, Forest Statistics for New York, 1993
- USDA Forest Service, Forest Statistics for Vermont, 1997
- USDA Forest Service Forest Statistics for Maine, 1995

Note: Data reflect information gathered by the Forest Service during periodic inventories on forest resources in each state. Because inventories are conducted in different states in different years, time periods reported in this indicator are inconsistent. In order to show regional trends over time, we have combined data collected from the four states during inventory series’ (e.g. inventories published in 1970, 1972 and 1973). Relevant definitions of terms follow:

Timberland: forest land producing or capable of producing crops of industrial wood (more than 20 cubic feet per acre per year) and not withdrawn from timber utilization (formerly known as commercial forest land).

Growing-stock: live trees of commercial species classified as sawtimber, poletimber, saplings, or seedlings; that is, all live trees of commercial species except rough and rotten trees.

Net growth: the change, resulting from natural causes, in growing stock volume during the period between surveys (divided by the number of growing seasons to produce average annual net growth). Components of net growth are ingrowth plus accretion, minus mortality, minus cull increment, plus cull decrement.

Removals: the net growing-stock volume harvested or killed in logging, cultural operations (such as timber stand improvement) or land clearing, and the net growing-stock volume neither harvested or killed but growing on land that was reclassified from timberland to noncommercial forest land or nonforest land during the period between surveys. This volume is divided by the number of growing seasons to produce average annual removals.

33. Standing Sawtimber

Data Sources:

Note: See also the note for Net Tree Growth & Removal above.

34. Forest Land

Data Sources:
- USDA Forest Service, Forest Statistics for New York, 1993
- USDA Forest Service, Forest Statistics for Vermont, 1997
- USDA Forest Service Forest Statistics for Maine, 1995

Note: Excludes marinas and other private access points.

35. Forest Reserves

Data Sources:
- USDA Forest Service, Forest Statistics for New York, 1993
- USDA Forest Service, Forest Statistics for Vermont, 1997
- USDA Forest Service Forest Statistics for Maine, 1995

Note: See also the note for Net Tree Growth & Removal above.

36. Hiking Trails

Data Sources:
- Appalachian Mountain Club
- SUNY College of Environmental Science and Forestry
- Northern Forest Lands Inventory

37. Snowmobile Trails

Data Sources:
- New York State Office of Parks and Recreation
- Vermont Association of Snow Travelers
- NH Department of Resources and Economic Development
- Maine Bureau of Parks and Lands
Comments & Commerce:

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<tr>
<td>At Home in the Northern Forest: Reflections on a Region’s Identity</td>
<td>$15 x ____ = $______</td>
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<tr>
<td>Cultural Connections: Organizations Working with Culture and Heritage in the Northern Forest</td>
<td>$5 x ____ = $______</td>
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</tbody>
</table>

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Tell Us What You Think:

The Northern Forest Wealth Index represents a first step in understanding and acting to improve the overall well-being, or wealth, of the Northern Forest. We need your help to continue this vital, dynamic process.

Does this report provide a useful framework for understanding the overall well-being of the NF? How could we improve it next time?

Based on the information in this report, how would you rank the well-being of the Northern Forest?

<table>
<thead>
<tr>
<th>Wealthy</th>
<th>Poor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Community</td>
<td>5 4 3 2 1</td>
</tr>
<tr>
<td>Culture</td>
<td>5 4 3 2 1</td>
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<tr>
<td>Economy</td>
<td>5 4 3 2 1</td>
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<tr>
<td>Education</td>
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<tr>
<td>Environment</td>
<td>5 4 3 2 1</td>
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<tr>
<td>Northern Forest as a whole</td>
<td>5 4 3 2 1</td>
</tr>
</tbody>
</table>

Can you suggest people and organizations that might be interested in learning about this work? Can you suggest opportunities for dialogue, research, or action?

Are you interested in knowing about or participating in further dialogue, research, or action? Please indicate your areas of interest.

- Northern Forest
- Economy
- Community
- Education
- Culture
- Environment

Please use this space to offer any other comments about this report as a whole, the data, ideas for further research, or other suggestions about ways people can work together to improve the overall well-being of the Northern Forest.

Please use this form to send us your thoughts and comments about this report and what it means to you and to the Northern Forest. You can also send us comments via e-mail at nfc@northernforest.org, or post a message on our website: www.northernforest.org.

Please complete the Name & Address form on reverse so we can keep you up to date on the Wealth Index project.
The Northern Forest Center, a non-profit organization, facilitates dialogue and action on issues ranging from cultural heritage, to economics, ecology, and community development in the Northern Forest of Maine, New Hampshire, Vermont, and New York. The Center was established in 1997 to help build a healthy and productive future for the Northern Forest and its people by increasing understanding of the region, and strengthening citizen leadership and regional collaboration.

MISSION
The Northern Forest Center works to foster and develop the vitality and regional identity of the Northern Forest. We promote awareness and understanding of community, cultural, environmental and economic issues in the region, and support projects and networks that increase regional collaboration and citizen leadership. In pursuit of our mission, we work to achieve the following goals.

GOALS

Regional Identity:
Build, support, and communicate a strong regional identity for the Northern Forest, through appreciation and understanding of regional history, heritage, culture, economics, communities, and ecosystems.

Citizen Leadership:
Citizen Leadership: Increase citizen leadership capacity by bringing people together, sponsoring dialogue, and providing information, training, and support for people working to make the Northern Forest a better place.

A Better Future:
Build a better future for the Northern Forest by integrating work on the region’s economies, ecosystems, communities, and cultural heritage.

For more information about the Northern Forest Center and its programs, please contact us:

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