

Connecticut's Forest Resource Assessment and Strategy 2010

*Building a better tomorrow for
Connecticut's forests today*



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Table of Contents

<u>Introduction</u>	1
<u>Acknowledgements</u>	3
<u>History</u>	5
<u>PART 1. STATEWIDE FOREST RESOURCE ASSESSMENT</u>	8
<u>SECTION 1. Connecticut Forest Condition and Trends</u>	
Introduction to Connecticut Forest Conditions and Trends	9
Criterion 1. Conservation of Biological Diversity	10
Criterion 2. Maintenance of Productive Capacity of Forest Ecosystems	31
Criterion 3. Maintenance of Forest Ecosystem Health and Vitality	34
Criterion 4. Conservation and Maintenance of Soil and Water Resources	42
Criterion 5. Maintenance of Forest Contribution to Global Carbon Cycles	52
Criterion 6. Maintenance and Enhancement of Long-Term Multiple Socioeconomic Benefits to Meet the Needs of Societies	60
Criterion 7. Legal, Institutional, and Economic Framework for Forest Conservation and Sustainable Management	82
<u>SECTION 2. Identified Connecticut Forest Issues</u>	
Introduction to Issues	108
Issue 1. Maintaining Forest Ecosystem Health and Biodiversity	109
Issue 2. Promoting Stewardship of Public Forests	115
Issue 3. Protecting Private Forestlands: Challenges and Opportunities Facing Private Forest Landowners	118
Issue 4. Providing for Forest Based Recreational Opportunities	121
Issue 5. Supporting a Sustainable Forest Based Economy	125
Issue 6. Fostering Public Awareness and Support of Forests	129
Issue 7. Advocating and Implementing Effective Forest Planning and Policy	132
Issue 8. The Importance of Ongoing Forest Research	138
Issue 9. The Role of Urban Forestry in Connecticut Communities	139
<u>SECTION 3. Connecticut Forest Legacy Program Integration</u>	141
<u>SECTION 4. Connecticut and Multi-state Priority Areas</u>	
Connecticut Priority Areas-Maps	143
Multi-state Priority Areas	147

<u>PART 2. STATEWIDE FOREST RESOURCE STRATEGY</u>	153
<u>SECTION 1. Opportunities Identified in the Assessment</u>	154
<u>SECTION 2. Visions for the Future</u>	
Connecticut Roundtable Process and Strategy Development	159
The Roundtable Process	161
Connecticut’s Forest Vision Statements	162
Complete Set of Agreed-Upon Visions, Principles, and Action Steps	163
Common Threads Among Principles and Action Steps	169
What is New and What is Not	171
Table 1. Relationship of 2010 Vision Statements to Three Major Purposes of 2010 Connecticut Forest Assessment	172
Table 2. Comparison of 2004 Vision Statements With 2010 Vision Statements	173
<u>SECTION 3. Statewide Forest Resource Strategies Program Area Integration</u>	174
Statewide Forest Resource Strategies Program Area Integration: Connecticut Agricultural Experiment Station, Forest Health Program	175
Statewide Forest Resource Strategies Program Area Integration: Connecticut Department of Environmental Protection - Division of Forestry	194
<u>LITERATURE CITED</u>	201
<u>APPENDICES</u>	
Appendix 1. NA/NAASF Base Indicators of Forest Sustainability and Associated Metrics	211
Appendix 2. Forest Associated GNC Species by Habitat	214
Appendix 3. Species Richness and Distribution in Southern New England Tables by Taxa	218
Appendix 4. Forest Health Indicator Species (Birds) as Compiled by the Connecticut Forestlands Council Forest Ecosystem Health Committee	222
Appendix 5. Key Habitat Types, their Associated Vegetative Communities, in relation to Ecoregions	223
Appendix 6. Connecticut Endangered, Threatened, and Special Concern Species	225
Appendix 7. Connecticut Forest Resource Assessment - Technical Report	251
Appendix 8. Map Appendices	274
Appendix 9. Comments on Roundtable Process	276
Appendix 10. Connecticut Invasive Species List	278
Appendix 11. List of Acronyms	279

Introduction and Purpose for State Strategies

With close to 60% of its 3,179,254 acres of land in forest, Connecticut is one of the most heavily forested states in the nation. Ironically, Connecticut is also one of the most densely populated states.

Connecticut's Statewide Forest Resource Assessment and Strategy is a guidance document meant for the Connecticut Department of Environmental Protection's Division of Forestry, and our forest conservation partners in academia, extension, non-profits, regional, municipal, and private landowners.

Connecticut's forests and trees add immensely to the quality of life for the people of the state. They filter the air that is breathed, safeguard private and public drinking water sources, produce locally grown forest products, provide essential habitat for wildlife, and moderate summer and winter temperatures near homes. Whether people in Connecticut live in an urban, suburban, or rural setting, they are connected to the forest. Forests and trees are integral to the character of Connecticut.

The Assessment and Strategy is required per the Food, Conservation, and Energy Act of 2008, commonly referred to as the Farm Bill, which was enacted June 19, 2008. All States wishing to be eligible to receive direct financial assistance, apply for competitive grants, and accept other support from the United States Department of Agriculture (USDA) Forest Service through the Cooperative Forest Assistance Act (CFAA) must submit these reports by June 2010. State Assessments are intended to identify key forest-related issues and priorities to support development of the long-term State Strategies.

State assessments and strategies focus on three national S&PF themes:

1. Conserving working forest landscapes;
2. Protecting forests from harm; and
3. Enhancing public benefits from trees and forests.

State and Private Forestry Programs directly benefitting from CFAA and administered by the Division of Forestry and the Connecticut Agricultural Experiment Station improve the health, productivity, benefits and extent of rural, suburban and urban forests owned and managed by state, municipal, corporate, private organizations, and family landowners. These programs are as follows:

1. Forest Health –monitoring and managing harmful forest pests
2. National Fire Plan – training for local wildland fire fighters, administering grants to fire departments for wildfire suppression readiness, and maintaining a nationally deployable wildfire response team
3. Forest Stewardship – providing education and outreach to family forest owners encouraging them to retain their forest as forest

4. Urban and Community Forestry – improving urban and community forests by administering America the Beautiful grants and Tree City USA programs
5. Conservation Education – educating the next generation of environmental stewards through Project Learning Tree and supporting the No Child Left Inside™ initiative
6. Forest Legacy— protecting “working forests;” those that protect water quality, provide habitat, forest products, opportunities for recreation and other public benefits through placement of conservation easements.

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THE HISTORY OF CONNECTICUT'S FORESTLANDS¹

Forests provide wood and other forest products, watershed protection, wildlife habitat, diversity, a setting for recreation, and much more. They play a major role in both the history and culture of Connecticut. The state is one of the most densely populated in the nation, yet its forests remain as much a part of the landscape as its cities and towns. As the function of the forests become more understood, their importance to the well being of Connecticut's inhabitants will increase.

Early settlers found nearly all of Connecticut covered by forests – in open, park-like conditions. For more than a thousand years before European settlement, the Native Americans of the region burned the forest in spring and fall to eliminate tangled underbrush. The forests that resulted provided a more suitable habitat for the game species on which they subsisted. Native populations were small, and had little impact on the forest ecosystems in which they lived. Once Europeans arrived, however, the landscape changed dramatically.

Clearing land for agriculture began slowly, as colonists built small subsistence farms. But, by the early 1800's, the establishment of farms spread rapidly as Connecticut's farmers began to supply food and wool to a rapidly growing nation. Extensive forestlands were cleared, towns were built, and wood was harvested for homes and barns, furniture and fuel. Thousands of small farms formed the basis for a strong, agriculturally based economy.

By 1820, only 25 percent of Connecticut remained forested. Substantial environmental changes to the forest followed, as black bear, elk, mountain lion, white-tailed deer, quail, grouse, and timber wolves disappeared from much of state. Both the loss of habitat and extensive harvesting of certain wildlife species – such as beaver and wild turkey – contributed to alter Connecticut's previously extensive woodlands.

Once thought to be unlimited, forests disappeared, and the State faced declining wildlife populations and timber shortages. Soil erosion from farms increased, and silt muddied the water in creeks that once ran clear. Because of the rapid runoff of storm water, springs that previously flowed all year began to dry during the summer.

In spite of these negative environmental impacts, farming continued to flourish. In the end, it would largely be economic rather than environmental reasons that would alter the landscape once again. In 1830, the Erie Canal opened and Connecticut's agricultural zenith passed. Within two decades, the small stony farms of Connecticut were unable to compete with the larger, more mechanized farms of western New York and the Ohio River Valley.

Much of the farmland became exhausted and unsuitable for continuous agricultural crops, and was soon abandoned. Farmers left marginal hillside farms to take jobs created in the cities by the

¹ The majority of this section was taken verbatim, with permission from Donald Smith, State Forester for CT DEP, from the publication "The Forests of Connecticut." Other contributions were taken verbatim from "Connecticut's Changing Forests" by Jeffrey S. Ward and J.P. Barsky, "Connecticut's Forests", by J.P. Barsky, and individual work done by David Irvin.

industrial revolution. Finally, the opening of the West after the Civil War, and the added incentive of free land, hastened the pace of farm abandonment across New England. Before long, land went out of farming and forests began to return to much of Connecticut.

Without human interference, the vegetation of abandoned fields underwent a series of changes. Plants with seeds distributed by wind or birds were the first to germinate. These included many of the more common wildflowers – golden rod, New England aster, Queen Anne’s lace, Joe-Pye weed, butterfly weed, and blackberries, for example. Trees more suited to open, grassy patches followed, primarily white pine at first. Other species also established themselves on recently abandoned cropland, such as birch and red maple, the latter particularly in bottomlands. Then, as the pines grew and formed a protective canopy, the more climax deciduous types of oak, sugar maple, and hickory became established in the understory.

During the early 1900’s, the mature pine stands became the raw materials that began to feed a wood-hungry nation and world. Containers, shipping crates, boxes, pails and barrels were manufactured from the raw wood material supplied by Connecticut’s “Second Forest.” These were used primarily to ship fish products inland and overseas, an avenue of trade enhanced by the opening of the Panama Canal.

Up until about 1920, the harvesting of pine flourished. After this, much of the pine had been cut and the industry declined. But in the process, the understory of hardwoods had been released, contributing to today’s modern deciduous forest.

The late Nineteenth and early Twentieth Century’s also provided many other landscape-altering disturbances that had a major influence on modern forest composition. From the late 1800s to about 1920, entire hillsides were repeatedly clearcut to produce charcoal for the brick, brass, and iron industries. Stands were typically cut every 20-40 years when the trees were still small enough to be handled manually. Charcoal production fell dramatically with the advent of cheap coal and petroleum. Most of the forest in parts of Connecticut today had its origin in the charcoal production era and consists of even-aged stands approximately 100 years of age.

During the early 1900s, immense fires covering thousands of acres regularly roared over the countryside. Some of these fires were accidental, caused by sparks from railroads and industry. Others were deliberately set to clear underbrush in the forest and provide better pasture for livestock. Records from the early 1900s indicate 15,000 to over 100,000 acres (in 1915) of forest fires could occur annually in Connecticut. This destruction of resources spurred the legislature to create the position of State Forest Fire Warden in 1905 to coordinate control of fighting forest fires. Through the efforts of state and local fire fighters, the annual amount of forest damaged by wildfires was dramatically cut.

Major impacts during this period were not limited to cutting and burning. Prior to importation of the chestnut blight fungus, upwards of 25% of our forest was comprised of American chestnut trees. This extensive component of the forest vanished within just a few years. Disturbances to the forest floor and canopy from a combination of charcoal cuts, fires, and chestnut blight are

largely responsible for the dominance of oak species in Connecticut forests during the rest of the Twentieth Century.

Insects and disease have also affected other species in the past century. Dutch elm disease has largely removed American and slippery elm from Connecticut streets and woods. Butternut has mostly disappeared by a canker disease, red pine by insect attack, and now eastern hemlock is threatened by two exotic insect species. In the latter half of the Twentieth Century, gypsy moth outbreaks defoliated large areas of the state.

Historical records suggest that severe hurricanes strike Connecticut every 100-150 years. It was estimated that the 1938 hurricane destroyed over 100,000 public shade trees, every mature white pine stand east of the Connecticut River, and almost one-fifth of the timber in the state. Nearly 55,000 acres of forest were flattened and salt damage was observed 45 miles inland. Other weather events that have caused widespread forest destruction include ice storms, microbursts, and tornadoes such as the one that destroyed Cathedral Pines in 1988.

Amidst a period of destructive influences on the forest, the turn of the Twentieth Century also marked the beginning of the conservation era in Connecticut. The very early Twentieth Century saw the creation of a state forestry agency, the first state forests, and the first real movements to protect and conserve natural resources. Enjoyment of the forest for active and passive recreation became a part of the state and national culture. In the 1930s, President Roosevelt created the Civilian Conservation Corps (CCC), which recruited thousands of young men to plant trees, suppress forest fires, and build a forest infrastructure legacy through our forests that includes many of the same state forest roads used in Connecticut today.

Despite the apparent dramatic changes the Connecticut landscape has undergone since European settlement, including repeated harvesting, large-scale land clearing, wildfire, hurricane, and introduced pests, the forest has shown its resiliency. Human attitudes toward the forest have also not been static. The history of Connecticut forests and the forests present today are a product of constant change and disturbance, both large and small, *and* ever-changing uses and interests in the forest. The forest of the Twenty-First Century will continue to change, as oak forests gradually diminish in favor of a conversion to maple, birch, and beech. Also changing will be Connecticut's population and attitudes about forests, which at close to 60% of the state's landscape, is diminishing in favor of suburban sprawl. This century will see all new impacts and pressures on the forest, as increasing populations place greater demands on a decreasing natural resource base growing on the only variable that is truly static: The land area.