POLICY ON RESILIENT FORESTS FOR CONNECTICUT'S FUTURE (PRFCT FUTURE)

WORKING GROUP REPORT & RECOMMENDATIONS

FINAL REPORT 12.14.21

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Executive Summary

There are several existing challenges to forest resiliency, and particular vulnerabilities in Connecticut that should add a sense of urgency to the PRFCT Future recommendations in this Report:

- ~72% of Connecticut's forests are owned by private forest landowners who are aging – an estimated 90% are age 55 or older.
- Connecticut's forests themselves are also aging - most trees forming the dominant canopy are old enough for deleterious effects of forest pests and storm damage to impact forest resources and uses, increasing the need for science-based stewardship.
- Connecticut's more densely populated areas have inadequate urban tree cover, especially in lower income neighborhoods, to reduce heat exposure, provide stormwater retention, and other community benefits.
- As Connecticut continues to grow and develop, forests are being fragmented and converted to non-forest uses by roads and other forms of development. Large core forests of 500 acres or more have experienced the greatest fragmentation, with more than 130,000 acres of large core forests having been converted or broken into smaller pieces over the last 35 years.

Many of the remedies for these and other vulnerabilities boil down to our willingness to invest resources as a state to address them, specifically:

- Many family landowners, especially older ones, are making decisions now on whether their forest lands will be conserved in the future as forest or not. We must ensure the state has adequate resources to both respond to forest landowner questions and proactively educate on issues such as forest resilience, estate planning, and conservation options.
- Resources are available through FEMA to respond to storms and other emergencies where trees or parts of trees are removed as debris. We need to proactively provide resources to maintain existing tree canopies as well as plant and care for our future urban forests with the same gusto.
- Incentives are needed to inspire conservation easements on large core forests and enhance existing laws such as Public Act 490 to extend property tax and other benefits for landowners who make longer-term commitments to conserve their forests. Additionally, there should be incentives for communities that holistically support their future growth in ways that minimize forest losses while also responsibly planning for existing and future housing needs.
- Investments in the capacity of DEEP expertise, key programs, and partners are critical to ensure the recommendations in this Report are implemented, namely:

- Increasing funding for the Open Space and Watershed Land Acquisition Grant Program (OSWA) and staffing in DEEP's Land Acquisition Management Office are required to meet current state open space conservation goals and achieve new forest cover and urban forest canopy goals.
- Increasing the capacity of DEEP's Forestry Division is required to support private forest landowners, ensure DEEP is a resource on efforts to increase urban tree canopies, and model forest stewardship on State Forest lands

PRFCT Future Recommendations are organized into the following categories:

- **2022 Legislative Actions Needed: New State Policies**
- **2022 Legislative Actions Needed: New State Incentives**
- **FY 2023 State Budget and Staff Resource Needs**
- **2022 Executive/Agency Actions: No Legislation or New Funding Required**

Introduction/Background

On July 16, 2021, the Department of Energy & Environmental Protection signed a Personal Services Agreement with the Connecticut Forest & Park Association (CFPA) to convene a working group representing a wide variety of real property, conservation, and environmental equity stakeholders to research and develop consensus recommendations on the policies and resources necessary to support resilient forests for Connecticut.

The collected recommendations in this Report are known as the "Policy on Resilient Forests for Connecticut's Future" or PRFCT Future.

The PRFCT Future Working Group held its first meeting on September 1st drawing upon the recommendations and findings from two recent foundational reports which had robust public engagement processes and inputs on forest science – the Forests Subgroup Report to the Governor's Council on Climate Change (GC3), and Connecticut's 2020 Forest Action Plan.

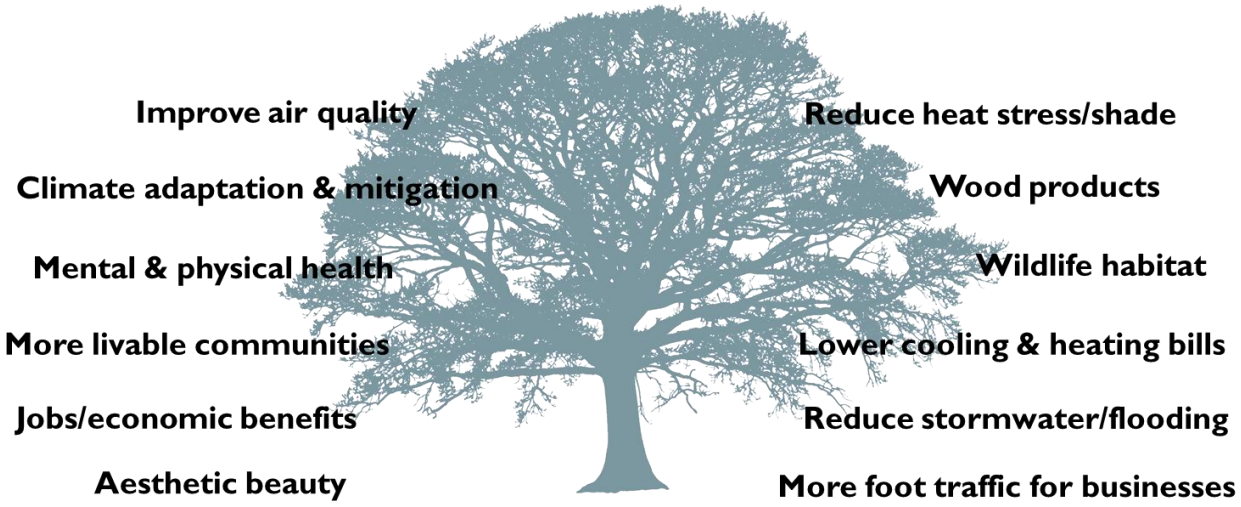
Recommendations from these reports included actions that would comprehensively avoid forest conversion; protect healthy, intact, and resilient forests; offset planned or permitted forest losses; provide incentives for stewardship, forest retention, and forest resiliency; and protect urban forests, build more parks, and plant more trees.

We thank the representatives from 15 organizations shown on the following page who dedicated their time and expertise to this effort in diligently attending 11 meetings over 3 months including two public input sessions. We also thank Bill Logue, Principal of The Logue Group, who served as our facilitator, and DEEP's State Forester, Chris Martin, for his outstanding technical support.

Organizations	**Representatives**
American Planning Association - CT Chapter	Rebecca Augur
Connecticut Conference of Municipalities	Brian O'Connor
Connecticut Farm Bureau Association	Joan Nichols
Connecticut Forest & Park Association	Eric Hammerling, Chair
Connecticut Land Conservation Council	Amy Paterson
CT Council of Small Towns	Betsy Gara
CT DEEP	Christopher Martin
CT Metro Council of Governments	Hannah Reichle
CT Urban Forest Council	Heather Dionne
Desegregate CT	Nick Guertin
Garden Club of America, Rep to Conservation Cmte.	Juliet Cain
Home Builders and Remodelers Association of CT	Jim Perras
Sustainable CT	Lynn Stoddard
Tree Wardens' Association of CT	Kevin Kelly
Yankee Div. – N.E. Society of American Foresters	Mike Ferrucci

Benefits from Resilient Forests & Trees

Trees and forests provide a wide variety of economic, ecosystem, and social benefits to our state that are well-documented. A few of the most recognized benefits of trees and forests are shown below:



It is important to note that trees and forests provide these benefits to their greatest effect when they are resilient, and when they are considered as part of functioning ecosystems interconnected with soils, wetlands, farmlands, and other natural and working lands.

Forest resiliency is, in part, dependent upon healthy soils. The opposite is also true: forests preserve and regenerate soil heath and allow for practices such as agroforestry to be viable and sustainable in the long term. Similarly, forests play a critical role in protecting and maintaining the sources of water, the quality and quantity of drinking water and other watersheds as well as riparian habitats for various species. Healthy forests and trees also mitigate heat island effects, and attenuate flooding in more densely populated areas.

The benefits of trees and forests are well-documented across many research papers and technical reports published over several decades. The Forests Subgroup Report to the GC3 in 2020 summarized several primary benefits from forests as follows:

- Forests benefit wildlife;
- Forests mitigate climate change and clean the air;
- Forests protect water resources;
- Forests provide wood products and economic benefits;
- Forests support recreation and health; and
- Forests provide shade and make communities more livable.

Defining Key Terms used in this Report

The differences between the definition of "forest" and "trees" are particularly important when discussing "forest cover" versus "urban tree canopy" and distinguishing between recommendations for rural, suburban, and urban areas. Following are several terms used in this report that are important to understand:

Deforestation: The removal of a forest stand where the land is put to a nonforest use.

Distressed Community: Connecticut publishes a list of the 25 municipalities considered to be the state's most fiscally and economically distressed. Often cited as "targeted and distressed."

Ecosystem services - benefits people obtain from ecosystems, including:

1. Provisioning services, such as clean air and fresh water, energy, food, fuel, forage, wood products or fiber, and minerals;
2. Regulating services, such as long-term storage of carbon; climate regulation; water filtration, purification, and storage; soil stabilization; flood and drought control; and disease regulation;
3. Supporting services, such as pollination, seed dispersal, soil formation, and nutrient cycling; and
4. Cultural services, such as educational, aesthetic, spiritual, and cultural heritage values, recreational experiences, and tourism opportunities.

Environmental Justice Community: Includes distressed communities plus census block groups that are not in distressed municipalities in which 30% or more of the population lives below 200% of the federal poverty level (FPL). Map and definitions of Distressed and EJ Communities are available here.

Forest: land of 1 acre or more in size that is at least 10% stocked with trees. Forest may be present in urban, suburban, and rural areas.

Forest Cover: the percentage of land within a specific area covered by forest. Importantly, this calculation only includes land meeting the definition of forest.

Forest Management Plan: A predetermined course of action and direction to achieve a set of results, usually specified as goals, objectives, and policies. A forest management plan is a working instrument that guides actions and changes in response to feedback and changed conditions, goals, objectives, and policies.

Fragmentation: The process of dividing large tracts of contiguous forest into smaller isolated tracts surrounded by human modified environments. Fragmentation is a concern because of the effect of noncontiguous forest cover on the connectivity and the movement and dispersal of animals in the landscape, decreases in biodiversity, introduction and spread of invasive species and pests, loss of recreational opportunities, and other challenges.

Resilience - the ability of an ecosystem and its component parts to absorb, or recover from the effects of disturbances through preservation, restoration, or improvement of its essential structures and functions and redundancy of ecological patterns across the landscape.

Trees: woody perennial plants, typically large, with a single well-defined stem carrying a more or less definite crown; sometimes defined as attaining a minimum diameter of 3 inches (7.6) and a minimum height of 15 ft (4.6 m) at maturity. Distinguished from shrubs that are woody perennial plants, but typically smaller than trees.

Urban Area: The U.S. Census Bureau identifies two types of urban areas: 1) Urbanized Areas (UAs) of 50,000 or more people; and 2) Urban Clusters (UCs) of at least 2,500 and less than 50,000 people. According to the 2010 census, 88% of Connecticut's population resides in an urbanized area.

Urban Tree Canopy (UTC): the layer of tree leaves, branches, and stems that provide tree coverage of the ground when viewed from above. This calculation includes the consideration of all trees and forest in a particular area.

Definitions excerpted from https://www.fs.fed.us/restoration/CFLRP/glossary.shtml#, the Society of American Foresters' Dictionary of Forestry (2018), the Forests Subgroup Report to the Governor's Council on Climate Change, and other sources.

2022 Legislative Actions Needed: New State Policies

State Policy Recommendations

AMEND GLOBAL WARMING SOLUTIONS ACT (P.A. 08-98) to require monitoring and reporting on carbon sinks (a.k.a. negative emissions) provided by forests, soils, wetlands, and other working and natural lands. Specifically, this would include the amendments in the following sections:

- Section 22a-200: to include definition of "carbon sink" or "negative emissions."
- Section 22a-200a: to require DEEP to report on carbon dioxide removals and storage through biological processes alongside DEEP's required annual monitoring and reporting for greenhouse gas emissions from the transportation, energy, and housing sectors.

The PRFCT Future Working Group further recommends that DEEP appoint an interdisciplinary scientific advisory council consisting of experts in climate science, ecology, forest science, soil science, and other appropriate disciplines to help establish and inform the natural and working lands emissions monitoring structure and data collection. We do not expect any additional emissions-related reporting would be required by the sectors that are already participating with DEEP.

AUTHORIZE CONNECTICUT FOREST STEWARDSHIP COUNCIL AND GOALS to increase forest cover and urban tree canopy by 2040:

1. Increase Connecticut's statewide forest cover by 1% statewide. This 1% increase might also include the restoration of forest lands significantly impacted by invasive species.
2. Increase urban tree cover by 5% in Connecticut's largest cities and communities defined as "environmental justice communities."
3. Authorize CT Forest Stewardship Council (perhaps modeled on New Jersey Community Forestry Council) to advise DEEP in developing and implementing an Action Plan to achieve these forest and urban tree canopy goals and ensure statewide, regional, and local actions align to maintain un-fragmented forests within and across political boundaries with emphasis on waterways and wetlands, core forests, and wildlife habitat linkages.

The authorization of these goals and Forest Stewardship Council should be added to the state's goal of conserving 21% of Connecticut as open space by 2023 (Section 23-8 et seq.).

ENABLE COMPENSATORY REFORESTATION TO MITIGATE ACTIONS BY STATE AGENCIES AND UTILITIES that result in unavoidable losses of forest. It is critical for Connecticut to show leadership in this area by ensuring that the actions of our own state agencies (e.g. the removal of significant forest in the state right of way along a state highway by the Department of Transportation) be undertaken in the context of the avoidance and mitigation of forest loss. The "New Jersey" compensatory reforestation model (authorized by The New Jersey No Net Loss Compensatory Reforestation Act, (N.J.S.A. 13:1L-14.1 et seq.) offers a strong example in place for almost a

decade that should be adapted to Connecticut. The PRFCT Future Working Group reached consensus support on the following elements to implement in Connecticut:

- Require State agencies to submit a compensatory reforestation plan to DEEP's Forestry Division for each project that results in the deforestation of one-half acre (0.5 ac/21,780 square feet) or more on land the State entity owns or maintains, subject to exemptions for standard land management practices such as forestry, wildlife management, arboricultural practices, or actively managing existing utility easements.
- Require entities receiving a permit from the Connecticut Siting Council for energy development to compensate for loss of forest, farmland, and other natural lands through the conservation, replanting, and/or reforestation of a comparable amount in another location, or if such conservation, replanting or reforestation is determined not to be feasible, to make payments to a mitigation fund. This compensatory mitigation should not change the standard that avoidance of forest loss should be the primary goal for siting energy facilities.
- Require similar compensatory mitigation by utilities for significant forest or urban tree canopy losses due to tree removals along electric distribution lines.

UPDATE INVASIVE PLANT SPECIES LIST WITH KNOWN THREATS TO FORESTS. The current state invasive species list (Section 22a – 381d-e) has not been updated since 2003 with the exception of Running Bamboo (*Phyllostachys spp*), and there are several species of invasive plants that are not prohibited but which impact forest resiliency, e.g. Burning Bush (*Euonymus alatus*), Callery Pear (*Pyrus calleryana*), Wisteria spp., and others.

Individual species like those mentioned above should be added to the statutory list of prohibited invasives, along with increasing penalties for violations from $100/incident to $500/incident, requiring nurseries to tag "potentially invasive" plants (reference: S.B. 207 proposed in Delaware), and potentially establishing a Native Species Commission (reference: Delaware Native Species Commission) to complement the work of the Invasive Plants Council by proposing non-invasive, native alternatives for problematic invasives. Alternatively, provide that all plants meeting the criteria in Section 22a-381(b) be prohibited, with the statutory listing being deemed non-exclusive.

2022 Legislative Actions Needed: New State Incentives

Recommendations on State Incentives

ENCOURAGE DEVELOPMENT PATTERNS THAT MINIMIZE FOREST FRAGMENTATION AND CONVERSION. Support incentives for municipalities to support additional development density while reducing pressure on vulnerable farm, forest, and natural lands.

- The PRFCT Future Working Group recommends incentives and public actions which can reduce minimum lot sizes and creatively focus denser development patterns in areas that can accommodate growth sustainably with adequate public water, sewer, and infrastructure. This should help communities better support transit-oriented and affordable housing development goals while also supporting natural and working land conservation.
- To complement this recommendation, the Working Group has identified a need for educational initiatives and outreach identifying the links between zoning, land use reform, and efficient development patterns that could prevent further conversion and/or loss of forest and open space areas.

EXTEND TO OTHER TAXPAYERS CORPORATE TAX INCENTIVES FOR CONVEYANCES OF OPEN SPACE. In 1999, the State of Connecticut enacted two tax incentives for corporations which convey open space land for conservation purposes (Public Act 99-173). Together with existing federal tax deductions for conservation, these incentives can make the conveyance of open space land or easements on land a very attractive prospect for Connecticut businesses. The same incentives should be extended to individuals and other taxpayers that convey land or interests in land for conservation purposes.

- The first provision (CGS Sec. 12-217(E)), enables corporations which sell land or interest in land (e.g. an easement) at any price to the state, a municipality or a non-profit land conservation organization for conservation purposes to exempt the amount of capital gain from the sale, from that company's taxable income under the state corporate business tax.
- The second provision (CGS Sec. 12-217dd), enables companies which donate land or sell it for less than fair market value to take a credit against their state corporate taxes of 50% of the value in land or interest in land donated. The credit in any year cannot exceed the company's tax liability for that year. Subsequent amendments enable companies whose liability in one year is less than the credit to which it is entitled, to carry the credit forward in succeeding years up to twenty-five years.

The Working Group also recommends creating tax incentives for landowners engaging in reforestation, forest stewardship, and other restoration efforts that provide defined carbon mitigation benefits and other ecosystem services.

SUPPORT INCREMENTAL UNDERGROUNDING OF ELECTRIC INFRASTRUCTURE AND IMPROVED COORDINATION OF UNDERGROUND UTILITIES**.** Although the Working Group acknowledges various challenges with coordinating this effort across various entities that run utilities underground, one benefit of doing this would be to remove conflicts with planting and maintaining tall stature trees as well as enhancing urban tree cover in areas where more sustainable development would be encouraged. Investments in incremental undergrounding might be credited against required compensatory mitigation due to unavoidable tree losses under certain conditions.

FY 2023 State Budget & Staff Resource Needs

State Budget and Staff Needs

To ensure Connecticut has adequate resources at State level to support forest landowners in achieving more resilient forests, the PRFCT Future Working Group recommends that the Governor, OPM, DEEP, and the CT General Assembly make a priority of supporting the following critical investments in the FY 2023 State Budget and sustaining these investments going forward.

STATE BUDGET/AGENCY STAFF NEEDS

- **DEEP Forestry Division (+6 FTE)**
    - Add 3 Private Lands Service Foresters
        - Currently, DEEP has only 3 Service Foresters responsible for covering the needs of private and municipal landowners statewide. This is falling far short of the need for assistance by forest landowners.
        - Almost 72% of CT forest land is held in private ownership and it is essential to ensure there are more resources available to educate and assist private forest landowners in being good stewards to increase forest resiliency, carbon sequestration, and sustain other ecosystem services. It is just as important to ensure that private forest landowners are aware of forest conservation options when they consider the sale or transfer of their land in the future.
        - Additional resources could include support for a coordination/concierge services position to advise private forest landowners on options for long-term protection and stewardship of forests such as information on scenarios for sale of development rights, easements, partnership with land trusts and other entities, and intergenerational transfer of land and estate planning.
    - Add 2 State Lands Foresters
        - Currently, 9 State Land Foresters are responsible for managing ~175,000 acres of State-owned forestland (almost 20,000 acres for each forester).
        - This is unsustainable and these foresters are simply unable to keep up with responsibilities to forest management planning, engaging the public in the planning process, enforcing boundary and encroachment issues, providing for wildlife habitats, responding to invasive species and pests, and ensuring State Forest lands are a model for private forest landowner stewardship.
        - Additional resources would also enable these foresters to show leadership in addressing climate change issues and implementing climate management strategies, including assisting with conducting a forest carbon inventory and carbon uptake modeling for CT (including soils), as well as establishing demonstration areas in cooperation with other agencies and organizations.

  - Add 1 Urban Forester
    - Currently, there is one federally funded full-time staff-person dedicated to urban forestry statewide despite the fact that, according to the 2010 U.S. Census data, 88% of Connecticut's population lives in what is considered to be an "urbanized" area.
    - Additional resources would enable the urban forestry program within DEEP to support communities with the greatest needs to both increase and better manage existing urban tree canopy in environmental justice communities most vulnerable to climate change.
- **DEEP Land Acquisition and Management Office (+5 FTE)**
  - Add 5 Staff with expertise in land conservation transactions and grant management
    - In 2008, there were eleven (11) staff in DEEP's Land Acquisition and Management Office. Currently, there are only four (4) employees with only one (1) dedicated to manage the Open Space and Watershed Land Acquisition Program (OSWA), including the Urban Green and Community Garden Grant Program (UGCG).
    - OSWA and UGCG provide financial assistance to land trusts, municipalities, and water companies for land acquisition and urban greenspace development and are essential to the state's efforts in achieving its statutory 21% open space conservation goal and achieving new forest cover and urban forest canopy goals.
    - Additional staff is needed to efficiently and effectively manage the OSWA and UGCG programs including at a minimum two (2) additional property agents, one (1) additional surveyor, one (1) GIS specialist, and one (1) administrative assistant.
- **UConn Extension (+1 FTE)**
  - Add 1 Forest Extension educator
    - Currently there is only one Forest Extension educator at UConn who works with forest landowners. This is a critically important position to disseminate and translate the most current forest and forestry science to forest landowners and managers.
    - Extension Forestry Programs include educational offerings for woodland owners such as the Coverts Project and the Master Woodland Manager program, activities designed to benefit communities such as the Stormwise Initiative, and professional educational efforts for CT-Certified Forest Practitioners. All of these programs are critically important and would be even more impactful with additional resources to extend them.

STATE PROGRAM FUNDING NEEDS

- **DEEP/Boost CIA/OSWA Resources to $30 million/year** to keep forests as forest in perpetuity, and assist state in achieving new forest cover and urban forest canopy goals.

This may be accomplished by a modest increase in the CIA document-recording fee combined with increased bonding for the OSWA program.

- **DEEP/Continued support of urban forestry investments** in tree planting and increasing urban tree canopies. In 2020, DEEP dedicated almost $1 million of Regional Greenhouse Gas Initiative (RGGI) funds to a matching grant program delivered by the CT Urban Forest Council, a capacity-building grant program administered by UConn, and re-energizing the America The Beautiful grants to support municipal tree efforts. Potentially consider reopening state nursery under the supervision of the CT Agricultural Experiment Station to assist private nurseries with meeting demand for desirable trees for planting in urban areas.
- **OPM/State Budget Funding for Regional and Municipal Tree Care:** Funding for the Regional Tree Care Pilot project and the following municipal support recommendation may come from re-allocating 1.5% of the Electric Utility budgets for vegetation management to this purpose. A recommendation to reallocate 1.5% of Electric Utility vegetation management budgets was made as part of the 2011 Two Storm Panel Report (recommendation #22, p. 14).
    - **OPM/Grant for Regional Tree Care Pilot**
      $160,000 to support staffing for a pilot project in the Greater Hartford region involving community tree planting, care and maintenance on a regional basis by establishing cooperatives to share financial, human and physical resources. This project would utilize economies of scale by sharing equipment and resources, and result in regional benefits such as increased tree canopy, improved maintenance of urban forests, and increases in tree equity with co-benefits such as improving public health, climate resiliency, and sustaining housing values. The pilot program would be overseen by the Hartford Capitol Region Council of Governments. Once the pilot is ground-tested, state grant funds would be made available to additional Regional Tree Care programs run by other Councils of Government.
    - **OPM/Municipal Tree Support**
      Because of the importance of roadside forest management both to public health and to the state's economy, there needs to be state or federal funding dedicated to incentivize municipal investments in this area. We recommend the state provide "one-time funding" at the level of $100,000/town for 2 years (perhaps through Municipal Road Aid) to assist tree maintenance, tree inventories, and/or establishment of municipal tree management plans for those municipalities that don't have one. This recommendation was made as part of the State Vegetation Management Task Force (State Vegetation Management Task Force Recommendations, page 6).
    - **OPM/Mapping Resources**
        - Ensure investments in Statewide GIS Advisory Council and data provide municipalities with access to a central database showing forest cover, urban tree canopy, tree type (to ensure appropriate diversity of trees in

given region), and tree equity throughout Connecticut. It is unclear whether additional funding or reprogramming of funds is required for data collection in addition to FY 2022 budget investments that were authorized in this area. However, there is likely a need for additional funding for regional Councils of Government and municipalities to incorporate this data into local maps and other planning tools.

- Additional data on urban tree canopies and forest cover can also help state agencies, regional Councils of Government, and municipalities to identify statewide/regional areas of conservation focus related to sustaining or enhancing Connecticut's forest carbon storage and other priorities.

2022 Executive/Agency Actions: No Legislation or New Funding Required

Recommended Executive/Agency Actions

CONVENE TASKFORCE TO REVIEW EXISTING STATE LAWS THAT IMPACT RESILIENT FORESTS. There are a number of state laws, regulations, and state income and local property tax structures that impact the management of private forestland in Connecticut and the retention of forests as forests. A key goal of a DEEP-convened Taskforce would be to understand how state policies and laws (most of which were developed many years before concerns about climate change and other threats to forest resiliency were known) either support or fall short of keeping privately-owned forests as forests and sustaining forest resiliency.

The Public Act 490 program, which currently benefits forest, farmland, and open space landowners by lowering property taxes, should be evaluated for changes that might enhance its benefits for forest conservation and resilience. Topics that this taskforce may study include:

- investigating the current 10-year period for the recapture conveyance tax penalty;
- evaluating the current acreage requirements (25+ acres);
- assessing intergenerational transfers and landowner cooperatives;
- exploring potential incentives for CT Grown long-lived wood products;
- revisiting administrative provisions that may be burdensome to landowners and/or municipalities; and
- considering the expansion of current tax benefits and criteria for enhancement.

ENCOURAGE CONNECTICUT GREEN BANK INVESTMENTS IN FOREST/TREE PROJECTS AND GREEN BUILDING MATERIALS. In 2021, the Connecticut Green Bank received authorization to establish grant and financing mechanisms within a new environmental infrastructure fund.

- As the Green Bank goes through its evaluation process in late 2021 and early 2022, opportunities to conserve forest land, plant trees in urban and environmental justice communities, and care for existing trees should be evaluated and encouraged.
- There is also potential for the Green Bank to offer loan incentives for utilizing wood and wood composite building materials (such as mass timber/cross-laminated timber and wood fiber insulation) to replace more carbon intensive materials such as concrete and steel in institution-level construction. Long-lived wood products can store carbon previously captured by trees; as living forests may potentially experience increasing mortality and associated carbon release due to climate change, this could become an increasingly important benefit. The carbon storage benefit of long-lived wood products can be improved by placing greater focus and incentives toward sustainable forest management and harvesting practices that promote healthy tree growth and resilient forests.

EXPLORE POTENTIAL FOR LOCALLY GROWN, LONG-LIVED WOOD PRODUCTS TO HELP ACHIEVE CLIMATE AND OTHER COMMUNITY GOALS. There is a pilot effort on urban wood re-use being conducted by the Keney Park Sustainability Project that has results expected in 2022. The goal of this project is to understand what is necessary to establish a sustainable urban wood reuse program that stores carbon and reduces waste while simultaneously creating local education, employment, and stewardship opportunities. The state should publicize the results of this effort, and continue the efforts by the CT Department of Agriculture to include locally (or perhaps regionally) grown, long-lived wood products as part of its Connecticut Grown program. Both of these efforts would likely tap into relatively small-scale markets that could have multiple local benefits.

Conclusion and Suggested Next Steps

The Policy on Resilient Forest for Connecticut's Future (PRFCT Future) Report, as submitted to the Department of Energy & Environmental Protection on December 14, 2021, includes recommendations for actions in 2022 by the Connecticut General Assembly and by Executive Branch State Agencies to ensure Connecticut can hit the ground running in FY 2023.

There are four State policy authorizations that the PRFCT Future Working Group asks to be considered and enacted by the CT General Assembly in 2022:

- Amend Global Warming Solutions Act to require monitoring and reporting on carbon sinks provided by working and natural lands.
- Authorize Connecticut's Forest Stewardship Council and Forest Cover Goals.
- Enable Compensatory Reforestation to Mitigate State Agency and Utility Actions.
- Update Invasive Plant Species List with Known Threats to Forests.

At the same time, we request the CT General Assembly consider incentives that:

- Encourage municipalities to support additional development density while reducing pressure on forests, farms, and other natural resource areas.
- Extend corporate tax incentives to other taxpayers to increase the pace of forest conservation.
- Facilitate coordinated, strategic undergrounding of electric utilities infrastructure.

There are several investments in state grant programs that should be high priorities in the FY 2023 State Budget to bolster recommendations by the Working Group, such as:

- Boost funding level for the Open Space and Watershed Land Acquisition program to $30 million/year.
- Continue RGGI investments to maintain and increase urban forest canopies.
- Invest in Regional Tree Care Pilot, municipal roadside forest management planning, and statewide mapping data to support and further target urban tree canopy and forest cover needs.

We also recommend some Executive Agency Actions that do not require additional funding at this time, but these recommended actions must be supported with state investments in staff capacity, specifically:

- Increase DEEP Forestry Division by 6 FTE -- 3 Private Lands Service Foresters, 2 State Lands Foresters, and 1 Urban Forester).
- Increase DEEP's Land Acquisition and Management Office by 5 FTE -- 2 property agents, 1 surveyor, 1 GIS specialist, and 1 administrative assistant.
- Add 1 UConn Extension Forester to disseminate and translate forestry science to landowners and land managers.

The PRFCT Future Working Group appreciates the opportunity to submit these consensus recommendations, and we look forward to working with the Department of Energy &

Environmental Protection and other partners to ensure greater resiliency for forests accompanied by a multitude of benefits to Connecticut's citizens.

Appendix I: Summary of Current Forest Conservation Programs/Policies

Statutory Foundation for Forest Conservation

The following excerpts from Connecticut's General Statutes and DEEP's website lay the foundation for Connecticut's forest conservation programs and policies:

Sec. 22a-1a. Declaration of policy

"(a)… the General Assembly, recognizing the profound impact of man's activity on the interrelations of all components of the natural environment, particularly the profound influence of population growth, high-density urbanization, industrial expansion, resource exploitation, and new and expanding technological advances, and recognizing further the critical importance of restoring and maintaining environmental quality to the overall welfare and development of man, declares that it is the continuing policy of the state government, in cooperation with federal and local governments, and other concerned public and private organizations, to use all practicable means and measures, including financial and technical assistance, in a manner calculated to foster and promote the general welfare, to create and maintain conditions under which man and nature can exist in productive harmony, and fulfill the social, economic, and other requirements of present and future generations of Connecticut residents."

"(b) … it is the continuing responsibility of the state government to use all practicable means, consistent with other essential considerations of state policy, to improve and coordinate state plans, functions, programs, and resources to the end that the state may: (1) Fulfill the responsibility of each generation as trustee of the environment for succeeding generations; (2) assure for all residents of the state safe, healthful, productive, and esthetically and culturally pleasing surroundings; (3) attain the widest range of beneficial uses of the environment without degradation, risk to health or safety, or other undesirable and unintended consequences; (4) preserve important historic, cultural, and natural aspects of our Connecticut heritage, and maintain, wherever possible, an environment which supports diversity and variety of individual choice; (5) achieve an ecological balance between population and resource use which will permit high standards of living and a wide sharing of life's amenities; (6) enhance the quality of renewable resources and approach the maximum attainable recycling of depletable resources; and (7) practice conservation in the use of energy, maximize the use of energy efficient systems and minimize the environmental impact of energy production and use."

Sec. 22a-5. Duties and powers of commissioner

"… In addition to and consistent with the environment policy of the state, the commissioner shall (1) promote and coordinate management of water, land and air resources to assure their protection, enhancement and proper allocation and utilization; (2) provide for the protection and management of plants, trees, fish, shellfish, wildlife and other animal life of all types, including the preservation of endangered species; (3) provide for the protection, enhancement and management of the public forests, parks, open spaces and natural area preserves …"

Sec. 23-20. Powers and duties of commissioner

(a) The Commissioner of Energy and Environmental Protection shall administer the statutes relating to forestry and the protection of forests. The commissioner may: (1) Employ such field and office assistants as may be necessary for the execution of his or her duties, (2) from time to time, publish the forestry laws of the state and other literature of general interest and practical value pertaining to forestry, (3) enter into cooperation with departments of the federal government for the promotion of forest resource management and protection within the state, and (4) with the assistance of the State Forester, develop and administer plans for the protection and management of publicly owned woodlands. Such plans shall include, but not be limited to, proposals for the establishment of forest plantations and the marketing of forest products.

Certification and Licensing of Forestry Professionals & Tree Wardens

The State is responsible for the certification of forest practitioners and arborist licensing under the Forest Practices Act and Arborist's Law.

Forest Practices Act

In 1991, the Forest Practices Act was passed to ensure that "no person shall advertise, solicit, contract or engage in commercial forest practices within this state at any time without a certificate" issued by the Commissioner of Energy and Environmental Protection (**Sec. 23-65h**). The responsibility for issuing forest practitioner certificates, and for managing and enforcing these requirements, has been delegated to the Division of Forestry within DEEP. The Division of Forestry conducts the testing required for certification, enforces the certification rules, conducts investigations into possible violations of these rules, and recommends fines and other punishments for violators.

Through the certification process, DEEP's Division of Forestry seeks to:

- improve the quality of forestry practiced in Connecticut's woodlands;
- protect private woodland owners from poorly qualified or unscrupulous foresters, loggers or other forest practitioners; and
- provide a means of assessing the types of forest activities occurring within the state.

Arborist Law

An arborist license is required for persons advertising, soliciting or contracting to do arboriculture in Connecticut (**CGS Sec. 23-61g-m**). As defined in the arborist law, "arboriculture means any work done for hire to improve the condition of fruit, shade, or ornamental trees by feeding or fertilizing, or by pruning, trimming, bracing, treating cavities or other methods of improving tree conditions, or protecting trees from damage from insects or diseases or curing these conditions by spraying or any other method."

Connecticut Tree Warden Law

Municipal tree wardens are appointed public officials responsible for trees alongside public roads and in public spaces, other than those on state property or under the jurisdiction of a

park commission. Every municipality is required to have a tree warden. The tree warden's responsibilities include the “care and control” of the planting, pruning or removal of trees under their authority.

Since 2013, each city and town is required to appoint as tree warden or as deputy tree warden an individual who meets, within one year of appointment, the requirements as set forth in Section 23-59a. An individual may meet these requirements either by completing the coursework outlined in the statute or by being licensed as an arborist in Connecticut. Individuals who do not meet these requirements are not eligible for reappointment.

Property Tax Incentive Programs for Forest Conservation

For over a century, the State of Connecticut has promoted policies that provide property tax relief to forest landowners owning more than 25 acres of forest who have made commitments to keep their land in forest use.

Ten Mill Program

In 1913, Connecticut passed the Ten Mill law (CGS Section 12-96 et seq) which required forest landowners to make a 100-year commitment to keeping their forest land in forest use or face considerable penalties for early withdrawal or change in use (equivalent to five mills per year on the difference between the land and timber's valuation at the time of classification and the current valuation). In return for landowners making this long commitment to keeping the land as forest, municipalities froze their property taxes at the 10 Mill rate and the original valuation for 50 years after enrollment. At the end of the 50-year period, the land was to be revalued and then taxed again at the 10 mill rate for another 50 years. The 10-mill classification was tied to the land and did not terminate upon sale or transfer of the land to another owner.

Public Act 490 Program

In 1963, Connecticut passed Public Act 490 (CGS Sections 12-107a through 107-f) that allows forest, farm, or open space land to be assessed for its “use value” rather than its “fair market” or developable value for purposes of local property taxation. Without the lower use value assessment, many landowners might choose to sell the land due to the otherwise high property taxes on their farm, forest, or open space land. When the legislature passed Public Act 490 in 1963, it included (and continues to this day) in the law's wording that "it was in the public interest to encourage the preservation of farm, forest, and open space land."

In 2011, “An Act Concerning the Transition from the Ten Mill Program,” was passed that allows an owner of forest land enrolled in the state's Ten Mill program to begin paying property taxes at the P.A. 490 rate at the 50 year revaluation point, and clarified that there would be no penalties from early withdrawal from the Ten Mill program if a sale or donation of the land to a nonprofit land preservation organization or a permanent conservation easement on the land occurs before the conversion. At the time the law was passed, there were still approximately 17,000 acres of forest enrolled in the Ten Mill program, but new properties haven’t enrolled in Ten Mill since the 1970’s. Over the past 50 years, P.A. 490 has continued as the dominant and

most critical program providing property tax relief for eligible forest, farm, and open space landowners.

Forest Conservation Programs: State

The following programs are the most critical tools utilized in Connecticut to achieve the policy goals mentioned above. Much of the following descriptive text was excerpted from Connecticut's Green Plan for 2016 – 2020, Connecticut's Forest Action Plan, the Forests Subgroup Report to the Governor's Council on Climate Change (GC3), and from materials made available online by the USDA Natural Resources Conservation Service.

Open Space & Watershed Land Acquisition (OSWA) Grant Program

The DEEP-administered Open Space and Watershed Land Acquisition Grant Program (OSWA) awards matching grants to municipalities, land trusts, and water companies to acquire open space as well as Class I and II watershed lands. OSWA is funded by state bonding and the Community Investment Act, a program enacted in 2005 to create a dedicated funding source to invest in four public policy priorities: open space, agricultural preservation, historic preservation, and affordable housing.

Urban Green and Community Garden grants are also given through OSWA funds. Although these funds have primarily been used to support community gardens and restoration, there is potential for this program to also support projects that could improve urban tree canopies.

State Recreation and Natural Heritage Trust Program

The Recreation and Natural Heritage Trust Program (RNHTP) is DEEP's main program for purchasing or conserving lands that add to the State's system of Parks, Forests, and Wildlife Management Areas for conservation and public use and benefit. One of the top criteria for the program is to acquire lands that have high value for recreation, forestry, fishery, or wildlife conservation, especially if it is near a population center.

Recreational Trails & Greenways Grants Program

This program has been funded by State bonding since 2015, but was previously supported at lower levels through the Federal Recreational Trails Program funded by the Federal Highways Administration. Although primarily focused on funding for the planning, design, and construction of trail systems, bikeways, and multiuse paths, grants can be utilized for land acquisition to support outdoor recreation.

Regional Greenhouse Gas Initiative (RGGI)

Funded primarily by the proceeds from the sale of RGGI State Emission Allowance by energy producers, RGGI funds have been used at times to support forest conservation. Most recently, DEEP invested RGGI funds to support grant programs through the CT Urban Forest Council, UConn, and DEEP's Urban Forestry program to support tree planting, improving the management and maintenance of existing trees and/or wooded areas, local educational, outreach or planning efforts, and community organization capacity-building that will lead to

improvements in local tree canopy cover with an emphasis on environmental justice communities and tangible climate change benefits.

Forest Conservation Programs: Federal

Resources from the following federal programs are critical to forest conservation in Connecticut. These investments leverage the relatively limited capacity of Connecticut's state-level programs.

Land and Water Conservation Fund: Forest Legacy and Highlands Conservation Act

The Land and Water Conservation Fund (LWCF) provides matching grants to states and local governments for the acquisition and development of public outdoor recreation areas and facilities (as well as funding for shared federal land acquisition and conservation strategies). The program is intended to create and maintain high quality recreation areas and facilities and to stimulate non-federal investments in the protection and maintenance of recreational resources across the nation. States are required to spend their allotted amounts within three years, otherwise it is returned to the federal government for other uses. The LWCF program provides funding that supports both the Forest Legacy Program and Highlands Conservation Act.

Forest Legacy Program

DEEP partners with the U.S.D.A. Forest Service to implement the Forest Legacy Program locally. The goal of Forest Legacy is to identify and help conserve privately-owned environmentally important working forests from conversion to non-forest uses. The main tool used for protecting these important forests in Connecticut is conservation easements. Connecticut's Forest Legacy Program conservation priorities include aesthetic and scenic values, fish and wildlife habitat, public recreation opportunities, soil productivity, forest products and timber management opportunities, watershed values including water-quality protection, cultural and historic resources including documented archeological sites, outstanding geological features such as caves, threatened and endangered species, and carbon storage and sequestration opportunities.

Highland Conservation Act

The Highland Conservation Act provides funding for the acquisition of lands or interest in land that are important for the water, forest, agricultural, wildlife, recreational, and cultural resources of the Highlands Region in the states of Connecticut, New York, New Jersey, and Pennsylvania. The Connecticut Highlands is a triangle around the northwest corner bounded by the state lines to the west and north, from Torrington to Danbury.

USDA Natural Resources Conservation Service – Farm Bill Conservation Programs

There are several USDA NRCS programs that offer significant resources to conserve privately owned forest lands. In addition to these funding programs, NRCS staff provide considerable technical expertise to assist forest and agricultural landowners in various ways.

NRCS: Agricultural Conservation Easement Program (ACEP)

ACEP provides financial and technical assistance to purchase conservation easements that protect active agricultural lands and wetland conservation values. Applicants must have farmland, wetland, or grassland protection plans in place, and they enter into cooperative agreements with the NRCS for the management of these lands. Under the Agricultural Land Easements component of the program, NRCS helps Indian tribes, state and local governments, and private non-profit organizations protect active cropland, rangeland, grassland, pastureland, and non-industrial private forest land.

NRCS: Conservation Innovation Grants (CIG)

CIG Grants (CIG) are competitive grants that drive public and private sector innovation in resource conservation. CIG projects inspire creative problem-solving—boosting production on farms, ranches, and private forests through improvements in water quality, soil health, and wildlife habitat.

NRCS: Conservation Stewardship Program

The CSP offers an opportunity for forestland managers to enhance their agricultural operations while adopting conservation activities that can improve crop quality, improve soil health, and improve water quality.

NRCS: Environmental Quality Incentives Program (EQIP)

EQIP provides financial and technical assistance to agricultural producers and non-industrial forest managers to address natural resource concerns such as invasive plant species and deliver environmental benefits such as improved water and air quality, conserved ground and surface water, increased soil health and reduced soil erosion and sedimentation, improved or created wildlife habitat, and mitigation against drought and increasing weather volatility.

NRCS: Healthy Forests Reserve Program (HFRP)

HFRP assists landowners, on a voluntary basis, to restore, enhance, and protect forestland resources on private lands through easements, 30-year contracts and 10-year cost-share agreements. The objectives of HFRP are to promote the recovery of endangered and threatened species under the federal Endangered Species Act, improve plant and animal biodiversity, and enhance carbon sequestration.

NRCS: Landscape Initiative/Working Lands for Wildlife (WLFW)

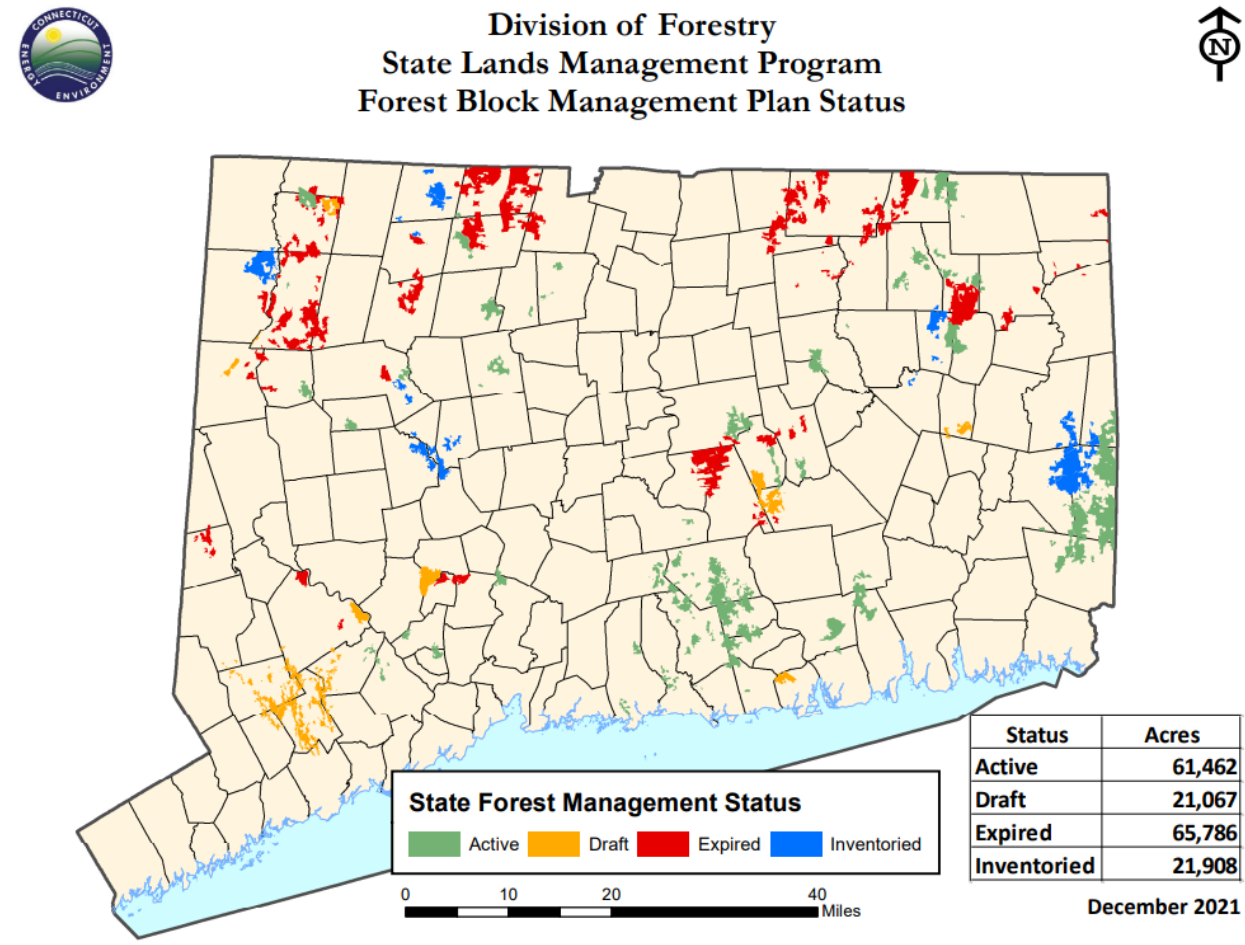
Working Lands for Wildlife (WLFW) is NRCS's landscape funding initiative that targets conservation efforts to improve agricultural and forest productivity which in turn enhances wildlife habitat on working landscapes. In Connecticut, this is a primary underwriter of forest habitat work done to benefit New England cottontail, a state species of concern.

NRCS: Regional Conservation Partnership Program (RCPP)

The RCPP promotes coordination between NRCS and partners to deliver assistance and targeted investments to agricultural producers and private landowners. RCPP projects may include any combination of authorized, on-the-ground conservation activities implemented by

farmers, ranchers, and forest landowners. In Connecticut, there are RCPP's set-up over the last few years that support conservation easements on forest land, and complement state investments in open space and watershed lands through the OSWA program.

Appendix II: State Forest Management Plan Status by Forest Block



** Forest Management Plans that will expire in 2022- Cockaponset S.F. 16,696 ac Goodwin S.F. 2,089 ac Nathan Hale S.F. 1,529 ac

State Forest	Forest Block(s)	Acres	Plan Period	Update Anticipated
Algonquin State Forest		2,521	1988-1997	
American Legion State Forest		1,247	2014-2024	
Camp Columbia State Forest		599	2012-2022	
Centennial Watershed State Forest	Aspetuck Hemlock			
Centennial Watershed State Forest	Easton			
Centennial Watershed State Forest	Means Brook	666	2013-2023	
Centennial Watershed State Forest	Saugatuck			
Centennial Watershed State Forest	Wangum Lake	1,242		2021

State Forest	Forest Block(s)	Acres	Plan Period	Update Anticipated
Cockaponset State Forest*	Candlewood, Cedar Swamp, Killingworth, Maromas, Ruth Hill, Turkey Hill, Westwoods, Winthrop	16,696	2012-2022	
Enders State Forest	Enders	1,953	2011-2020	
James L Goodwin State Forest*		2,089	2012-2022	
Housatonic State Forest	Canaan Mtn			
Housatonic State Forest	Cream Hill			
Housatonic State Forest	Gold's Pines	56	2012	
Housatonic State Forest	Mine Mtn			
Housatonic State Forest	Sharon Mtn			
Massacoe State Forest	Massacoe	399	2014-2024	
Mattatuck State Forest	Campville	512	2017-2027	
Mattatuck State Forest	Cave			
Mattatuck State Forest	Northfield			
Mattatuck State Forest	Waterville Cliffs			
Meshomasic State Forest	Diamond Lake	2,293	2021-2031	
Meshomasic State Forest	Mountain	6,270	2011-2020	
Mohawk State Forest	Mohawk	3,943	2000-2010	
Mohegan State Forest	Mohegan	938	1986-1996	2021
Nachaug State Forest	Beaver Brook	5,393	1983-1992	
Nachaug State Forest	Chaplin			
Nachaug State Forest	Eastford, Bigelow Brook, Westford, West Ashford	3,470	2018-2028	
Nachaug State Forest	Wolf Den			
Nassahegon State Forest	Nassahegon, Chippens Hill	1,148	2016-2026	
Nathan Hale State Forest*	Nathan Hale		2012-2022	
Naugatuck State Forest	East			
Naugatuck State Forest	Great Hill	322	2015-2025	
Naugatuck State Forest	Mount Sanford	677	2013-2023	

State Forest	Forest Block(s)	Acres	Plan Period	Update Anticipated
Naugatuck State Forest	Quillinan Reservoir	597	2009-2019	
Naugatuck State Forest	West	2,205	2004-2014	
Nehantic State Forest	North, Power Lake, Roger Lake, Tannyhill	4,429	2016-2025	
Nepaug State Forest	Satan's Kingdom			
Nepaug State Forest	Werner Woods	1,374	2004-2013	
Nipmuck State Forest	Breakneck	3,443	2016-2025	
Nipmuck State Forest	Hedgehog Hill	1,080	2000-2010	
Nipmuck State Forest	Snow Hill	2,060	1999-2008	
Nipmuck State Forest	Stickney Hill	2,715	2000-2010	
Nye Holman State Forest		879	2007-2016	
Pachaug State Forest	Mount Misery	3,107	2000-2009	2021
Pachaug State Forest	Plainfield	1,630	2004-2013	2021
Pachaug State Forest	Stone Hill			2021
Pachaug State Forest	Glasgo, Green Falls, Wickaboxet	14,343	2018-2027	
Pachaug State Forest	Wyassup Lake	1,995	2013-2023	
Paugnut State Forest	Paugnut	2,605	1985-1994	
Paugussett State Forest	Kazan			
Paugussett State Forest	Lower			
Paugussett State Forest	Upper	794	1999-2009	
People's / American Legion State Forests	Peoples	3,848	1997-2007	
Pootatuck State Forest	Pootatuck	1,154	2001-2011	
Preserve State Forest				2021
Quaddick State Forest	Quaddick			

State Forest	Forest Block(s)	Acres	Plan Period	Update Anticipated
Salmon River State Forest	Blackledge	1,512		2021
Salmon River State Forest	Day Pond	3,304		2021
Salmon River State Forest	Gilead			
Salmon River State Forest	Leesville			
Shenipsit State Forest	Bald Mountain	2,784	1998-2007	
*Forest Management Plan Expires in 2022				