Governor's Council on Climate Change (GC3)

Excerpts of the DRAFT REPORT for Public Comment

Forests Sub-Group of the

Working and Natural Lands Working Group 9/10/2020

The U.S. Climate Alliance estimates that "within Alliance states [including Connecticut], natural and working lands offset 16% of the GHG (Green House Gas) emissions from energy, transportation, and other sources in 2016." [22]

The ability of trees to take in or sequester and store carbon dioxide, turning it to wood and other forest components including soil, provides significant potential to mitigate climate change by retaining existing forests and improved forest management. A study in the Proceedings of the National Academy of Sciences finds that "natural climate solutions" could reduce land-based emissions and store additional carbon equivalent to more than a third (37%) of needed emissions reductions to keep global temperatures at or below 2 degrees Celsius through 2030, although benefits decrease beyond that date due to saturation of natural systems among other factors. Among the strategies found to deliver the most benefit, according to the paper, are "reforestation" (conversion of non-forest to forest) and "avoided forest conversion" that along with "natural forest management," represent easily available and effective solutions. [23]

Trees are also effective air filters, removing pollution and particulate matter through their respiration, with studies showing significant reduction of asthma and improved respiratory health in urban areas with more tree cover.[24]Roadside trees could reduce nearbyair pollution by more than 50%,[25]but the potential for air pollution reduction varies among species and as a function of tree size and landscape position.[26]

That said, the existence of trees in areas with limited canopy cover can sometimes literally be the difference between life and death.

Neighborhoods with little to no trees can, on average, be 5 to 7 degrees hotter during the day and up to 22 degrees hotter at night than neighborhoods with good tree cover. Treeless neighborhoods also have worse air pollution because trees trap air pollutants and the hotter temperatures in these treeless neighborhoods help cook air pollutants into dangerous smog. That's one of the reasons why health experts project a ten-fold increase in heat-related deaths across America's cities.[156]

The Forests Sub-Group recommends an overarching "no-net-loss of forest" (NNLF) policy for Connecticut. This policy would support the top priority recommendation in both the Adaptation/Resilience and Mitigation sections of this report which is to KEEP FORESTS AS FORESTS. To achieve this NNLF policy goal will take concerted actions at the local, regional, and statewide levels. Fortunately, the state of Maryland has been working on implementing its "no-net-loss of forest" policy which was adopted in in 2013 with passage of the MD Forest Preservation Act.[37]This landmark legislation accomplished four goals:[38]•Establishing no-net-loss of forest as the policy of the State of Maryland.•Encouraging the retention of family-owned forests by doubling the income tax credit for forest management activities and expanding the range of activities to include the planting of streamside forests, removing invasive species, and improving wildlife habitat.•Broadening the State Reforestation Law to support tree planting and forest health management on family-owned forests.•Ensuring that local fees under the Forest Conservation Act of 1991 are used for tree planting and conservation.The NNLF policy has helped establish several mechanisms at the statewide and county levels to slow the rate of forest losses in Maryland. This policy should be adapted to work for Connecticut, and the climate crisis makes this an urgent priority.

The following recommendations are based on those proposed for Maryland to implement its NNLF policy:[39]
(1) Avoid Forest Conversion–protect existing public-and privately-owned forestland from conversion to non-forest purposes to retain the

benefits of increased carbon storage, biodiversity, public health, green infrastructure, etc. (see benefits in previous chapter);
(2) Protect Healthy, Intact Forests–ensure that impacts upon forests, sensitive habitats, and other natural climate solutions and priorities (wetlands, soils, rivers, farmland, etc.) are considered at every level of planning –urban, suburban, and rural –and across all landscapes;

(3) Offset All Planned or Permitted Forest Losses–it is not practical to protect all forested areas from conversion and periodic natural disturbances may also result in temporary forest losses. However, it is essential to offset all planned or permitted forest losses through a combination of compensatory mitigation requirements and tools such as compensatory reforestation, replanting programs, and acquiring local or regional forest mitigation banks;

(4) Provide Incentives for Stewardship, Forest Retention, and Forest Resiliency–since71% of the state's woodlands are privately owned by individuals/families, corporate landholders, and land trusts, a no-net-loss policy must include financial and technical assistance measures. Adopt a statewide "No-Net-Loss of Forest" policy in the CT General Assembly.
Engage private landowners in maintaining and increasing sequestration and storage of forest carbon as well as incentives for critical ecosystem services that their forests provide. For example, as a participating state in the Regional Greenhouse Gas Initiative or RGGI, Connecticut should study forest carbon offset allowances available through compliance and voluntary markets for reforestation, improved forest management, avoided conversion, and proforestation as well as programs that aggregate, evaluate and monitor forest offsets, in order to implement a system of paying landowners for enhanced carbon sequestration and storage with verifiable climate benefits and strict certification standards in place; and

(5) Protect Urban Forests, Build More Parks,and Plant More Trees–planting, re-planting, and caring for trees and establishing neighborhood parks in Connecticut's cities not only provides improved

health, reduced energy costs, and other co-benefits, but also often provides more equitable access to parks and the outdoors for people of color and other vulnerable communities disproportionately impacted by climate change. If this is implemented with appropriate community engagement rather than as a top-down program, this can result in more healthy, equitable, and resilient communities.[40]

[22]U.S. Climate Alliance. NWL Challenge. Retrieved from http://www.usclimatealliance.org/nwlchallenge-faqs

[23]Griscom, B., et al. (2017) Natural Climate Solutions. Proceedings of the National Academy of Sciences of the United States of America. https://doi.org/10.1073/pnas.1710465114

[24]McDonald, R., Kroeger, T., Boucher, T., Longzhu, W. & Salem, R. (2016). Planting Healthy Air: A global analysis of the role of urban trees in addressing particulate matter pollution and extreme heat. The Nature Conservancy. Retrieved June 10, 2020 from file:///C:/Users/lhayden/Downloads/20160825_PHA_Report_Final.pdf

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[26]Yang, J., Y. Chang, and P. Yan. (2015).Ranking the suitability of common urban tree species for controlling PM2.5 pollution. Atmospheric Pollution Research. 6(2): 267-277

[156]American Forests Magazine. TreeEquity Issue. Winter/Spring 2020. Found at https://www.ctwoodlands.org/sites/default/files//American-Forests%20Magazine%20Tree%20Equity%20Issue%202.11.20.pdf