REPORT OF THE CLIMATE FORESTRY COMMITTEE:
RECOMMENDATIONS FOR CLIMATE-ORIENTED
FOREST MANAGEMENT GUIDELINES
Massachusetts Executive Office of Energy and Environmental Affairs
January 3, 2024[1]

Excerpts from Report

"Unsurprisingly, disturbing the forests of Massachusetts as little as possible and allowing forests to grow and age through passive management is generally the best approach for maximizing carbon, ecological integrity, and soil health." (page 4)

"Massachusetts landscape history should be considered when establishing goals." (page 5)

"Recognizing the significant carbon implications of current goals, especially for early successional habitat, the Committee recommended that as Executive Order 618 'Biodiversity Conservation in Massachusetts' is implemented, consideration be given to new goals that 6 place less emphasis on early successional habitat and more on late successional habitat. (page 5)

"The Committee found no ecological rationale for salvage harvesting and noted that it usually represents a short term (10-20 year) carbon loss to the atmosphere in comparison to leaving the wood to decay." (page 6)

"The Committee generally agreed that passive management confers greater increases in carbon stocks than active, and that allowing forests to grow and age is typically best to maximize carbon storage. A few members argued that is critical to avoid the carbon loss that results from active management given the steep reduction in GHG emissions that must occur in coming decades." (page 6)

"They concluded that the most important way to preserve soil carbon is to allow forests to mature naturally…." (page 6)

"The CFC also suggested expanding the purview and expertise of the current Forest Reserve Science Advisory Committee, including to address outbreaks within reserves on land held by all three divisions." (page 7)

"Also, consistent with its advice to be more explicit and precise, particularly when managing for resilience, the Committee called on the Commonwealth to articulate its rationale for active forest management on Division of Water Supply Protection lands." (page 7)

"For example, agencies manage a lot of their land passively and the CFC called on them to do so intentionally." (page 8)

“As to reserves, the CFC recommended that at least 10% of the forest in Massachusetts (of all ownerships) be managed as reserves and that reserves on state land be codified to ensure long-term passive management.” (page 8)

“Regarding landowner and business incentives, highlights include a call for incentives to protect forest land and manage it passively.” (page 8)

“The Committee recommends that all three agencies clearly designate more of their forests to be passively managed as reserves” (page 26)

“The history of the Massachusetts landscape should be considered when establishing land management goals, because current forest cover is significantly altered and very different from that found centuries ago.” (page 26)

“The CFC recommends establishing habitat goals that place less emphasis on early successional habitat and more emphasis on late successional habitat and the development of old-growth forest characteristics.” (page 28)

“It also suggests that habitat goals be set across state agency land holdings and for all the natural land cover within Massachusetts in order to set priorities based on the most suitable land regardless of ownership and to consider carbon and other implications comprehensively.” (page 28)

On DFW lands: “Increase the goal for late successional and old-growth habitat, which is associated with carbon storage and is greatly underrepresented on the landscape compared to the historic amount.”(page 28)

“Reduce the goal for early successional habitat (e.g., grasslands, shrublands, young forests) given the current goal’s carbon implications, which include foregoing the climate benefit of sequestration by continually maintaining land as grassland or another early successional habitat. DFW currently has goals for early successional habitat types that are cumulatively up to 25% of Division land. A goal closer to the current management rate is also more likely to be achieved, given limited time and resources.” (page 28)

“Assess the extent to which early successional habitat is or could be continuously created in all forested areas of the Commonwealth, including public and private lands, as a result of ecological disturbances (e.g., extreme weather events, disease, pest infestations), potentially intensified by climate change, as well as by other management efforts (e.g., energy or transportation corridors). Then determine how much more state forest land should be dedicated to early successional habitat. The proliferation of energy and transportation land uses and corridors and the shift away from the use of herbicides to maintain electrical transmission corridors has resulted in a great abundance of grassland, shrubland, and early successional forest that is actively

maintained. Accounting for this large amount of habitat could reduce the need for early successional habitat on other forested land." (page 29)

"Reduce cutting of maturing forests to create early successional habitats to realize species regeneration and habitat goals. Instead, designate recently harvested areas, including those cleared of plantations and areas disturbed by natural processes, as early successional habitat. This could reduce the number and area of additional early successional habitats required to meet the needs of the species they support." (page 29)

"Retain early successional habitat, rather than allow it to mature only to create it elsewhere, where wildlife biologists indicate that this approach creates equivalent habitat." (page 29)

"The Committee strongly agreed that ecological disturbances, even when they are more frequent and intense due to human activity, are an important and necessary aspect of forest ecosystems as they serve to increase the structural and compositional complexity and dead wood that are often lacking in Massachusetts' forests because of the region's land-use history." (page 30)

"Provide additional funding as this practice increases management cost." (page 29)

"Consider the history of the Massachusetts landscape when re-evaluating habitat goals, including whether the decline of early successional species is a natural consequence of forest recovery and succession from past forest clearance, and whether active management for these species and their habitats is warranted in the context of an overall emphasis on natural land cover and climate mitigation." (page 29)

"Recognizing that a disturbed forest is still a forest, in most circumstances the Committee recommends that state land managers forego salvage harvesting and leave dead wood to realize the habitat quality and biodiversity benefits of increased structural diversity of the forest. The Committee also pointed out that disturbances help the agencies achieve their resilience goals insomuch as they diversify age classes and create opportunities for species establishment. In addition, areas of disturbance, particularly wind disturbance, may provide protection from herbivory and facilitate regeneration." (page 30)

"The Committee found that salvaging logging usually represents a short term (10-20 year) carbon loss to the atmosphere in comparison to leaving the wood to decay in the forest, that carbon benefits accrue only in limited circumstances, and that the practice may have negative effects on biodiversity." (page 30)

"The Committee was deeply skeptical of pre-salvage harvesting (removal before trees are affected by a pest or pathogen) and the notion that it is ecologically beneficial and indicated that it could only be justified in very narrow circumstances, such as trees

causing a public safety hazard or a rapid response to a novel detrimental species occurrence (e.g., Asian Long-Horned Beetle, Southern Pine Beetle). (page 30)

“However, they agreed that salvage of trees after a disturbance should not be the primary impetus for a timber harvest.” (page 30)

“The Committee found no ecological rationale for salvage harvesting on public land.” (page 31)

“They stated that it is important for state land managers to consider forgoing pre-salvage harvesting to allow individual trees with natural genetic immunity or resistance to survive and continue the existence of these species” (page 31)

“The Committee generally agreed that passive management would confer greater increases in carbon stocks compared with active management.” (page 32)

“Carbon Stocks & Sequestration…. The Committee strongly agreed that carbon storage is typically greatest in old forests and disproportionately in the largest trees, and that Massachusetts forests can continue to accumulate additional carbon for many decades if undisturbed, thus underscoring the importance of forest reserves for protection of carbon storage.” (page 33)

“Soils…. The Committee strongly agreed on the importance of the soil carbon pool, which is underappreciated and often larger than the amount of carbon found in living biomass. They concluded that the most important way to preserve soil carbon (and advance related climate and environmental objectives) is to allow forests to mature naturally….” (page 33)

“Planning, bidding, and execution of state forest management projects should exceed regulatory performance standards, and the agencies should be funded and staffed accordingly” (page 34)

“Some argued vociferously that the long history of forest change and recovery from historic changes in climate and natural and human disturbances indicate that little or nothing needs to be done to make forests more resilient.” (page 35)

“Those skeptical of active management took the position that Massachusetts’ forests have demonstrated inherent resilience to substantial environmental change in recent centuries” (page 36)

“Recognizing that resilience is often cited by agencies as a rationale for active forest management projects, the Committee suggested greater specificity, meaning avoidance of references to and pursuit of forest resilience in an open and undefined way.” (page 37)

“The Division (DCR) acknowledged to the Committee that active forest management is not necessary to maintain an abundant and clean water supply.” (page 42)

“Wood Production…. A few strongly [viewed] the moral imperative to address the climate emergency as superseding consideration of additional local harvest of timber. They argued that Massachusetts’ forests are better suited for removing and storing carbon, and other forests across the nation and around the world are better suited for producing forest products. They point out that Massachusetts forests are of an age and composition that is capable of accumulating large amounts of carbon out of the atmosphere in the critical decades between now and 2050 and beyond. In addition, they note that from a regional perspective, harvesting is the largest total source of emissions from forests relative to other disturbances.” (page 42-43)

“The Committee supported, first and foremost, societal reduction of resource consumption through efficiency….” (page 43)

“A critical cautionary note is that increasing the use of long-lived wood products and substituting them for other materials will not necessarily increase stored carbon or reduce net emissions if harvest volume is increased…. Some on the Committee also called for more impartial research on the carbon implications of substituting wood for other materials” (page 44)

“Set management goals considering the forests of Massachusetts in their entirety recognizing that forest land managed by state agencies does not exist in isolation. (page 45)

“Agencies manage a lot of their land passively; they should do so intentionally and state that.” (page 45)

“Protect significant forest areas in western Massachusetts to help create a large uninterrupted corridor of protected forest extending from Pennsylvania to Canada. (page 47)

“Conserve forest blocks that connect existing reserves.” (page 47)

“Increase the Commonwealth’s 2050 land conservation goal from 40% to 50% of Massachusetts to be consistent with what the IPCC has called for.” (page 47)

“Reduce unnecessary forest land conversion via collaboration across state agencies and complementary polices, infrastructure investments, and other actions (e.g., solar facilities, powerlines, highways, housing, or other development)…. Forest conversion on any given acre results in more carbon loss than harvesting on average, is more permanent, and also results in the loss of all other forest benefits.” (page 48)

“Expand the number and size of reserves, potentially to 10% of Massachusetts forests conserved and managed as reserves, a level consistent with the Wildlands, Woodlands, Farmlands, and Communities goal.” (page 48)

“Some Committee members suggested 30%, citing IPCC recommendations regarding climate and biodiversity.” (page 48)

“Codify reserves on state land to provide a higher level of protection than the administrative designation that currently applies.” (page 48)

“Some members of the Committee suggest that most conserved land be managed to remain in a natural state as the IPCC has called for (i.e., consistent with at least a U.S. Fish and Wildlife Service GAP 2 designation - essentially a reserve)” (page 48)

“Utilize, with appropriate updates to reflect circumstances unique to the other Divisions, the terminology, process, and criteria that DCR’s Division of State Parks and Recreation followed pursuant to its Landscape Designations for DCR Parks and Forests: Selection Criteria and Management Guidelines to explore the identification of additional reserves.” (page 48)

“Analyze reserves as benchmarks against which to measure the productivity and resilience of actively managed forests on public and private lands.” (page 52)

“Investigate ways for Chapter 61 to support passive management and potentially the creation of reserves on private lands.” (page 53)

“Investment in State Agencies…. The Committee recognizes that much is expected of our forests and the agencies that manage them, justifying additional actions and investments to assist with their proper stewardship.” (page 53)

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[1] Available at: https://www.mass.gov/doc/forests-as-climate-solutions-climate-forestry-committee-report-final/download