

Dear Energy and Environmental Affairs staff and Forest Management Guidelines Advisors,

I am writing today on behalf of the Sierra Club MA Chapter Forest Protection team to advocate for an end to logging on state- owned lands and designating them as permanent Wildlands. As the name Forests as Climate Solutions initiative suggests, we implore decisionmakers to remember that forests are most effective at accumulating carbon when they remain intact and untrammelled by human management (Harmon et al. 1990, Lewis et al. 2019, Moomaw et al. 2019, Leverett et al 2021). The easiest way for Massachusetts to preserve large tracts of land and contiguous corridors is to commit to the immediate cessation of logging on state-owned land and working separately with private landowners towards sustainable forestry. During this summer of global climate records and disasters, the urgency of protecting our natural lands is more apparent than ever.

What role should humans play in optimizing carbon storage and sequestration in forests? To advance other objectives such as clean water, habitat for rare species, or wood products?

The use of an economic model for how to harvest wood sustainably for forest products is worthwhile from a production perspective, but should not be conflated with actually using forests as a primary tool to address the climate and biodiversity crises. These are two separate issues. Letting intact forests stand, known as proforestation, provides the greatest public good and most carbon benefits (Moowmaw et al, 2019). There is strong evidence that not managing forests for water quality is prudent (Foster and Orwig, 2006). Managing ecosystems for rare species should also be a decision made carefully. Most of the rare or state-listed species remain rated as low conservation priority nationwide since they have more than sufficient numbers to remain viable (Kellet et al, 2023). The historical presence of many species preferring open land was elevated by widespread deforestation during European colonization and is currently favored largely for game species (Kellet et al, 2023). Proponents of making these dubious trade-offs are advocating for logging to create habitat for species that are nationally of low conservation priority. The calculation of the impacts of harvested wood products (HWP) is complex and uncertain (Johnston and Volker, 2019). Currently, according to DCR, fifty percent of wood removed from state-owned forests goes to HWP. Neither DCR nor the state has provided any explanation of this number, so its veracity is questionable. If, however, it is accurate, the commitment to a 5% increase in durable HWP means at least 45% of harvested wood will release its carbon into the atmosphere. While local wood products could replace imported ones, no details about the wood products economy have been provided.

What is your definition or concept of forest reserves? What, if any, is the role of human intervention in maintaining reserve conditions?

We support protecting public land in MA as reserves where the definition of reserves is the same as the definition of Wildlands in this year's *Wildlands in New England* report: "free-willed, being allowed to develop without significant human intervention once designated" (Foster et al., 2023). By defining reserves as shaped by natural process, human intervention cannot be used to maintain reserve conditions. Only 2.3% of the Massachusetts land base is

currently protected from logging and most of these wildlands are not permanently protected by statute (Foster et al., 2023). The *Wildlands in New England* report urges that at least 10 percent of the region should be set aside as Wildlands, an amount approximately equal to the percentage of land held in state-owned forest land (525,377 acres /5,175,349 acres).

According to the Massachusetts Climate Change Assessment (2022) degraded forest health is expected due to warming temperatures, changing precipitation, increasing pest occurrence, and more frequent and intense storms. What types of forest vulnerability do you think require effort to preserve, protect, fortify and/or enhance our state forest lands? What management practices or approaches do you suggest to make the forests of Massachusetts more resilient to the conditions projected by the Climate Change Assessment?

The application of active forest management to improve forest resilience to climate change is an experiment without controls and risks disrupting natural ecological processes (Foster and Orwig, 2006). With disturbances like storm damage and increased pest outbreaks, there is little disruption of the underlying biogeochemical and ecological processes (Foster and Orwig, 2006). Dead trees have value in forest ecosystems as habitat for many species (Thorn et al, 2020). Pre-emptive logging and salvaging infected trees can release soil carbon (Lacroix et al, 2016), generate erosion (Malvar et al, 2017), compact soil (Malvar et al, 2017), damage other trees, produce scarification, and increase the presence of some invasive species (McDonald et al, 2008). In fact, the biggest threat to forest health is logging; chronic logging reduces the biodiversity of some of the rarest species that thrive in older continuously forested areas (Moose et al, 2019). Older forests (>170 years) are less susceptible to the stresses of climate change (Thom et al, 2019); protecting more mature forests allows them to become older forests and reach this state of greater resilience.

The certainty of degradation expressed by the wording of the question is suspect. In the cited source, "[2022 Massachusetts Climate Change Assessment](#)," the idea relies on two footnoted sources. The first is a University of Massachusetts [webpage](#) that frames the idea that the confluence of a variety of factors may result in "forest degradation" as a question, not a fact. The second source is a DCR publication entitled "[Massachusetts State Forest Action Plan](#)." In that document, on page 86, DCR states: "It is unclear exactly how climate change will influence forested environments; increased levels of carbon dioxide and longer growing seasons may increase growth rates, while increased stressors may increase mortality. Monitoring forest resources is, therefore, crucial to adaptive management of changing forest environments." The framing question declaring "degraded forest health is expected" misrepresents the degree of our ability to predict the impacts of climate change and contributes to an unwarranted enthusiasm for active management. The term forest health often reflects forestry values based on the commercial value of trees and the most efficient production of wood products as opposed to climate-change mitigation values (Moowmaw et al, 2019, Jacobson, 2008).

DCR and DFW should collect rigorous scientific data on actively managed private lands and use public lands reserves as controls. This data should be made publicly available and easily accessible, so that the public has adequate data to make informed management decisions.

Optimizing carbon accumulation in state owned forests by designating them Wildlands and enlisting more private forest owners to participate in Chapter 61 programs and keep their land forested, since development is the greatest threat to forest cover, would significantly increase the carbon accumulation and climate mitigation ability of Massachusetts forests. The state says 1,450 acres of land are logged in state-owned forests annually. Development deforests 5,000 acres per year (Cooper and Gaertner, Public Meeting 9/12/23). If the state can convince enough land owners to accept management plans that result in and increase in 1,450 acres of logging on private land per year, making our state-owned forests Wildlands would not diminish the goals of local wood product production and logging industry support, but it would reduce thousands of acres of lost forest cover each year.

Sincerely,
Sierra Club Massachusetts Chapter Forest Protection Team

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