I am an environmental soil physicist / hydrologist who spent my career in the private sector investigating and remediating hazardous waste sites, including here in Massachusetts, and now am devoting myself to nonprofit volunteer work to protect land and water locally and regionally, including serving as the Board VP of the Nashua River Watershed Association (although I am not writing on behalf of the NRWA) and on the Fitchburg Conservation Commission.

We are in both a climate and biodiversity crisis. We will not effectively counter these dual crises without bold and dramatic changes to "business as usual". Representatives of the extraction (i.e., logging) industries urge their input into this process have a clear vested economic interest in continuing to have access to our public forests. Public forests belong to the people of the Commonwealth, not to the private sector. They are our largest single potential source of preservable forests in our state, and it is essential that they remain as intact as possible.

I would urge that those considering these comments recognize not only the critical roles that forests play in sequestering and storing carbon in our forests and forest soils, and in sustaining our ecosystems, but also in mitigating the most serious impacts of climate change that we are facing, specifically flooding and drought, which are two sides of the same coin. Forests provide essential hydrologic ecosystem services: enabling the infiltration of intense rainfall, slowing the flow of runoff during storms, and thereby reducing the magnitude of downstream floods. Likewise our public forests more than any other extensive tracts on our landscape enable large quantities of water to be stored in forest soils, reducing the impacts of droughts too. Larger tracts of mature and old growth forests do the best job of providing these hydrologic ecosystem services. When active forest management occurs in such forests, the sheer size of commonly used logging equipment often results in soil compaction, loss of infiltrability, increases erosion and downstream sedimentation, more invasive species, and intensified flooding and drought in downstream areas. Dead trees should be left alone to enhance habitat resilience.

The best way to counter our dual crises is to reduce usage of wood products by promoting reuse and repurposing of existing buildings and by building with durable materials including concrete and masonry, not wood. Green concrete is being developed that has a much lower carbon footprint than do wood products, if subjected to a true life-cycle assessment. I agree wholeheartedly with those commentors who have emphasized that permanent forest reserves, free from the hand of man need to be created on as much of our public forested lands as possible, following the National Park and Proforestation models wherever possible, with no logging allowed except on a limited basis in cases of public safety. I personally was able to create the first forest reserve here in Fitchburg, on 205 acres of municipal forested watershed land, part of our city's Northern Watershed, on which DFW holds a Conservation Restriction. This is largely a mature forest with a variety of species and age classes, and protects the largest wooded wetland within the ~2500 acres of Fitchburg's Northern Watershed. It is a vitally important tract due to the increasing fragmentation of surrounding forested lands that are in private hands and have been heavily logged in recent years.

Ralph S. Baker, Ph.D., Fitchburg