

First and Last Name	Affiliation	Date	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?	What is your definition or concept of forest reserves? What, if any, is the role of human intervention in maintaining reserve conditions?	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?	General Comments
John Scanlon	Individual	9/1/23 20:55:55	A more important question is What are the carbon storage and sequestration impacts of ending harvesting of wood products and shifting manufacturing of former wood products to non-wood alternative materials? What is the carbon budget for materials like concrete, steel, aluminum, etc. that are substituted for wood?	A forest reserve excludes harvest extraction of wood products to allow, to the greatest degree possible, natural process to shape forest ecosystem pattern and process. This allows comparison of forest diversity between harvested and un-harvested sites.	A focus on Forest Resiliency is key. To enhance resiliency diversify forest composition and age structure in accordance with local site conditions.	Environmental Justice is enhanced when we shoulder our own burden to meet more of our own wood needs. In Massachusetts, we currently import >95% of the wood products we consume, and we export the environmental and social costs of those wood products to communities with fewer social and environmental protections than we have here.
Miriam Kurland	Individual	9/2/23 12:01:15	Humans should allow nature to do what it does to keep the necessary balance for life to survive. Humans should not interfere with the natural ability of forests to optimize carbon storage and sequestration, as well as its importance for habitat of all forest species, clean water, clean air. We can reduce our reliance on wood products and consumerism. We can replace many wood products with fast growing plants such as hemp and bamboo grown in already disturbed lands. We should place renewable energy systems on already disturbed lands and rooftops and work hard to reduce our consumption of energy altogether.	Forest reserves should be wild places where nature's rights are respected. Humans should be able to find solace and calm to restore their relationship with nature and to gain respect for nature's wisdom to manage itself as it has done for millions of years. The only role for humans is to nurture nature and to teach others how to nurture and respect nature.	If the state has any authentic concern about the future health of our forests due to the climate change catastrophe that we ourselves have created, it should let the forest itself lead the way to find adjustment and balance. Ecology and environmental Science is proving that the forest itself has proven itself to be wiser and more effective than any kinds of interventions we have provided.	If you truly care about the future of life on our planet, please demonstrate that by allowing our public lands to all be protected from all commercial logging.. Thank you.
Kirstin Beatty	NGO/Community Group/Non-profit	9/4/23 21:26:39	Related to biodiversity, humans can help identify harmful invasive plants and animals for removal and foster biodiverse ecosystems, including rare plants within an ecosystem of native plants. Although often human beings are not encouraged to touch or remove anything from public forests, perhaps we can design working natural systems that allow harvesting invasives while returning in a compatible fashion the quantity removed in a way that does not introduce foreign materials such as but not limited to worms and bacteria. This would need careful parameters and education to prevent abuse, such as has been seen with over-harvesting of rare plants such as American ginseng or medicinal mushrooms. We need more well-educated people to take care of forest biodiversity, including with attention to research on harmful invasive species that limit biodiversity and sustainability. We also need to set some protections around trees just as we have protections for endangered animals. Related to wood products, logging in public forests and on state land definitely needs to end such that stiff penalties must exist for private actors as well as state actors. If an area must be logged, then the wood should be left in the same area to return to the earth or burned in the same area and a climate impact analysis should not be circumvented. Trees need protection now more than ever because they are not reproducing or being replaced as quickly as being cut -- a seedling does not count for a whole tree -- and because trees face increasing disease and climate change. Forest ecosystems need to be recognized as endangered. Regulations need to limit logging on private land as well. While private land is difficult to regulate as far as logging, the endangered species act shows it is possible. Basic limits can include prevention of cutting of trees over a certain size except under certain conditions (potential harm) as in particular larger and older trees set more seed. Since construction and sprawl are an issue, additional requirements can include to donate forested land of twice the amount when logging private land for construction, or purchasing equivalent tracts of contiguous land to expand and connect state parks since connectivity is necessary for a healthy forest and for healthy habitat. In addition, garden centers need greater limits in the types of plants and soil they can provide, as they	Forest reserves are forests protected from overconsumption, in order to provide for clean air, water, soil, and continuing forest and habitat for other species as well as opportunities for appreciation and education by human beings. The role of human intervention is to secure sustainability and biodiversity in these forest reserves, including by allowing sustainability research, removal of harmful invasives, regulated human interaction for forest protection, insuring consumption of any kind does not harm the forest and that penalties exist for causing harm, including state and private actors.	Staff caring for forests need more investment, independent research funds, and education to insure that they can consider all parts of the forest including soil, roots, plant communities, etc., and that they can have the staff to assist with caretaking on a significant scale since few volunteers exist today. Research also indicates that radiofrequencies (e.g. hertz, kilohertz, megahertz, and other frequency bands) undermine the health of plants including trees, leading to increased disease, changes in soil composition, and loss of important nutrients like nitrogen. Within and near public forests and state land, Massachusetts needs to limit technologies that add these radiofrequencies to our air and soil, including large windmills and solar farms which create and transfer extremely powerful electrical and magnetic fields -- as well as other sources of radiofrequencies such as cell towers. Massachusetts needs to take a stand on this because the satellites being thrust into space by Elon Musk and others are a similar risk to all plant life, as well as the consumerist plans to establish smart cities, smart cars, etc. While not commonly known, the increase of radiofrequencies actually heats the air as well, and quite an unregulated large amount.	
Eric Boudreau	Individual	9/5/23 10:47:36	The commonwealth need to strongly discourage the development of natural land (forested or otherwise) through fees/surcharges and needs to strongly incentivize the redevelopment of altered land, especially underused parking lots (which most are) by banning parking minimums, subsidizing development of solar canopies over parking lots and other developed spaces, etc. It has to economically advantageous to do the right thing, period. We can't count on local municipalities to fix their drivers of climate change/environment degradation since they are often stuck in the past and the loud anti-change anti-regulation voices have too much sway at the local level. We also need to fix zoning at the state level: eliminate single family zones, excessive lot sizes and setback requirements, establish compatible mixed use zoning by default (e.g. people shouldn't have to get in their cars for groceries and basics). Zoning drives car-centric development, development of pristine land, excessive centralization of commercial activity, and sprawl, and its a big problem.	? I don't see the point of focusing on forest land. Trees are critical and need to be preserved at all levels. E.g. missing street trees need to be replaced to cool pavement and calm traffic. Large and small scale clearing needs to stop (or enforceable replacement plans in place). One method of discouraging tree removal would be fees based on the amount of captured carbon in trees, as well as future sequestration. A subsidy for new plantings would be helpful. Again this needs to happen at the state level, local governments are unreliable.	This is not a clear question. We have forest professionals for this, maybe they should focus on this instead of logging (monetizing public lands).	It makes zero sense to deforest land for solar development, and the practice needs to stop. There is a myriad of threats to trees and forests, and the environment as a whole that require a variety of solutions. The focus on only a few drivers of deforestation is discouraging. We need to fix transportation (developing complete networks of alternative mode transportation, not just cars, stop adding motor vehicle lanes, etc), we need to fix zoning to stimulate development of dense, self-sufficient "villages" everywhere instead of concentrations of housing and commercial, stimulate development of greenspace and limit hardscape (e.g. huge parking lots that are largely empty over a 24hr period).
Sam Scoppettone	Individual	9/5/23 10:59:31	We should consider ways that human management of forests can increase the carbon storage capacity of those resources. For example, by harvesting smaller trees, larger ones can be encouraged to grow bigger, resulting in a net increase of carbon storage. Active management can also be beneficial for restoring and increasing the biodiversity of forests and keeping a check on invasive species that may be harmful for biodiversity or carbon storage benefits.	Forests are a natural resources that needs to be carefully managed. Although other states and Canada provide most of the forest products, Massachusetts should be mindful of supply chain disruptions and the potential need to rely on our own resources in the future. We also need to store as much carbon as possible and expand the forests where it makes sense.	Promote the growth of native species that are more resilient in the face of extreme weather and recognizing how the climate is expected to change. Current native species will shift their range due to climate change and we can anticipate that by starting to plant trees that will survive in 50-100 years.	We need stronger forest protections with respect to the ability of rural landowners to sell their property for development, especially low-density leapfrog sprawl that cuts holes in the forest. As a certified professional land use planner, I believe we desperately need land use regulatory reform in Massachusetts. In countries with stronger laws, residential development is only allowed adjacent to existing communities. They have strong protections on agricultural and forested landscapes. Banning disconnected developments will help protect forests and help reduce one of the primary unaddressed causes of climate change which is transportation emissions.
Craig Martin	Individual	9/5/23 11:06:45	Humans have to act fast and boldly to optimize carbon storage/sequestration and reduce the use of fossil fuels. Solar and other renewables are critical to that. Massachusetts is heavily forested and it seems that we simply must convert some forest land to more effective solar installations. My home is surrounded by forest, but I can't let NIMBY attitudes alter that assessment. As long as there is a reasonable buffer between my property and the solar installation, I would not object to solar installations near my home. Unfortunately, I feel that I will lose friends if I take that position publicly. There is a very vocal minority driving the current obstruction to progress. We need leaders who are more bold than I...	It is my understanding that most of Massachusetts forest land is under an agricultural tax exemption. This requires harvesting trees every 30 years or so. The idea that carbon is effectively sequestered by these forests is naively short term. Forest reserves should be under a different status that allows for the long term establishment of "old growth" forests. This likely means public or non-profit purchase to insure that long term. The Commonwealth should foster this, while at the same time stand against the NIMBY minority.	This is spot on. Opposition to the placement of solar in a relatively small fraction of Massachusetts forests presents a hazard to ALL forested land in the Commonwealth. The best way to protect our forests is to stop the progression of Climate Change and its impact on our forests. We must act fast and boldly.	A not small amount of agricultural land in the Pioneer Valley is devoted to tobacco. Conversion of those fields to solar would not adversely impact humanity, while favorably impacting humanity. Of course, this brings up individual property rights. The same ones challenged in the forest debate.
	Individual	9/5/23 19:24:08	Humans are responsible for such extensive damage to forests, it is our responsibility to do all we can to help restore their health to the extent possible. Yes to advancing objectives such as clean water and habitat for threatened / endangered species. Yes to (carefully) contributing to tree longevity & diversity, which will help with carbon.		Management: Do all possible to stop clear cutting & high grading practices that lead to fragmentation and thus increase the vulnerability of future forest health. Leave as much as possible intact and whole.	

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cinda jones	Not listed or N/A	9/6/23 12:57:28	Please consult unbiased scientists and consider facts and consequences. Not the general public's feelings. Would you ask the general public how much chlorine to put in your DCR swimming pools? NO. They might say none or a lot but there are scientific standards for chlorine in pools. Just as there are scientific standards for managing forests for greatest sustainability through weather disasters and time. Please stop asking people about their feelings and manage forests based on SCIENCE. Ask Bill Van Doren. Please consider the total factors contributing to global warming and climate change and react to all, not just land takings. For example compare Cow and other animal farts' contributions to climate change as they measure beyond forest influence. Watch the film Cowspiracy on Netflix.	enough	It's critical we manage forests to fight vulnerability to major storms. Even aged mature forests will not withstand weather disasters like various aged working forests. Please study the science and stop making emotional decisions.	
Emma Stamas	Individual	9/7/23 14:57:49	Especially in Western,MA humans need to demand that our state forest management end the practice of cutting trees for firewood and for sale to make pellets or lumber because these forests are receiving adequate rainfall and have resisted many diseases due to colder winter temperatures and are now serving as watersheds and places to hike and xc ski on existing old roads. Logging decreases the number of mature native hemlock and white pine and disrupts the ecosystem and the ability to enjoy recreation and cooler temperatures without driving long distances. Fallen branches and trees and brush along the roadside and in driveways and yards, should be use for firewood and pellets instead because this wood is more easily accessible and already dead. The logging that has been done recently has caused erosion and road damage and ruined recreational use of the old roads. The amount of Green House gases emitted in the process of cutting trees and transporting them out is huge due to remote locations and steep topography and the loss of dense mature forest. Where mature trees have been removed the brush that grows up is so dense that young hemlocks and white pines are choked out and scrubby poplars and birch and brambles thrive.	Wherever state forest are next to private undeveloped lands such as we see in Colrain, my home, we currently have some healthy forest reserves that have not been cut in over 75 to 100 years. These are healthy forest ecosystems that allow wildlife and native trees and plants to thrive.	We hike weekly all over Northwestern MA and have not seen insect damage except in the warmer and dryer locations. This year we got significantly more rainfall and colder winter temperatures in these higher elevation areas.	The wood cut along our roads in Colrain for clearing our utility lines for FIOS has not been used because we have so much. Some people have cut dozens of cords of firewood but the soft wood trees are usually too costly to move to lumber making areas. It would be costly and wasteful to cut more wood from deeper into the forest. Please end this wasteful practice.
Matt L. Barron	Individual	9/8/23 7:46:36	We can have clean water, wildlife habitat and protection of rare species as well as forest and wood products it is not an either/or proposition.	I agree with the results of the Forest Futures Visioning Process 2010-2012 which designated reserves as the largest segment of state-owned forest lands: Reserves (111,227 acres), Parklands (77,331 acres) which totals 188,558 acres (60.7%). Woodlands (122,108 acres) which totals 39.3%. 277 acres undesignated.	I support the statements from the IPCC Special Report on Climate Change and Land from 2019: "In the long term, a sustainable forest management strategy aimed at maintaining or increasing forest carbon stocks, while producing an annual sustained yield of timber, fiber, or energy from the forest, will generate the largest sustained mitigation benefit." And, "Sustainable forest management can reduce the extent of forest conversion to non-forest uses. Sustainable forest management aimed at providing timber, fiber, biomass, non-timber resources, and other ecosystem functions and services, can lower GHG emissions and can contribute to adaptation. (high confidence)."	Massachusetts is 61% forested, (the 8th most-forested state despite being the third most densely populated state behind NJ and RI) and private landowners (like me) own 64% of those forests, many in smaller parcels. The Bay State forest product industry is responsible for \$3 billion in economic activity in the state and 17,000 jobs - much of which takes place in rural communities where jobs are precious. Here in the hilltowns of western MA, our loggers and sawmills depend on bids for harvests on state owned woodlands for their livelihoods. According to the US Forest Service's 2019 Forest Inventory & Analysis, annual tree growth in Massachusetts was 206 million cubic feet while annual tree harvesting was only 25 million cubic feet. This means that annual growth outweighs harvesting by 724%. Annual tree mortality from insects, diseases, climate change stress, overcrowding and other factors accounted for another 81 million cubic feet. The Healey administration should lift the ill-advised hold on timber harvests on DCR and DFG woodlands.
Matt L. Barron	Individual	9/8/23 9:22:43				Just to follow up on my previous comment, the rural towns which host most of the state's woodlands have very thin economic bases. In Chesterfield where I reside, we have almost no commercial/industrial tax base. The town's fiscal health is sustained by mostly senior citizens on fixed incomes. For decades, the Payments In-Lieu of Taxes (PILOT) program in the state budget along with regional school transportation reimbursements have not been fully funded as mandated by state law. Income from stumpage sold on state lands: FY 2018 (\$571,785.94 statewide), FY 2017 (\$355,535.56 western Massachusetts) Source: Massachusetts Department of Conservation & Recreation. Some of this income comes back to the host community of the state forest where the harvest was done. It may not be much but to those of us in rural Massachusetts, a few crumbs are better than nothing. Between 2014-2018, DCR has treated 3,400 acres resulting in the sale of 11,627 MBF of sawtimber, 5,980 cords of pulp and firewood and 23,372 tons of chips. Revenue to the state has been \$2.329 million (including infrastructure improvements) with payments to cities and towns totaling \$130,000 Source: DCR.
Laura MacLeod	NGO/Community Group/Non-profit	9/8/23 11:08:46	At this extreme point in time, humans, better said decision makers, must leave native forests alone and help restore them, massively and urgently. This is the only option to optimize carbon storage and sequestration, we know forests are carbon sinks, biodiversity compounds, water reservoirs. If you continue logging, thinning and burning you are calling for more ecocide, more unnecessary destruction. Want another Canada wildfire in MA? Better start organizing your life with fully upcycled plastic products instead of wood. The fossil fuel and plastic companies can help to reuse and recycle their plastics trash nobody wants.	IDEM ABOVE NO human intervention unless you really care for them, plant more, save wildlife and water. You know, act like Nature. In this climate crisis, you must help Nature, follow her guidelines!	The CCA did not include the public in full who want to keep our forests intact. Those conditions were human-made by intense burning, logging, thinning our forests. So now fix it by minimal human management to preserve, protect, fortify and/or enhance our state forest lands, or what's left. For sure the protection should have been made 40 years ago by decision makers. Now we are in the final countdown. Contact the serious NGOs working hard to save her, we know what to do to save us all from the final catastrophe happening!	1% is the protection of our MA forest and lands!. High time to make them untouchables FOREVER so increase the percentage massively and urgently to save our forests, and us.
Carrie Ferguson	Individual	9/10/23 11:07:13	We need to stop harvesting forests and focus on preserving them and keeping them healthy. Solar should absolutely NOT go in forested lands. We need to focus on maintaining the existence and health of forests for carbon sequestration, and habitat. Frankly, wood products should be the absolute last priority.	Healthy forests need to be a massive priority. We should be growing more forest, not chopping them down.	We need to ban the practice of replacing forests with solar. We need to stop harvesting trees. We need to start planting more trees. I think there should be financial incentives, similar to agricultural subsidies, for NOT logging on private land. In other words, people get paid to not harvest their private timber stands.	This is so important! Thank you for working on this stuff.

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Linda Wood	Individual	9/11/23 5:14:12	Thoughtful forest management can increase rate of carbon sequestration of the forest, over time, by maintaining a large portion of a forest in young and middle age classes (typically 20-60 years old) which sequester carbon at the fastest rate. Good management also removes some declining or damaged trees before they die or decay, capturing some of the carbon in forest products before it would be released through decay. Probably the most important thing good management does is give the better formed trees and/or preferred species room to grow, thus allowing them to sequester more carbon quicker. These types of trees also tend to produce more of the better-quality wood that typically is required for products with a longer life span such as lumber for quality furniture or buildings instead of being just fuel wood or pulp. Forest management when done with current best management practices helps maintain clean water. Foresters are trained in habitat management, and typically consider potential effects on wildlife when considering type of treatment to do. Most treatments are typically beneficial to many species and can be very beneficial to some of our rare species that are dependent on open areas and young forest which are currently underrepresented in Massachusetts.	The problem I see with reserves is if no management such as timber salvage, pest or invasive species control etc. is allowed then unintended and unforeseen consequences can occur. Reserves also take away significant amounts of forest products that could lessen the effects of climate change as addressed in # 1. One of the predicted impacts of climate change is the increase of forest pests, both native and exotic, and resulting mortality of trees. Changing temperature extremes, precipitation amounts and intensities and increased wind events all typically have negative impacts on forest health. A lot of land is in reserves out west and they are experiencing significant insect and fire problems. There will always be areas that aren't suitable for management and will be left to grow old. In Massachusetts we already have, particularly on state land, an abundance of trees over 100 years old which is also about the age when carbon sequestration at the forest level really slows down.	Our forests are being attacked by an increasing number of non-native insects and diseases, seems like at least one new one every year. The only major tree species in the state that I can think of that don't have a severe pest are Black Cherry and our birches but even those are impacted by spongy moth and several diseases, and none of those species make up a large portion of most of our forests and none have long life spans. We are also way overdue for a major hurricane and are seeing an increase in tornadoes. Younger, vigorously growing forests tend to be more resilient to many environmental stressors. Creating more of these young forests should be encouraged while maintaining some of all age classes. A typical recommendation is for 10-15% in young trees (0-20 year-old) and old trees (100 years +) with remaining 70-80% in the 20-99 year old age class. Various types of silviculture should be implemented, depending on the site and management goals, so that a diverse forest, which is also inherently resilient, will develop. Creating conditions that encourage diverse regeneration of trees of varying light tolerance is important and is often best achieved by creating openings of an acre or more. Regenerating our older forests also allows for species migration which will help with mitigating the effects of a warming climate. Another thing that will help with making our forests more resilient is to allow and encourage hunting of both deer and moose in areas where their numbers are higher than the land will support. These areas are identified by heavy browsing of preferred species, or lack of same species and usually have a dense cover of non-browsed species such as ferns. Much of the forest in central and eastern Massachusetts are seeing these effects. Similarly, and often related, is the prevalence of invasive plants that are dominating the forest floor in many regions. Control of these and non-native insects needs to be made a priority if we want a healthy, diverse, and resilient forest! Ideally new ones will be kept out. Foresters and timber harvesters got into those professions because they love forests and nature. They	Climate change is a global problem. We need to reduce use of fossil fuels (keep the oil in the ground). That is carbon that normally shouldn't be cycling whereas carbon in wood will be released one way or another. Everyone needs a home and wood is the only renewable building material we have. We are capable of managing forests sustainably and have been for decades. It is the best solution in the long run.
Michael Doane	Individual	9/11/23 13:59:47	Wood products	MA has more than adequate forest reserves	State first lands need to be better managed for all age classes of forest	Our state forests in Essex County are very poorly managed. Better management is the key
Jeremiah Oftedahl	Individual	9/11/23 14:47:25	None. Humans should manage forests for optimum production of forest products together with recreational opportunities, wildlife, watershed protection and stabilization of stream flow. Carbon is in a cycle, where it is temporarily stored then released in perpetuity.	Trees retained on a site (timber sale) for recreation, wildlife, watershed, and genetic values. Humans should retain 3% of the primary type of the post harvest.	Forests lacking diverse age classes and diverse cover types are vulnerable. State forests should be managed by timber harvests to provide maximum age class diversity and species richness.	Professional foresters need to make site level management decisions based on forest stand condition, age, health, and landscape resources.
Dhruv Kaushal	Individual	9/11/23 15:24:09	Carbon storage and sequestration are important objectives for the state, but management should consider these objectives alongside other objectives including habitat diversity and forest resilience.			As someone who loves the outdoors, I am concerned that management of state forest lands is skewed too far toward the preservation of old-growth at the expense of forest health and habitat diversity. While the current approach may be favorable from a carbon capture and sequestration perspective, I worry about the resilience of state forests to climate-change driven disturbance, and about the consequences of the current policy favoring homogenous old-growth forests on the survival of early successional species such as grouse in the Commonwealth. I am in favor of any management practices that will improve the diversity, habitat quality and overall health of state forests.
Tom Keer	Individual	9/11/23 15:29:06	As we typically are the ones who create carbon (and poor water or reduce habitat for rare species, etc) the onus is on us to take care of our environment.	A forest reserve is an area set aside and preserved. People should seek to increase the amount of reserved forests. But that's not enough because we need to conserve that land, too. By that I mean creating a mosaic of primary and secondary growth (young) forests, wetlands, fields, and mature woods. Biodiversity is key. In Massachusetts, our forest reserves are too old and not healthy for many species that require young forests.	Answered above.	
John Deery	Individual	9/11/23 15:48:15	Humans must play a role in the objectives noted above. Human activity over the past 2 centuries has clearly led to significant climate change. We now have the knowledge and consequently the responsibility to make positive and intentional changes. It is my observation that people generally tend to do only what they deem to be in their best interests - and most often as relates to immediate circumstances with little thought to the future; acting much like children or adolescents. I believe that's those who 'know better' - the adults in the room (armed with and back by scientific knowledge) must take charge and do what is best for all concerned. Now, and in the future. Such is the case with forest and wildlife management.	Clearly we need forests of all age classes and biodiversity. Humans are responsible for creating the conditions that have resulted in a lack of both. We must take action to remedy our mistakes.	Active management as per current 'best practices' on state owned lands is a good start. However, there are huge tracts of stagnant monoculture forests under the control of many different Conservation groups throughout the state. These groups should/must be part of the conversation and included in order to maximize positive impact.	MA is a leader in many respects when it comes to forest and wildlife management. Its' citizens are fortunate to be able to enjoy the benefits associated with modern/active management that will impact generations to come. Let's keep our 'foot on the gas'.

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Paul Boundy	Individual	9/11/23 19:32:49	Due humans being the leading cause of global warming and the destruction of the ozone, they need to be twice as active in the restoration of clean air, water and the optimizing of carbon storage utilizing the return of native grasses and new growth forests.	I'm unfamiliar with the terminology. I am not a proponent of massive clear cutting but believe in selective forestry to increase the diversity of our forest. The lack of any cutting has resulted in tent like canopies shading and covering the forests' floors that encourages wild fires and destroys the habitat for many many species of birds and animals.	Selective cutting and plantings of native plants and grasses.	<p>5 points that should be discussed;</p> <p>There are 570 Species of Greatest Conservation Need in the Massachusetts State Wildlife Action Plan – the loss of habitat and forest age class diversity is one of the leading factors. This issue is attributed in large part to wide-ranging habitat decline and a lack of forest habitat diversity.</p> <p>Healthy, natural forests are age-diverse, like a community or family with multiple generations, young and old. A movement toward healthy forests means more diverse forests on our public and private lands. This will benefit numerous forest-dwelling wildlife and bird species.</p> <p>There's a link between forest age class diversity loss and wildlife declines. Forest habitat diversity was historically maintained by natural disturbances – which have largely been suppressed in New England for more than a century. Sustainable forestry emulates natural forest disturbances to create a much-needed balance of tree ages, species and habitat types that are good for wildlife and ecosystem resiliency.</p> <p>A concerted effort is needed to ensure resilient, climate-adapted, diverse forest landscapes throughout Massachusetts. Sustainable forestry is a critical part of the Department of Conservation & Recreation's conservation toolkit to get us there.</p> <p>Balanced, resilient forests provide whole ecosystem benefits – clean air and water, recreation, open space and abundant wildlife habitat.</p> <p>Thank you.</p> <p>Paul</p>
Steven La Rivee	NGO/Community Group/Non-profit	9/11/23 23:50:12	We need to manage responsibly. We saw what happened in Canada this year with over 37 million acres of unmanaged forest burned. Irresponsible decisions to allow open canopy woodlands become closed canopy forest endangers the forest, Dense forest with a closed canopy causes greater competition for limited nutrients increasing the chance of disease. Biodiversity of flora and fauna is reduced and eventually some species will leave or become threatened, endangered or even extinct. This is simply because the land lacks the carrying capacity needed to support them. When a fire starts and it burns like it did in Canada, what happens to all that captured carbon. The answer is it gets released. Please look at the larger picture and make responsible decisions by using the Best Management Practices instead of the newest fad.	I looked up the definition according to mass.gov. Forest reserves are portions of state land where commercial harvesting of wood products is excluded in order to capture elements of biodiversity that can be missing from Sustainable harvesting sites. I believe that we should manage for biodiversity using Best Management Practices for each portion of land on an individual basis. Each individual ecosystem needs to be managed based on its particular needs. I noticed that carbon sequestration isn't in the states definition of a Forest Reserve. How is it that we are now pleading for responsible management to protect our state lands from those twisting everything to fit their agenda.	I believe we can all agree that the climate is changing. However I don't understand why we let the same people that said the world would die years ago tell us the end is just around the corner again and again. I don't hear anything about the damage their proposals will cause. You manage each ecosystem based on it's particular needs not some cookie cutter plan. The Climate Change Assessment is flawed. The thought that old growth forest would solve the carbon problem is naïve at best. Supporting a mandatory move to electric vehicle without considering the massive damage it will cause shows that personal agenda is more important than positive results. I would suggest sitting down with a group of people that have varying thoughts on the subject being discussed. Then you have to be willing to actually listen to and consider what they have to say. Doing the wrong thing to achieve a goal is still the wrong thing to do.	The best way to resolve an issue is to have an open mind and surround yourself with people of varying thoughts. Keeping it civil, have each person present their views one at a time and then take the common opinions as a starting point. Then ask a person with a different idea why they think you should agree with them. Remember this only works if you keep an open mind and a civil tongue.
John Conkey	Individual	9/12/23 5:43:27	Management of State forests.	Forest reserves are bad for environmental outcomes	If the state is actually interested in climate health. They should be managing all of their properties to maintain a healthy forest. Witch has been proven over and over!	Massachusetts has become the most unmanaged forest in this country. Shame on the political pressure!
Paul Johnson	NGO/Community Group/Non-profit	9/12/23 9:47:35	Humans should provide consistent, non-politically driven decisions regarding management of forests and the species that live within it. Decisions that advance reasonable objectives pertaining to clean air, good habitat and wise use of wood products will result in widespread support across the political spectrum.	Our role in maintaining the condition of forest reserves should be determined by actual condition of the resource and not driven by political agendas. Forest reserves should support management of species in balance with the habitat.	Humans need to react to actual conditions not politically motivated expectations. We need to formulate plans that address actual forest vulnerabilities based on science and which utilize a broad range of management options including commercial forestry and other practices that create and manage forests. These plans should produce a mix of healthy forests including old growth, mature and transitional habitats.	The challenge faced in resource management today is to avoid single issue constituencies which seek to monopolize political discussion. We should be managing our forests for forest health, not carbon sequestration. Forests which are healthy and balanced will support a broad range of healthy wildlife populations and support sustainable production of wood products. Carbon sequestration will be a natural end result of proper management.
David King	Individual	9/12/23 17:33:53	It is apparent to me from my experience on my land our forests lack species and structural diversity. Trained foresters, working with ecologists, should evaluate stands to develop strategies to make them more resilient to climate change and other stressors using active management (logging) as they judge appropriate.	Old growth stands should all be forest reserves, and active management avoided except in cases of pest and invasive control. Other stands that have a high potential to achieve a steady state of high ecological value, like old growth conditions, should also be prioritized.	From what I hear, long term monitoring of forest conditions across the Commonwealth show there is a lack of species and age class diversity across much or even most of our forests. This means if a pest arrives in that stand, it is more likely to wipe everything out, and in the absence of understory growth stimulated by active management, there will be nothing to replace the canopy trees for a long time.	As a youth in Maine we used to ramble among the dense hemlock woods that populated the sloped ravine on the western extent of our property. The darkness in those stands were so deep that sparks would fly across your vision as your eyes futilely sought the light. As the cleansing scourge of the deep winter freezes began to fade into memory, the hemlock wooly adelgid arrived to infest the woods. The forest at that point was single age, having reclaimed open pasture used for sheep farming. The forest grew dense, as a monoculture of hemlock, shading out all understory vegetation, and ultimately starving all trees of sufficient space and light. The canopy began to thin, starved for water and nutrients, making them even more vulnerable to the adelgid. Several years ago at the urging of a local forester, and the state extension, we initiated a salvage operation to remove any trees that had residual value, but as importantly, to start some new growth to form the future forest. Unfortunately, we were too late, many of the hemlocks were too gone to be valuable, and started crashing down across the property in a mat of downed trunks and branches. Because the canopy had been so dense, there were no young trees to take the place of those that were vacating the canopy. If 25 years previously we had logged the property to thin the canopy and give space and light to a new cohort of diverse species to take the place of the dying canopy, perhaps now we would still have a forest. But instead, due to our negligence, we have 20 acres of scattered, doomed hemlock and deformed light-starved pines. When forest ecologists express concern about the unnaturally homogeneous eastern forest, this is why they are worried, and when they talk about how forest management can improve forest health and resiliency, this is what they mean.

First and Last Name	Affiliation	Date	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?	What is your definition or concept of forest reserves? What, if any, is the role of human intervention in maintaining reserve conditions?	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?	General Comments
Chase Davidson	Individual	9/12/23 18:04:59	This involves sustainable forest management practices, carbon accounting, and biodiversity conservation. Additionally, efforts should focus on protecting watersheds, controlling erosion, and enhancing habitat for rare species. Collaboration, education, and policy support are essential to balance these goals and ensure forests continue to serve as vital carbon sinks while meeting various ecological and economic needs.	A forest reserve is an area of land that is set aside and legally protected for the primary purpose of conserving and protecting its natural ecosystems, including the flora and fauna within it. The role of human intervention in forest reserves is to strike a balance between preserving the natural state of these ecosystems and addressing threats that arise from human activities and external factors. Effective management, research, and protection are essential to ensure that forest reserves continue to fulfill their conservation objectives.	To fortify Massachusetts' forests against the challenges posed by climate change, a comprehensive strategy encompassing diverse elements is imperative. Here's a cohesive plan: Species Diversification: The first step involves promoting the cultivation of a diverse range of tree species, each adapted to the shifting climate. This strategy mitigates vulnerabilities to temperature extremes and water stress by ensuring the ecosystem's adaptability. Forest Buffer Zones: Alongside species diversification, the establishment and diligent maintenance of wider forest buffer zones along water bodies and critical infrastructure form a protective shield. This action helps reduce the risk of damage caused by increasingly intense storms, safeguarding both the ecosystem and human structures. Selective Harvesting: In tandem with these protective measures, prioritizing selective harvesting methods becomes crucial. By retaining larger, more resilient trees, we minimize the risk of windthrow during storms and maintain the forest's structural integrity. Riparian Zone Protection: To ensure pristine water quality in streams and rivers, enhancing riparian buffer zones is essential. This effort significantly reduces sedimentation and safeguards aquatic habitats while improving water quality for both wildlife and communities downstream. Sustainable Logging Practices: Enforcing sustainable logging practices is a foundational pillar. These practices must minimize soil disturbance and erosion during timber harvesting operations, preserving the ecosystem's overall health. Habitat Preservation: Identifying and protecting critical habitats within forests are paramount. This ensures the survival of rare and sensitive species, maintaining the biodiversity essential for a resilient ecosystem.	"Protecting biodiversity is not a separate issue from combating climate change; it is, in fact, one of the most effective ways to do so." - Sir David Attenborough
Tim Krusell	Individual	9/12/23 18:56:45	In some situations humans can play a helpful role in all of these things. Forest management and harvesting can preserve early stage habitat types that are critical for many rare and endangered species. Harvesting lumber results in long term storage of forest carbon and the resulting new growth stores more carbon than an older stand would. Management will also help with forest health and resilience that will	untouched forest that are only managed at a bare minimum for habitat type or in event of disease or catastrophe	All of these vulnerabilities require effort to protect our lands. I think any and all management practices as recommended by foresters will be key in preserving our forests.	Please listen to the science and not the fearmongering regarding logging. Logging is just one aspect of management and has it's place when it is useful for forest health. Private landowners will need to be incentivized to adopt climate smart management practices.
Ralph Baker	Individual	9/12/23 20:42:21	When it comes to our Public state-owned forests, humans should play as passive a role as possible. Let those forests owned by the private sector be managed if the landowners wish them to be.	Essentially wildlands, as defined in the Woodlands and Wildlands Initiative. Human intervention is neither required nor desirable in wildlands. We have no way of knowing at this time what alleles are present in certain trees that will make them more resilient to climate changes than would be young forests that would replace them if cut.	Please see my answer above to item #8. We need to let nature take its course to the extent possible in our public forest reserves. In the face of a very uncertain future, we need to do everything possible to protect our planet against warming, and not let it be determined by a current limited view of what is defined as a "healthy forest".	Please read and post on the public comment site the written comments I am emailing today to guidelines@mass.gov.
Jennifer Fanning	NGO/Community Group/Non-profit	9/12/23 22:04:23	Humans who are in a position of responsibility and public trust, such as elected officials and public employees, should act to protect the public's interests not the interests of a select few and their lobbyists.	Mature and old growth forests provide more ecological services than individual trees, immature forests and tree farms. Continuous forests better support biodiversity and wildlife populations than fragmented forests.	Prioritizing protecting mature and old-growth forests. Prioritizing maintaining continuous forests. Limiting encroaching development that leads to proliferation of invasive species, which devastate the Commonwealth's native biodiversity.	In Wakefield, MA, our last Core Habitat and Rare Species forest was cut down last week, without residents' consent. This was done as part of a \$317 million project being paid for by MA taxpayers statewide and by residents of the 12 towns and cities in the Northeast Metro Tech (NEMT) School District. Public information on the project has been either non-existent or, where available, highly misleading. Although regulations require that the MA School Building Authority (the agency that stewards billions in tax dollars to build new schools in the state) minimize unnecessary environmental impacts, the agency operates as though it has a mandate to allow developers carte blanche. Cutting down a rare species mature forest was unnecessary because the school has extensive fields on which to build. If the MSBA Board believed that the state leadership was serious about climate protection, it would not sit back and allow flouting of existing environmental regulations to continue unchecked.
Don Ogden	NGO/Community Group/Non-profit	9/13/23 6:18:50			Is the Healey Administration really seeking input on "Forest Management Guidelines"? Given the sorry history of the Department of "Conservation" and Recreation (DCR) and MassWildlife even adhering to their existing guidelines, shouldn't we be seeking to inform forest management REGULATIONS? Shouldn't we have a balanced scientific panel of experts to consider REGULATIONS? The above mentioned rogue agencies need serious oversight with regard to the treatment of our Public Lands. In the worsening Climate Crisis our Public Lands are being extensively logged, thereby emitting all the stored carbon in the trees, understory and disturbed soils into the atmosphere adding to the overabundance of CO2.	
David santini	Individual	9/13/23 9:18:21	The vast majority of species will benefit from a working forest, Massachusetts most certainly needs an active timber management program to create a diverse age class of forest that species such as grouse, woodcock, bobwhite quail need to ensure their survivability. I live in the eastern part of the state and anytime I mention those three species I listed above I get a confused look, due to the fact those species are extirpated from the landscape. Aldo Leopold Said it best "subtract the grouse and the whole thing is dead" The age classes lack diversity in this state and soon we will lose all our native ground nesting birds, due to habitat loss that these animals need	Selective cutting practices	Selective cutting, have age class vary for trees, prevent the arrival of invasive plants	

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Charlie Cary	Individual	9/13/23 10:25:12	<p>Two factors must be taken into account to optimize carbon storage and sequestration in forests: Science and market forces.</p> <p>The science of our forests was forever altered through clearcutting during the 18th and 19th centuries. With the exception of a few old growth areas, which certainly should be protected forever, the forests we have today in Massachusetts are already a result of human intervention. These forests have been allowed to grow absorbing carbon which was already in our atmosphere. Clearly, the first objective of human intervention is to preserve as much forest land as possible to continue this historic recycling of carbon and enhance biodiversity. Those who argue for no cutting do not understand that managing the growth of these forest is essential to help restore biodiversity while eliminating invasives which threaten our critical ecological balance. Science also indicates that Massachusetts forests have reached a carbon saturation point with dense growth crowding out new, carbon absorbing growth. Science clearly points us toward managing forests to maximize long term forests carbon sequestration and biodiversity.</p> <p>Preserving as much of this forest land as possible requires creating market forces which incentivize land owners to keep their land in forestry. Even with the State's cutting band in place, millions of tons of wood "waste" is being generated annual in Massachusetts. Currently, the markets for this residue do not cover the cost of getting the wood to market which devalues the profitability of harvest. Private land owners pay taxes on land and need a revenue stream off the land to incentivize them to keep it in forest. Without markets for wood which will not be made into carbon sequestering products we are not maximizing the value of forests which are cut and creating incentives for forest owners to keep this land in forestry without development. Developing high value local wood heating supply chains with this resource would continue to recycle carbon in the trees, keep fossil fuel in the ground, keep energy dollars in local communities while creating this much needed market incentive for forest preservation. Any Forest Management "Plan" must include developing markets for this wood residue.</p>	A forest reserve is an area set aside from development where science-based management is used to maximize biodiversity.	We know that climate change is going to change the consistency of our forests. We can either let invasives and disease take over our forests or manage this change for biodiversity. Developing high value markets for wood residue resulting from this management would increase the incentive for forest owners to keep their land in forestry.	Bringing value to wood residue is essential to creating market forces for forest preservation. A ton of green wood will produce as much heat as \$180 worth of oil at \$3.00 a gallon. Current market value for residue is less than \$40 a ton, which is less than the cost of getting the wood to market. Once cut a tree's carbon returns to the atmosphere in the short term. Currently there is no public benefit to this annual carbon release as we import and burn fossil fuels. Wood residue is being generated across Massachusetts and can be used locally to reduce fossil fuel carbon emissions while helping forest owners keep their forests from development.
John Clarke	Individual	9/13/23 11:19:58	Our habitat biologists, watershed managers, and foresters are excellent stewards of our forested landscape and should be tasked with managing our forested landscape. Forest management decisions should not be in the hands of casual forest enthusiasts given the importance of the potential benefits of forest resources. Forest science has always involved carbon storage, the growth of high quality timber has been the goal of forestry for centuries. Tree growth should be focused on long-lived species, such as oak, maple, hickory, and pine. These trees should eventually be turned into long-lasting forest products when they reach the end of their lives. Short-lived, dying, or insect infested trees should be removed to allow for development better trees. Those trees removed should be turned into products to store carbon, such as lumber, or firewood to displace fossil fuel burning. Our forest management decisions should be made by forest scientists; people with education and experience with habitat, forest growth, and watershed management. Forest management should consider carbon effects of different activities, but storage should not be made as a first priority when rare species habitat, clean water, and sustainable forest products are of utmost importance. We need to acknowledge that forests do store carbon, but they are dynamic systems that are release carbon and are affected by weather, insects and disease, fire, and general successional trends. We need to realize that our maturing forests will not solve any climate catastrophe caused by our global fossil fuel consumption.	Our forests need to be managed to provide those benefits previously mentioned. In some cases, early successional habitat needs to be created through extensive cutting to benefit migratory song birds, as outlined by Mass Audubon's Foresters for the Birds Program. In other cases, forests need to be managed for resilience against storms in our ongoing need for clean water within the Quabbin, Ware River, and Wachusett watersheds. In still others, forests need to be managed to allow for the development of old-growth characteristics. There is a carbon result to each management activity that should be directed and not left to the trends of weather disaster, invasive insect outbreak, or the perceived notion that leaving trees alone will solve some problem.	Our habitat biologists, watershed managers, and foresters are excellent stewards of our forested landscape and should be tasked with managing our forested landscape. Forest management decisions should not be in the hands of casual forest enthusiasts given the importance of the potential benefits of forest resources. Forest science has always involved carbon storage, the growth of high quality timber has been the goal of forestry for centuries. Tree growth should be focused on long-lived species, such as oak, maple, hickory, and pine. These trees should eventually be turned into long-lasting forest products when they reach the end of their lives. Short-lived, dying, or insect infested trees should be removed to allow for development better trees. Those trees removed should be turned into products to store carbon, such as lumber, or firewood to displace fossil fuel burning.	
Stephen Morawski	Individual	9/13/23 13:50:52	By applying sound forestry practices to maintain mixed age forests which provide sustainable commercial, recreational, and wildlife benefits. Currently my observation concurs with MA Wildlife that a significant habitat conversion is occurring through forest succession (loss of early successional habitat), invasives, and reduction/elimination of natural disturbances and that has had a significant impact on Species of Concern in the Commonwealth. To weight the Forest Management Guidelines heavily towards carbon storage will not improve resilience of the Forest to withstand climate change but increase the threats to many Wildlife/plant Species that rely on early successional habitat.	My understanding of the current thinking is lands that cannot be managed by man. They are wholly open to the deleterious effects of climate change including wildfire, invasive, and benign neglect. My academics at Stockbridge School of Agriculture taught me the value of conservation vs preservation. In MY definition, Forest Reserves would be lands preserved from development, but actively conserved by scientific management of the resources to enhance wildlife, and health of the ecosystem. We CAN'T go back to pre-colonial conditions!	Encouraging the creation of mixed age forests will increase resilience to expected climate change, and enhance habitat available to many wildlife species of concern. Too many of the State Forests I hike in are mostly even age stands and of limited wildlife value. The biggest forest vulnerability I see is an aversion to any active land management by professionals who are employed by the Commonwealth!	
Prudence Smith	Individual	9/13/23 14:00:39	Everything within our means.	Reserves should remain untouched, however forest management on other State lands should be maintained under "best practices".	Extended rotations to maximize retention of older trees while creating patch cuts in degraded areas to diversify age classes throughout the forest.	I attended the climate oriented forest solutions forum last night and listened to many important comments. I have an additional idea which I didn't hear mentioned during the program and which I believe has great value. I believe it would be adventitious to add an additional classification to the Chapt. 61 guidelines, specifically designed to increase and support on-going climate oriented forest carbon sequestration. So for example, in addition to Chapt. 61 plans designed for Forest Management, Recreation, and Agriculture, land owners could choose to designate their land as a "Reserve" for the purpose of keeping forest lands intact to increase their contribution to carbon sequestration. The tax deferral for such designation could incentivize landowners to hold onto their forests rather than be driven to develop it by financial hardship. I believe that this additional Chapt. 61 designation would relieve some of the "ant" pressure on timber harvesting and add to the ongoing movement to support intact forests. I look forward to ongoing work by the State to help reduce the effects of the Climate Crisis. Sincerely, Prudence Smith, MS Forestry, UMass Amherst, 1986 Prudence Smith 85 Bullard Pasture Rd. Wendell, MA 01379 978-544-6347 http://prusmith.com/
June Mackenzie	NGO/Community Group/Non-profit	9/13/23 14:02:25	Stop, unnecessarily, cutting down trees! It can often be avoided by building on already cleared land.	We need to have a healthy amount of forest for the survival of all of the species on earth. It will help mitigate the effects of climate change. And protects numerous species.	I will leave that to the experts.	

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Jonathan von Ranso	Individual	9/13/23 15:14:46	I think our role in response to conditions today is to become far less demanding on forests (for fiber, fuel, wildlife habitat, water purification & retention, CO2 sequestration – everything!) by consuming significantly less of just about everything. Also earning less, since money makes a claim on natural resources and natural processes even when it's invested instead of being spent. And by developing better local economies in order to require less transport and give less patronage to wasteful industrial farming and unmonitored, potentially exploitive businesses – i.e., be able to spot and correct the effects of our economic activity. Basically, to behave as humble participants in the all-life process rather than as its dominators and controllers. I actually don't see a realistic future for a human-centered ecology – it's a contradiction in terms!	I'm not fond of the term "reserves" because it sounds as if it's being held in reserve to be humanly exploited at some future date. "Permanent wild lands" is better, and I'd see them as basically left economically and managermentally untouched. Basically, no fire suppression. If small in area, no hunting. If large, perhaps limited hunting.	In the interest of maximum resilience of the wild, i.e., the best long-term outcome for life itself including human life, I'd avoid human-centered, inevitably emotional and political measures and trust nature's response in all those cases.	As a neighbor has suggested here, it would seem wise to make a way for private landowners to enter their land into "Reserve" (Permanent Wild Lands) status as part of the Chapter 61 program.
Bruce Spencer	Individual	9/13/23 15:57:48	Humans are responsible for climate change that is negatively impacting the forest. Increased temperatures enhance diseases and insects which are detrimental to tree growth. DCR's Inventory shows that mortality is increasing more rapidly than growth. The forest needs help to survive climate change and walking away from the forest with reserves will not make a difference with increasing climate change. Careful forest tending is needed, something we have not been doing. We need to tend without negatively impacting soils and other resources. This will take time but it's the only solution to restoring our green wealth.	Forest Reserves no longer have Free Will! This was lost several decades ago with significant climate warming. As with all forest, humans need to help the forest cope with insects, diseases, and invasive plants including reserves. The amount of tending is dependent upon the health of the forest, including plant succession.	Secure plant succession, through both natural regeneration, planting, and control of herbivores Reduce forest densities to maintain the trees that have the best chance for growth and to provide more light for natural regeneration.	Given that mortality is already increasing more quickly than growth and temperatures are continuing to rise our forest is not likely to make it out of this century. So careful tending becomes our only option.
John Organ	Government	9/13/23 22:43:09	Human society should minimize conversion of forests to non-forest, but we should actively manage portions of our forests to meet biodiversity goals.	A forest reserve is a tract or tracts that are determined to remain as forest in perpetuity, with a mix of active and passive management prescriptions.	Active management is needed to control invasive species and establish a mix of even and un-even aged stands needed to promote biodiversity and healthy resilient forests.	I am a life-long resident of Massachusetts who from an early age has been engaged in the natural world. I am a Certified Wildlife Biologist and currently serve as the at-large professional wildlife scientist on the Massachusetts Fisheries and Wildlife Board. I received a Ph.D. in wildlife and fisheries biology from the University of Massachusetts, Amherst, where I serve as an adjunct associate professor in the Department of Environmental Conservation. I hold adjunct professorships at Michigan State University, Virginia Tech, and Andres Bello University (Santiago, Chile). I retired in 2019 after 40 years in federal service including chief of the U.S. Geological Survey Cooperative Fish and Wildlife Research Units and chief of the U.S. Fish and Wildlife Service (USFWS) Northeast Region Wildlife and Sport Fish Restoration Program. I served as president of The Wildlife Society, the professional scientific organization for wildlife professionals from 2006 – 2007. I am pleased to see the Healey Administration prioritize environmental issues and take an aggressive leadership role in mitigation of and adaptation to climate change. My comments pertain to certain concerns I have over the climate-oriented forest management guidelines relative to biology and policy. I don't feel I need to reiterate all the information you have received regarding the critical importance of young forests and shrublands to the Commonwealth's biodiversity. Our natural heritage is our most valuable asset, and it demands a mix of active and passive management regimes. Masswildlife through its State Wildlife Action Plan and Biomap has identified the needs – needs that reflect the legal mandate of the agency. A moratorium or significant restrictions on forest management for Masswildlife lands would compromise the agency's mission and threaten our natural heritage. We are not talking about forest conversion – Masswildlife has identified the proportions of forest seral stages that are needed to recover and maintain at-risk and threatened species, and promote biodiversity. Policy that interferes with Masswildlife's mission will have dire consequences that may be irreversible. Regarding policy, Massachusetts received over \$16 million dollars this fiscal year from the
David Small	NGO/Community Group/Non-profit	9/14/23 7:38:54	Our forest must provide for a wide variety of ecological services, clean water, wildlife habitat, forest products, carbon sequestration and tranquil places for people. A mosaic of management practices need to be in place to accomplish this broad use of our forestland.	Forest reserves should be core habitats surrounded by managed forest. Caution in overusing this concept should be employed. The bottom line is to have additional acreage in forest cover. The Northeast is very resilient as we see from the changes since 1850. Where are our mature forests of 2123 they need to be in place now.	Insect and disease infestations are wreaking havoc with our forests many tree species are in peril. These combined with invasive species and climate change make the future of our forest an unknown. Whatever policy is adopted it needs to be dynamic and flexible to what the future climate and outside forces present to our grandchildren.	Forests as Climate Solutions David Small, private citizen, 1542 Pleasant Street, Athol Ma 01331 Dave@dsmall.net background •Retired DCR Assistant Regional Director for the Division of Water Supply Protection Quabbin and Ware River Watersheds. •Member Massachusetts Natural Heritage and Endangered Species Advisory Committee •President Athol Bird and Nature Club •Associate member Steward Athol Conservation Commission •Involved with various aspects of vegetation management for 50 years Massachusetts has a long history of carefully regulating forest harvesting across the Commonwealth. These regulations have evolved over time as harvesting equipment technology, market interests, and landowner and public priorities have changed. I support our strong regulations designed to protect our soil and water resources. I live in a house constructed of wood, I supplement the heating of my home with wood It is important that as consumers of wood products we obtain these products from well regulated producers of forest products and not import them from the tropics, some states, or other countries where careful harvesting practices are not being used. Almost every decade in my career has seen lengthy policy discussions pertaining to state forest lands role in the in answering the social and political needs of the citizens of the Commonwealth. As climate instability increases across the globe we all are responsible to do what we can to mitigate carbon emissions. As we look to sequester carbon in our growing forests we must note that our state forestlands have very specific and closely monitored Continued Forest Inventory Plots (CFI) with this information we have scientifically gathered information on just what our forests are doing. And this data is being used by DCR and Masswildlife managers to guide the forest management practices employed. While I applaud the Commonwealth's chapter 132 regulations, The system allows the on the ground practitioners (Ma licensed foresters and licensed Ma timber harvesters) to propose and

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Robert Cherdack	Individual	9/14/23 8:18:11	Protecting forests lands from development and invasive species. NOT making 30 acre clearcuts as Fish and Wildlife propose. NOT cutting trees in the hopes of growing different species more adapted to warmer climates as this removes the more warmth resistant of existing species from the gene pool. Most analyses of carbon storage in new or young forests fail to include the fact that for many years after a cut no trees grow. I have seen several DCR cut areas several years old where only brush and a few doomed beech saplings are growing.	Reserves should be where natural processes govern. Interventions should be to remove invasive species.	See my comment 6. Acquisition and protecting of more forest land should be a high priority. In the last decade DCR has increased its land holdings by a mere 4%. This rate of acquisition must be improved. Combatting invasives should be a top priority. Any cuttings should be followed by planting of species native to the region but at the northern end of their range so they have good tolerance to warming. Fish and Wildlife should stop their program of creating brushy meadows by cutting forests.	
Marianna Massed	Individual	9/14/23 9:10:13	I believe that there should only be interference with the natural life of a tree, if there is fire or pests. There should be no interference because of human's desire to create or repurpose areas for their own benefit without considering habitat and climate. -this includes solar panels.	A small or large tract of trees should be considered a reserve where birds and animals have a place to stop briefly or live their life.		I STRONGLY suggest to include municipal watershed property when referring public land. There is clear cutting that takes place in the watershed property near my home which diminishes habitat for birds and animals.
Brian Hall	Individual	9/14/23 13:37:13	Human's can have a role in all those activities, but often over estimate their ability to do so or mislead people by not telling the whole story of the impacts of their management.	Forest reserves should have minimal to no management on them. If managers feel they need to manage a habitat for game animals, rare species, rare habitats, disturbance-dependent habitats the area should not be considered a reserve. All those activities can be allowed on non-reserve state-owned lands.	I defer this question to those who know much more than I do about this topic, but I will say that forest products that don't come from state-owned lands will most likely come from privately owned lands (spillage) so lets not mislead ourselves on how much we carbon we can store only using state-owned lands.	My main concern about managing (or not managing) state-owned forest lands (and by state-owned, I mean the people of Massachusetts), is the proposals I hear about not allowing any cutting on land owned by MassWildlife (DFW). MassWildlife gets very little of its operating or land purchasing protection from the Commonwealth, most of it comes from fishing and hunting license fees and Pittman-Robertson Act funds which are an 11% tax paid on certain hunting and fishing gear (and a very few items purchased by general outdoors people). Therefore, I strongly believe that DFW lands are owned more by hunters and anglers than by the general public (who pay very little tax to DFW). DFW's mandate is to protect and create habitat for Wildlife (mostly game species but also some Natural Heritage species (which provide little income to the division as I understand it). I hear many recommendations and plans to not allow forest harvesting and management on DFW lands in order to sequester carbon or to appease people who don't like harvesting. To prevent DFW from managing for certain wildlife game species on land paid for by hunters and anglers is theft in my opinion. If state agencies want to store carbon in forests, fine, buy more land, don't mandate that DFW can't manage it's lands to meet its mandate/role to wildlife. Thank you.
Leo Roy	Individual	9/14/23 18:37:35	Massachusetts forests should be actively and professionally managed by state foresters for their multiple benefits and services, including clean water, wildlife habitat, and wood products, not just for carbon sequestration and storage.	DCR has appropriately defined forest reserves in the Forest Futures Visioning Process, and reasonable human intervention. The existing reserves are sufficient for passive forest management and do not need to be expanded.	Massachusetts forests should be actively and professionally managed by state foresters.	I have been working to preserve and protect the environment of Massachusetts for over 30 years in both the public and private sectors. I have been involved in the management of thousands of acres of forest, including woodlots in Princeton, Hubbardston, and Petersham. I served on the Forester Licensing Board when it was first created in the 1990's, and am a long time member of many environmental organizations, including Massachusetts Audubon, The Nature Conservancy, the Buzzards Bay Coalition, and the Massachusetts Forestry Alliance. I have a deep appreciation for our forests, and the multiple benefits and services that they provide. Massachusetts is roughly 60% forested, with more forested land than there was in 1900. Our forests today are predominantly even-aged, due to the conversion of farmland to forest beginning about 100 years ago. A healthy forest is uneven-aged, with mixed species, to avoid the impacts of pests or diseases which can impact a single species (as we have seen with the chestnut blight, Dutch elm disease, emerald ash borer, woolly adelgid, and now beech leaf disease). Active forest management, including thinning and opening areas of the forest, encourages an uneven-aged, mixed species forest. Only a healthy, sustainable forest can sequester and store carbon... a dying forest, ravaged by pests and disease, cannot. The 2022 Massachusetts Climate Change Assessment, on page 78, identifies forest health degradation as having a most urgent impact to the natural environment. The science is clear that young, healthy, growing trees absorb more carbon than older trees, and that older living trees store more carbon. That is why we seek a balance between young trees and old trees. When older trees are harvested, their stored carbon can remain out of the atmosphere if their wood is used for durable products. We need our forests to be professionally and actively managed. Forest land provides a multitude of benefits and services, including clean water, soil retention, wildlife habitat, recreation, natural beauty, wood products, maple syrup, and carbon
Thom Griffin	Individual	9/14/23 18:55:51	Professional Foresters have a big role to play in optimizing carbon storage LONG TERM. Wood products, other than chips and pellets and firewood, do not release carbon. Granted, the sequestration of the tree is stopped, but new trees come along.	A healthy forest isn't just old growth. It is an area of mixed species, mixed age trees.	I've been stalling on harvesting my hemlock, as the woolly adelgid hadn't shown up. Suddenly it is upon me. My predominantly hemlock forest will likely be dead in three years, presenting a wildfire hazard. Better to convert those trees into lumber than just watch them burn.	Many folks act as if carbon sequestration stops cold when a tree is cut. While that tree is no longer sequestering, my understanding is that a clear cut forest, after 7 years of regrowth, sequesters a considerable amount of carbon. What's going to happen if we get a big gypsy moth infestation for a few years in a row? Fire hazard. I'm not talking about a "way of life" vanishing, in a romantic sense. I'm talking about the livelihood of hard working folks. Just because they don't have the organization of the elites who want a nice view, they are the salt of the earth. I've never might anyone in the forestry/lumber/logging industry who didn't love the forests they work in.

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Janet Sinclair	Individual	9/14/23 19:26:02				At the public comment session on September 12, I was noticing how often people said something to the effect of "when the colonists came and started cutting trees here". It surely does seem to be erasing the presence of people in N.E. before colonists arrived, and while this portrayal of history is surely disturbing, I don't think it is out and our intentional on anyone's part. Then there were a number of comments about indigenous land use, and various practices that should be both acknowledged and perhaps maintained present day. But one thing I rarely hear from the indigenous community is remembering that relatively little land was impacted by various practices. Leaving land as wild lands was not likely purposeful or intentional. But rather the default practice in reality. The percentage of land impacted by native communities may have approached a few percentage points of total land- 1% or 2% maybe a little more. What that means in the rest of the land was left for non-human natural processes. For us now to devote our state land as wild lands and reserves is actually quite consistent with indigenous practices. So there really is no conflict between the concept of reserves on state land (comprising less than 10% of our land base) and traditional land use. A different question regarding state land would be should there be some state land devoted to native-led management and practices, or should tribal lands be expanded and supported at the state level. But wild lands themselves were the vast and overwhelming pattern of land use in N.E. in "pre-colonial" times. It is my feeling that we can and should refrain from pitting the indigenous community against those who want our state lands to become reserves.
James Caffrey	Individual	9/14/23 21:07:11	We need to have a science-based understanding of how carbon moves through the planet and how our Massachusetts forests fit into that picture. Carbon storage is important but so are all of the other benefits of forests including wood products.	A reserve is an area where natural processes are allowed to take place with minimal human intervention. Unfortunately, I think that so much of our forests has been altered so that we will need measured intervention i.e. invasive species control and fire control to allow these forests to grow well. Perhaps we should allow the indigenous community to manage these lands as they did before European settlement? I worry that storing carbon in reserves will backfire as climate change brings outside threats that will destroy these forests and release much of the stored carbon.	climate change will threaten some forest species, change moisture regimes, add invasive plant and insect threats to the forest and bring bigger and more destructive storms. Generally, an active forest management regime including thinning to strengthen existing trees, invasive threat control, and age class manipulation to reduce our vulnerability to any one threat are some techniques that can be utilized. Good forest management as it has been practiced for over 100 years is necessary.	I will also send comments to the email address.
Ken Conkey	Individual	9/14/23 21:43:00	Humans should rely on local scientists to determine how to best optimize carbon storage and sequestration. In Massachusetts the evidence is very strong that forest management is critical for clean water, habitat for rare species and wood products.	Forest reserves should consist of young trees absorbing the maximum amount of carbon per acre while harvesting the larger trees and storing the carbon in them for the long term.	Our management practices on state land should increase ten fold. Only 10% of our state land has been managed in the past 40 years. Soon mortality will exceed sequestration for a net emission of carbon just as New York's situation with the Adirondack region.	Any real habitat biologist will tell you forest management is critical for helping save many species. Folks that focus their efforts on the forever wild concept care only for themselves, as it is common knowledge there are no known old growth depend species.
Mark Phelps	Government	9/15/23 5:31:55	Humans should have a very active role	Forrest reserves is land that is owned by the Commonwealth, Towns and land that is in Chapter 61 programs	<ul style="list-style-type: none"> •New Ashford is primary a rural community of 8460 acres of which the Commonwealth of Massachusetts owns 50%. •With the large size of rural forest, former logging roads should be kept passable for forest fighting equipment and perpetual forest management to lower risk and improve sustainable forestry. •Invasive species should be addressed with latest scientific recommendations. •In the event that land has transferred from private to public ownership, this should not rule out good forestry management practices. •Woodland resources should be planned and utilized for human benefit. 	If there is to be no management of forests on public lands, then not another single acre should be acquired by the Commonwealth as this is detrimental to sustained forestry in our Town's opinion.
Michael Mauri	Business	9/15/23 7:16:38	<p>The human role in all of these topics is critical at this juncture. In each case, whether the concern is about carbon or other aspects of the forest, we are stating clearly as a society at this grand juncture that we intend to RELY on the forest to continue to be there and thrive in its many forms so that it can do what we think a forest can do. And so the top concern we should have is whether the forest CAN indeed continue to be the forest we imagine it will be. But there is plenty of evidence that we cannot take this for granted; already now, there are major factors interrupting and interfering with the forest's ability to perpetuate itself in a form we would recognize and appreciate. It is a two-pronged problem. While the mature overstory trees are currently under an assault of pests, pathogens and disease complexes that drastically undermine their health and shorten their lives, the natural forest response of establishing new, small, young trees to replace them is greatly impeded and distorted and even outright prevented in many cases by a number of factors for which we are responsible. These include:</p> <ul style="list-style-type: none"> - [] the excessive consumption of young trees by very high populations of deer in our state leading to reductions in the diversity of tree species and simplifications of the forest, including in some cases the ultimate conversion of tall forests to fern glades - [] the unchecked and accelerating growth of non-native invasive plants such as oriental bittersweet, a fast-growing vine, that can overwhelm understory of young trees, smothering them and pulling them down, leaving ever-widening holes in the forest which will never, foreseeably, support tree growth again <p>Though all of this is bad enough now and daunting, it is only getting worse. We can have our greatest beneficial impact by acting sooner, rather than later. I wish I could say with confidence that the forest, if just left alone, will fix these problems on its own. Instead, if we are talking about a meaningful human timescale, and not a timescale of eons, then just the opposite is true. We will need our best thinking and a truly concerted effort to recalibrate the sad direction in which our forest is now, automatically, headed if we do nothing. If we do nothing, then all of the benefits we declare at this grand juncture that we intend to rely on as part of our solution to climate, water quality, biodiversity, human health and well-being, a livable society, will be steadily diminished over the coming years and</p>			

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Peter Rayton	Individual	9/15/23 9:56:44				<p>Sept 14, 2023</p> <p>To Whom it May Concern,</p> <p>I am writing to support the science of active management of State Forests and the benefits it accrues to society and wildlife in general. I am a landowner, licensed timber harvester and have been applying my motto "Forestry for the Future" for 47 years.</p> <p>To me the primary benefit of forest management is the displacement of petroleum derived products using wood products. Fossil fuel represents solar energy captured eons ago. We should be aiming to make more wood products a part of a potentially closed cycle of biogenic carbon. This is energy sequestered during the growth of biomass. If we are serious about minimizing climate change, we need to ween ourselves from fossil fuel addiction in every way possible. It is only responsible to contribute home grown forest products to that effort.</p> <p>Concerning resilience, managing the forest for a multi age tree spectrum of varying ages will provide diverse habitats for the wide range of needs of the wildlife community. Young stands promoted by harvesting support habitat desired by neotropical migratory birds we love to see in the spring. A wide range of tree ages will also prevent a single weather event from becoming a catastrophic event concerning water quality and tree resource.</p> <p>Strike a balance between conservation and responsible use with active management. The State should be setting the example of the science of forest management. Harvest more State-owned land as responsible stewards guided by science.</p> <p>Thank You, Peter Rayton 331 Burts Pit Rd</p>
Susan Purser	Not listed or N/A	9/15/23 10:22:21		<p>I strongly support the concept of placing all of our public forests in the "Reserve" category as this optimizes them for sequestration, biodiversity, pest resilience, recreation and connectivity with other wildlands. The Reserve designation would leave the forests to their natural processes with no logging allowed except in cases of public safety.</p> <p>DCR's proposed Ant Lot logging project of 300 acres in October Mountain Forest is a good example of why the protection of "Reserve" is needed. This project, under the "Woodlands" designation, proposes to cut 8 five-acre circles in one section of the forest with associated roads or paths connecting each circle. This fragments that part of the forest like Swiss cheese, compacts the forest floor and makes it more vulnerable to fire, invasive species, loss of habitat and may damage or eliminate a beautiful trail in that area. This "management" does nothing constructive for sequestration, wildlife or recreation.</p> <p>In addition, under the same Ant Lot plan, DCR proposes to cut the ash trees along West Branch Rd. as they may have the emerald ash borer. Cutting the ash trees is unnecessary as natural processes should be allowed to take its course. Cutting the trees only spreads the ash borer to new areas when it is carted away and leaves the pretty road into October Mountain as unsightly and ugly. I am afraid that when the moratorium ends in a few months that the logging contract will be signed and the logging machinery will move in.</p> <p>Why shouldn't our beautiful, very popular Forest not have the protection offered by a Reserve? Please help!!</p> <p>Thank You.</p> <p>Susan Purser, Coordinator Preserve October Mountain Becket, MA</p>		
Michael Mauri	Business	9/15/23 10:36:59				I am trying to submit an attachment to accompany my previous answer to question 6, thank you

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Beth Melofchik	Individual	9/15/23 11:09:25	Clean water habitat for rare species wood products, a conundrum: which of these is not like the other Make a bold attempt to mitigate climate breakdown by preserving a greater percentage of Massachusetts forests in Reserve and Wild status.	Inviolate forested land. Do no harm. Extracting wood products on an industrial scale should not be part of the equation.	Place a higher percentage than currently, of forests in Reserve and Wild status.	<p>UnderSecretary Stephanie Cooper, EEA Dear Under Secretary Cooper,</p> <p>A tree is a tree, it is not a product. Maybe we have a chance to mitigate the worst of climate breakdown, maybe.</p> <p>How many trees does each resident of Massachusetts need to sustain life, the breathing and cooling factors? How much Reserved forest held in a wild state does the Commonwealth need to provide to sustain life? This should be the starting point.</p> <p>Parks, pocket parks, edges of sports fields, reclaimed scrubby bits in towns, and in urban communities and cities may help temper our fears and the temperatures. Please provide incentives to communities to enable the bureaucrats to choose the forest over the new school build, Wakefield or mountain biking park, Arlington, and to persuade bureaucrats to shadow plant now, anticipating the next generations' tree cover.</p> <p>There is no one solution; a tapestry of protections and enhancements is needed for our tree canopy and forests.</p> <p>Leadership is innate. Governor Healey has an opportunity to be bold, to embrace the simple complexity of trees and forest eco systems. This is why she was elected. It is why we will follow her. Please give us and the next two generations a chance, choose the health of the forest as she knows best, over commerce in wood products. The next Leominster could be anywhere.</p> <p>Respect the mother tree. Enlarge the Commonwealth's holdings and preserve a significant portion of forest as Reserve & wild.</p> <p>Kind regards,</p>
Matthew Romero	Government	9/15/23 12:02:37	We support the overall goal of optimizing carbon storage and sequestration through sustainable forest management practices. However, it is also critically important that active, science-based management of forests be permitted to maintain clean water supplies and other benefits. The pristine condition and high water quality of the Quabbin and Wachusett Reservoirs and Ware River Watershed, which supply wholesale water to over 3 million people in Massachusetts, is a direct result of active but very limited management by the DCR Division of Water Supply Protection. Less than 1% of the total forested watersheds are selectively harvested each year, with harvesting distributed geographically and divided into small parcels to minimize impacts. Their foresters carefully steward diverse, multi-aged forests to filter contaminants and runoff. While climate goals are laudable, management for water supply cannot be compromised. With balanced policies that allow for carbon optimization as well as science-based practices to support water quality, both environmental and community needs can be met. Strict limitations on active management could jeopardize the "forest filtration" system relied upon by millions of Massachusetts residents. It's also important to note that the MWRA operates under a federal court order that requires an adequate watershed protection program. If water quality declines substantially, it could trigger the requirement to build a water filtration system that could cost ratepayers upwards of half a billion dollars. Maintaining our high quality water through active but limited forest management protects public health and avoids massive costs that would impact communities across Massachusetts.	We support establishing forest reserves for conservation purposes such as biodiversity and habitat preservation. However, it is our position that strict prohibitions on active management may not be appropriate in forest reserves that also serve as public water supplies. The MWRA's reservoirs are located in protected natural areas, but require some level of science-based, sustainable forest management to maintain the exceptionally high water quality. Regular watershed monitoring along with selective cutting, thinning, and tree plantings are examples of human interventions that may be necessary in reserves where water supply is also a key objective. While minimizing human impacts is a worthy goal, water supply forests are only able to provide clean, safe drinking water to millions of Massachusetts residents because of prudent ongoing stewardship. With input from water supply managers, balanced policies for reserves could potentially be developed to allow the measured interventions necessary to sustain both forest health and water quality over the long-term.	The MWRA's water supply watersheds face considerable threats from the impacts of climate change. Increasing storms, pests, drought, wildfires, and other challenges have the potential to degrade water quality and forest health. To build resilience against these threats, we recommend active forest management tailored to the specific climate vulnerabilities of the Quabbin and Wachusett Reservoirs as well as the Ware River watershed. Potential practices could include selective cutting to mitigate drought stress, pest control methods, fire breaks and fuel reduction, stormwater protections, and promoting diverse, climate-suitable tree species. A changing climate requires adaptive, science-based management approaches to enhance forests as natural protective filters for our reservoirs. While we strongly support climate-smart management, forests managed for water supply may require some flexibility from limitations or complete reserves status. With input from water supply experts, we believe carefully tailored policies can chart a path to forests that are healthy, sustainable, and able to provide the clean water that communities rely on in the face of new climate realities.	<p>The MWRA Advisory Board appreciates the opportunity to comment on the Climate-Oriented Forest Management Guidelines. As representatives of the ratepayers and stakeholders that depend on the forests managed by DCR's Division of Water Supply Protection, we commend efforts to make our forests more resilient to climate change through sustainable practices. However, we must ensure these policies allow the active yet limited management necessary to maintain the pristine water quality from these exceptional natural resources.</p> <p>The Quabbin and Wachusett watersheds are treasured assets benefiting millions statewide through both their ecological value and by providing clean, safe drinking water. Ongoing stewardship by DWSP foresters has resulted in a "forest filtration" system that produces water of exceptionally high quality in a cost-effective, natural manner. As climate pressures increase, adaptive, science-based management will become even more critical.</p> <p>The Advisory Board has long advocated for policies and practices that are both environmentally sound and ratepayer equitable - "Green and Fair." We understand the need to balance multiple objectives in setting forest policies. The Advisory Board believes strongly that with collaboration and consideration of water supply expertise, guidelines can be developed that support climate-oriented practices while retaining the flexibility for interventions necessary to sustain healthy, resilient forests and the pure water they provide. We look forward to working with state leaders to find this balance between water supply and climate preparedness. Our shared goal is protecting these invaluable public resources while maintaining an affordable, reliable source of clean water into the future.</p>

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Andy Finton	NGO/Community Group/Non-profit	9/15/23 12:50:54	<p>1. The Nature Conservancy (TNC) supports a mix of forest reserves and sustainably managed forests, on both public and private lands, as the best way to maximize the contribution of forests to address climate change – a Wildlands and Woodlands approach.</p> <p>2. The most important actions to support the range of forest benefits are to protect forests (land acquisition), and reduce the rate of forest loss in MA, recently estimated at about 5,000 acres/year, and as much as 7,000 acres/year over the past 20-30 years.</p> <p>o We need to keep forested landscapes forested, into the future, especially forests that are large, resilient, and well-connected such as those defined in the new BioMap.</p> <p>o This will optimize carbon benefits as well as secure clean drinking water, reduce flood and drought risk, provide habitat and biodiversity, provide opportunities for recreation and access to nature, and ensure a supply of wood products.</p> <p>3. TNC helped lead the process of developing the “Combined climate-smart practices list” (https://tnc.app.box.com/s/lxe7kbrifeuo0gobwuhkels3qc587to) that includes 14 forest management practices that attempt to balance the trade-offs between carbon stocks and forest resilience, including in degraded lands that are in need of restoration. We suggest drawing from this list where possible.</p> <p>4. Optimization: In terms of optimizing carbon storage, sequestration, and other forest values, the goal should be to optimize all of these values across the ~3,000,000 acres of forest in the state, prioritizing different values on different parcels. We should NOT try to optimize all values on each individual parcel. It will take focused effort to distribute and define values for the many parcels in the state, under different ownerships, but there are tools and precedent to do so. For example, the DCR Landscape Designations distributes these values across ~300,000 acres of State Forests and Parks. And BioMap defines biodiversity values to lands and waters across the state.</p> <p>5. Regarding habitat, our forests and other ecosystems should be managed for the full range of habitats in Massachusetts that support thousands of native species. This is true for the state’s 400+ rare species, as well as the diversity and abundance of all native species, which includes thousands of plant species, approximately 200 breeding birds, along with mammals, fish, reptiles, amphibians, insects, fungi, and other taxonomic groups, many of which are not yet fully documented. This biodiversity requires large, intact, connected, and functional ecosystems, which support natural</p>	<p>1. TNC’s definition of Forest Reserves is where natural processes are the dominant force defining forest structure, composition, and ecological processes. We also support the definitions in both the “DCR Landscape Designations and Management Guidelines”, and the recent “Wildlands in New England” report (Harvard Forest et. al), which we consider analogous to our simple definition, but are more detailed and nuanced.</p> <p>2. The definition of forest reserves is NOT about specific age classes, structure, or composition, it’s about a specific management regime. Old growth conditions are one desired outcome of reserves, and in some cases of active management.</p> <p>3. It is important to keep forest management categories clear, concise, simple, and mutually exclusive. The DCR Landscape Designations and Management Guidelines uses “Reserves”, “Woodlands”, and “Parklands”, and this paradigm has stood the test of time, and has provided clear guidance to agency staff, stakeholders, and the public. These three categories limit ambiguity and maintain clarity.</p> <p>4. While the Nature Conservancy is supportive of intervention/forest management to achieve specific forest conditions OUTSIDE of forest reserves, intervention should only be used WITHIN forest reserves in extreme situations, and only with the review and approval of an external committee of experts, analogous to DCR’s Forest Reserve Science Advisory Committee. Examples of extreme situations include to ensure public safety, to suppress a novel forest pest that threatens a much larger area of the state’s or region’s forests, or to replace a non-native plantation with native vegetation.</p> <p>a. If the desired outcome for a specific forest requires the restoration and maintenance of a specific forest structure and composition (e.g. to support a specific rare species or suite of rare species) that forest should not be designated as a reserve. The forest should be designated in another category (e.g. woodlands, per the DCR Landscape Designations and Management Guidelines). This will keep the reserve definition clear. In other words, forest reserves that are open to intervention for specific desired outcomes confounds and confuses the forest reserve definition and the designation of lands into specific categories.</p> <p>b. There will, of course, be extreme situations that are the exception to this rule as mentioned</p>	<p>1. The vulnerabilities listed will be partially mitigated by protecting large, intact and resilient forests and reducing forest loss. These landscapes will support the ability of plant and animal species to adapt and evolve over time and in response to climate changes and other threats.</p> <p>2. We understand that DFW, DCR, and DWSP require flexibility to adaptively manage their lands to meet their organizational and mandated goals, including the emerging goal of managing forests for carbon benefits and climate adaptation. This includes responding to forest health issues, natural disasters and unanticipated situations. Reducing threats such as invasive plants, insects, and tree diseases, and controlling deer overabundance, will help our forests to be more resilient. These actions on public lands require public trust that it will be done conservatively and appropriately. As stated above, there are different allowable management thresholds for forest reserves and non-forest reserves. In forest reserves, proactive management should NOT be undertaken, except with rare exceptions as stated in the answer to question #2.</p>	<p>1. Research: Forest reserves not only provide the benefits of carbon sequestration and storage, soil formation, biodiversity and others, but a key benefit is as a research opportunity, especially when compared to actively managed forests. Building on DCR and DFW’s ongoing research, our state should invest research and monitoring to inform our forest strategies going forward.</p> <p>2. Publicize: At the recent public meeting our state’s forest conservation successes we’re mentioned by several stakeholders, and were compared with other states. We should document and make clear to the public the forest conservation successes we have achieved, the opportunities and benefits they provide, and the need for public support.</p>
fred heyess	Individual	9/15/23 12:56:39			During this climate transition we have found our forests need more frequent monitoring and an adaptive approach to stand management. Of particular impact in our North Quabbin area is White Pine Needle Drop. We have been successful in the last twelve years making moderate interim adjustments to spacing and stem quality. Our tended pine stands are showing resilience. Our state forest lands would benefit from more frequent monitoring and tending. Not less tending during this period.	Thank you for the format you chose for the meetings.
Bill Kiley	Government	9/15/23 13:40:03	Human over-site is essential given the vicissitudes of sometimes nasty nature that without some intervention could be devastating. Proper intervention could achieve major increases in our goals of increasing the viability and sustainable health and productivity (carbon, lumber, diversity, wildlife....) of the forests.	Single events from fire to infestation could tragically destroy major portions of forest without careful planning. Strategies as thinning, targeted planting and placing and much more could invigorate and preserve the reserve.	Many major afflictions have already happened. Major fires alone could wipe out tragic portions. The forest should have wide variety of disease resistant and productive species development.	Forestry tactics development is direly needed for sustenance and productivity goals. New/Old strategies such and thinning out and using those culled out trees for replanting in other treeless locations might be enhanced, increased composting, very targeted plantings and much more. These Board members should know better than I the most promising efforts needed. And not be locked into strategies of the past. I have been on a watershed board for years and have seen numerous valuable presentations from active experts in this subject for years, and we better get going sooner than later.
Laurel Facey	Individual	9/15/23 14:06:20	Forests naturally perform many functions which impact many species such as providing clean water and habitat, and they provide these services without the need for human intervention. Indeed, the less humans do in forests, the better forests can perform these functions without the risk of introducing non-native or invasive species which upset the natural balance. Forests’ ability to sequester carbon, which is of the highest priority in face of the current crises of climate change and biodiversity loss is best promoted by leaving forests intact, without any human intervention. Wood products should never interfere with the continued growth in the oldest, most mature forests.	The word “reserves” lies within the concept of “preserves,” where the maintenance of the natural life of the forests is performed by the forests themselves. Forest reserves are large tracts of continuous forested land in which natural processes are allowed to proceed without human intervention. Monitoring of these lands to ensure that they are being allowed to grow by being left intact is the best role that humans can play. We can be stewards of the natural life of forests.	<p>The effects of climate change on our forests are not within the power of humans to ameliorate. We can reduce our use of fossil fuels. Forests do need our protection – protection from those who would use them for financial gain - so that they can continue to evolve. As for the degradation that is expected due to climate change, forests will adjust in ways that only nature itself can do best. Therefore, the best approach is a hands-off one which does not get in the way of natural responses to the changes that are coming.</p> <p>Deforestation is a threat to the entire world, so, although it is imperative that we act locally, it is also necessary to demand action globally. Greta Thunberg has warned us that the Earth is on fire and we must listen to our scientists. There is a false dichotomy between solar and forests which pits the use of forested land for solar energy generation facilities against the value of leaving forests intact. Although solar and wind facilities are needed, we must not destroy our natural environment to site them. We do need to transition away from fossil fuel use, but we need to preserve our forests even more, or the future of our planet will be very tenuous. We must live within the natural constraints of nature in order to continue to enjoy a healthy ecosystem for all.</p>	Land use planners need to put the preservation of our natural environment at the top of their lists of priorities. Mankind is part of nature, and we destroy it at our own peril.
Joy Pearson	NGO/Community Group/Non-profit	9/15/23 14:25:19	Forests should be left alone, both state-owned and private. Some allegedly called private forests need to be researched because they may not be 'private', only leased. Forests know how to sequester carbon and have done so for millennia. Humans need to get out of the way. Leave clean water alone. Humans need to consider rare species and not disturb them. They need to not be so greedy to cut down trees and sell their wood products. The government should curtail the actions of developers and logging companies who constantly walk the halls of government offices and promise senators and representatives money to essentially destroy forests. E.G., put a limit on the number of lobbyists allowed. Say NO to lobbyists. Consult with citizens and citizen groups. There are citizen groups that are very knowledgeable about topics the government doesn't have time to research. The government advisably can listen more to its citizenry, schedule appointments with non-profit groups who know the forests they serve. Citizens have a responsibility to be respectful of forests. Governments need to show respect to citizens, especially scientists and organizations that work with forests.	A forest reserve is a forest set aside and preserved by the government. More forest land needs to be set aside and preserved by the government. The government can monitor it for invasive species, for blight, for unauthorized usage. The government can consult with forest organizations and scientists as to how to do that. They may even 'deputize' reputable non-profit organizations to help keep the forest lands clean and maintained for trails. The government can meet with those organizations regularly and with other scientists to learn what they don't already know. Humans in government need to acknowledge that scientists and people who work with forests know a lot of information that is valuable for them to know.	<p>Degraded forest health caused by climate change needs more than government attention. Government and citizenry need to work together. The government needs to rely more on non-profit organizations for action. Forests are vulnerable to greedy people who do not care about forest health. The government can be influential in putting restrictions on this greed by listening to the citizenry who more intimately knows about uncaring development. Although a multitude of lobbyists give the government and communities money to destroy healthy forests (such as the precious and unique Wakefield hilltop forest), the government can act on forests' behalf. The government can put a limit on the number of lobbyists that roam/control the State House halls. They can say NO to some lobbyists and to some loggers. They can require them to attend state-and-science-given sessions that talk about the value of trees and forests. The government can study other successful states , e.g., New York, who have been successful in managing and maintaining healthy forests.</p> <p>I think that trees from a warmer climate will need to be introduced as the weather warms. The government must consult with scientists who know about these to-be-introduced trees and organisms. Trees don't live in a vacuum. They have a microcosm/a biosystem that supports them. Introducing anything new has to be done carefully so as not to introduce problems.</p>	I was pleased to attend the 9/12/23 remote meeting by EEA. We didn't hear what the government thought. So many people were so knowledgeable and spoke so honestly. The government will do well to respond to these organizations. Let this remote meeting result in more than just a report that gets written. Let it be the start of a new way to acknowledge the strength, and expertise of citizen groups and to collaborate with them.

First and Last Name	Affiliation	Date	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?	What is your definition or concept of forest reserves? What, if any, is the role of human intervention in maintaining reserve conditions?	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?	General Comments
John Conkey Jr	NGO/Community Group/Non-profit	9/15/23 14:39:57	Thoughtful forest management, as science has proven, does increase carbon sequestration in our forests with large portions of young and middle age classes (20-60 year old trees) which sequester carbon at a faster rate. As State records show, only 10% of State land has been managed over the past 40 years, not helping the sequestration rate.	If the State is actually trying to sequester carbon, the reserves are counter productive. The State of New York has found this after putting the Adirondacks into a reserve. That forest is now a carbon producer, as science has proven it would be.	A forest with all age classes that is managed sequesters more carbon. In losing, if the State follows the science, management is the answer.	
Lee Farrington	Individual	9/15/23 15:18:20	Environmental scientists, biologists, and other related scientific disciplines should be the ones making major decisions about the forests. Peripherally, architects with experience in re-designing and modernizing existing structures should be given preference to architects involved in projects destroying forests to build new buildings.	Forest reserves should be stringently protected so biodiversity can flourish.	The first step in protecting forests in Massachusetts is to ensure protection from developers. At this time, the agencies entrusted with protecting the forests in Massachusetts fail abysmally.	
Sarah Freeman	NGO/Community Group/Non-profit	9/15/23 15:27:00				<p>Thank you for considering public input in the development of Climate-Oriented Forest Management Guidelines.</p> <p>We know there are differing viewpoints regarding forest management, including on the committee working to establish the Guidelines. Throughout this process, and especially at the end, how will decisions be made when there are conflicting views?</p> <p>Hopefully, it won't simply be a "popularity contest". These are serious issues, and the future guidelines deserve to be evaluated on their merits rather than a reflection of the composition of the committee.</p> <hr/> <p>If in doubt, please leave trees standing. Once they're gone, they're gone - and it takes multiple generations to replace a mature tree..</p> <p>In discussions among neighbors about taking a position on commercial logging on public lands in MA, several of us were surprised to know it was already happening. We support keeping the Commonwealth's wild areas forever wild. References that support this view follow:</p> <p>"Scientists urge Biden to remove logging, fossil fuels, biomass from budget bills" by Liz Kimbrough on 8 November 2021</p> <p>https://news.mongabay.com/2021/11/scientists-urge-biden-to-remove-logging-fossil-fuels-biomass-from-budget-bills/</p> <hr/>
John McDonald	Individual	9/15/23 15:57:32	<p>The biggest role humans can play is minimizing or preventing the conversion of forest to non-forest uses. As a wildlife biologist and forest ecologist I am acutely aware of the role forests play in providing habitat for wildlife and other species, both rare and common, and am supportive of efforts to derive wood products through sustainable forest management. Young and mid-age forests tend to sequester more carbon annually than older forests, thus if sequestration is a goal then active forest management is critical to achieve that goal.</p> <p>Public forests are important in the Massachusetts landscape for providing habitats for all kinds of species. The average private forest parcel is less than 20 acres, too small to create functioning young forest systems on their own. Public forests, both DCR managed and DFW managed, are critical as they can be managed at larger scales that can providing functioning young forests and functioning mature forest habitats. Public forests can also be managed in a landscape context, providing the types of forest conditions that may be in low supply in the surrounding landscape, whether young forest or mature. And because the goals of public agencies are usually conservation-based and not profit-based, publicly own forestlands can be managed regardless of the market conditions or wood quality to create habitat, and not high-graded like private forests have historically been harvested, and sometimes still are. Sometimes this can mean harvesting the same stand at very short intervals (e.g., 15-20 years) to maintain patches of young forest on the landscape, such as aspen stands, which would not likely be feasible for private landowners.</p>	<p>To me a forest reserve is an area that is designated to remain a forest in perpetuity. This does not preclude active management of that forest. Forest reserves can play a role in long-term forest management as they can remove unique forest types or already mature forests from harvest planning and serve many aesthetic and recreations purposes. I do not support formal, legal protection from harvest for most reserves as it removes the ability for public land managers to respond to pest and pathogen outbreaks that may threaten adjacent or nearby forests. That may also prevent responding to damage caused by weather events, such as tornados or hurricanes, where the landscape may benefit from removing dead or dying trees. In some cases, it may serve long term goals to allow storm-damaged forests to simply regenerate on their own, but in others some wood harvesting may be a better option and it should not take a legislative action to allow that. Further, even the largest forest parcels in Massachusetts do not constitute wilderness in a meaningful scale, where disturbances such as fires or pathogens can run their course without influencing private lands or society in general; thus, a legally mandated hands-off approach is not appropriate for forest reserves in Massachusetts.</p>	<p>There are many current and future threats to Massachusetts forests, most of which are probably tangentially related to predicted climate changes over the next century. Insect pests, pathogens, invasive species are all well-established and significantly influencing forest species composition, growth, and survival of native plant and animal species. I support sustainable forest harvesting, including the use of even-aged management, prescribed burning, herbicide application, and well-designed monitoring of forest insect pests.</p>	<p>Division of Fisheries and Wildlife properties (Wildlife Management Areas or WMAs) need to be considered separately from DCR and Water Supply properties in any discussion of forest management. Partly because the missions, and thus the goals, of the agencies are different but also because the funding of DFW is quite different from that of DCR. Most WMAs were either acquired using license fees or federal excise taxes, which mandate that those properties be controlled by DFW and not subject to interference or outside mandates on their use. Other properties which may have been acquired solely with state bond funds are still managed and maintained using a combination of license fees and federal excise tax funds. Again, "loss of control" of how those funds are used would have significant implications for continued access to those federal excise tax funds, which are a significant part of the DFW overall budget. Properties acquired with license funds or federal excise tax funds and then subject to outside control (via a legislative act, for example) would likely require DFW having to repay the U.S. Fish and Wildlife Service the current market value of the properties in question or be subject to loss of future federal funding.</p>

First and Last Name	Affiliation	Date	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?	What is your definition or concept of forest reserves? What, if any, is the role of human intervention in maintaining reserve conditions?	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?	General Comments
Laura Mattei	NGO/Community Group/Non-profit	9/15/23 15:57:34	Given the outsized impact that humans have on our planet, we need to play a role in management of our forests.	SVT concurs with the definition of Wildland Reserves as defined in the most recent Wildlands & Woodlands report published by Harvard Forest.	We must maintain all the tools in our toolbox so that we can create management plans and adjust management plans according to changes in conditions and needs.	<p>Sudbury Valley Trustees (SVT) is a regional land trust whose mission is to protect natural areas and farmland for wildlife and people in the 36 communities that surround the Sudbury, Assabet and Concord Rivers. We currently manage 94 properties totaling 2,400 acres and oversee 97 conservation restrictions totaling 3,300 acres. As the Director of Conservation, I have worked on habitat restoration and management projects at SVT for the last twenty-two years.</p> <p>SVT does not agree with banning forest management or cutting trees on state-owned public lands. SVT believes that responsible forestry can be a critical tool in restoring and managing the health of our forest habitats and wildlife, and with good forest management prescriptions, can assist the Commonwealth's efforts to mitigate and adapt to the negative impacts of climate change.</p> <p>In many instances, quality forest management is needed for the birds. As you know, the DCR is part of a program with MassAudubon to certify foresters in bird habitat assessment and to help landowners to manage their forests for the benefits of birds. You also know that many of our present-day forests require active management and the cutting of trees to improve important forest bird habitat.</p> <p>Forests capture carbon. Active management of forests, including cutting trees, can be a component of the overall equation needed to capture and store carbon. The New England Forest Foundation is promoting exemplary forest management practices and the use of wood in construction that will help our region to capture and store carbon. Wood products are a significant part of our building construction and furnishings. Sourcing wood from our local woodlands, rather than importing wood products from distant forests across the globe (which are often not managed sustainably) increases our global carbon footprint. Climate Change is a global issue. Massachusetts citizens use wood products. We can not close our eyes and make believe that we are not harming the world's climate when we import wood from other parts of the world.</p>
Sasha Simone	Individual	9/15/23 16:34:21	Humans need to change the status quo. Forests are being destroyed every day by humans and the agencies that are supposed to protect them are too politically afraid to do anything or pass the buck. Humans need to change the status quo. Just look at what's happening in Wakefield Massachusetts and refer to the NEMT Forest, which is being needlessly destroyed, despite the alternatives and despite all the environmental concerns the citizens and scientists have raised.	Forests are threatened. Developers are gobbling them up. Agriculture is gobbling them up. Leave them alone. That will maintain them and keep them for future generations. If we don't work with a real sense of urgency and change our ways we are doomed.	Stop cutting down forests. Stop the kip service and the bureaucracy.	Please help us save what is left of a core habitat forest in Wakefield before it's too late. This forest is indicative of the world we live in.
Dale LaBonte	Individual	9/15/23 16:36:14	Humans can study, observe, and commune with forest ecosystems. This is the first and only step that can be justified until at least 2050—if the climate crisis is mitigated by reducing atmospheric carbon. Until then, we need every tree to sequester as much carbon as possible. Our forests are too precious to exploit as commodities or disrupt from their climate-saving capacities.	Reserves are protected areas where no logging occurs. Minimal manual cutting of invasive plants can be justified in rare instances. Humans are too ignorant of natural processes to intervene in a safe way. They should restrict their interactions to passive enjoyment of forest spaces.	Our only hope of addressing the climate catastrophe—especially in terms of biodiversity loss, like native pollinators which are responsible for the success of our crops—is that our forests will continue to generate oxygen, remove pollutants, provide cooling shade, moderate temperature extremes, stabilize the water cycle, emit healing aerosols, and create spaces for wildlife—especially native insects. Of special interest to us in the near term is a forest's proven ability to pull carbon from the atmosphere and, if undisturbed, hold it securely in the wood and in the soil. Unlike other New England states, there are several large swaths of healthy, intact forest. These treasures need to be preserved to anchor wildlife corridors and seed banks for the future. This will be the source of climate resilience. Many of these sites are close enough to land trust- and municipally-preserved parcels to stitch them together in an ecosystem capable of absorbing a higher water table and holding moisture through periodic droughts.	I will submit more comments in a document to Guidelines. Please see: forests-climate-solutions-testimony_9-12-2023.pdf
Laura Mattei	NGO/Community Group/Non-profit	9/15/23 16:37:06				<p>I was not able to fit the remainder of my comments in my previous submission so this is the last portion: We advise the administration that our forests need to be actively managed – for the benefits of forest habitat, wildlife, and endangered species, for the reduction of the risk of wildfire and to help the Commonwealth to mitigate the impacts of Climate Change. As land managers, DCR should have access to the full array of management tools, including cutting, to achieve the goals that we all share.</p> <p>The DCR's Forest Action Plan of 2020 specifies these actions. It is essential that we move positively forward on this plan.</p> <p>Thank you for the opportunity to comment.</p>

First and Last Name	Affiliation	Date	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?	What is your definition or concept of forest reserves? What, if any, is the role of human intervention in maintaining reserve conditions?	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?	General Comments
Heidi Ricci	NGO/Community Group/Non-profit	9/15/23 16:57:03	<p>Forests currently sequester approximately 7% of Massachusetts’ annual carbon emissions. This capacity needs to be increased while also retaining high levels of stored carbon and all of the other functions forests provide. While our forests face many risks and uncertainties about the future capacity to store carbon and provide other functions, there are also many risks and uncertainties in the transition to clean energy systems to reach the Net Zero emissions goal in the Clean Energy and Climate Plan. Just as we need to be flexible and nimble in addressing the risks and challenges of clean energy deployment across all sectors, we need flexibility in approaches to supporting the role of forests.</p> <p>Mass Audubon believes in the deep interconnection between humans and forests. Forests are intrinsically valuable and innately interconnected with sustaining healthy societies. Our intertwined legacies cannot and should not be undone – caring for our forests and responding to past and ongoing forest threats is essential. We feel it is important to consider that given the scope and scale of past and ongoing human impacts, unimpeded nature would take millennia to recover from past land use and adapt to the impacts of climate change. Through carefully designed forest stewardship practices, we can deepen our community’s connection with nature and increase the resilience of our conserved and working forests while optimizing both carbon storage and habitat quality. This stewardship needs to be undertaken with respect for and understanding of forests’ natural ability to regenerate and develop late successional characteristics, while focusing intervention where necessary to reduce the threats and stresses humans are imposing on forests due to past land use, climate change, introduced pests and diseases, and extirpation of the apex predators wolves and mountain lions leading to overabundance of white-tailed deer.</p> <p>The Commonwealth should adopt an informed approach to how and where active and passive management is planned. The establishment of forest reserves (see definition of forest reserves in question 2, below) should identify forested areas in relatively good condition -- diverse, large, forested areas with low threats (species composition, invasives, etc.). Management policies for public lands should be transparent and provide opportunities for meaningful input from the public, while relying on the best available current information and science. Management guidelines, especially for reserves, need to maintain flexibility in responding to new and emerging threats such as novel forest pests and</p>	<p>The DCR Landscape Designations defined forest reserves as areas “where the dominant ecosystem service objectives will be biodiversity maintenance, nutrient cycling and soil formation, and long-term carbon sequestration. Reserves are areas that users often value for spiritual reasons and that may provide elements of a wilderness recreational experience. There will be no commercial harvesting of timber in Reserves. Forest management will generally consist of letting natural processes take their course, although under specific circumstances, more active management might be permitted.” This approach focuses on passive management, with some flexibility to address stresses and threats like invasive species and pests.</p> <p>We recommend building on this definition, incorporating more recent science. Ontl et al. 2020 designates the establishment of “forest reserves in high carbon area” as a potential forest carbon management approach for land managers interested in promoting forest carbon2. Through a related body of work Mass Audubon, the Northern Institute of Applied Climate Science, The Nature Conservancy, the New England Forestry Foundation, and others have collectively worked to define key climate-smart management practices, including forest reserves. The process was conducted over the course of 18 months, and included a series of meetings that considered carbon modeling as well as input from New England landowners, foresters, academics, loggers, land trusts, state and federal agency staff, and regional planners. The resulting practice definition for forest reserves, which Mass Audubon supports, is as follows:</p> <p>Intentional passive management (with exceptions for invasive removals or novel outbreaks of forest pests and pathogens) to maintain ecological, carbon, and other benefits. Reserves can be established on all or a portion of a forest. This practice is not appropriate everywhere and may be most appropriate on sites with high carbon density and low vulnerability to climate change impacts (carbon), or unique or sensitive sites (which may include locations that contain at-risk species), sensitive ecosystems (e.g., vernal pools or riparian areas), or potential climate refugia (adaptation). Maintaining these areas preserves that adaptive capacity of these systems and Keeping forests intact and unaltered.</p>	<p>Priorities for addressing forest vulnerability include reducing the rate of loss and fragmentation of forests due to development, increasing the pace of permanent land conservation, managing the state lands well both for their own values and as models for other landowners, and providing programs and incentives for municipalities and private landowners to support forest conservation and stewardship. Specific forest management goals to address current conditions and risks to forests include:</p> <ul style="list-style-type: none"> ☑ Increase species diversity ☑ Increase age class diversity ☑ Reduce invasives ☑ Maintain white-tailed deer density at appropriate levels ☑ Monitor forest condition and these new and emerging threats <p>The need to address white-tailed deer overpopulation and the impacts this is having on forest health and regeneration should be elevated as a priority. We recommend that MassWildlife lead a concerted effort to monitor deer densities statewide and develop and apply appropriate methods to meet density goals, in partnership with municipalities, nonprofits, and private landowners. Mass Audubon supports the implementation of the Massachusetts Resilient Lands Initiative. This initiative calls for the adoption of a Forest Resilience Program (also referred to as the Forest Climate Resilience Program). Mass Audubon has been piloting a number of initiatives to inform a potential Forest Climate Resilience Program in partnership with the above-mentioned process for developing climate-smart management practices. These practices are designed to balance carbon and adaptation goals for forests while supporting the provisioning of other ecosystem services. Identification of what practices to implement, in appropriate locations, should involve a strategic consideration of vulnerability as it relates to climate and forest health threats in the near and mid-term. The below table lists and defines these practices.</p>	<p>See letter submitted to guidelines@mass.gov for full comments.</p> <p>Mass Audubon applauds the Commonwealth for undertaking the Forests as a Climate Solutions initiative and offers the following comments. This initiative is important in addressing the twin crises of biodiversity loss and climate change, and retaining the many other important values associated with Massachusetts’ forests.</p> <p>Forests cover nearly 57% of Massachusetts and provide myriad ecosystem services including biodiversity; carbon sequestration and storage; water filtration, infiltration, flood control, and water supply; recreation; cooling and shade; scenic beauty; and overall support of our quality of life and community character. They are key to addressing the twin crises of biodiversity loss and climate change. Forests are dynamic ecosystems that change over time including through natural disturbances or management efforts to mimic natural disturbance. We define ‘forest loss’ as conversion from a forested system to some other land use such as development. The landscape of Massachusetts has been shaped by hundreds of years of human land-use decisions. The fact that we still have so much forest reflects their resiliency, but they are not as resilient as they could be or need to be. Forests face many threats including loss and fragmentation from development, climate impacts, invasive pests and diseases, and deer overpopulation. In many instances, these threats reinforce and exacerbate each other. For example, climate change creates conditions favorable to forest pests and diseases; development reduces the integrity of remaining forest patches and creates edges where invasive plants take hold; and excessive deer browsing reduces biodiversity and tree regeneration while favoring certain invasive plants. Increasingly intense storm events and more frequent droughts also are altering disturbance regimes including blowdowns, ice damage, and fire risk.</p> <p>In the face of these threats and risks, we need to protect and manage our forests, both public and private, to retain as much forest cover as possible and sustain all of the critical functions they provide. Sufficiently addressing these challenges will require management strategies that</p>
Eleanor Axelrod	Individual	9/15/23 17:00:13	<p>Leave forests alone. Only exception should be to remove harmful invasives, or possibly to sustainably harvesting wood from a fallen tree or diseased tree, but dead trees also provide an ecological service.</p>		<p>That statement sounds like something which comes from logging companies and is out of step with the IOCC. Forests are best suited to evolve with climate change - they provide transpiration and play a vital role in the water cycle- avoiding desertification and recharging groundwater. They are best left alone to allow for biodiversity. Obviously along the edges where there is a railroad track or powerline that should be maintained. But definitely not destroyed through blasting to build new schools where open space already exists - as is the case with Northeast Metro Tech building project in Wakefield MA.</p>	<p>If Healy administration is serious about climate change and protecting forests, consider removing attorneys from the key environmental posts and staff those positions with scientists who are better suited to understand the complexities and interconnectedness of various regulations. I have been disappointed to learn that MEPA, DEP and MESA, Fish and Wildlife and other departments permit extremely destructive projects that are completely counter to their mission. Taxpayers should not be funding such destructive and ill-conceived projects as in the case with Northeast Metro Tech building project - no sane person thinks a blowing up a forest so kids can walk up a slippery boardwalk 3 football fields long to get to school from the parking lot is a smart and sustainable idea.</p>
Jane Robie	Individual	9/15/23 18:09:31	<p>We need to immediately protect our state’s forests -- no more bulldozing them for buildings. New buildings should go on already-developed/disturbed parcels, such as defunct shopping/strip malls. No more blasting away forested hillsides and hilltops that hold and percolate water. We’re in a desperate climate situation, and if future years are like this summer (2023), many people will lose their homes to flooding. It should go without saying that habitats containing rare and endangered species must be protected, completely.</p>	<p>My concept of forest reserves includes the importance of carbon sequestration, rain water absorption, animal homes, resting places for migrating birds, and human mental health.</p>	<p>There must be a comprehensive, clear campaign to reach all state residents about the critical importance of our forests: On-line ads, billboards, social media, e.g. Everyone, even those that don’t live in forested areas, need to be educated about our dependence on our environment. The best way to make our forests more resilient is to leave them alone -- excepting as needed to treat them for invasive pests, removal of trees that pose a danger to humans, and removal of invasive plants.</p>	<p>I’ve been involved in two unsuccessful efforts to save woodlands: (1) Hillside Park/Patrick’s Place in Melrose -- where a developer destroyed a forested rocky outcrop and adjacent woods to build multi-million dollar homes, a project that began in 2020 and is still going on; (2) The “NEMT” forest in Wakefield, adjacent to Northeast Tech vocational school -- a completely unnecessary destruction of approx. 16 acres of pristine forest on rock outcroppings -- with a certified vernal pool that’s part of a wetland system, two creatures on the state’s endangered species list, and no significant human disturbance since Native Americans and early settlers lived in the area. No one quite knows why the school chose to build their new school here when they have athletic fields right next to their current school at ground level that will meet their educational and enrollment goals. All the state agencies and politicians have failed those of us who’ve worked to save the forest -- in particular MEPA, MSBA, and the Governor’s Office. Only Wakefield’s Conservation Commission did the right thing by denying the project as harmful to the wetlands. I fear that MassDEP (the project proponents appealed ConCom’s decision -- a decision is pending) will favor the developers. I hope this disastrous project will become a poster child for saving our state’s forests.</p>
Aaron Townsley	NGO/Community Group/Non-profit	9/15/23 19:22:31	<p>Carbon sequestration as a function of forests is important; however, optimization of carbon sequestration should not drive forest management or the establishment of forest reserves in Massachusetts at the expense of other critical ecosystem services. Instead, it should be integrated into a broader set of objectives. First and foremost, the Commonwealth should:</p> <p>Work to maintain and expand healthy forest ecosystems across the state and create robust programs that incentivize private land owners to maintain healthy forests. It’s private lands that are under the greatest threat of deforestation.</p> <p>Prioritize objectives on state-owned lands that are less achievable on privately-owned forested land. These state-owned forest objectives should include providing habitat for rare species, promoting diversification in tree species and age classes, managing invasive species, and safeguarding clean water sources.</p> <p>And paramount to all other goals, the state should prioritize building resilient forests capable of withstanding the increasing impacts of a changing climate. A single drought, fire, storm, or pest outbreak can potentially undo long-term carbon sequestration efforts. Therefore, prioritizing forest health and resilience is crucial for the protection of public forests and their long-term carbon sequestration capabilities.</p>	<p>If the establishment of forest reserves is believed to be a necessary component of the Commonwealth’s natural landscapes, then the concept must be flexible and inclusive. It has to be understood that within any given forest, there are a multitude of abiotic and biotic components that need to be kept in reserve in addition to carbon.</p>	<p>While climate change cannot be halted or slowed solely through state lands, our wildlands can serve as the frontline in protecting rare and endangered species and threatened ecosystems. Agencies like MassWildlife have already achieved victories in this regard, and it should be recognized that these successes required active and passive management approaches to achieve those goals. By grounding our work in the state’s wildlands in science-based management decisions and collaborating strategically with private landowners, we can positively impact the richness and diversity of Massachusetts’ species and aid in the restoration of resilient ecosystems.</p>	<p>As the renowned conservationist Jim Posewitz wisely stated, “we do these things for the generations within the womb of time.” BHA looks forward to working with the many stakeholders that care deeply about this issue and helping to create science-based policy that will support resilient forests now and for generations to come.</p>

First and Last Name	Affiliation	Date	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?	What is your definition or concept of forest reserves? What, if any, is the role of human intervention in maintaining reserve conditions?	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?	General Comments
William Hill	Individual	9/15/23 22:41:31	<p>Humans can and should actively (and passively) manage forests to optimize carbon storage and sequestration in forests. The preponderance of existing and expanding science in this arena indicates that producing wood products through forest management, that store sequestered carbon, can supplant or reduce significant use of fossil fuels in building materials and energy production. The process of managing forests to produce wood products, if done in a sustainable fashion, can protect and enhance water supplies and wildlife habitat.</p> <p>We are a species and culture of consumers. We demand and use wood products daily and to the extent possible, should produce those products locally as we support and strive to with our agricultural products.</p>	<p>A forest reserve is forest of significant size (with connectivity to the forested landscape) where the major long term goal is primarily a naturally functioning ecosystem. Objectives include observation and study of natural processes and minimizing human intervention. A reserve is not a wilderness. Reserves in our state (MA) are difficult to implement because of the fragmented landscape due to hundreds of years of human intervention, and the myriad of land ownership patterns. I don't believe that reserves should be instituted to the extent that they currently are designated because the forest structure and ecosystem services which are highly desirable in a "reserve" (diversity in species, tree size classes, vegetative cover, carbon storage and sequestration) can be provided by using innovative forestry techniques on limited entry cycles. When areas are designated as reserves they should be open to human intervention to deal with the consequences of invasive species, artificial plantations, insect and disease that can spread to other lands, and fire suppression and pre-suppression (especially in fire dependent ecosystems). Emphasize: Reserves are not and can not be wilderness is our very small state. The Commonwealth should not ignore when intervening, that trees in reserves may have value and that can help pay for stewardship activities.</p>	<p>Our forests are known to lack diversity in age, species, and structure (size classes) making them extremely vulnerable to the effects of climate change noted in the question. Steps to increase diversity in our forests should be taken to protect them from the effects of extreme events. Using a combination of many silviculture systems, ranging from even age, young forest management, uneven / multi-age management, and late successional characteristic management should be used across ALL state lands. An overlooked vulnerable part of our state forests is the physical infrastructure of the state forests, parks and reservations. The aged roads, structures and facilities are very vulnerable to the effects of climate change and require investment. Stewardship of the forest can generate income to aide in making infrastructure, especially roads more resilient also.</p>	<p>The Commonwealth should promote the concept of forestry as it does agriculture in the state. Along with this there should be active steps to incentivize and capitalize the forest industry in MA. We should promote the culture of local forest agriculture so that it is acceptable and not vilified as it is by many here. Look to Vermont, a very progressive state that accepts, promotes, and supports it's forest industry.</p>
Ted Gattino	Individual	9/18/23 8:53:43	<p>Active forest management using today's best practices will provide ecological services once provided through natural fires without the danger to life and property, benefiting hundreds of species of concern as well as adding revenue to the State.</p>	<p>Standing timber. Timber harvests.</p>	<p>As the climate warms, species adaptation will introduce changes that we are not comfortable with. Nature is dynamic, always shifting using a timeline we are not used to considering. As a human population using modern scientific accounts, we are used to looking at our habitat over the course of the past few hundred years. This hyper view is not how the planet is viewed. Our planet has a recorded history of billions of years. Our views are tied into political boundaries and historical lifestyle references that are unequal to the magnitude of the massive energy of the earth. We purchase land and expect our investment to stay as we originally viewed it when we signed the purchase agreement. Nature shifts in ways we don't want to accept. As the temperature climbs into more northern areas, species adaptation will change and shift. With the changes to climate and habitat, there are core practices that the earth would continue to experience such as fire. Using today's forest management best practices such as timber harvesting to create successional habitat mimics nature's fire practices in a safe, controllable manner benefiting all stakeholders.</p>	<p>Please provide active forest management by allowing industry to harvest timber (net revenue benefit to the State), and use the revenue to perform ecological enhancements. This will increase the sociological benefits for the State. Thank you.</p>
Faye Wolfe	Individual	9/19/23 10:43:12	<p>I'm not an expert, but I know that forests are struggling as climate change adversely affects growing conditions and they are also prey to encroachment from development. The objectives named--clean water, habitat for rare--for all--species are key. I guess I would say that management should prioritize those needs, but that the wood industry being a source of jobs, should be supported as much as possible within those limits.</p>	<p>My concept of forest reserves is that they serve to fight climate change by sequestering carbon, cleanse the air, often protect water sources, provide vital habitat. Human intervention seems to me all too often to mean making forests productive for commercial interests, whose goals may run counter to the health of a forest, so I'd vote for as little intervention as possible, with that maintenance supporting forests' environmental role first and foremost.</p>	<p>As stated above, I believe it is essential to ensure that such practices as allowing harvesting be kept to a minimum, so that the state's forests are not further jeopardized. All of the above threats need to be addressed, although I realize funding may not permit that.</p>	<p>There is much debate in western MA, where I live, about clearing forests for solar installations. I'm not even sure this is an issue pertinent to this forum, but I would urge the powers that be not to sacrifice trees to solar energy generation. I'd rather sit in the dark! (But fortunately, we took advantage of rebates, etc., to install solar panels on our house, so that won't be necessary.) Rooftop solar, parking lot solar, that's the way to go. Thank you for your time and efforts!</p>
Bob Wells	Business	9/22/23 12:42:00				<p>As a manufacturer of both biochar and the equipment to make biochar since 2009, New England Biochar LLC finds itself in the position of being one of the very few businesses that can lay legitimate claim to having sequestered much more carbon from the atmosphere than we have created. When looking at a goal like "net zero by 2050" I would think that what we do here should be of great interest. Also, I believe that biochar offers so many benefits beyond the climate benefits, that it provides the opportunity to leverage those benefits in the process of motivating people, businesses, and governments to sequester carbon from the atmosphere. In other words, atmospheric carbon draw-down can be done on a profitable basis instead of just being seen as a cost. New England Biochar has provided lectures and workshops to countless schools, colleges, universities, forestry groups, farm organizations, landscaping organizations, government agencies, and private individuals over the past years. And yet biochar is still far from being a household word. The biggest challenge that we face as a business is educating the public on the many benefits and uses of biochar. If the public knew all the benefits and uses of biochar there would be an outpouring of effort to implement it even without telling them that they are fighting climate change in the process. The second big challenge is building the appropriate technology at the right scale for producing biochar. This is a much bigger challenge than it appears to be at first. However, once mastered it promises to help alleviate solid waste in many places like forests, sawmills, farms, etc. Biochar's wider use can make forests and farms more productive, water and air cleaner, and septic systems more efficient, just to name a few applications. It can be used in concrete, asphalt, and plastics to improve strength and performance. Each of these applications has carbon sequestration as a co-benefit. The list goes on for applications and thus the opportunities. Regarding the forest products industry biochar can provide a profitable use for all the slash, dead wood, and other wood waste that is generated. Old, dead, and fire dangerous under story can be transformed into water holding, water purifying, biochar to be used right there in the forest to regrow harvested wood much faster.</p>