



November 22, 2019

The Honorable Kathy Castor
Chair, House Select Committee on the Climate Crisis
H2-359 Ford Building
Washington, DC 20515

The below comments are offered on behalf of National Association of State Foresters (NASF) in response to the request for information to inform the policy recommendations of the House Select Committee on the Climate Crisis. NASF is comprised of the chief administrators of the forestry agencies in all fifty states, the U.S. Territories, and the District of Columbia. These agencies protect, manage, or assist in the protection and management of state, local government, and privately-owned forest lands totaling over 500 million acres. These efforts produce substantial multiple benefits for society as a whole. Enhancing the role of forests in climate change mitigation and improving adaptability is possible within virtually every program of concern to state foresters. Strengthening, growing, and improving these efforts not only addresses climate change, but supports the fundamental mission of state forestry agencies. The following comments have been compiled from established NASF positions and policy statements, which have been submitted with our comments as attachments.

Sector-Specific Policies

1. What policies should Congress adopt to decarbonize the following sectors consistent with meeting or exceeding net-zero emissions by mid-century? Where possible, please provide analytical support that demonstrates that the recommended policies achieve the goal.

a. Transportation

b. Electric power. The Select Committee would like policy ideas across the electricity sector but requests specific comment on two areas:

i. If you recommend a Clean Energy Standard, how should it be designed?

ii. How can Congress expedite the permitting and siting of high-voltage interstate transmission lines to carry renewable energy to load centers.

c. Industry

d. Buildings

1(a): The Renewable Fuel Standard (RFS) needs to be amended to support forest biomass use for liquid fuels, while also improving the condition of our nation's forests. Modeling language off of S 1614 would

accomplish this goal and help decarbonize the transportation sector. The language of the bill reads as follows:

DEFINITION OF RENEWABLE BIOMASS UNDER RENEWABLE FUEL PROGRAM

SEC. II. Section 211(o)(1)(I) of the Clean Air Act (42 U.S.C. 7545(o)(1)(I)) is amended—

(1) by re-designating clauses (iii) through (vii) as clauses (v) through (ix), respectively; and
(2) by striking clause (ii) and inserting the following:

“(ii) Trees and tree residue from non-Federal land, including land belonging to an Indian tribe or an Indian individual that is held in trust by the United States or subject to a restriction against alienation imposed by the United States.

“(iii) Any secondary, residual materials generated from forest products manufacturing, including, but not limited to, saw- dust, wood chips, shavings, bark, sanderdust, and trimmings, regardless of whether the source of primary materials is derived from Federal or non-Federal land.

“(iv) Biomass materials obtained from Federal land that—

“(I) are not harvested from old growth stands, unless the old growth stand is part of a science-based ecological restoration project authorized by the Secretary of Agriculture or the Secretary of the Interior, as applicable, that meets applicable protection and old growth enhancement objectives, as determined by the applicable Secretary;

“(II) are slash, pre-commercial thinnings, or derived from ecological restoration activities;

“(III) are harvested in a manner consistent with applicable Federal laws (including regulations) and land management plans; and

“(IV) are derived within—

“(aa) the wildland-urban interface (as defined in section 101 of the Healthy Forests Restoration Act of 2003 (16 U.S.C. 6511)) from acreage included within a community wild- fire protection plan (as so defined);

“(bb) a priority area on Federal land, as identified by the Secretary of Agriculture or the Secretary of the Interior, as applicable, in need of—

“(AA) ecological restoration;

“(BB) an authorized hazardous fuels reduction project under section 102 of the Healthy Forests Restoration Act of 2003 (16 U.S.C. 6512); or

“(CC) a project carried out under section 602(d) of that Act (16 U.S.C. 6591a(d)); or

“(cc) an area identified as a priority area for wildfire threat in a State-wide assessment and State-wide strategy developed in accordance with section 2A of the Cooperative Forestry Assistance Act of 1978 (16 U.S.C. 2101a).”.

1(b): Biomass power is integral to any renewable energy mix by providing base load power to supplement wind and solar power. Biomass can be sourced sustainably from both public and private lands.

Biomass from the nation’s public and private forests can and must be part of any solution to meeting the nation’s renewable energy goals, particularly in regions where solar, wind, and other renewable resources are less prevalent. As the nation looks to expand federal renewable energy mandates, NASF offers the following perspective on three important considerations including:

- The green house gas implications of wood-based bioenergy development
- Forest biomass supplies
- The sustainable removal of biomass from forests

Sustainably managed forests make a significant contribution to reducing greenhouse gas levels whereas the combustion of fossil fuels releases geologically sequestered carbon that has been stored for centuries

and adds to the total amount of carbon in active circulation.¹ The use of renewable forest biomass for energy may have short-term emissions, but over the long-term does not increase carbon in the atmosphere and has significant carbon benefits over non-renewable energy sources such as fossil fuels. Significant potential exists to increase the contribution of woody biomass towards federal renewable electricity and fuels mandates without impairing the productive capacity of the nation's forests or the ecosystem services they provide.

Significant opportunities are available to provide biomass heat for schools and other public buildings and invite new markets for renewable energy and fuels production. Biomass that is harvested during forest health and fuels reduction treatments can be converted to renewable energy using modern institutional biomass systems that leave few (if any) visible emissions or odors and emit far less particulate matter than through open burning. To invite new investment, NASF recommends Congress allow the issuance of Renewable Electricity Credits (RECs) and credits for renewable fuels production (RFS RINs) from biomass sourced from federal lands that are harvested consistent with federal law and each national forest's land and resource management plan. To meet the needs of renewable energy investors, NASF recommends Congress and/or the Administration provide a reliable supply of biomass by addressing contractual barriers (i.e. cancellation ceiling requirements) which limit the use of long-term stewardship contracts on federal lands.

Modern forestry uses timber for producing higher-value products like building materials and furniture. Markets for lower-value materials such as forest logging residues (i.e. slash) and byproducts of forest thinnings and forest health and restoration treatments often do not exist leaving carbon from these materials to be released through decomposition in the forest, insect and disease infestations and catastrophic fire. Other low-value materials such as clean construction debris and urban wood byproducts from land clearing (e.g., for utility right-of-ways, roads) and debris from tree care and landscaping firms are often disposed of in landfills as few, if any, markets exist for these materials. NASF recommends all these materials be counted as eligible feedstocks for which renewable energy credits can be generated under a RES.

NASF encourages Congress to structure renewable energy legislation to allow biomass from private forests that are managed consistent with a Forest Stewardship Plan (developed under the Forest Stewardship Program) or equivalent approved by the State Forester to be eligible for RECs. The Forest Stewardship Program provides families and individuals with the technical information necessary to encourage long-term stewardship and sustainability of their forests. Planning assistance is delivered through state forestry agencies primarily through the development of Forest Stewardship Plans.

The primary tool in providing estimates of sustainable biomass supplies is the FIA Program which is administered by the Forest Service in partnership with State Foresters. The FIA program provides the baseline data needed to make informed decisions about sizing renewable energy facilities that match the ability of local forests to sustainably supply biomass now and into the future. If maintained and enhanced, the FIA program will continue to serve a valuable role in monitoring the carbon balance associated with using forest biomass as a renewable energy source.

Meeting the nation's renewable energy goals will require significant contributions from all renewable energy sources including wind, solar, biomass, and other renewables from all regions of the country. It is essential for Congress and the Administration to demonstrate their commitment to domestic energy

production, green job creation, and national security by sending clear signals regarding the significant role forest biomass can play in meeting the nation’s renewable energy goals.

1 Bruce Lippke, et al. letter to Chairmen Boxer, Bingaman, and Lincoln and Ranking Members Inhofe, Murkowski, and Chambliss, Washington, D.C., 20 July 2010.

1(d): Mass Timber

Mass timber is a category of mostly engineered wood building materials that are structural and can be used as floors, walls, ceilings, and beams. These products include LVL, Glulam, NailLam, Mass Plywood Panels (MPP) and Cross Laminated Timber (CLT). CLT is produced in large panels by assembling successive layers of boards perpendicular to one another. The result is a product that rivals steel in strength and fire resistance. It is lighter in weight than concrete. As such, CLT and other mass timber products can replace concrete and steel in tall structures.² Additional benefits include carbon storage and reduced CO2 emissions during construction. Though more commonly produced and utilized in Europe since the late 1990’s it has recently gained traction in the US wood products industry with manufacturing facilities in the Pacific Northwest and a new one starting up in Alabama. Building codes across the US are being updated to handle mass timber buildings, small changes were made in 2015 and 2018 and revisions proposed for 2021 will allow for buildings taller than 85 feet.

Planned tall construction projects include a 100-story tower in London and a 40-story building in Stockholm.³ Buildings in the US, include several office buildings in Portland, Oregon two T3 buildings (Minneapolis and Atlanta), and hotels in Alabama and New York state (new ones planned for SC and NC). The University of Arkansas has dormitories under construction and Oregon State University is building their new forestry building with CLT. The University of Massachusetts, Amherst completed their new design building (<https://bct.eco.umass.edu/about-us/the-design-building-at-umass-amherst/>) with mass timber more than a year ago. Efforts are underway to develop CLT from low-value and other hardwoods.⁴

While widespread use of mass timber is good news for the economies in timber producing regions of the country, it also promises some distinctive benefits for builders, communities and the environment.

Builders, pressured by persistent labor shortages, are finding a wider pool of workers able to safely install mass timber panels. They also report significant labor savings and more efficient and safe job sites. Construction times are reduced by “just-in-time” delivery to job sites and quick installation of panels.

Of course, communities experience less noise and dislocation during construction and, by avoiding the usual stockpile of dimension lumber on site, fire risks are reduced. The positive environmental attributes of mass timber buildings include a low energy intensity during manufacturing, superior energy efficiency in mass timber structures, and better management of a renewable resource.

² Advanced Wood Products Manufacturing Study for Cross-laminated Timber Acceleration in Oregon and Southwest Washington. Pacific Northwest Manufacturing Partnership. 2017

³ First and Largest CLT Plant in Eastern US is Nearly Operational. R. Dalheim. Wood Working Network. April 2018.

⁴ US Firm Developing Hardwood CLT Product. Journal of Commerce. June 2017.

Cross-Cutting Policies

5. Innovation:

- a. Where should Congress focus an innovation agenda for climate solutions? Please identify specific areas for federal investment and, where possible, recommend the scale of investment needed to achieve results in research, development and deployment.
- b. How can Congress incentivize more public-private partnerships and encourage more private investment in clean energy innovation?

5(a): Federal investment should focus on dedicated funding streams for wood products research that can replace more carbon intensive materials (concrete, steel, fossil fuel-based chemicals, plastics, etc.). This includes the US Forest Service Forest Products Lab, university programs that focus on biomaterials, and programs that encourage wood products innovation, such as the Wood Innovations Grants program run by the US Forest Service.

Agriculture

6. What policies should Congress adopt to reduce carbon pollution and other greenhouse gas emissions and maximize carbon storage in agriculture?

6: Maximize Carbon Storage in agriculture by enhancing forestry through conservation programs

Global climate change continues as an issue frequently raised in both political and scientific arenas. In these discussions the role of forests and the products derived from forests are often mentioned.

Trees absorb carbon dioxide from the air, convert it to wood and release oxygen in the process. The carbon stored in wood represents carbon that does not enter the atmosphere where it would contribute to a “greenhouse effect” that warms the earth. It is estimated that fourteen to fifteen percent of the nation’s annual carbon emissions are offset by the additional carbon stored in US forests and wood products each year.⁵ Carbon remains stored in wood until it deteriorates, whether it breaks down within a dying tree, a piece of lumber or a piece of paper. Agency programs that increase the extent of forests and tree growth, and promote greater use of wood products, ultimately lead to increased carbon storage.

The carbon released when converting wood to energy is recaptured when replacement wood is grown. A panel of scientists, conducting a comprehensive review of current research, have concluded that – over the long term – cumulative emissions of carbon dioxide can be reduced by increased use of forest feedstocks.⁶ Programs that promote economically viable wood energy uses can also play a beneficial role.

NASF recommends including strong provisions for forests and forestry in conservation programs that provide technical and financial assistance to private landowners. The financial and technical assistance provided through programs such as the Environmental Quality Incentives Program (EQIP) and the Conservation Stewardship Program (CSP) is invaluable in supporting small private landowners in their forest management objectives.

NASF recommends developing a National Reforestation Initiative to incentivize reforestation within priority areas (regions projected to experience forest loss from the pressure of rapid land development, as identified in the USDA Forest Service (USFS) Resource Planning Act Assessment and/or State Forest Action Plans) which utilize Natural Resource Conservation Service (NRCS), Farm Service Agency (FSA), and USFS programs.

⁵ US Environmental Protection Agency. 2013. *Inventory of US greenhouse gas emissions and sinks: 1990 – 2011*. EPA 430-R-13-001, Washington, DC.

⁶ Miner, R. et al. Forest carbon accounting considerations in US bioenergy policy. *Journal of Forestry*. 112(6): 591 – 606.

6: Biochar

A by-product from the production of biofuels manufactured through pyrolysis, biochar is a very fine charcoal-like material used to improve soil characteristics. Pyrolysis involves heating wood to extremely high temperatures without oxygen, as the presence of oxygen would cause wood to burn. In this instance the wood converts into mostly pure carbon. The best biochar is produced at temperatures above 350 degrees centigrade. As a soil amendment it lowers acidity and tightly binds undesirable metals so that they are not taken up by plants or leached from the soil. It can also increase soil porosity in tight clays or reduce porosity in soils that drain too quickly such as sand. It creates a favorable medium for the production of micro-organisms that are beneficial to trees.

Importantly, biochar is principally carbon that is near permanently stored. As such its greatest potential may be its use for long term carbon sequestration.⁷ By working biochar into the soil a source of nearly pure carbon is being incorporated that is not subject to micro-biological activity. When, for example, wood or some other organic material is incorporated into the soil micro-organisms will eventually break that material down into other compounds, including carbon dioxide which can be released back into the air during soil disturbance.

Where readily available, it has developed market value. Reclamation of oil drilling sites and as a soil amendment for high value crop operations are common uses. Current research is focused on mobile kilns that can be used on site at projects conducting needed thinning of low value timber.⁸

⁷ Biochar: A Home Gardener's Primer. Washington State University Extension Fact Sheet FS147E

⁸ Presentation by Darren McAvoy, Utah State Biomass Resources Group, to NASF. February 2017.

7. What policies should Congress adopt to help farmers, ranchers, and natural resource managers adapt to the impacts of climate change?

7: Invest More in Private Forest Land Management –

Private landowner assistance provided under the Forest Stewardship Program and Rural Forestry Assistance Program improve the nation's carbon stocks in numerous ways. Promoting sustainable harvest is the most effective way to deal with an increasingly aging forest resource that could someday become a carbon emitter as opposed to one that increases stored carbon. An added benefit is the conversion of aging trees into wood products that will retain carbon even longer. Management assistance is also focused on improving growth and reforestation which increases carbon uptake. Financial incentives such as Environmental Quality Incentives Program and Conservation Reserve Program are additional motivation for landowners to take actions that ultimately benefit carbon storage. Enhanced funding to support long term relationships between landowners and service foresters would allow these carbon benefits to be expanded to more acres.

In addition to the benefits provided to climate change mitigation landowner assistance can also assist with improving forest ecosystem adaptability. Resilience can be encouraged through more technically planned

management activities. Landowners can become better informed as to options and strategies for achieving resilience.

Working forest landscapes are a vital part of the rural landscape, providing an estimated 900,000 jobs, clean water, wood products, and other essential services to millions of Americans. Private forests make up two-thirds of all the forestland in the United States and support an average of eight jobs per 1,000 acres.⁹ However, the Forest Service estimates that 57 million acres of private forests in the U.S. are at risk of conversion to urban development over the next two decades. Programs like the Forest Stewardship Program and the Forest Legacy Program are key tools identified in the Forest Action Plans for keeping working forests intact and for providing a full suite of benefits to society.

Forest Stewardship Program is the most extensive family forest-owner assistance program in the country. Management assistance is delivered in cooperation with state forestry agencies through technical assistance services and the development and implementation of Forest Stewardship Plans. The program works to ensure that private landowners have the best information to help them manage their land for wildlife, recreation, aesthetics, timber production, and many other goals. In FY 2018, nearly 24 million acres of private forest lands across the Nation were managed under Forest Stewardship Plans, and of this total nearly 13 million acres are within high priority landscape areas identified in State Forest Action Plans. Additionally, FSP supported direct outreach to roughly 475,000 landowners which includes 11,888 new Forest Stewardship Plans. The technical assistance provided through Forest Stewardship Program is a gateway to other effective USDA, state, and private sector programs designed to help keep working forests intact. For instance, the Forest Stewardship Program enables landowners to participate in USDA programs including the Forest Legacy Program and Environmental Quality Incentives Program.

⁹ Forest2Market. *The Economic Impact of Privately-Owned Forests*. 2009.

Strengthen Research and Forest Inventory and Analysis –

The Forest Inventory and Analysis (FIA) program has tracked carbon stocks since the early 1990s. This is essential data for understanding to what extent forests can offset carbon emissions through sequestration. In addition, inventories look at all ecosystems and can provide early detection in order to implement adaptation strategies. NASF considers FIA a priority program. There is also a need for more research to identify the best ways to manage forests for greater resilience and a need to conserve genotypes as ecosystems change in ways that cannot yet be predicted.

In addition, the Forest Products Laboratory and the USDA Wood Education and Resource Center play key roles in expanding forest product and bio-energy opportunities through research and extension. Strengthening their contributions will support climate change mitigation.

Strengthen Nursery and Tree Improvement Programs –

A key element in managing forests as a sustainable, renewable resource is successful reforestation following harvests. Often this is most effectively accomplished by replanting harvested areas. Additional support for state nursery and tree improvement programs will assure the availability of planting stock and enable genetic improvement programs aimed at increasing adaptability.

Establish Favorable Tax Policy –

Tax policy impacting forest owners can influence decisions around retention of forests or conversion to other uses. It is important to maintain current beneficial tax policies such as treating timber sales as a capital gain and expensing management costs yearly. Increasing the cap on the dollar amount exempt from estate taxes would prevent heirs from having to dispose of property to meet a tax liability. And, reinstating the enhanced tax benefits that had been available to landowners who contribute conservation easements on their land would also assist in retaining forest cover.

Support Expansion of Forest Product Markets and Forest Bio-energy Utilization—

In 2007 there was an estimated eight billion tons of greenhouse gases stored in wood products still in use or in landfills.¹⁰ Housing drives the production of solid wood products and manufacturing activity normally drives paper production. The recession of 2008 dampened both markets and slowed the rate of carbon storage in those products. NASF supports encouraging the use of wood over other non-wood building materials and facilitating the expansion of wood industries, as well as increasing the use of woody biomass. Programs implemented by state forestry agencies include forest inventory analyses and providing technical support to existing or emerging natural resource-based businesses. NASF also supports expanding the availability of raw material from national forests, particularly in the western US as a way to convert more domestic standing timber, reduce fuels, and rebalance age classes as well as serving to support the maintenance of forest product markets for private landowners. Increased use of products sales as part of the fuels treatment can also reduce management costs.

In 2007 wood generated approximately two percent of all the energy consumed in the US.¹¹ Thus there is substantial room for growth and with it would come the added benefit of improving markets for private landowners, thereby encouraging retention and management of forests. Certification programs in conjunction with solid data such as that from FIA could play an important role in addressing concerns over sustainability.

¹⁰ USDA Forest Service. 2010. *National Report on Sustainable Forests – 2010*. FS-979, Washington, DC.

¹¹ USDA Forest Service. *National Report on Sustainable Forests – 2010*.

Support Markets for Ecosystem Services –

We have in place examples and processes for monetizing the value of carbon stored in forests, but markets for selling this value are limited. The development of this income opportunity for landowners, as well as market opportunities for other ecosystem services such as water quality protection, would make ownership of forests more attractive and retention of forests more likely, as well as increase the storage of carbon thereby mitigating carbon emissions.

Increase Programs to Retain Existing Forests –

Though they currently are adding carbon, it is projected that the total carbon stock in US forests will begin to decline by 2040 due to a loss of forest cover and an increase in the relative age of standing timber.¹² The Forest Legacy Program, funded through the Land and Water Conservation Fund, is an important tool for stemming the loss of forest land and needs to be maintained and enhanced.

¹² USDA Forest Service. 2012. *Future of America's Forests and Rangelands – Forest Service 2010 Resources Planning Act Assessment*. GTR WO-87, Washington, DC.

Improve Forest Health Funding –

Forest health programs administered by the states also contribute carbon benefits. From 2008 to 2012 over forty million acres of forest mortality were caused by insects and diseases.¹³ Mortality results in carbon loss and poor forest health reduces the rate of carbon sequestration. Increased funding to better protect forests is essential to their role in climate change mitigation and becomes more so every year as the rate of invasive species occurrence continues to accelerate.

¹³ USDA Forest Service. 2013. *Major Forest Insect and Disease Conditions in the United States – 2012*. FS-1023, Washington DC.

Good Markets are Critical to Good Forest Management

In debates over the well-being of the Nation's forests some assume that harvesting trees for wood products represents a potential threat to their sustainability and to the environmental and social benefits forests provide. These concerns are often expressed in relation to new, emerging markets for wood. Using wood for renewable energy has been central to these debates, but other emerging uses are not immune to possible criticism.

NASF ascribes to the view that benefitting from the economic value of forests does not threaten environmental and social values as much as it is key to supporting the delivery of environmental and social benefits.

Keeping forestland as working forests is paramount to the ability of our forests to provide the economic, environmental, and social benefits that are essential to society. In order to retain and properly care for their forests, landowners need sources of revenue. Though forests can provide other forms of economic return - such as from recreation, appreciated land values and ecosystem services - harvesting trees for wood products is the predominate source of revenue for forest owners. This has the added benefit of generating economic opportunities for businesses, whose earnings are often re-invested in the forest. For this reason, NASF believes it is important to support the research and development of new markets for wood fiber. Having highly diverse markets increases the options for management by allowing the landowner to remove those trees of a certain size and/or species under plans that are more likely to result in improved health and vigor.

Within this view, NASF also believes that the institutions and enterprises that provide forest management expertise are equally critical to ensuring sustainability. Wood should be harvested in a carefully planned manner using best management practices that embody sound science, represent community values, continue to provide important environmental benefits and reflect responsible economics. Research and teaching institutions, private landowners, natural resource agencies, consulting foresters, forest owning/managing businesses, natural resource related non-profits, and certification bodies all play an important role that must evolve and grow as demand for wood may well increase when new uses emerge.

Markets for wood are critical to maintaining the health and sustainability of forests in the United States. They enable the economic, carefully planned harvest of trees to control stand density and create forests that have a more balanced diversity of age classes, which is important to wildlife habitat diversity, forest resilience, and providing a more even flow of sustainable wood fiber for harvesting. As harvest levels continue to decline nationally and the resultant increased volumes pose forest health problems, it is important to support the research and development of emerging wood markets, accompanied by growth and evolution of institutions that support science-based sustainable management.

Oceans, Forestry and Public Lands

8. How should Congress update the laws governing management of federal lands, forests, and oceans to accelerate climate adaptation, reduce greenhouse gas emissions and maximize carbon storage?

8: Reform Federal Land Management Policy –

NASF supports policy reform that would accelerate the scope, scale and pace of on-the-ground management of federal forests. Increased accomplishment is the only option for improving federal land resilience at an acreage level that ensures continued water quality and quantity and that in the future large catastrophic fires and insect infestations covering millions of acres will not become even more prominent as a result of the stressors brought on by climate change. In addition to treatments to reduce fire risk, post-fire rehabilitation and reforestation need to be addressed in a more timely and predictable fashion. There is also a need to create new administrative, compliance, and planning processes that allow more timely response to changing conditions.

Increase Landscape Scale Collaboration across Public/Private Ownerships –

State Forest Action Plans identify priority landscapes where efforts can be focused on specific resource issues. Landscape-level projects involving multiple partners and ownerships committed to a long term effort are ideal for addressing ecosystem adaptation at the proper scale. These projects can draw on tools such as social marketing to increase landowner participation. They also provide economies of scale for supporting vegetative treatments as well as monitoring and research to better inform future efforts.

Preferred Reforms to Federal Forest Land Policy

* Federal lands reforms recommended in this document focus on Forest Service and Bureau of Land Management lands.

Of the approximately 750 million acres of forest land in the United States, 20 percent are managed by the USDA Forest Service (USFS). Another six percent are managed by the Department of the Interior (DOI) Bureau of Land Management (BLM). The amount of federally owned forest in each state varies from very high percentages in the Pacific Northwest and Intermountain Regions to relatively lower amounts in the East.

Federal forest land holdings can have significant impacts on surrounding ownerships and on a state in general. Wildfire spread and insect and disease infestations do not recognize ownership boundaries. Where forests have lost vigor and resilience, often due to a lack of management, a catastrophic event on federal lands can quickly become a damaging event on other properties. In addition, over one-half of the nation's water supply originates in federal forest headwaters and that supply can be negatively impacted by catastrophic events occurring on federal forest lands.

Where federal forest lands dominate the landscape, they have a significant effect on forest markets and forest products industry infrastructure. In geographies where federal forest lands account for the majority of the forested acres, and given that federal timber supplies have sharply declined from historic levels, forest markets and industry infrastructure have diminished to the point where private landowners have difficulty marketing their timber and thus managing their forests. Federal lands can have tremendous socio-economic benefits for adjacent communities and broader geographical regions.

Our federal forest lands are under serious threat. Entire landscapes continue to experience deteriorating health problems and uncharacteristic landscape change as a result of insect and disease epidemics, invasive species, catastrophic wildfire and more. Intentional management actions are necessary to improve the resilience of federal forest lands. In regions with a mixture of ownerships, the varying objectives of different owners lead to provision of a well-rounded suite of forest-related benefits. A prerequisite for success is landscape level coordination that include the full participation of federal partners, as well as federal managers that are capable of and empowered to implement the on-the-ground actions identified within collaborative planning efforts.

State forestry agencies and federal agencies already work together in many places, engaging in productive dialogue, cooperation, and partnerships; nevertheless, a variety of opportunities to enhance these efforts exist. What occurs on federal lands can impact the ability of NASF members to carry out their responsibilities in an efficient and successful manner.

In light of these potential impacts, NASF has adopted a statement of general principles regarding reforms to federal land management policy. The statement reads:

- Significant changes in federal policy for forest land management under the authority of the USFS and BLM are needed to ensure the provision of a range of benefits from federal forests.
- Federal forest lands provide critical goods and services, such as forest products and jobs, clean air and water, recreational opportunities, wildlife habitat and numerous other forest-based amenities.
- Only by accelerating the scope, scale and pace of on-the-ground management, consistent with approved management plans, will we be able to restore our federal forests to a more sustainable, resilient condition.
- Without a viable forest products sector, ongoing forest management activities to maintain long-term sustainability of social, economic and ecological benefits across forestlands of all ownerships will not be possible.

The laws and regulations governing the management of federal forest lands reflect society's evolving values, needs, and demands. The complex interactions and multiple effects created by federal legislation and rule-making, subsequent interpretation by courts and risk-averse agency analyses has caused federal forest lands to fall short in the delivery of a balanced and sustainable set of benefits.

NASF Concerns with Federal Forest Land Policy

NASF believes federal lands should deliver a robust array of environmental (biodiversity, clean water, wildlife habitat, etc.), social (stable communities, recreation, aesthetic values, etc.) and economic (forest products, jobs, payments to counties, etc.) benefits. Currently they do not do so sufficiently. We describe our concerns more specifically below.

Environmental –

- Current and past approaches to wildfire suppression and a largely hands-off approach to forest management have led to widespread insect and disease infestations and fuels build-up that drastically alter or eliminate landscape-scale swaths of forest ecosystems

- Stresses caused by long-term drought and other climate factors are, in some instances, amplifying these conditions
- Landscape-scale forest health decline and fuels build-up have led to substantial increases in the severity and magnitude of catastrophic wildfire; in some cases:
 - Altering soil structure,
 - Emitting increased levels of carbon and other air pollutants,
 - Damaging habitat, including endangered species critical habitat, and
 - Impacting water quality and quantity through erosion and sedimentation; this is especially problematic when it leads to the acceleration of water supply reservoirs sedimentation
 - Damaging private structures and causing human fatalities
- A lack of budget support for vegetation management and restoration programs, as well as a lack of alignment in views about appropriate management and response approaches among stake holders hampers utilization of damaged trees and reforestation efforts after catastrophic fire
- A significant back-log of roads and trails maintenance projects creates threats to water quality and public safety, hampers management, and reduces recreational opportunities
- A lack of active management creates a significant imbalance in forest age classes which is manifested in:
 - A lack of early successional habitat for species dependent on that forest type, and later,
 - A risk of wholesale alterations in forest ecosystems as large blocks of forest reach their natural lifespan in more highly condensed timeframes, creating large blocks of dead and dying trees.

Socio-Economic –

- Reductions in federal forest timber harvesting has weakened or eliminated local and regional forest products markets, which has in turn made it more difficult for private forest landowners to manage their properties
- Rural counties dominated by federal forest lands are suffering severe financial hardships because these lands fail to provide sufficient in-lieu-of-property tax revenues and adequate raw materials to support taxpaying industries and employees
- Federal land management agencies operate at a net loss financially, as federal forest land management recoups only a small portion of the costs through revenue generating activities. In contrast, many state forest management operations (e.g. Oregon, Idaho, and others) cover their costs and generate a positive flow of income back to beneficiaries.
- A lack of federal forest management is a missed opportunity for creating a range of jobs through contracting and direct employment
- The many restrictions, limitations, and uncertainties related to federal forest management tend to lead to an inability to realize the full potential of partnerships and their resources – including funding and manpower – to complete active management on federal lands. Often this results from projects developed over a number of years by collaborators acting in good faith, only to see their efforts immediately halted by litigation from outside interests.
- Communities in landscapes dominated by federal forest lands have experienced economic declines with multiple negative repercussions, such as:
 - Financial stress, increased poverty levels and dependence on social welfare, and

- An inability to support local institutions and infrastructure (e.g. hospitals, schools, libraries, road maintenance, and water-treatment systems)
- A lack of budget support has resulted in recreational facilities on federal lands being closed or poorly maintained, and cultural and historic resources left unprotected
- Inability and/or perceived inability to provide the multitude of benefits federal lands could optimally offer has diminished local community support for the federal agencies entrusted with management

Institutional –

- The Endangered Species Act (ESA), the National Environmental Policy Act (NEPA) and the Clean Water Act (CWA) are used by narrow interests to marginalize the delivery of a broad and balanced set of environmental, social, and economic benefits
- As currently implemented, compliance with federal regulations requires substantial time and financial investment before any on-the-ground management can occur, greatly reducing the ability to manage federal forest lands at a scale necessary to catch up with the needs to improve forest health
- Litigation, or the threat of litigation, has created a risk-averse agency culture and tends to bias managers towards low-risk projects that may not necessarily be the highest priority for achieving the goal of creating resilient, sustainable forests
- The current Forest Service National Forest System Land Management Planning Rule (planning rule) does not direct the delivery of a balanced set of environmental, social, and economic benefits and instead treats economic and social benefits as by-products and less of a priority than environmental benefits
- There is an urgent need for increased investment and action on federal lands to meet the agencies' forest management, policy, and multiple-use missions

NASF Desired Policy Reforms

Reforms that would deliver a more balanced set of social, environmental, and economic benefits –

- Provide specific internal agency direction on planning rule implementation to emphasize a balanced delivery of social, environmental, and economic benefits
- Provide specific internal agency direction on planning rule implementation to place greater emphasis on the need for National Forest Plans to address priorities identified in State Forest Action Plans
- Update the policy statements of key federal forest laws to establish:
 - that their purpose is to deliver and continuously improve upon the delivery of a balanced set of social, environmental, and economic benefits;
 - that any subsequent language in any of these laws cannot be construed to suggest that any one set of benefits is more unilaterally important than the others;
 - that balance is considered achieved when the mix of social, environmental, and economic benefits has been optimized at a landscape-scale:
 - Where the process of optimization recognizes
 - that each of the desired goods and services to be provided has a practical upper and lower limit,

- that delivered goods and services have interdependent relationships that can be generally described (providing more of one may lower or increase the ability to provide another)
 - that the ultimate goal is to provide the maximum amount of all goods and services desired given these limits and relationships; and
 - that much of the information that can be applied to estimate a balanced set of optimized benefits is more subjective than quantifiable and therefore subject to value-based decisions
 - that when found to be delivering a balanced set of social, environmental, and economic benefits, federal forest management plans and the actions that flow from them are considered in compliance with other relevant federal laws (ESA, NEPA, CWA)
- Pass new legislation that permanently funds a “payment in lieu of taxes” (PILT) program for local governments based on the property tax rates imposed on surrounding private forest land
- Embed community scale economic development more deeply in the objectives of National Forest plans.
- Monitor the application of the Good Neighbor Authority (GNA) as states and the USFS enter into GNA agreements and implement projects. Direct the USFS to complete periodic review of the application of the tool to identify areas for improvement.

Reforms that would lower costs of agency administration, planning, regulatory compliance, and litigation –

- Implement NEPA in ways that are more productive; i.e., 1) utilizing landscape scale planning, or 2) developing desired condition documents with smaller scale projects meeting CE (categorical exclusion) requirements tiered to those documents, or 3) implement other strategies which produce more on-the-ground results.
- Ensure that the option to only use two project alternatives – “Action” and “No Action” in an Environmental Assessment (EA) is used effectively to create greater efficiency and better decision-making
- Eliminate the concept of planning cycles and establish a process whereby plans and their implementation are continuously evaluated and revised
- Encourage interagency collaboration early and throughout project planning cycles
- Ensure that the implementation of Federal Advisory Committee Act (FACA) rules allow broad-based, active, and collaborative participation by stakeholders and state agencies in the development of national forest plans
- Ensure that the process for administratively challenging USFS projects (currently the “objections” process) supports:
 - Clear standards for who can be at the table as the USFS considers altering challenged decisions, and that this can include:
 - Parties who challenge a decision
 - Parties who defend a decision, and
 - Collaborative groups if they submitted recommendations on the project adopted formally by the collaborative group
 - Limits on the scope of what can be challenged
 - Restrictions to the timeframe under which challenges can be presented and decisions made
- Ensure that the legal process for challenging agency decisions supports:

- Limits to the scope of what can be heard in court,
- Requiring that those who bring forward legal challenges are more financially responsible for the costs of litigation; and
- Creating alternatives to judicial review that are less time consuming, costly, and precedent setting
- Incentivize collaboratives and establish specified processes and formal mechanisms for project planning and judicial review for projects developed through a local collaborative.
- This would include making them substantially more difficult to litigate given the good-faith effort on the part of diverse interests that goes into these projects.

Reforms that would enable vegetation management to be carried out at a scope, scale and pace sufficient to create more sustainable and resilient landscape conditions –

- Authorize greater involvement in federal forest management activities by state and local governments
- Fully utilize existing federal authorities to enter into long-term agreements in order to strengthen forest industries and assure sufficient supply to amortize new investment
- Encourage federal agencies to consult with the State Forester and document the results of State Forester consultation to coordinate an all-lands approach during all phases of forest management, fuels reduction, and land transfer plan development and implementation; this should include how federal forest management plans consider and respond to State Forest Action Plans
- Streamline all administrative processes in cases that would allow timely salvage of fire damaged trees and quick reforestation
 - Establish this function as a vegetation management priority
- Retain all earned revenue from forest management within the USFS and/or as payment to counties
- Simplify, clarify, and realign current land-use allocations at a broad level to more appropriately meet project activities and priorities in defined areas.
- Expand the appropriate use of large-scale (15,000 acres +) Categorical Exclusions for:
 - Actions and activities agreed upon by local collaboratives,
 - Reducing wildfire risk,
 - Responding to insect and disease outbreaks; and
 - Addressing a shortage of early successional wildlife habitat and ensuring the creation and maintenance of a diverse range of habitat.

Carbon Removal

10. How can Congress accelerate development and deployment of carbon removal technology to help achieve negative emissions?

10: Congress can adopt tax policies aimed at accelerating carbon removal by trees. Section 45Q (Tax Credit for Carbon Capture Project) should be expanded to include biological sources. Additional incentives can be implemented through enacting the Forest Recovery Act ([H.R. 1444](#)). This Act would change the tax code to allow forest landowners to deduct from their federal income taxes the full market value of timber losses attributable to a federally declared disaster. Under current tax law, landowners are allowed to deduct the lesser amount of the fair market value, the cost basis, or the adjusted timber basis, which all too often can mean only a fraction of the total loss is covered, or little to no deduction at all.

10: Trees absorb carbon dioxide from the air, convert it to wood, and release oxygen in the process. The carbon stored in wood represents carbon that does not enter the atmosphere where it would contribute to a “greenhouse effect” that warms the earth. It is estimated that fourteen to fifteen percent of the nation’s annual carbon emissions are offset by the additional carbon stored in US forests and wood products each year.¹⁴ Carbon remains stored in wood until it deteriorates, whether it breaks down within a dying tree, a piece of lumber or a piece of paper. Agency programs that increase the extent of forests and tree growth, and promote greater use of wood products, ultimately lead to increased carbon storage.

The carbon released when converting wood to energy is recaptured when replacement wood is grown. A panel of scientists, conducting a comprehensive review of current research, have concluded that – over the long term – cumulative emissions of carbon dioxide can be reduced by increased use of forest feedstocks.¹⁵ Programs that promote economically viable wood energy uses can also play a beneficial role.

¹⁴ US Environmental Protection Agency. 2013. *Inventory of US greenhouse gas emissions and sinks: 1990 – 2011*. EPA 430-R-13-001, Washington, DC.

¹⁵ Miner, R. et al. Forest carbon accounting considerations in US bioenergy policy. *Journal of Forestry*. 112(6): 591 – 606.

Resilience and Adaptation

11. What policies should Congress adopt to help communities become more resilient in response to climate change? The Select Committee welcomes all ideas on resilience and adaptation but requests comments on three specific questions:

- a. What adjustments to federal disaster policies should Congress consider to reduce the risks and costs of extreme weather and other effects of climate change that can no longer be avoided?
- b. How can Congress better identify and reduce climate risks for front-line communities, including ensuring that low and moderate-income populations and communities that suffer from racial discrimination can effectively grapple with climate change?

11: Policies that help minimize the risk of catastrophic wildfires associated with climate change is a major way Congress can help communities become more resilient. Increases in funding for cross-boundary hazardous fuels work can decrease the chances of uncharacteristic fire on the landscape. Reducing the overall chances of devastating fires should be one area of focus, but should be combined with supporting the development of fire adapted communities. Programs like Firewise can help communities prepare for the inevitability of fire by providing education on adapting to living with wildfire and encouraging neighbors to work together to prevent loss. Communities should be prepared for fire-related disasters by creating Community Wildfire Protection Plans (CWPPs).

Using wildfire hazard assessment maps to guide community planning can assist high risk areas to strategically assess and plan for evacuation, movement of fire resources, etc. Congress can provide incentives for implementing a wildland urban interface (WUI) code in high risk areas. WUI codes vary, but generally focus on structure density and location, building materials and construction, vegetation management, emergency vehicle access, water supply, and fire protection. Incentivizing a WUI code would lead to greater adoption and enforcement which would decrease the loss of life and property associated with wildfire for those living in the WUI.

Congress can also incentivize the retention of private forests to avoid conversion to other uses such as development or agriculture, thus increasing the resilience of the communities that depend on them. Trees provide resilience through buffering floodwaters which can be invaluable in areas at greater risk of flooding due to climate change. Programs that prioritize avoided forest conversion, reforestation and afforestation in both rural and urban areas would help create resilient human and ecological communities.

11: Increase Funding for State and Volunteer Fire Assistance and Reduce the Occurrence of Catastrophic Fire –

NASF supports implementation of the “Cohesive Strategy” wherein the wildland fire community has identified three national goals¹⁶:

- - Restore and maintain resilient landscapes using tools such as thinning and prescribed fire
- - Assure fire adapted communities through collaborative planning and fuels management
- - Provide a safe, effective and efficient wildfire response

Adequately addressing these goals requires additional financial resources.

¹⁶USDI/USDA. 2014. *The National Strategy – The Final Phase in the Development of the National Cohesive Wildland Fire Management Strategy* (Found at <http://www.forestsandrangelands.gov/strategy>)

11(a): Programs like the Emergency Forest Restoration Program (EFRP) run by the Farm Service Agency should be supported and streamlined. This program helps owners of private forests restore forest health damaged by natural disasters. The more expedited the process of getting funds to these landowners, the quicker restoration can occur and the forest can resume providing the many benefits including clean air, clean water, wildlife habitat, economic stimulus and much more.

11(b): Making sure wildfire hazard assessment maps are updated and accessible so those communities at higher risk for wildfires can be identified. After identification of those communities, programs aimed at educating and preparing for fire can be targeted to those areas. Ensuring those communities are covered by CWPP and connecting them with the Firewise program can assist these communities in mitigating loss.

11(b): In 2018, approximately 80% of fires regardless of jurisdiction were responded to by state or local firefighters. To ensure front-line communities are prepared to respond to increased fires, programs like Volunteer Fire Assistance (VFA) should be fully funded. This will ensure local authorities have the resources necessary to fight these fires when they inevitably occur.

11(b): Increase Investment in Urban Forests-

Trees in urban areas store an estimated 770 million tons of carbon. They remove 740 million tons of air pollution each year and save over 2 billion dollars in residential energy costs annually resulting in significant reductions in fossil fuel use. Beyond these benefits to climate change mitigation are a host of other benefits to water quality, noise abatement, wildlife, human health and others.¹⁷ Facilitating the conversion of urban wood into forest products and bio-energy also have positive climate change consequences. Enhanced funding for Urban and Community Forestry Programs would increase the level of all of these benefits.

¹⁷ Nowak, D. et al. 2010. *Sustaining America's Urban Trees and Forests*. USDA Forest Service GTR NRS-62, Washington, DC.

c. What standards and codes should Congress consider for the built environment to ensure federally-supported buildings and infrastructure are built to withstand the current and projected effects of climate change?

11(c): Mass Timber

Mass timber is a category of mostly engineered wood building materials that are structural and can be used as floors, walls, ceilings, and beams. These products include LVL, Glulam, NailLam, Mass Plywood Panels (MPP) and Cross Laminated Timber (CLT). CLT is produced in large panels by assembling successive layers of boards perpendicular to one another. The result is a product that rivals steel in strength and fire resistance. It is lighter in weight than concrete. As such, CLT and other mass timber products can replace concrete and steel in tall structures.¹⁸ Additional benefits include carbon storage and reduced CO2 emissions during construction. Though more commonly produced and utilized in Europe since the late 1990's it has recently gained traction in the US wood products industry with manufacturing facilities in the Pacific Northwest and a new one starting up in Alabama. Building codes across the US are being updated to handle mass timber buildings, small changes were made in 2015 and 2018 and revisions proposed for 2021 will allow for buildings taller than 85 feet.

Planned tall construction projects include a 100-story tower in London and a 40-story building in Stockholm.¹⁹ Buildings in the US, include several office buildings in Portland, Oregon two T3 buildings (Minneapolis and Atlanta), and hotels in Alabama and New York state (new ones planned for SC and NC). The University of Arkansas has dormitories under construction and Oregon State University is building their new forestry building with CLT. The University of Massachusetts, Amherst completed their new design building (<https://bct.eco.umass.edu/about-us/the-design-building-at-umass-amherst/>) with mass timber more than a year ago. Efforts are underway to develop CLT from low-value and other hardwoods.²⁰

While widespread use of mass timber is good news for the economies in timber producing regions of the country, it also promises some distinctive benefits for builders, communities and the environment.

Builders, pressured by persistent labor shortages, are finding a wider pool of workers able to safely install mass timber panels. They also report significant labor savings and more efficient and safe job sites. Construction times are reduced by "just-in-time" delivery to job sites and quick installation of panels.

Of course, communities experience less noise and dislocation during construction and, by avoiding the usual stockpile of dimension lumber on site, fire risks are reduced. The positive environmental attributes of mass timber buildings include a low energy intensity during manufacturing, superior energy efficiency in mass timber structures, and better management of a renewable resource.

¹⁸ Advanced Wood Products Manufacturing Study for Cross-laminated Timber Acceleration in Oregon and Southwest Washington. Pacific Northwest Manufacturing Partnership. 2017

¹⁹ First and Largest CLT Plant in Eastern US is Nearly Operational. R. Dalheim. Wood Working Network. April 2018.

²⁰ US Firm Developing Hardwood CLT Product. Journal of Commerce. June 2017.

Climate Information Support

12. Our understanding and response to the climate crisis has relied on U.S. climate observations, monitoring and research, including regular assessment reports such as the National Climate Assessment. What policies should Congress adopt to maintain and expand these efforts in order to support solutions to the climate crisis and provide decisionmakers – and the American people – with the information they need? Where possible, recommend the scale of investment needed to achieve results.

12: Strengthen Research and Forest Inventory and Analysis –

To provide decision makers with the information needed to support climate crisis solutions, funding for the US Forest Service Forest Inventory and Analysis (FIA) program should be increased. This will help reduce re-measurement cycle length and further integrate remote sensing and carbon-specific analysis into program delivery. The FIA program has tracked carbon stocks since the early 1990s. This is essential data for understanding to what extent forests can offset carbon emissions through sequestration. In addition, inventories look at all ecosystems and can provide early detection in order to implement adaption strategies. NASF considers FIA a priority program. There is also a need for more research to identify the best ways to manage forests for greater resilience and a need to conserve genotypes as ecosystems change in ways that cannot yet be predicted.

In addition, the Forest Products Laboratory and the USDA Wood Education and Resource Center play key roles in expanding forest product and bio-energy opportunities through research and extension. Strengthening their contributions will support climate change mitigation.

We appreciate the opportunity to submit policy recommendations to the House Select Committee on the Climate Crisis and look forward to working with you to develop forestry based climate solutions.

Sincerely,



Greg Josten
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South Dakota State Forester

Executive Director
Jay Farrell

2019-20 Executive Committee

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