U.S. Senate Committee on Energy and Natural Resources

The Role of Reforestation, Active Forest Management and Carbon Storage in Fostering Resiliency

May 20, 2021

Ben Wudtke, Executive Director, Intermountain Forest Association

Thank you Mr. Chairman and Ranking Member Barrasso. My name is Ben Wudtke and I am the Executive Director of the Intermountain Forest Association, with members who work on National Forest lands in Colorado, Wyoming, South Dakota, and Nebraska. Our members are primarily businesses, many of which are multigenerational family operations, who rely on Forest Service lands to meet their timber needs.

We appreciate the opportunity to provide testimony on this important topic. As you know, our National Forests are not currently meeting their full potential to sequester and store carbon. Large scale mortality caused by insect epidemics and catastrophic wildfires produce carbon emissions while limiting further carbon sequestration. The over 80 million acres of National Forest lands identified as in need of restoration create a situation ripe for further emissions.

In addition to my position with Intermountain Forest Association, I also sit on the Policy Committee of the Federal Forest Resource Coalition, which represents similar businesses across the country, and I have attached to my testimony the written comments filed by the Federal Forest Resource Coalition, the Intermountain Forest Association, and dozens of others on a recent USDA request for information about "Climate Smart" policies. Those comments may help the Committee as you work on forestry legislation during this session.

There are multiple actions that can help reduce carbon emissions from forested federal lands while increasing carbon sequestration.

Reforestation: Reforestation on our National Forests is critical to their long-term sustainability. The National Forest Management Act directs the Forest Service to maintain "all forested lands in the National Forest System … in appropriate forest cover with species of trees, degree of stocking, rate of growth, and conditions of stand designed to secure the maximum benefits of multiple use sustained yield management in accordance with land management plans". Although reforestation to determined tree stocking rates is required following timber harvests, wildfires are the primary driver of reforestation needs in Region 2 of the FS, where my members are mostly located.

At a recent House hearing, Chief Christiansen said the Forest Service has over 4 million acres requiring reforestation, but that the agency only has a plan to conduct reforestation on about 1/3rd of those acres[i]. It is critically important for the Committee to understand that deforestation by wildfire is the leading cause of the growing reforestation backlog on the National Forests. There is no question that the unprecedented 2020 Fire Season exacerbated the reforestation needs on our National Forests, and we'd be unsurprised to learn that the number of acres requiring reforestation is actually higher than the 4 million acres cited by the Chief. We know that the Forest Service hasn't fully assessed the over 4.8 million acres of

National Forests which burned in 2020[ii]. The conservation groups American Forests and The Nature Conservancy estimate that the Forest Service has over 7.3 million acres requiring reforestation. Successfully reforesting these acres could help sequester an additional 9 million acres of carbon from the atmosphere each year[iii]. That's enough to offset the emissions of 2 million cars[iv]. In Colorado, more than 550,000 acres burned in wildfires last year, setting a record for the single largest fire in state history only to break that record later the same year. The Mullen Fire burned almost 200,000 acres, mostly in Wyoming.

Lands where timber is harvested –to produce timber, reduce hazardous fuels, improve wildlife habitat and forest health, or some combination of those objectives – are typically reforested naturally but can also utilize a combination of Knutson-Vandenberg funding and the $30 million currently provided through the Reforestation Trust Fund. We are supportive of legislative proposals such as the REPLANT Act which would bolster the Reforestation Trust Fund by increasing the Fund's cap by $90 million.

Although reforestation is often completed without human action following timber harvests, the same doesn't hold true for areas impacted by wildfires. Throughout the West and South West, research is increasingly describing burn scars as regenerating to brush fields. This makes reforestation a time sensitive issue – if lands are lost to brush fields, re-establishing green and growing forests becomes exponentially more difficult to accomplish as brush outcompetes young trees and poses a significant hazard for reburns.

The first step in a process to reforest Forest Service lands impacted by wildfires could be for the Forest Service to more thoroughly catalog and analyze the reforestation needs and the strategies targeted for implementation to meet those needs. Such a process could identify successful reforestation actions as well as identifying all unmet needs that could explain the difference between the 4 million acres cited by the Chief and the 7.3 million acres identified by the conservation groups.

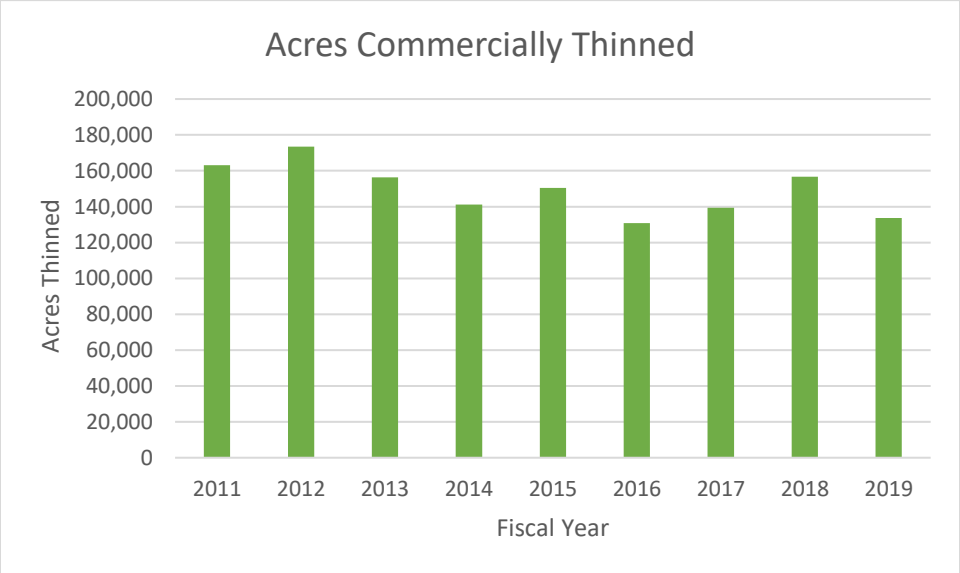
Post-fire timber salvage can improve reforestation success and should be part of an overall reforestation and forest restoration strategy. We know that the Forest Service usually conducts salvage operations on less than 10 percent of burned acres, and that wildfires frequently do lead to deforestation. Increasing the use of salvage as a tool can help generate revenues for reforestation, while improving the odds of successful reforestation. Successful reforestation will likely require additional resources beyond those currently available.

Active Forest Management: Active management on National Forest System lands, that are not otherwise prohibited from timber harvest, is vital to the health of our forests and watersheds, to the protection of our communities that adjoin the National Forests, and in meeting societal needs for forest products. It is important for the Committee to keep in mind that 98 million acres of the National Forests – more than half the total acreage – is in restrictive land use designations including Wilderness or Roadless areas. By law, no timber harvest takes place on

Wilderness Areas, and there are extremely limited and rarely used exceptions allowing some hazardous fuels reduction work in Roadless areas.

In the process of completing a forest plan, acres are identified and prioritized for forest management activities. Those acres are designated as "suited and available", and begin with the areas where harvest isn't prohibited and then narrows it further by looking at which areas make economic sense, have lower slopes, or other ideal traits. About 44 million acres, or about 23 percent, of the National Forest System is designated in current Forest Plans as suited for timber production. Insect infestations, wildfires, hurricanes, and other disturbances don't recognize boundaries in Forest Plans and it is important to step back and look at how best to manage all the acres where forest management activities can legally be implemented – whether the acres are designated as suited or not.

The need for active management on the millions of acres of National Forests at risk to wildfire and disease has been acknowledged by successive Forest Service Chief's, Committee Chairs, Secretaries of Agriculture, and Presidents dating back over 20 years now, including the 2012 USDA report titled "Increasing the Pace of Restoration and Job Creation on Our National Forests". Each year, the Hazardous Fuels Reduction account at the Forest Service has increased, finally reaching over $500 million last year. Although there is some good work being accomplished through those funds, the Forest Service is only able to treat a fraction of the acres needed to effectively reduce fire danger, ensure long-term forest health, and protect our communities. Over the last decade, the Forest Service has conducted commercial thinning on about 130,000 acres a year, or about 0.16 percent of the 80 million acres at risk. Unfortunately, even as fire danger has increased, the amount of land being thinned has dropped slightly over the last decade:



Source: Harvest Trends on the National Forest System, Accessed May 14, 2021
https://www.fs.fed.us/forestmanagement/documents/harvest-trends/NFS-HarvestHistory1984-2017.pdf

Necessary management of our National Forests must be both proactive and reactive – implementing forest management actions to help reduce wildfire hazards and risk of insect epidemics before they occur, but also managing to aid recovery from similar disasters. The extent to which the Forest Service salvages timber after these events varies widely. For instance, after Hurricane Katrina, the DeSoto National Forest in Mississippi conducted salvage on about 85 percent of the impacted acres, and did so very quickly following a brief environmental review. They were able to quickly develop guidelines to protect sensitive resources like gopher tortoise while ensuring that damaged timber made it to market and the process of reforestation began more quickly. In contrast, after some western wildfires, the Forest Service only conducts salvage operations on between 5 and 15 percent of the impacted acres, reducing the ability of those forests to recover and begin producing the myriad benefits we expect from our forests.

To increase opportunities to recover after disturbances, the Forest Service can develop Forest by Forest plan amendments, or large scale projects that outline recovery efforts for the types of disturbances that typically impact each forest type. Being prepared for these events can help begin the process of forest recovery much sooner.

The opportunities to expand active management on the National Forests are vast, and we urge the Committee to advance legislation that increases on-the-ground activities.

Carbon Storge: As the Committee knows, trees are natural carbon sinks. They remove C02 from the atmosphere and store it in wood fiber and roots. Young trees remove more carbon more quickly than older trees, and large trees can store a considerable amount of carbon. Unfortunately, as the 2020 fire season illustrated again, forests do not store carbon indefinitely. Looking only at California, the wildfires in 2020 released an estimate 110 million metric tons of Carbon into the atmosphere[v].

Wood products store carbon that has been removed from the atmosphere[vi], and they can do so for long periods of time[vii]. By putting wood products into service, the carbon is effectively locked up for the duration that product is in service. Often, wood products are put into service by building homes and similar long-lived structures. Wood products also avoid further carbon emissions from substitute products made from non-renewable materials that are more carbon-intensive[viii]. A general rule of thumb is that using a ton of wood in construction removes an additional 2.1 tons of carbon via substitution effects[ix]. Although older forests passively store more carbon, younger forests growing after reforestation sequester carbon at a higher *rate*[x]. Advanced wood products such as CLT and glulam have a solid carbon return on investment because they substitute for high-carbon intensity materials.

Efforts to improve carbon sequestration and storage on National Forests should focus on sequestering more carbon through active management, and storing carbon in wood products. Although I have enjoyed several days and nights backpacking through Wilderness areas, and some areas are deserving of such status, we must acknowledge that reserved forest lands and high fuel loads help drive wildfires, and setting more acres aside from management is often creating conditions for more carbon emissions. Increased risk of additional atmospheric carbon inputs from forest mortality caused by insects and fires should be assessed before considering policies that rely on setting aside additional acres of forests in a restricted status.

Forest Products Infrastructure: Much of the work I have described today isn't possible without forest products companies. In parts of the US, the Forest Service is using longer term contracts and other mechanisms to entice new companies to areas where previous forest products companies have been forced to close.

The forest industry has been operating sawmills for over a century on the Black Hills National Forest, historically at much higher volumes of timber sold, and has been a critical part of the care and management of the National Forest. We are fortunate to still have some of those companies remaining, although we are losing them quickly.

The Black Hills are predominantly ponderosa pine forests - a fire adapted species that evolved to withstand low intensity fires and grow in more open conditions. When stands are allowed to become too dense, the area has seen outbreaks of mountain pine beetles and wildfires.

The Black Hills region recently endured a mountain pine beetle outbreak from 1997 through 2016. However, the successes in reducing the impact of the infestation have been heralded locally and nationally. The Forest, with the help of the local forest products industry and partnering with the States and Counties, was able to control the spread of the beetle by harvesting infested trees and developing a strategy to prioritize proactive treatments ahead of the beetle.

Forest Products companies in the Black Hills rely on the Forest Service for approximately 80 percent of their material and those companies have supported 1,400 direct jobs which contributed an average of more than $120 million back into the local communities through salaries and direct contractor payments. For small towns such as Hill City - a population of about 1,000 people where the local sawmill previously employed almost 150 people – this economic contribution is their livelihood. Unfortunately, the BHNF has not met their timber targets, nor sold enough timber to sustain forest products companies in the Black Hills in fiscal years 19 and 20, and local companies are being forced into closure - beginning with the sawmill at Hill City. The situation in the Black Hills jeopardizes a unique and special opportunity to successfully manage a National Forest and increases future threats of carbon emissions from degrading forest health.

As the Committee is aware, there is tremendous demand for forest products and the markets are reflecting that. Companies that rely on National Forest timber can help the Forest Service treat more overstocked acres by getting timber volume under contract now. Commercial timber sales generate revenues which Forests can reinvest into other important management activities, like reducing fuel loads near developed areas, improving wildlife habitat and fish passage, and reforestation.

As markets for forest-based carbon credits emerge, it is important that Congress provide the opportunity for the National Forests to participate in these markets. Carbon incentives can help defray the cost of management on the National Forest System, and can allow forest products companies without their own timberlands to secure some of the benefits of the carbon they store in durable wood products.

Conclusion: Thank you for the opportunity to speak today on the future of health and resilience of our National Forests. With members throughout the Rockies and Black Hills, I am lucky enough to work and live in some of the most beautiful forests in the National Forest System. These forests have also been some of the most impacted by degrading forest health – a product of overstocked stands and a lack of management. As the Nation confronts the need to sequester and store carbon, while producing needed lumber to meet our needs, the National Forests can continue to meet these diverse needs if we craft policies carefully and realistically.

[1] Testimony of Victoria Christiansen, Chief, USDA Forest Service, before House Interior Appropriations Subcommittee, April 15, 2021 https://docs.house.gov/meetings/AP/AP06/20210415/111425/HHRG-117-AP06-Wstate-ChristiansenV-20210415.pdf

[1] National Interagency Fire Center, Daily Situation Report, December 31, 2020 https://www.predictiveservices.nifc.gov/IMSR/2020/20201231IMSR.pdf Accessed May 13, 2021

[1] American Forests and The Nature Conservancy "Reforestation Hubs" Website: https://www.reforestationhub.org/ accessed May 13, 2021

[1] U.S. Environmental Protection Agency Green Vehicle Guide, Greenhouse Gas Emissions from a Typical Vehicle: https://www.epa.gov/greenvehicles/greenhouse-gas-emissions-typical-passenger-vehicle#:~:text=typical%20passenger%20vehicle%3F-,A%20typical%20passenger%20vehicle%20emits%20about%204.6%20metric%20tons%20of,8%2C887%20grams%20of%20CO2. Accessed May 13, 2021

[1] *California's 2020 Wildfire Emissions Akin to 24 Million Cars*, Bloomberg Law, January 5, 2021 Accessed May 14, 2021 https://news.bloomberglaw.com/environment-and-energy/californias-2020-wildfire-emissions-akin-to-24-million-cars

[1] *Carbon Sequestration Due to Commercial Forestry: An Equilibrium Analysis* (2020); Churkina et al. (2020), "Buildings as a global carbon sink," *Nat Sustain* 3, 269–276 (2020), available at https://www.nature.com/articles/s41893-019-0462-4.

[1] "Life cycle impacts of forest management and wood utilization on carbon mitigation: knowns and unknowns," Lippke et al., (2011) *Carbon Management*, 2:3, 303-333, DOI: 10.4155/cmt.11.24.
[1] "The economic and emissions benefits of engineered wood products in a low-carbon future," Niven Winchester & John M. Reilly, *Energy Economics* 85 (2020) 104596; https://doi.org/10.1016/j.eneco.2019.104596
[1] "Meta-analysis of greenhouse gas displacement factors of wood product substitution." Sathre, R., and O'Connor, J. 2010. *Environmental Science and Policy* 13:104-114. https://doi.org/10.1016/j.envsci.2009.12.005
[1] Gray, A.N., Whittier, T.R., and Harmon, M.E. 2016. "Carbon stocks and accumulation rates in Pacific Northwest forests: role of stand age, plant community, and productivity." *Ecosphere* 7:e01224. https://doi.org/10.1002/ecs2.1224; Thomas A. M. Pugh et al., "Role of forest regrowth in global carbon sink dynamics," *Proceedings of the National Academy of Sciences*, Mar 2019, 116 (10) 4382-4387, https://www.pnas.org/content/116/10/4382; Kai Zhu et al., "Forest age improves understanding of the global carbon sink," *Proceedings of the National Academy of Sciences*, Mar 2019, 116 (10) 3962-3964; DOI: 10.1073/pnas.1900797116.

April 27, 2021

William Hohenstein

Director, USDA Office of Energy and Environmental Policy

Submitted via the Federal eRulemaking Portal

RE: DEPARTMENT OF AGRICULTURE [Docket Number: USDA–2021–0003] Notice

of Request for Public Comment on the Executive Order on Tackling the Climate Crisis at Home and Abroad AGENCY: Office of the Chief Economist, U.S. Department of Agriculture.

86 Fed. Reg. 14,403 (Mar. 16, 2021)

Dear Mr. Hohenstein:

On behalf of the Federal Forest Resource Coalition, the American Forest Resource Council, and the undersigned organizations, we submit the following comments in response to the above captioned Federal Register Notice. We appreciate the opportunity to provide feedback on this matter.

The Federal Forest Resource Coalition is a nationwide coalition of more than 650 member companies, representing purchases of Forest Service and Bureau of Land management timber from 36 states. Our members purchase, harvest, and transport Federal land timber resources and convert them to renewable wood, paper, and biomass energy products. We accomplish this mission by advocating for common sense policy reforms which enable better forest management on Federal lands.

AFRC is a forest products trade association representing approximately 50 lumber and plywood manufacturing companies and landowners throughout Washington, Oregon, California, Idaho and Montana, whose purpose is to advocate for sustained yield timber harvests on public timberlands throughout the West to enhance forest health and resistance to fire, insects, and disease. We do this by promoting active management to attain productive public forests, protect adjoining private forests, and assure community stability. We work to improve federal and state laws, regulations, policies and decisions regarding access to and management of public forest lands and protection of all forest lands.

We start by noting that the questions presume wide agreement on what "climate smart" policies are. We approach this question from the standpoint of forest managers and wood product manufacturers, and we believe that "climate smart" policies are those which most efficiently and effectively minimize or reduce climatic carbon dioxide concentrations. Such policies will have other, beneficial climate effects, such as reducing hazardous fuels and the incidence of catastrophic fire that have been documented to release massive amounts of carbon into the atmosphere and endanger the health of many of our most vulnerable citizens.[1] The inclusion of the questions listed under Section 3 (Addressing Catastrophic Wildfire) implies that USDA understands that reducing the incidence of severe fires is a "climate smart" policy.

As it moves forward to implement EO 14008 and develop new programs, it is important that USDA identify a vision of "climate-smart agricultural and forestry practices" that is consistent with the needs of USDA stakeholders and the multiple-use mandate of the National Forest System. President Biden, in section 214 of the Executive Order, recognized many of these considerations, directing federal agencies to "increase reforestation, improve access to recreation, and increase resilience to wildfires and storms, while creating wellpaying union jobs for more Americans, including more opportunities for women and people of color in occupations where they are underrepresented."[2] The President recognizes that "America's farmers, ranchers, and forest landowners have an important role to play in combating the climate crisis and reducing greenhouse gas emissions, by sequestering carbon in soils, grasses, trees, and other vegetation and sourcing sustainable bioproducts and fuels…" This is an understatement. Farmers, ranchers, and forest landowners have a *vital* role to play in reducing greenhouse gas emissions, by sequestering carbon in soils, grasses, trees, other vegetation and *in wood products*.

It is critical that the Forest Service – and USDA in general – understand that climate policies must provide flexibility to ensure that local land managers can implement them effectively. Prescribed fire, when combined with other forest management techniques, may have climate benefits in some forest types, but can actively *reduce* sequestration and storage in other types. National policies must recognize the need for local and regional variation in forest management.

We start as well with the premise, now strongly documented by decades of science, that sustainable production of wood products is a "climate smart" policy. Here are several key aspects to this.

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[1] Caitlin G. Jones, et al., "Out-of-Hospital Cardiac Arrests and Wildfire-Related Particulate Matter During 2015–2017 California Wildfires," *Journal of the American Heart Association*. 2020;9 ("Out-ofhospital cardiac arrests increased with wildfire smoke exposure, and lower socioeconomic status appeared to increase the risk. The future trajectory of wildfire, along with increasing vulnerability of the aging population, underscores the importance of formulating public health and clinical strategies to protect those most vulnerable."); Stephanie M. Holm, et al., "Health effects of wildfire smoke in children and public health tools: a narrative review," *Journal of Exposure Science & Environmental Epidemiology* (2021) 31:1–20, https://doi.org/10.1038/s41370-020-00267-4.

[2] Executive Order 14008 of January 27, 2021, *Tackling the Climate Crisis at Home and Abroad*, 86 Fed. Reg. 7,619, 7,626 (Feb. 1, 2021).

1. Wood products store carbon that has been sequestered (removed) from the atmosphere,[3] and they do so for a long time.[4]
2. Wood products also avoid further carbon emissions from substitute products made from non-renewable materials that are more carbon-intensive.[5]
3. Although older forests passively store more carbon, younger forests growing after reforestation sequester carbon at a higher *rate*.[3]
4. Advanced wood products such as CLT and glulam have one of the greatest carbon returns on investment because they substitute for materials whose carbon emissions are among the most difficult to reduce,[4] and because the technology/products can be easily shared with developing countries to solve the 95/5 problem as articulated by Varun Sivarum, senior adviser to Special Presidential Envoy for Climate John Kerry.[5]

Nearly half of the National Forest System is in land use designations that – because of either law or regulation – are largely off-limits from management. For the most part, the policies and management actions discussed below – intended to improve the climate performance of the National Forest System while creating jobs in rural communities – would take place within the context of existing forest plans that comply with all federal laws and regulations. It is not a call to open wilderness areas to commercial activity prohibited by statute. Full implementation of forest plans, including meeting the goals of sustainable forest management that results in carbon-friendly wood products all Americans demand and

[3] Loehle, *Carbon Sequestration Due to Commercial Forestry: An Equilibrium Analysis* (2020); Churkina et al. (2020), "Buildings as a global carbon sink," *Nat Sustain* 3, 269–276 (2020), available at https://www.nature.com/articles/s41893-019-0462-4.

[4] Bruce Lippke et al., (2011) "Life cycle impacts of forest management and wood utilization on carbon mitigation: knowns and unknowns," *Carbon Management*, 2:3, 303-333, DOI: 10.4155/cmt.11.24.

[3] Gray, A.N., Whittier, T.R., and Harmon, M.E. 2016. "Carbon stocks and accumulation rates in Pacific Northwest forests: role of stand age, plant community, and productivity." *Ecosphere* 7:e01224. https://doi.org/10.1002/ecs2.1224; Thomas A. M. Pugh et al., "Role of forest regrowth in global carbon sink dynamics," *Proceedings of the National Academy of Sciences*, Mar 2019, 116 (10) 4382-4387, https://www.pnas.org/content/116/10/4382; Kai Zhu et al., "Forest age improves understanding of the global carbon sink," *Proceedings of the National Academy of Sciences*, Mar 2019, 116 (10) 39623964; DOI: 10.1073/pnas.1900797116.

[4] Winchester (2020).

[5] Amy Harder, "How to Judge America's Climate-Change Responsibility," *Axios*, Dec. 18, 2020, https://www.axios.com/america-climate-change-responsibility-637751d3-4536-405d-a39bd211ab741d21.html.

[5] A 2018 study found "the CO_2-intensity of lumber production is about 20% less than that of fabricated metal products, **under 50%** that of iron and steel, and **under 25**% that of cement." Niven Winchester & John M. Reilly, "The economic and emissions benefits of engineered wood products in a low-carbon future," *Energy Economics* 85 (2020) 104596; https://doi.org/10.1016/j.eneco.2019.104596. A general rule of thumb is that using a ton of wood in construction removes an additional 2.1 tons of carbon via substitution effects. Sathre, R., and O'Connor, J. 2010. "Meta-analysis of greenhouse gas displacement factors of wood product substitution." *Environmental Science and Policy* 13:104-114. https://doi.org/10.1016/j.envsci.2009.12.005.
consume, must be part of the Forest Service's "climate smart" policies.

Thank you again for the opportunity to provide these comments. We look forward to further discussions with the Department as the Administration rolls out further policies intended to implement climate smart practices.

1. Climate Smart Agriculture and Forestry Questions:

A. How should USDA utilize programs, funding and financing capacities, and other authorities, to encourage the voluntary adoption of climate-smart agricultural and forestry practices on working farms, ranches, and forest lands?

1. How can USDA leverage *existing* policies and programs to encourage voluntary adoption of agricultural practices that sequester carbon, reduce greenhouse gas emissions, and ensure resiliency to climate change?

The portions of the National Forest System that are not under special legislative or administrative designations that restrict harvest should be treated as working lands, including for the production of carbon-friendly wood products. Forest management, including commercial timber harvest using a variety of contracting mechanisms, can be a highly effective tool for enhancing ecosystem resiliency in the face of a changing climate and improving the carbon sequestration and storage performance on National Forest System Lands. As the Forest Service revises forest management plans, it should recognize the carbon benefits of working forest lands by minimizing the areas of the forest restricted from harvest – particularly for lands that are well suited to timber production, accessible, and have a history of previous management.

About 83 million acres of National Forest System lands are regarded as being at moderate to high risk of catastrophic wildfire. By managing these overstocked stands, the Forest Service (part of USDA) can help increase carbon storage on the landscape and in longlasting wood products, reduce fossil fuel emissions by supplying needed, carbon-neutral biomass energy, all while reducing the risk of unwanted greenhouse gas emissions from catastrophic wildfire.[6]

[6] *See, e.g.*, McCauley, Lisa A., et al., *Large-scale forest restoration stabilizes carbon under climate change in*

USDA can increase the use of several authorities that can increase the pace and scale of forest restoration within the context of existing forest plans, with a focus on reducing hazardous fuel loads, improving forest health and vigor, and subsequently increase rates of carbon sequestration in forests and wood products. Examples include:

Section 14 of the National Forest Management Act (16 U.S.C. § 472a): The general authority allowing the sale of commercial timber from the National Forest System lands for achieving the purpose of achieving the policies set forth in the Multiple-Use Sustained-Yield Act of 1960 (74 Stat. 215; 16 U.S.C. §§ 528–531) and the Forest and Rangeland Renewable Resources Planning Act of 1974 (88 Stat. 476; 16 U.S.C. §§ 1600 *et seq*.).

Section 14(g) of the National Forest Management Act; "Designation by Description or Prescription" Authority **(16 U.S.C. § 472a(g)):** Reduces preparation costs involved with timber sales on the National Forest System, allowing the Forest Service to more easily scale up management on non-reserved acres.

General Authorities under HFRA (16 U.S.C. § 6512): Streamlines the process for implementing hazardous fuel reduction activity across the National Forest System.

Section 603 of the Healthy Forest Restoration Act (HFRA) of 2003 (16 U.S.C. § 6591b) (Insect & Disease Sanitation CE): Allows certain insect and disease projects not to exceed 3,000 acres, and meet certain criteria, to be categorically excluded from documentation in an environmental assessment or an environmental impact statement and exempt from predecisional objections.

Section 604 of HFRA; Stewardship End Results Contracting (16 U.S.C. § 6591c): Provides that the Forest Service has the authority to trade goods (usually in the form of merchantable timber) for services, including restoration activities like removal of hazardous fuels, prescribed burning, and other practices such as privately-prepared NEPA analysis. The Forest Service could maximize stewardship contract flexibility and length, where appropriate on the landscape and consistent with infrastructure needs, to accelerate forest health and climate resilience treatments.

Section 605 of HFRA: Wildfire Resilience CE (16 U.S.C. § 6591e): Allows certain wildfire resilience projects not to exceed 3,000 acres, and meet certain criteria, to be categorically excluded from documentation in an environmental assessment or an environmental impact statement and exempt from pre-decisional objections.

Southwest United States, Ecological Applications Volume 29, Issue 8 (2019); Gray, A. N. et al., *Carbon stocks and accumulation rates in Pacific Northwest forests: role of stand age, plant community, and productivity*, Ecosphere 7(1):e01224. 10.1002/ecs2.1224 (2016).

Good Neighbor Authority (16 U.S. Code § 2113a): Allows interested States, counties, and Indian tribes to conduct forest, rangeland, and watershed restoration services on National Forest System lands.

Existing Regulatory Categorical Exclusions: The following regulatory CEs should be utilized to achieve climate smart forestry on National Forest System lands whenever possible. In particular, the Forest Service should utilize:

- ✓ 36 C.F.R. § 220.6(e)(6): Timber stand improvement activities which includes thinning or brush control to improve growth or to reduce fire hazard and prescribed burning to reduce natural fuel build-up and improve plant vigor;
- ✓ 36 C.F.R. § 220.6(e)(11): Allows post-fire rehabilitation on up to 4,200 acres, including tree planting, fence replacement, habitat restoration, heritage site restoration, repair of roads and trails, and repair of damage to minor facilities such as campgrounds within 3 years following a wildland fire;
- ✓ 36 C.F.R. § 220.6(e)(14): Allows commercial and non-commercial sanitation harvest of trees to control insects or disease not to exceed 250 acres; and
- ✓ 36 C.F.R. § 220.6(25): Allows forest and grassland management activities with a primary purpose of meeting restoration objectives or increasing resilience. Activities to improve ecosystem health, resilience, and other watershed and habitat conditions not to exceed 2,800 acres.

Determination of NEPA Adequacy (36 C.F.R. § 220.4(j)): Outlines a process for determining whether a previously completed Forest Service NEPA analysis can satisfy NEPA requirements for a subsequent proposed action. The availability of the Determination of NEPA Adequacy will allow projects to move forward if the responsible official determines that the project still meets the purpose and need, despite whether certain changed conditions exist on all or part of the project area.

All of these authorities can be used to implement forest plan goals and objectives, which are the means by which the Forest Service carries out the multiple use, sustained-yield mandates in the National Forest Management Act and other bedrock forest management laws. These tools can help accelerate time sensitive, science-based management of our national forests that are and will inevitably be a part of any climate solution.

USDA should also make forest management funding a priority as it works with the White House Office of Management and Budget on the formulation of the President's budget requests. USDA can also provide Congress estimates of the funding needed to fully implement the modest allowable sale quantities under existing forest plans, as well as the funding needed to undertake recovery and reforestation activities following catastrophic events.

2. What new strategies should USDA explore to encourage voluntary adoption of climate smart agriculture and forestry practices?

On public lands, USDA can support reforms to stewardship contracting that would make retention of existing forest products infrastructure a co-equal program objective with current restoration objectives.

USDA can support finalization of the Endangered and Threatened Wildlife and Plants; Regulations for Interagency Cooperation (50 CFR Parts 402; 86 Fed Reg. 2,373, (Jan. 12, 2021)) which eliminates unnecessary forest plan-level consultation with the U.S. Fish & Wildlife Service and National Marine Fisheries Service when neither agency has project-level concerns regarding listed species. This proposed regulation would enact the same policy advocated by the Obama Administration in a petition to the United States Supreme Court.[7]

USDA should begin questioning the profound assumptions found in species recovery plans (and subsequently amended National Forest Plans) indicating closed canopy forests deliver the highest quality wildlife habitat, including for species listed under the Endangered Species Act. Conservation strategies for a wide variety of species have led the Forest Service to favor overstocked forests in both deciduous and conifer forest types.

Recent research suggests that reserved Federal Forest lands had significantly higher fire risk than non-reserved Federal lands, and particularly more than private timberlands which are generally managed for sustainable timber production. "Reserve status had the largest effect on forest lands and the least effect on shrub- lands. Reserve status had a larger influence on fire probability than ownership or fire protection for forest lands and a lesser impact on shrublands. Non-federal, non-reserved forests with state fire protection had the lowest fire probability on average, except for shrublands, where non-reserve lands with non-federal ownership and federal firefighting consistently had the lowest fire probability on average."[8] Additional research shows that fuels, rather than weather or temperature, are the driving factor in the likelihood of high-severity fire.[9]

Sustainable, science-based forest management is either legally prohibited (Wilderness) or strongly discouraged (Roadless Areas and areas presumed to provide high quality habitat for listed species or species of conservation concern) on roughly 94 million acres – or 50 percent – of the National Forest System.

In western National Forests, these expanses of unmanaged lands increase fire danger, increasing the risk of significant wildfire related carbon emissions. In eastern National Forests, most units have fallen well short of their goals for early successional forest types. This leaves closed canopy forests which have lower growth rates (and thus lower carbon sequestration rates), and which provide inferior wildlife habitat for a variety of species. More forest restoration – reducing fuel loads, creating shaded fuel breaks, and creating a mosaic of forest types and age classes – will improve forest health and resiliency,

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[7] *U.S. Forest Serv. v. Cottonwood Envtl. Law Ctr.*, No. 15-1387, https://www.scotusblog.com/wpcontent/uploads/2016/07/15-1387-cert-petition.pdf.

[8] Carlin Frances Starrs et al., "The Impact of Land Ownership, Firefighting, and Reserve Status on Fire Probability in California," *Environmental Research Letters* Vol. 13, No. 3 (2018).

[9] Sean A Parks et al, "High-severity fire: evaluating its key drivers and mapping its probability across western US forests," 2018 *Environ. Res. Lett.* 13 044037.

reduce carbon emission "mega events" from wildfire, store carbon in long-lasting wood products, and increase growth of standing trees, thereby increasing sequestration.

There are numerous policy options for accomplishing these goals;

The Department should consider declaring an emergency on fire prone (Condition Class II, III, and IV) National Forest lands, allowing expedited NEPA processes to more rapidly implement fuels treatments.

The Department should support amending the Good Neighbor Authority to fix a flaw adopted in the 2018 Farm Bill that would restore the use of retained receipts from Good Neighbor projects on State and private lands. The Department should also support creation of a Good Neighbor Revolving Fund to allow the Department to incentivize State level investment in Good Neighbor Programs. Existing Shared Stewardship agreements can help expedite this work.

The Department should direct all National Forests to conduct, in advance, forest wide environmental assessments to prepare for restoration and recovery work appropriate for the forest types and typical disturbance events (such as wind, ice storms, wildfires, and insect outbreaks) experienced on each forest. By preparing beforehand to recover useful wood fiber and re-establish green and growing forests, multiple climate objectives can be met simultaneously. Examples of such forest recovery efforts can be found on numerous National Forest System units, including: The DeSoto National Forest's efforts to recover from Hurricane Katrina in 2005, the National Forests in Texas use of a forest wide environmental assessment in recovering from wind events in 2013, and the recovery from a major windstorm on the Chequamegon-Nicolet National Forest in 2016. Each of these examples demonstrates that forest restoration and recovery can be accomplished within the confines of existing forest plans and without harming sensitive resources.

B. How can partners and stakeholders, including State, local and Tribal governments and the private sector, work with USDA in advancing climate-smart agricultural and forestry practices?

The Forest Service has an admirable record of working in partnerships with neighboring landowners and entities. Collaboration through programs like the Collaborative Forest Landscape Restoration Program (CFLRP) program, Good Neighbor Authority, and, most recently, Shared Stewardship Agreements, all provide models for this work. While the model of cooperation works well, all of these efforts must be empowered – including through increased allocation of resources – to achieve management at the landscape scale. Forests can – and should – more regularly update stakeholders on forest plan implementation. Meeting forest plan goals is a key means by which the Forest Service can maximize carbon sequestration. Achievement of management goals in forest plans should be of at least the same importance as complying with constraints and restrictions found in forest plan standards and guidelines.

C. How can USDA help support emerging markets for carbon and greenhouse gases where agriculture and forestry can supply carbon benefits?

We believe USDA's main role here should be defining climate benefits in forest management, and providing clear analysis of the fate of carbon in such markets. While carbon markets show promise for incentivizing better forest management, there is a risk of overestimating the carbon benefits from such markets if they rely entirely on deferred harvest as the strategy for carbon sequestration and storage. Given mortality and fire trends on the National Forest System, any such markets must be based on a realistic assessment of the fate of carbon over the long term. Managing forests by removing biomass and storing carbon in long-lasting wood products can yield greater benefits than simply extending rotations or delaying harvest indefinitely.[10]

It is essential to note that the wood products supply chain is diverse, interconnected, and inter-dependent. By increasing the pace and scale of forest restoration on the most at-risk acres, USDA can and should provide a predictable, reliable, sustainable supply of wood products that will help maintain and grow the existing wood products industry and workforce. A healthy, vibrant, and competitive wood products supply chain is foundational to creating new products and markets.

D. What data, tools, and research are needed for USDA to effectively carry out climate-smart agriculture and forestry strategies?

Again, the Federal government's role should largely be providing data upon which market actors can rely. We believe USDA should be the lead agency for collecting and disseminating data on forest and agricultural carbon fluxes because of the large amount of data and research various USDA agencies have. In addition to accurately modeling carbon flux trends in forest ecosystems, USDA should continue to supply Forest Inventory & Analysis information for all land ownerships. USDA should continue to track overall carbon source-sink data for forests, taking into account all carbon pools (including product pools in use and in solid waste disposal sites). USDA should also standardize and update the Forest Service's approach to determining the reforestation backlog on National Forest lands. We also strongly recommend that the Forest Service's forest carbon estimates account for avoided emissions from wood use in place of non-renewable materials, such as steel and concrete (product substitution).[14]

E. How can USDA encourage the voluntary adoption of climate-smart agricultural and forestry practices in an efficient way, where the benefits accrue to producers?

USDA should produce reliable, timely, and predictable data regarding carbon markets, similar to the data provided for crop prices by the National Agricultural Statistical Service (NASS). Transparent, timely information is the appropriate role for government. Market based approaches to carbon emissions reduction will yield the greatest efficiency. By fully implementing forest plans, the Forest Service can

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[10] NCASI, Review of Carbon Implications of Proforestation (December 2020), available at https://www.ncasi.org/wpcontent/uploads/2020/12/Review_Carbon_Implications_Proforestation_Dec2020.pdf. [14] Substitution of wood products for concrete/steel construction materials results in an average emission reduction of 1.2 to 2.1 tons of CO_2 equivalent per ton of CO_2 embodied in the wood used. *See, e.g.*, Leskinen, P., et al., *Substitution effects of wood-based products in climate change mitigation*, From Science to Policy 7. European Forest Institute (2018).

help generate carbon credits, but these can only be efficiently priced through a market-based system. USDA can provide the basis for this system through accurate, verifiable forest carbon data.

2. Biofuels, Wood and Other Bioproducts, and Renewable Energy Questions

A. How should USDA utilize programs, funding and financing capacities, and other authorities to encourage greater use of biofuels for transportation, sustainable bioproducts (including wood products), and renewable energy?

It has been the consensus for decades that biofuels are renewable and part of the climate solution. Use of biofuels (wood, ethanol, palm oil) have in fact been mandated or subsidized by governments at all levels. USDA can play a leading role in this regard by supporting scientifically defensible policies which treat forest biomass as carbon neutral. The Federal government has been directed to adopt this posture in successive acts of Congress, yet has continued to allow ambiguity in this space, which has discouraged investments in renewable biomass production.

USDA should consider reinstating or expanding the Tall Wood Building Prize, a design competition to showcase the use of innovative wood products.

Most importantly, USDA can encourage investment in sustainable wood production by becoming a reliable supplier of timber resources. Modern wood using facilities are capital intensive, with frequently lengthy payback periods. Capital needs are recurring due to wear and tear, as well as the development of more efficient technology which can optimize wood recovery. The Forest Service can encourage these types of ambitious, long-term investments by creating a consistent and growing supply of wood products, within the capabilities of the land and the confines of forest plans. Current harvests from the National Forests are well below current forest plan levels, and the Forest Service struggles to restore management when a wood using infrastructure (mills near National Forest System lands) closes. The USDA should prioritize fully implementing existing forest plans that have already been vetted by the public and comply with federal law.

B. How can incorporating climate-smart agriculture and forestry into biofuel and bioproducts feedstock production systems support rural economies and green jobs?

As noted above, a great deal of the National Forest System (approximately 83 million out of 193 million acres) is at high risk of catastrophic wildfire. There is a significant need to reduce hazardous fuel loads, as well as to engage in intermediate forest management steps such as precommercial thinning. One National Forest unit alone – the Black Hills National Forest in South Dakota and Wyoming – is well short of the required 50,000 acres in annual precommercial thinning required to maintain forest growth and productivity. Likewise, National Forests in the Northern Region (Region 1) have an estimated 300,000 acres requiring precommercial thinning. Finding ways of financing this work – through appropriated dollars, use of Stewardship Contracts funded through the harvest of more valuable timber, or finding

willing partners who would benefit from the intermediate management – is critical. Water systems, for instance, have a clear interest in forest and watershed health. It may be possible to partner with water and power utilities to finance the removal of feedstocks which can support biomass energy production. Failure to remove this biomass often leaves forests vulnerable to high intensity fires.

C. How can USDA support adoption and production of other renewable energy technologies in rural America, such as renewable natural gas from livestock, biomass power, solar, and wind?

Reliable supplies of usable wood fiber – whether for solid wood, pulp and paper, or biomass energy production – are critical to support private investment in these fields. Policies which support use of biomass power must be consistent and take cognizance of the realities involved with competing with more energy dense fossil fuels.

Again, it is worth reiterating that the wood products supply chain is diverse, interconnected, and inter-dependent. A healthy, vibrant, and competitive wood products supply chain is foundational to creating new products and markets.

Flourishing wood products markets also lead to flourishing rural communities, in keeping with the original purposes of the National Forest System. The Administration should think of timber supply as an investment in Rural America, no less than its broadband proposal or New Deal programs like the Rural Electrification Act. Such investments can help to build broad support for climate-smart policies.

3. Addressing Catastrophic Wildfire Questions

A. How should USDA utilize programs, funding and financing capacities, and other authorities to decrease wildfire risk fueled by climate change?

Please see our answers to Question 1. A. 1 and Question 1. A. 2. above.

B. How can the various USDA agencies work more cohesively across programs to advance climate-smart forestry practices and reduce the risk of wildfire on all lands?

As noted above, there are numerous tools which allow the Forest Service to work across boundaries and in cooperation with neighboring landowners and other entities. For example, Good Neighbor Authority, Shared Stewardship Agreements, and other mechanisms encourage cross-boundary work. Creation of a Good Neighbor Authority Revolving Fund – initially seeded with a Federal investment and then refreshed as program work generates revenue to pay the fund back – would enhance State-Federal cooperation and involve both the National Forest System and the State and Private Branch of the Forest Service. It would also incentivize states to meet the Forest Service halfway.

C. What additional data, tools and research are needed for USDA to effectively reduce wildfire risk and manage Federal lands for carbon?

The Forest Service must begin accurately tracking the amount of hazardous fuels reduction work it does annually on forested acres at high risk of catastrophic fire using mechanical treatment. This must be the primary metric to determine whether fuels reduction work is improving forest health and reducing the risk of catastrophic *forest fires*, with their concomitant greenhouse gas emissions. Forest fires in overstocked, unhealthy forests – usually in mountainous terrain – are what drives both the Forest Service's high suppression costs (because the agency relies more on aerial suppression resources) and excessively high carbon outputs.

Currently, the Forest Service counts a great deal of necessary forest management work – including prescribed burning of flatter, lower elevation forest types in more humid regions – as well as counting wildfires allowed to burn within prescription, as "acres treated." This allows the Forest Service to claim large amounts of fuels treatment each calendar year (for instance, in their FY 2021 budget justification, the Forest Service says they treated 2.9 million acres to mitigate hazardous fuels).

And yet, the number of acres of National Forests regarded as being at an elevated risk of catastrophic wildfires continues to rise. This indicates that current fuels treatments, which include the types of fuel reduction mentioned above – have not materially reduced the risk of catastrophic fires on fire-prone forest types. More focus on reducing forest fuels – rather than simply treating easier acres – will result in better performance from hazardous fuels treatments.

The Forest Service should assess how well forests are meeting current forest plan goals for creation of early seral habitat. Our analysis of forest plan monitoring reports indicate that eastern National Forests (Regions 8 and 9) were accomplishing less than 31 percent of the early successional habitat goals. Younger forests have an exponentially higher rate of carbon uptake – 0-10 year old forests take up three times more carbon than 50-60 year old forests, and four times more than 100 year old forests. Accurately tracking accomplishments of early successional forest goals will allow the Forest Service to increase the amount of younger, faster growing trees which can sequester additional carbon.

The Forest Service should augment its tracking of forest carbon by including the substitution effect of wood products. Using wood products instead of more carbon intensive materials like steel, aluminum, and concreate for construction doesn't just store carbon in the longlasting wood products. It avoids higher carbon emissions from substitute materials which would otherwise be used. The Forest Service should include the substitution effect in its assessment of overall forest carbon stocks.

Finally, the USDA should track and document carbon emissions from wildfires on federal lands. While wildfire has and will continue to play a role on the landscape, carbon emissions from fires are exactly that: carbon emissions. USDA will be unable to craft and implement effective carbon smart policies without accounting for and transparently tracking and reporting carbon emissions from wildfires that start on, or burn through, national forest lands.

D. What role should partners and stakeholders play, including State, local and Tribal governments, related to addressing wildfires?

The forest products industry spends almost $200 million annually purchasing Forest Service timber sales, and contributes thousands of hours of time to both formal collaboratives and the normal day-to-day process of assessing timber sales and stewardship contracts prior to bidding. Forest products companies have helped create forest collaboratives, and are active participants in many current CFLRP project areas. Which is to say, forest products companies – loggers, log haulers, sawmills, pulp & paper mills, engineered wood products manufacturing facilities, and biomass energy producers should be regarded as full "partners and stakeholders" as the agency seeks to address wildfires. Concerns about the viability of the wood products "value chain" should figure in every decision the Forest Service makes. Allowing timber sale levels to decline must be evaluated in terms of its long-term impact on the National Forests ability to economically manage forest resources.

As noted above, we continue to encourage the Forest Service to utilize all existing authorities, including those that support or promote "partnerships" as means to accomplish all forest plan objectives. These authorities include commercial timber sales, Stewardship Contracts, and Good Neighbor Authority.

4. Environmental Justice and Disadvantaged Communities Questions

A. How can USDA ensure that programs, funding and financing capacities, and other authorities used to advance climate-smart agriculture and forestry practices are available to all landowners, producers, and communities?

The Forest Service must recognize that the National Forests are located in some of the most socioeconomically distressed areas of the country. In fully half the states with National Forests, the most economically disadvantaged county in the State has at least some National Forest Land. In most states, National Forest counties have substantially higher poverty rates than the State average. Ensuring that investments in forest restoration and management flow to these National Forest counties will help ensure that all communities benefit from the Federal government's efforts to adopt "climate smart" policies.

It is important to note that the forest products industry generally pays an annual average wage above state averages. For example, in Oregon, where the Federal government owns and manages more than half the lands in the state, forest-related jobs paid an average wage of $56,000, roughly 2% more than the average of $55,000 for all jobs covered by unemployment insurance. The "recreation economy," in sharp contrast, creates low-wage service sector jobs for local residents to provide services to visitors, all the while getting priced out of their homes.[11]

[11] For examples, see Justin Farrell, *Billionaire Wilderness*, p. 15 (2020) (wondering whether people "care more about saving a moose or a bear than helping him and other immigrants who are suffering"); Lisa Sun-Hee Park & David Pellow, *The Slums of Aspen: Immigrants vs. the Environment in America's Eden* (2011); Hines, J. Dwight. "In Pursuit of Experience: The Postindustrial Gentrification of the Rural American West." *Ethnography*, vol. 11, no. 2, 2010, pp. 285–308; Hines, 2007.

B. How can USDA provide technical assistance, outreach, and other assistance necessary to ensure that all producers, landowners, and communities can participate in USDA programs, funding, and other authorities related to climatesmart agriculture and forestry practices?

By recognizing that workers in many National Forest counties frequently suffer from higher poverty and unemployment rates than their metro county counterparts, USDA can work to bring meaningful employment – frequently to poor communities in which minority residents are overrepresented.

C. How can USDA ensure that programs, funding, financing capabilities, and other authorities related to climate smart agriculture and forestry practices are implemented equitably?

Please see our answers to 4.A and 4.B above.

Thank you again for the opportunity to provide this feedback, and we look forward to further discussions as the Department and the Forest Service make more concrete proposals regarding "climate smart" policies.

Sincerely,

Bill Imbergamo
Executive Director
Federal Forest Resource Coalition

Travis Joseph
President
American Forest Resource Council

On behalf of our members and the following undersigned organizations:

Adams County (ID)

Alabama Forestry Association

Arkansas Timber Producers Association

Associated California Loggers

"Persistent Frontier and the Rural Gentrification of the Rocky Mountain West," *Journal of the West* 46, no.1: 63-73.

Associated Oregon Loggers

Associated Logging Contractors of Idaho

American Walnut Manufacturers Association

American Loggers Council

Bell Lumber & Pole

Black Hills Forest Resource Association

California Forestry Association

Carolina Loggers Association

Cascade Hardwood Group

Chequamegon-Nicolet Federal Sustainable Forestry Committee

Colorado Timber Industry Association

Douglas Timber Operators

The Collins Companies F.H. Stoltze
Land & Lumber Co.

Forest Energy Corporation

Forest Resources Association

Freres Lumber

Great Lakes Timber Professionals Association

Hampton Lumber

Interfor

Intermountain Forest Association

Idaho Forest Group

Louisiana Loggers Association

Louisiana- Pacific Corporation

Michigan Association of Timbermen

Michigan Forest Products Council

Minnesota Forest Industries

Missouri Forest Products Association

Montana Logging Association

Montana Wood Products Association

Mt. Hood Forest Products LLC

Murphy Company

Neiman Enterprises

New Mexico Forest Industry Association

North Fork Lumber

Northwest Hardwoods

Oregon Forest & Industries Council

Packaging Corporation of America

Parma Post & Pole

Powell County (MT) Quicksilver
Contracting Co.

Rainier Veneer Roseburg
Forest Products
Schmidbauer Lumber Inc.

Seneca Sawmill Company

Sierra Forest Products

Sierra Pacific Industries

Siskiyou Cascade

Skamania County (WA)

South Carolina Timber Producers Association

Southern Oregon Timber Industries Association

Southern Oregon Timber Management LLC

Starfire Lumber

Stimson Lumber

Sun Mountain Lumber

Swanson Group Timber
Products Company Trinity
River Lumber Co.

3H Forestry & Land Management LLC

Virginia Loggers Association

Washington Contract Loggers Association

Washington Hardwoods Commission Wilkins, Kaiser & Olsen, Inc.

Woodgrain