THE GREAT AMERICAN STAND

US FORESTS AND THE CLIMATE EMERGENCY

Why the United States needs an aggressive forest protection
agenda focused in its own backyard

DOGWOOD ALLIANCE

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Standing forests are the only proven system that can remove and store vast amounts of carbon dioxide from the atmosphere at the scale necessary to keep global temperature rise below 1.5 degrees Celsius this century. It is therefore essential to not only prevent further emissions from fossil fuels, deforestation, forest degradation, and bioenergy, but also to expand our forests' capacity to remove carbon from the atmosphere and store it long-term.

If we halted deforestation, protected existing forests, and expanded and restored degraded forests, we could reduce annual emissions by 75 percent in the next half a century. If fossil fuels were rapidly phased out during this same time period, we could reduce the amount of carbon in the atmosphere, meet the goals of the Paris Agreement and avoid catastrophic climate change. But, we cannot solve the climate crisis without a major scale-up in forest protection and restoration across the planet. We must not only protect remnant primary, intact forests, but also conserve and restore less pristine landscapes. Yet, to date, forest protection commitments and funding are too narrowly focused on tropical forests.

The United States is home to some of the world's greatest forests. Spanning from the temperate rainforests of Alaska and the ancient redwoods of California, to the mixed-mesophytic forests of Appalachia and the cypress tupelo forests of the coastal South, American forests are among our nation's most valuable natural assets. From removing carbon from the atmosphere and storing it to providing natural flood control, stabilizing fresh water supplies, and protecting the greatest diversity of wildlife and plants on the planet, our health and well-being are integrally tied to the ecological health of our forests.

Over the span of more than a century, an estimated 99 percent of the nation's "frontier forests"—large, contiguous virgin forests with all species intact— have been lost across the lower forty-eight states. During the same period, the United States has emerged as the world leader in commercial logging, currently producing and consuming more wood products than any other country. Though trees can live to be hundreds, even thousands, of years old, less than 15 percent of U.S. forests are older than one hundred years. Tens of millions of acres of natural forests have been replaced with monoculture commercial tree plantations. Meanwhile, as the threat of catastrophic climate change grows, the value of old, intact, standing natural forests and the climate-stabilizing services they provide are more critical than ever.

In spite of the growing need to accelerate protection and restoration of forests, government policies and forest markets are still largely stuck in the past, driving the replacement of diverse natural forests with single-species tree plantations, characterizing non-merchantable trees as "low value" or "waste wood" and measuring sustainability largely in terms of a continuous supply of forest products to commercial markets. The United States has yet to acknowledge forest degradation from logging, nor has it stepped up to protect and restore forests' diminished ecological functioning across large landscapes.

Since the Industrial Revolution, society's energy use has pumped increasing amounts of carbon dioxide into the atmosphere. At the same time, destroying forests for development and agriculture, and consuming ever-increasing amounts of wood products has contributed to the high concentrations of carbon dioxide currently in the atmosphere. Equally as important, but often overlooked, forest loss and degradation continue to significantly compromise the ability of our forests to help stabilize the climate. Yet, climate strategies in the United States ignore this important function of forests, and policies are too narrowly focused on only one important aspect of the climate equation—reducing emissions from fossil fuels.

The rate and scale of commercial logging for wood, pulp and paper, and fuel in the United States is preventing critical progress toward solving the climate crisis. Our current national greenhouse gas reporting system perpetuates the status quo by failing to provide information necessary to assess the impacts of forestry practices on the climate. As a result, forest protection and restoration in the United States has been largely ignored as a climate imperative while accelerated logging is often proposed as a climate solution. For example, in just the past several years, the U.S. South has become the world's largest exporter of wood pellets to Europe, where they are burned to generate electricity in place of coal. This new market is driving increased logging of ecologically important forests. Meanwhile, burning wood for electricity releases up to 50 percent more carbon dioxide than burning coal per unit of electricity generated.

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Failing to acknowledge the need to scale up forest protection will thwart our ability to effectively avoid catastrophic climate change. Simply put, we cannot "log" our way out of the climate crisis, and substituting wood in place of fossil fuels for energy will move us away from a climate solution. Key findings of this report include:

- The United States reports that our nation's forests are removing an estimated amount of carbon dioxide out of the atmosphere equivalent to roughly 13% of annual emissions, far less than global average of 25%.

- Logging accounts for 85% of emissions from U.S. forests, more than five times the emissions from conversion, fire, wind, insects and tree mortality combined.

- Logging is diminishing the net U.S. forest carbon sink by at least 35%. If soil emissions associated with logging were counted, this number would be significantly higher as many forests would shift from being characterized as net carbon sinks to net emitters.

- Burning trees in place of fossil fuels for energy will accelerate, not reduce, carbon emissions while also degrading forests' ability to provide critical climate mitigation and other ecosystem services.

- Efforts to characterize bioenergy or other wood products as "carbon neutral" are not only inaccurate, but irrelevant. "Carbon neutrality" is not good enough because concentrations of carbon dioxide in the atmosphere must decrease rather than remain constant over time.

- More than half of the carbon lost through deforestation and harvesting in the United States from 1700 to 1935 has yet to be removed from the atmosphere. Reports that forests are "offsetting" fossil fuel emissions are therefore misleading since forests are not, nor can they, offset emissions from fossil fuels when they have yet to offset past emissions from forest loss and degradation.

- The international framework used by the United States for reporting carbon emissions from forests is masking emissions from logging, over-representing the extent of U.S. forest climate mitigation benefits and enabling the world's largest forest industry to avoid accountability for climate impacts.

- Carbon dioxide emissions from logging are not measured or reported the same as other sources of emissions. Instead, all forest emissions are essentially reported as "offset" by annual forest growth, masking critical information necessary to inform climate policy.

- Reports that U.S. carbon stocks have grown in the past several years rely in part on tree plantations and wood products, neither of which are capable of storing carbon long-term. Combining short-term and long-term carbon stores as if they were comparable is misleading and overestimates the role of forests in keeping carbon out of the atmosphere.

- Ongoing degradation of forests from logging compromises critical ecological functions, such as water storage and natural flood control, which buffer our most vulnerable communities against the worst effects of natural disasters.

- Natural disasters, which threaten the well-being of our communities, cost billions of dollars annually, with the Unites States suffering two of the most costly disasters in the world in 2016. These are threats that could be mitigated and costs that could be reduced by expanding protection for forests along rivers.

- Government incentives for bioenergy and other forest products must be replaced with payment for the ecosystem services provided by standing forests. This will require new government and corporate policies that incentivize and help to fund the protection of forests.

We need to invest in protecting and restoring intact, old forests across large landscapes for carbon storage, flood control, water purification, and biodiversity. Treating forests as an unlimited, renewable, extractable commodity that can support infinite growth in the forest products industry is an outdated business model that must yield to a new way of doing business that values standing forests. A major transformation in the forest economy is necessary so our consumption of wood products is brought into alignment with the ecological limits of forests, and the critical climate stabilization and other life-supporting functions they provide.

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We can solve the climate crisis by scaling up forest protection while we rapidly drive down emissions from fossil fuels and transition toward clean, renewable energy sources, such as solar and wind. Achieving the scale of forest protection and restoration needed over the coming decades may be a challenging concept to embrace politically; however, forests provide a proven means for atmospheric carbon removal and sequestration that can operate at the necessary scale and time frame to keep the world from going over the climate precipice. Forest protection, restoration and expansion must therefore become a top priority in America's climate agenda.