



Revitalizing America's National Forests

Policy Recommendations for Restoring Forests to Deliver Natural Climate Solutions and Ecological Benefits

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America's national forests are increasingly facing new stresses from a changing climate, including increased threats from invasive species, pests, pathogens, extreme weather, and wildfires. The USDA Forest Service and its support network need climate-informed planning and policy tools to restore and manage forests in ways that ensure their resilience in the face of these threats, protect clean drinking water, support biodiversity, and secure these public lands for future generations.

Many gains were made in 2018 in stabilizing the USDA Forest Service budget from the increasing costs of wildfire suppression. However, the Forest Service continues to need additional support to address at least 80 million acres of national forests in need of restoration. The National Wildlife Federation, The Nature Conservancy, and American Forests are working together to create the enabling conditions, through funding and policy, to dramatically scale up the level of restoration in the context of a changing climate. This framework for revitalizing our national forests proposes: 1) increasing funding by at least \$1 billion from diverse sources, including nonfederal, for proactive and climate-informed forest management and restoration; and 2) ensuring policies adequately and appropriately address forest management and restoration as climate adaptation and carbon mitigation strategies.

Forests can play a critical role in supporting clean drinking water, reducing climate vulnerabilities, and strengthening the adaptive capacity and resilience to wildfires and other climate-related impacts. Climate mitigation is impossible without addressing climate adaptation, and therefore, the two must go hand in hand. The Forest Service should focus on implementing large-scale projects that over time will result in verifiable net-carbon benefits above and beyond what national forests are already doing.

This policy platform identifies federal policy options that have the greatest potential for maintaining and enhancing national forest capacity to contribute as a natural climate solution. Successfully harnessing national forests for climate mitigation and resilience will come when: 1) existing forest carbon stocks are maintained and enhanced; 2) sequestration is increased; and 3) forest carbon losses

are reduced from impacts such as massive wildfires. These actions should be quantified, verified, and have permanence, and not result in alteration of other land management that might undermine their benefits (i.e., no emissions leakage). The proposals outlined below would seek to optimize, rather than maximize, carbon in ways that maintain and enhance multiple ecosystem benefits, including for water and biodiversity, and socioeconomic benefits such as improved safety and job generation, while protecting existing carbon stores as part of current management practices.

Wildfires play an important and restorative role across American forests. However, the changing climate and other factors have caused wildfires to become a major hazard to people, communities and their drinking water, and other resources. To this end, and among other recommendations, this framework includes proposals related to wildfire, including those that would increase the use of prescribed fire and use naturally ignited wildfires, where safe and appropriate, to restore natural ecological functions that improve resilience. These proposals can serve as a tool for scaling restoration in those areas that are inaccessible to thinning and other manual treatments.

The proposals in this framework are designed to be:

- 1) Climate-focused by encouraging or requiring consideration of carbon and forest resilience.
- 2) Informed by the natural carbon sequestration opportunity that forest management can provide as mitigation strategies in appropriately designed climate legislation.
- 3) Feasible while minimizing unintended ecological or social consequences.
- 4) Capable of providing economic opportunity alongside carbon, wildlife, water, and resilience benefits.
- 5) Science based and adaptive, including well-designed monitoring to understand the impacts and effectiveness of policies and practices.
- 6) Protective of bedrock environmental authorities.

The federal proposals are split into three major categories: 1) legislative funding; 2) other (non-funding) federal legislation; and 3) federal administrative actions.

Legislative Funding

Without increased investments in America's national forests, the nation stands to lose many of those benefits it depends on every day. The Forest Service faces significant challenges with a reduced workforce, resulting in loss of knowledge, and relatively flat funding for most programs, while challenges on the forest landscape continue to increase. Congress took a major step toward stabilizing the USDA Forest Service and Department of the Interior (DOI) budgets with the enactment of the Wildfire and Disaster Funding Adjustment in the FY2018 Consolidated Appropriations Act, which covers the Forest Service's skyrocketing costs of fighting fires that were draining the agencies' budgets. However, this "Fire Fix" is only a success for national forests if reinvestments are made into management programs that increase forest resilience and protect communities. Strong investment in climate-informed forest restoration, collaborative stewardship, research, and wildfire prevention programs will help improve the health and productivity of America's forests and their ability to serve as a climate solution.

The following are recommendations for funding specific programs that support national forests. Specifically, we recommend that Congress:

- Increase funding levels for key National Forest System programs, including Collaborative Forest Landscape Restoration (CFLR), Hazardous Fuels Reduction, Vegetation & Watershed

Management, Wildlife & Fisheries Habitat Management, Legacy Roads & Trails Remediation, Land Management Planning, Inventory & Monitoring, Forest Health—federal lands, and Forest & Rangeland Research.

- Increase mandatory funding levels for the national forests' Reforestation Trust Fund to prioritize reforestation and restoration.
- Establish and fund a reforestation initiative under the Vegetation & Watershed Management program that complements and leverages the Reforestation Trust Fund and post-fire restoration to achieve the goals of reforestation.
- Increase pre- and post-disaster funding managed by the Department of Homeland Security or in emergency supplementals to account for the changing climate's effects on national forests.
- Identify new sources of federal funding to support climate-informed restoration on national forests, including sources of funding within the federal funding system (e.g., rural development programs).
- Create incentives that promote innovative conservation finance as an alternative source of funding, which could be tied to carbon sequestration and storage, and would be a significant source of funding alongside the more limited funding from Congress, including:
 - Establishing a restoration fund with federal funding as an incentive to match nonfederal funds.
 - Establishing governance changes to promote shared funding and collaborative project management for water fund models.
 - Reducing barriers to federal participation in capital impact investment instruments.
- Direct the Forest Service to identify and fund highest priority projects based on best available climate vulnerability, watershed condition, and fire risk assessments.

Other Federal Legislation

Now, more than ever, Congress should authorize policy direction for and provide oversight of the Forest Service to improve climate-informed management of national forests. This framework identifies non-funding policy opportunities and innovative options that have the potential to achieve large-scale, climate-informed, ecologically appropriate forest restoration.

Improving and Updating Existing Policies

- Improve the Reforestation Trust Fund to prioritize reforestation where it is most needed.
- Direct the Forest Service to expand the purview of existing Forest Health Threat Centers, which are focused on insects and disease, to become centers of excellence for large-scale climate-informed forest management and to enhance integration with the USDA Climate Hubs and DOI Climate Adaptation Science Centers.
- Amend national forest restoration authorities (e.g., CFLR program, Good Neighbor Authority, Stewardship Contracting Authority, etc.) to specifically include climate resilience and mitigation as a purpose and ensure the Forest Service is implementing climate priorities using those authorities.
- Direct the Forest Service to issue official, science-based guidance regarding the need to adopt forest carbon management principles¹ that include protecting existing carbon stocks, fostering

¹For example: Janowiak, M. et al. 2017. *Considering Forest and Grassland Carbon in Land Management*. Gen. Tech. Rep. WO-95. Washington, D.C.: U.S. Department of Agriculture, Forest Service. https://srs.fs.usda.gov/stateline/2017-08-17/resources/docs/gtr_wo95.pdf

enhanced sequestration of carbon, and reducing major wildfire emission events and other forest losses. This should also require the National Forest System to update national forest-level forest carbon assessments every five years, starting in 2020, with publicly available data, trend analysis, and state-level information. The guidance should include a research and science application component to ensure high-quality carbon monitoring, reporting, and evaluation.

- Direct the Forest Service to increase the use of prescribed burning as a restoration tool that increases resilience, taking into account the various challenges across ecological regions.
- Expand natural hazard mitigation planning and management tools and resources to include national forests to reduce long-term risks caused by disasters (wildfire, drought, and floods).
- Advance use of research, incentives, and pilot projects that support removal of small-diameter trees and waste material from restoration and risk reduction activities.
- Direct the Forest Service to undertake large landscape-scale restoration, using existing authorities, that emphasizes ecological restoration, and that plans for changing climate conditions and optimizing carbon storage.

Developing New Authorities

- Direct Forest Service to work with partners (other agencies, international experts and officials, academia, NGOs, etc.) in developing a carbon storage goal for national forests, one that considers regional differences, and to develop a set of metrics at different scales to inform agency work on emissions and carbon storage. Ensure the goal is aligned with the global scientific consensus to limit warming to 1.5°C over preindustrial levels, or net-zero emissions by mid-century.
- Establish and fund a sister program to DOI's Burned Area Rehabilitation program for the Forest Service for post-fire rehabilitation, that is complementary to the Forest Service's Burned Area Emergency Response program.
- Include national forests in infrastructure legislation, including proposals that improve natural resource and community resilience, such as investments in natural infrastructure and in addressing the National Forest System road system maintenance backlog.
- Allocate revenues from any carbon pricing legislation to climate-informed forest restoration.

Federal Administrative Actions

The USDA Forest Service manages the National Forests and Grasslands and is the primary agency responsible for aiding other forest managers in the United States. The agency has broad authority for establishing its own rules and regulations. Our recommendations challenge and encourage the Forest Service to identify and develop innovative options and ideas that could help ensure it has the tools and incentives necessary to fulfill the goal of large-scale, climate-informed, ecologically appropriate forest restoration.

In pursuing these actions, the role of bedrock environmental protections, including National Environmental Policy Act (NEPA) and other environmental laws, must not be diminished. These procedures should be administered in ways that draw out the best science and local knowledge to emphasize the value of forests for water, wildlife, climate, recreation, and the many other benefits national forests provide.

Identify and evaluate policy opportunities that have the most leverage and potential benefit to:

- Develop a carbon stewardship strategy for the carbon resources in national forests, in coordination with partners—other agencies, industries, academia, NGOs, other landowners, etc. Set carbon stewardship goals that consider regional differences and the impacts of disturbances and a changing climate, and develop metrics at different scales. The strategy should include a research and science application component to ensure high-quality carbon monitoring, reporting, and evaluation.
- Issue agency guidance officially adopting existing carbon management principles.²
- Prioritize updating all national forest plans as soon as possible under the 2012 planning regulations, which include climate considerations and need to be supported by rigorous inventory and monitoring.
- Update the National Forest System carbon assessment every five years, starting in 2020, and provide the data and trends to the individual states.
- Identify and implement opportunities to incorporate climate resilience in the Forest Service’s Environmental Analysis and Decision Making efforts, including implementing the various mapping and prioritization tools the agency has developed.
- Ensure the Administration’s internal agency budget allocations prioritize climate adaptation and mitigation outcomes, to include supporting the proposals in this framework.
- Review existing reforestation and restoration programs to ensure they conform with climate adaptation and mitigation best practices, and align with the recommended national carbon goal.
- Increase the capacity of USDA Climate Hubs and other research units for delivering climate-related science to forest planners and managers, and develop incentives for incorporating climate considerations into all restoration and reforestation activities.
- Develop a broader decision framework for increasing reliance on natural ignitions, where safe and appropriate, to achieve desired forest restoration, resilience, and fuels treatment outcomes.
- Increase use of prescribed burning as a climate resilience and restoration tool, especially in western landscapes.
- Develop educational and outreach initiatives to increase the social tolerance for prescribed burn smoke, as compared with the often more toxic wildfire smoke.

² *Ibid.*

Appendix I

Program Descriptions

The following are the key National Forest System programs, under the USDA Forest Service, that would address the breadth of restoration and wildfire risk reduction work on national forests that will improve forest carbon, adaptation, and resilience outcomes both on federal lands and across boundaries.

Collaborative Forest Landscape Restoration

A collaborative large landscape-scale model program approach that brings citizens, local government, and federal staff together to determine effective management that is locally appropriate and provides jobs, sustains rural economies, reduces the risk of damaging fires, addresses invasive species, improves wildlife habitat, and decommissions unused, eroding roads.

Hazardous Fuels Reduction

Strategic, proactive hazardous fuels treatments have proven safer and more cost-effective in reducing risks to communities and forests by removing overgrown brush and trees, leaving forests in a more natural condition resilient to wildfires. Drought conditions increase the need for investment in this program.

Vegetation & Watershed Management

Promotes restoration through watershed treatment activities and invasive plant species control. This activity is probably the most important item to increase activities on the ground that are climate-informed and help forests adapt to climate stresses so they can continue to provide carbon mitigation and other services. This should include increased reforestation, as well as other healthy treatments that are not just forest management, such as road decommissioning, stream restoration, and other measures to build resilience to disturbance and extreme events.

Wildlife & Fisheries Habitat Management

Restores, recovers, and maintains wildlife and fish and their habitats on all national forests and grasslands. Investments in habitat restoration on Forest Service lands and waters are vital to making sure climate-informed projects also have biodiversity benefits.

Legacy Road and Trail Remediation

Restores river and stream water quality by fixing or removing eroding roads, while providing construction jobs, supporting vital recreational opportunities, and reducing flooding risks from future extreme water flow events.

Land Management Planning, Inventory & Monitoring

This program increases efficiency for land managers and rural communities by supporting collaborative, community and science-based forestry based on strategic plans that comprehensively evaluate the benefits and impacts of future projects. Solid investments are needed to ensure all national forest plans are updated as soon as possible under the 2012 planning regulations, which include climate considerations and need to be supported by rigorous inventory and monitoring.

Forest Health

Protects forests and minimizes impacts caused by invasive species, which are damaging forest health. These programs help reduce invasive species that destroy iconic American trees such as ash, hemlock, and California oaks. Funding is needed to develop treatments on all federal forests (including Interior, Tribal, and Department of Defense lands). Cooperative funding for states is also needed to support rapid and sustained responses to new pest outbreaks.

Forest & Rangeland Research

Fundamental and applied science and rigorous inventory of forests and their functions are absolutely essential for climate adaptation and mitigation efforts. Forest Service Research & Development has for decades provided the scientific basis for forestry and policies that improve the health and quality of urban and rural communities, and the long-term health, productivity, and utility of our American forests, rivers, and habitats. This science is needed more than ever to evaluate best options and priorities for actions that improve climate-informed forest management strategies, to measure the impacts of management, and to help prioritize the investments needed to enhance our forests.

This effort includes the **Forest Inventory and Analysis (FIA)** program, America's rigorous and authoritative forest census, which also produces the scientific analyses of carbon and other necessary values.

Joint Fire Science Program

This applied science program provides competitive research awards and support for a nationwide collection of Fire Science Exchange Consortia essential to better understand climate-driven increases in wildfire impacts. This knowledge improves community and forestry response to manage forests so they continue to provide vital climate mitigation through ecological services. Funding should be added to the Wildland Fire Management account as in the past to reestablish historic funding levels to improve the management of forests and watersheds while protecting communities, water, and air.

Appendix II

Additional Feedback

The following ideas and recommendations either go beyond the scope or are too ambitious for the time frame of this framework. However, these ideas could have significant positive impact on national forests and deserve mention and further exploration, including:

- Explore a wildfire risk reduction fee as a source of funding, similar to that in Washington State (i.e., a fee on insurance policy transactions to fund wildfire risk reduction).
- Explore increasing the frequency of Resource Planning Act required assessments and suggest changes to the authority to increase and clarify climate reporting and evaluation.
- Explore how to incorporate decision-making modeling tools in prioritization of forest land management.
- Explore ideas for more cooperative approaches to wildfire risk sharing across boundaries, including for prescribed burning (e.g., establish cooperative burn and management areas).
- Include, in any climate legislation creating a carbon “offsets” market, public (and private) forests such that emitters can purchase carbon emission reduction credits from projects in other sectors, but ensure projects are verifiable, additional, transparent, and ecologically sound.
- Identify and strengthen the link between national forests and nontraditional industry stakeholders, including insurance companies and utilities, and create a larger role for these sectors in addressing climate impacts.
- Develop and implement climate pilot projects across the National Forest System that can demonstrate leading-edge climate adaptation and mitigation methods.
- Update other existing land management policies to incorporate emphasis on climate.