



## Key Principles

- **Strive for optimization, not maximization, of carbon.** Strategies focused strictly on enhancing carbon sequestration (e.g., converting habitat to plantations of rapid-growing tree species) may run counter to other important ecological and social values, including biodiversity conservation. To account for trade-offs between carbon management and biodiversity conservation, prioritize strategies that achieve both climate mitigation and ecosystem resilience.
- **Avoid conversion of forests to other uses.** Protecting and restoring existing forests, including via strategies that support complex systems and diverse patchworks of old growth and young trees, are especially useful in optimizing carbon removal and storage. Such strategies also provide a range of additional ecosystem services.<sup>3</sup>
- **Increase reforestation of historically forested areas.** Aggressively scaling up reforestation in historically forested areas is one of the best ways to enhance carbon sequestration and support other important ecosystem services. Reforestation strategies should strive to support habitat complexity (rather than monoculture plantations) and should account for long-term climate trajectories and other ecological concerns (such as the potential for introducing invasive species).<sup>4</sup>
- **Focus afforestation efforts on severely degraded lands.** Afforestation (i.e., planting trees in areas not historically in forest cover) can contribute to meeting carbon goals when implemented carefully. Afforestation efforts should focus on severely degraded lands, such as brownfields and mined lands, that do not border remaining naturally treeless systems such as native grasslands and shrublands, which also sequester carbon and support a range of important social and ecological values. Carbon sequestration efforts on other altered lands (e.g., farmland or pasture) should focus on restoring ecologically appropriate habitat types.
- **Implement climate-smart management of the nation's forests to enhance the capacity of these systems to sequester carbon over the long term.** In particular, managers should implement strategies to restore natural patterns of fire and other processes and manage changing intensity and frequency of fires, disease, and insect infestations due to climate change. While some strategies, such as strategic thinning and the use of prescribed burns, may release some carbon in the near term, they can enhance forest health and resilience and support long-term sequestration and storage of carbon.<sup>5,6</sup>

(continued inside)



## Policy Recommendations for Private Forests

**Incentivize private forest management for ecologically appropriate carbon storage by creating a new, transferable tax credit.**

**Include climate-informed, ecologically appropriate forest restoration and management programming in allocation of revenues from any carbon pricing legislation.**

**Include forests in any climate legislation creating a carbon “offsets” market that pairs negative emission strategies with comparable carbon emissions made elsewhere.** Encourage inclusion of forests in any market where emitters can purchase carbon reduction credits from projects in other sectors, but ensure projects are verifiable, additional, transparent, permanent, and ecologically sound. Plus, ensure offsets do not allow increased environmental degradation by emitters.

**Significantly increase mandatory funding for the USFS Healthy Forests Reserve, Urban and Community Forestry, and State and Private Forestry Programs.**

**Support developing markets for long-lived wood products through:**

- Increased research and development into long-lived wood products;
- Increased funding for USFS's Wood Innovation Grant program to accelerate development of new products, conduct independent lifecycle carbon accounting (LCA) analyses, and develop markets for new, long-lived wood products that have net benefits to the climate. Direct USFS to limit the program to long-lived wood products that reduce greenhouse gases within the timeframe needed to address global warming (less than 20 years);
- Offer tax credits for use of new, long lived wood products with LCAs that show a certain level of improvement in GHG emissions over materials being

replaced when considered over a 20-year timeframe (i.e., mass timber over steel in construction of tall buildings); and

- Use the bio-preferred program and funding for pilot programs to incentivize use of new, long-lived, GHG-beneficial wood products in government buildings and offer grant preferences to federal funding recipients that utilize these products.

**Improve forest health by increasing funding for research into forest diseases, pests, and non-target impacts from agricultural chemicals,** such as Dicamba and 2-4D.

**Develop a bottomland hardwood forest restoration program** that offers a retirement option for frequently flooded croplands that would put the lands in a permanent easement and restore them to hardwoods.



*The National Wildlife Federation supports natural climate solutions as part of a broader set of policies and programs that reduce anthropogenic greenhouse gas emissions and enhance climate adaptation for natural and human systems. The National Wildlife Federation has produced the Natural Climate Solutions Federal Policy Platform to lay out recommendations to swiftly scale up natural climate solutions, for both climate mitigation and climate resilience. Recommendations are structured around several analytical categories based on land or habitat type. The solutions offer benefits for the climate, local environments, communities, wildlife, and job creation.*

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- FORESTS -

# Natural Climate Solutions

## A Federal Policy Platform of the National Wildlife Federation

Natural climate solutions are critical to the success of any climate change policy. These solutions can enhance the health of our soils and ecosystems, conserving forests, watersheds, grasslands, farmlands, and more—all while reducing emissions and boosting the resilience of communities across America.

Forests and other wooded areas represent perhaps the best opportunity to remove carbon from the atmosphere quickly,

reliably, and relatively cheaply. In 2017, the combination of forest land, harvested wood products, and urban trees in the United States accounted for an estimated net uptake of 730.9 million metric tons of carbon dioxide equivalent (MMT CO<sub>2</sub> eq.).<sup>1</sup> Between 1990 and 2017, “forest land remaining forest land” was the nation’s largest net sink, and conversions of forest land were the largest source of land-based emissions.<sup>2</sup> However, these benefits depend on careful policy and program design and implementation.





## Key Principles *(continued)*

- **Consider mutually beneficial harvest and carbon sequestration opportunities.** Supporting markets for sustainably sourced, long-lived wood products can help incentivize keeping forest land forested. Forest management practices should also focus on enhancing harvest and processing efficiency.<sup>7</sup>
- **Prevent conversion of natural forests to intensively managed plantations.** Intensively managed plantations do not achieve the carbon storage potential of natural forests (with an estimated 28 percent lower total carbon stock).<sup>8</sup> Additionally, they have greatly reduced wildlife and biodiversity values. Preventing the conversion of remaining natural forest areas to plantations is critical to maintaining forest carbon stocks.
- **Increase investments and application of agroforestry practices in appropriate landscapes.** Agroforestry refers to the incorporation of trees into agricultural landscapes, and can provide an effective way of increasing carbon on farms and pastures located in historically forested regions, while providing other important ecosystem services (e.g., riparian buffers, windbreaks, and pollinator habitat).<sup>9</sup> This practice is not generally appropriate on naturally treeless landscapes, as it can fragment remaining habitat and reduce populations of declining grassland bird species.
- **Increase investment in urban forestry.** Urban trees in the United States store an estimated 643 million metric tons of carbon, and they currently sequester an estimated 25.6 million tons annually.<sup>10</sup> Urban forests also provide a range of additional ecosystem services, including reducing energy use during heat waves, absorbing stormwater, and providing habitat for wildlife. Strategies to enhance urban forests should prioritize use of climate-resilient, non-invasive tree species.

## Policy Recommendations for National Forests

**Increase the pace and scale of climate informed, ecologically appropriate forest restoration on national forests** in ways that provide benefits for carbon sequestration, wildlife, water, resilience, and public safety.

**Increase the U.S. Forest Service (USFS) budget for proactive and climate-informed restoration and management activities**, particularly now that there is a wildfire-funding fix in place, which should reduce the practice of drawing from such proactive funding accounts to pay for wildfire response.

**Increase mandatory funding levels for the USFS Reforestation Trust Fund** to prioritize reforestation and restoration.

**Provide additional resources for USFS to accelerate the timetable for revising national forest plans under the 2012 forest planning rule**, which incorporates elements of climate resilience. Direct USFS to finalize and issue guidance for applying key components of the planning rule to encourage full consideration of climate mitigation and adaptation in these plans.

**Increase opportunities and incentives for the use of prescribed fire in restoring forest health and reducing extreme fire events;** identify policy mechanisms for better coordination on smoke management with respect to Clean Air Act compliance.

**Protect bedrock environmental authorities (e.g., Endangered Species Act, Clean Water Act, National Environmental Policy Act) and their application for forest management and restoration.**

**Create incentives for investing nonfederal funding in climate-smart forest management.** Innovative conservation finance offers a potentially significant source of funding to complement more limited congressional dollars. Policies would include establishing a restoration fund for non-federal matching contributions, promoting sourcewater fund models, and supporting capital impact investment.

**Build on the existing Forest Inventory and Analysis program to fund the design of an advanced forest carbon monitoring system within USFS** to monitor carbon enhancing activities, increase statistical sampling of stored carbon in select projects, and estimate ecosystem carbon storage averages that include regular use of remote sensing data.

### Citations

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