# Natural Climate Solutions
## A Federal Policy Platform of the National Wildlife Federation

**N**atural 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. Oceans and coastal ecosystems play a valuable role in mitigating climate change, particularly through the ability of wetlands, mangroves, and seagrasses to capture and store carbon, as well as buffer the effects of sea-level rise and increasingly severe storms. These repositories of "blue carbon" sequester more carbon per unit area than forests, and store carbon for a longer period of time.[1] Therefore, maintenance and enhancement of these ecosystems are a critical part of a successful climate strategy—for mitigation, climate adaptation, and community resilience objectives.

## Key Principles

• **Coastal and marine systems are a major part of the climate solution.** Protection of existing coastal and marine ecosystems—specifically mangroves, seagrass, and salt marshes—offers the best opportunities for carbon mitigation and broader adaptation co-benefits. In particular, resource managers should implement strategies to enhance the resilience of these habitats to sea-level rise and coastal storms, which can result in habitat loss and subsequent carbon losses.

• **Habitat protection is more effective as a carbon sink, but habitat restoration and creation are also important.** Existing healthy habitat has greater carbon sequestration and storage capacity than degraded or lost habitat that has been restored. In addition, as habitat is lost or degraded, it can release stored carbon and methane back into the atmosphere.

• **Prioritize blue carbon solutions that offer sustained atmospheric carbon dioxide removal benefits.** Investing in coastal ecosystem restoration to ensure blue carbon habitats persist and remain resilient in the face of future threats will likely result in long-term carbon removal benefits.

# Policy Recommendations

**Invest in planning and construction of ecosystem restoration and protection projects, including blue carbon ecosystems, to mitigate the impacts of climate change, promote community resilience, and allow wildlife to thrive.** Many iconic ecosystems around the nation, including but not limited to the Everglades, Mississippi River Delta, the Great Lakes, the Chesapeake Bay, and the Delaware River Watershed have associated restoration plans or opportunities that should be better resourced to expedite recovery. Many of these iconic ecosystems absorb and store carbon and serve as the first line of defense against climate-fueled storms and flooding for surrounding communities. These special places are also nationally significant hubs of tourism, and many support and protect other critical industries including fisheries, shipping, and energy production. Restoration implementation also supports $25 billion in economic activity that directly employs 126,000 people and supports 95,000 other jobs, mostly in small businesses.[2]

**Support creative finance opportunities.** To increase investments in conservation and restoration of blue carbon ecosystems, innovative finance opportunities and public-private partnerships should be explored, such as insurance, debt swaps, taxes, and credits. Ecosystem restoration and natural infrastructure investments should be focused in the most vulnerable areas that are sensitive to natural and human threats, including where salt marshes, mangroves, and seagrass beds are currently healthy and functioning but are facing future disturbance threats such as development.

**Fund research into the carbon removal benefits of blue carbon ecosystems.** Additional research is needed to develop a more comprehensive understanding of carbon fluxes, assess existing blue carbon sinks, and fill research gaps—particularly in blue carbon hotspots identified by scientists, such as the Gulf of Mexico. Similarly, improved methods of accounting for carbon storage and sequestration fluxes would enable the integration of all blue carbon sources (not just wetlands) in Environmental Protection Agency and local greenhouse gas inventories.

## Citations

1. National Academies of Sciences, Engineering, and Medicine. 2017. *Coastal Blue Carbon Approaches for Carbon Dioxide Removal and Reliable Sequestration: Proceedings of a Workshop—in Brief*. Washington, DC: The National Academies Press. doi.org/10.17226/24965.

2. BenDor, T., T.W. Lester, A. Livengood, A. Davis, and L. Yanavjak. 2015. Estimating the size and impact of the ecological restoration economy. *PLoS ONE* 10(6): e0128339. doi.org/10.1371/journal.pone.0128339.

*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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