

Appalachian Landscapes Protection Fund Forest Carbon Resource Guide *(July 2023)*

Introduction

Forest conservation is critical to addressing climate change and a key tool for carbon mitigation. The Open Space Institute (OSI) compiled this forest carbon resource guide for applicants to the [Appalachian Landscapes Protection Fund](#) (ALPF), as well as others interested in protecting forest carbon and increasing carbon sequestration on the lands they steward. In this guide you will find resources that address:

- Stewardship for Forest Carbon
- Available Forest Carbon Data
- Forest Carbon Offset Programs

This document is a work in progress that focuses primarily on resources relevant to the ALPF Focus Areas. *We welcome your comments and suggestions for resources to add to this guide.*

Forest Carbon Stewardship

OSI requires projects funded through the ALPF to have an [easement and stewardship plan](#) that will maintain or increase carbon storage and sequestration through either passive or active management. There are many ways to achieve this goal. The specific practices appropriate for any particular project will vary by region, forest type, and site conditions. We also recognize that landowners who are managing for long-term forest health may already be protecting and enhancing forest carbon.

The following section includes references that can help conservation organizations and grant applicants craft stewardship plans that protect forest carbon.

[Meeting the Challenge of Climate Change: How Land Trusts, Policymakers, and Public Agencies Can Achieve Carbon Goals through Strategic Forestland Protection.](#)

Open Space Institute, American Forests, The Nature Conservancy, and the Land Trust Alliance

This brief, aimed at helping practitioners and policymakers address climate change through strategic forest protection, offers background information and a framework for selection, completion, and management of land protection projects for the successful capture and storage of carbon.

Practitioner's Menu of Adaptation Strategies and Approaches for Forest Carbon Management

Northern Institute of Applied Climate Science

The Practitioner's Menu is a guide for forest managers that offers a flexible set of approaches to maintain or enhance carbon stocks and sequester carbon. The practices outlined in the Menu are based on principles appropriate in a range of geographic settings, and that land managers can adapt to local site conditions.

Dibaginjigaadeg Anishinaabe Ezhitwaad - A Tribal Climate Adaptation Menu

Great Lakes Indian Fish and Wildlife Commission

The Tribal Climate Adaptation Menu offers principles, strategies, and actions to bring Indigenous knowledge into the process of planning for climate adaptation. The Menu was developed around Ojibwe and Menominee perspectives by a team representing tribal, academic, intertribal and government entities in Minnesota, Wisconsin, and Michigan. However, the authors intended for the resource to be adaptable to other Indigenous communities based on local knowledge and culture. Though this resource is focused on climate adaptation, many of the practices are consistent with management to maintain and enhance forest carbon.

Caring for your Woods - Managing for Forest Carbon

Massachusetts Department of Conservation and Recreation

This guide details considerations for managing forests for carbon and is designed to equip landowners with the information they need to discuss management options with foresters.

Forest Carbon - An Essential Natural Solution for Climate Change

University of Massachusetts and University of Vermont

A primer on forest carbon for landowners and stewards on the impacts and tradeoffs of various land use and management decisions on carbon storage and sequestration.

Healthy Forests for Our Future: A Management Guide to Increase Carbon Storage in Northeast Forests

The Nature Conservancy and Northern Institute of Applied Climate Science

This publication provides detailed guidance on ten "climate-smart" forest management practices to maintain or increase carbon and enhance resilience as the climate changes. The featured practices are tailored for hardwood and oak-hickory forests in New England and New York. The guide offers a robust list of additional resources and information on potential funding sources.

12 Steps for Climate Resilience: Managing Your Forest With Climate Change in Mind

Vermont Woodlands Association, Tree Farm Program, Vermont Forests, Parks and Recreation, and UVM Extension.

This publication, funded through an OSI catalyst climate grant, is designed for forest landowners and their foresters offers practical guidance for addressing climate vulnerabilities and increasing forest resilience. The guide includes links to Vermont-specific programs and resources as well as tools and information relevant to the Northeast region.

Securing Northeast Forest Carbon Program

The Securing Northeast Forest Carbon Program is a cooperative effort led by State forestry offices in Connecticut, Maine, Massachusetts, New Hampshire, New York, and Vermont to encourage forest landowners to secure their forest carbon through smart management, conservation easements, carbon market sales, and other strategies. The website contains many resources on managing forests for carbon storage and sequestration, including a [guide on adding carbon considerations to forest management plans](#).

Forest Carbon Data

A number of free, publicly available carbon datasets are useful for understanding how much carbon a property currently stores, how much additional carbon could be sequestered in the coming years, and the risks of carbon loss. All of these factors are important to consider when developing a stewardship plan to maintain or increase carbon storage. The online tools described below make these data readily available.

Resilient Land Mapping Tool

The Nature Conservancy

This tool lets users view The Nature Conservancy's climate resilience analysis results as well as forest and soil carbon estimates across the lower 48 U.S. states. Data are displayed at the 30-meter scale. The site allows the user to upload a parcel or draw a polygon to calculate total carbon stored based on estimates for 2010 and 2050. [The data were developed](#) by Dr. Christopher Williams at Clark University based on U.S. Forest Service Forest Inventory and Analysis (FIA) data and models. *Note that this tool supplies the data OSI uses to evaluate ALPF proposals.*

Six Simple Steps: Evaluate the Contribution of Your Land Protection Project to a Low Carbon Future

Open Space Institute

This short 'how to' guide walks through a series of steps for using the online tool described above to evaluate how much carbon a forest protection project stores today and how much additional carbon could be sequestered by 2050.

Conservation Carbon Map

The Trust for Public Land and American Forests

This tool uses modeled forest carbon data developed by Clark University and runs on a simple web platform that allows users to view carbon stocks at the county, state, and national scale. The analysis can be further broken down by where the carbon is stored and by ownership types. In addition, users can analyze threats to carbon loss and potential co-benefits and analyze a specific project by uploading a parcel or drawing a polygon. *Note that to access this mapping tool, users are required to create a free user account.*

Forest Carbon Offset Projects

Selling carbon credits to offset additional emissions from polluters may be compatible with an ALPF grant. The following resources are useful for finding programs to support carbon credit sales on small to mid-sized projects and in understanding how market sales can successfully align with permanent protection. *Note that not all carbon offset projects meet the ALPF stewardship requirements.*

Carbon Offsets in Conservation Easements: The Essentials for Land Trusts

Land Trust Alliance

This report provides detailed guidance for land trusts on drafting conservation easements that are compatible with the development of carbon offset projects. We summarize a few key considerations here but strongly suggest consulting the full document and/or a carbon offset developer to discuss a specific project. *Please note that the Land Trust Alliance charges non-members for this publication. OSI will cover the cost of this document for applicants to OSI's ALPF if needed.*

- *Clearly assign ownership:* To avoid ambiguity and potential conflict, the conservation easement, or a separate legally binding agreement, should define who owns the carbon stocks on the property and the rights to any carbon credits generated.
- *Timing:* Getting the timing of the conservation easement (or fee purchase) and the carbon offset project right is essential to be sure that the land is still eligible for both.
- *Study offset program requirements:* If the landowner is considering registering a project with a carbon-crediting program in the future, the easement should be drafted with

awareness of the protocol requirements to avoid potential conflicts. Easement drafters should carefully consider how restrictions within the easement may impact future carbon deals. *Note that not all carbon offset projects satisfy the ALPF's stewardship requirements; consult with your field coordinator prior to submitting an application.*

- *No double dipping:* Although landowners can be compensated for protecting their land *and* for selling carbon rights, funders (including OSI) and carbon crediting programs may need assurance that landowners are not paid twice for the same action. The landowner should, therefore, account for any harvesting restrictions contained in their conservation easement when calculating carbon credits and should disclose compensation being received for carbon credits.

Carbon Market Assistance Programs

Compiled by Open Space Institute

For many landowners, cost, complexity, and acreage requirements have long posed barriers to entry into carbon offset markets. Several programs in the U.S. seek to overcome these challenges by providing landowners with the direct support and technical assistance needed to access carbon markets and generate forest carbon offsets. This guide summarizes a selection of these carbon market assistance programs designed to meet the needs of landowners with varied land holdings and objectives. For more information about any of the programs listed we encourage you to visit the linked websites and contact a program representative. Note that 20- or 40-year carbon programs are unlikely to satisfy stewardship requirements of the ALPF and further protections are likely necessary.