

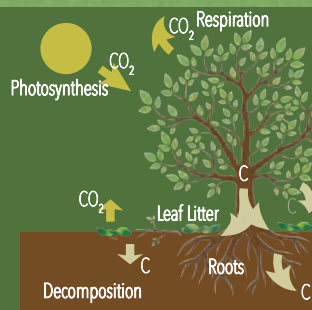
How Can Family Forests Help Mitigate Climate Change?

1. Our Vermont forests play a critical role in combatting climate change by absorbing (sequestering) carbon from the atmosphere and storing it in branches, trunks and roots and in the soil. Look out across the forest in your town to see a large carbon sink where carbon is sequestered through photosynthesis in leaves and stored throughout the tree and soil. This process prevents carbon from entering our atmosphere where it is stored for hundreds of years, contributing to the ever-growing threat of climate change.

2. Sequestration occurs through **photosynthesis**, the essential life-giving process by which green plants use sunlight to synthesize foods and oxygen from carbon dioxide and water.



3. The **carbon cycle** is the process of carbon atoms continually traveling from the atmosphere to the Earth and back into the atmosphere.



4. **Where is Carbon Stored in a Forest?**
In FOREST CARBON POOLS

There are five types of Forest Carbon Pools

- A. Live Above Ground (trees, shrubs, plants)
- B. Live Below Ground (roots)
- C. Deadwood (dead trees, logs)
- D. Litter (leaves, needles, branches)
- E. Soil & Organic Matter (plant material, insects)

5. **Carbon Sequestration & Storage**

CARBON POOL
PART OF THE FOREST THAT STORES CARBON AND CAN ACCUMULATE OR LOSE CARBON OVER TIME.

There are two basic aspects to a carbon pool. Each has a specific meaning and reaches its maximum level at different times.

CARBON SEQUESTRATION:
The process of removing carbon from the atmosphere for use in photosynthesis, resulting in the maintenance and growth of plants and trees.

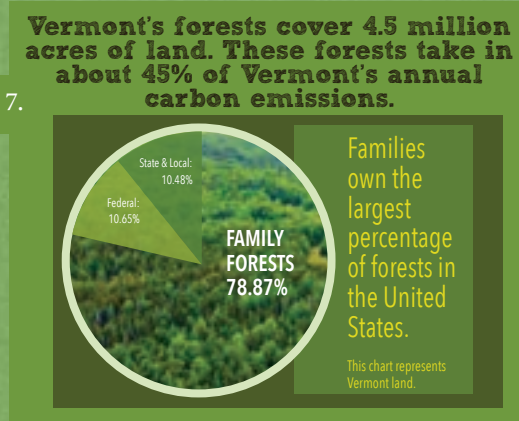
CARBON STORAGE:
The amount of carbon that is retained in a carbon pool within the forest.

6. **Facts About Carbon in Vermont**

Vermont forests absorb more carbon than they emit, meaning they are a carbon sink. They store 461 million metric tons of carbon (MtC) and sequester more than 1.4 million MtC per year.

One person emits 2.67 MtC annually.
One car emits 2.45 MtC per year.

Note: One metric ton of Carbon (MtC) is equivalent to 3.67 metric tons of CO₂



8. **How Can I Pursue Carbon Sequestration and Climate Change Mitigation in My Forest?**

There are several paths to enhance carbon sequestration on your land.

First...
Contact your Vermont County Foresters and/or consulting forester to indicate your interests.

Second...
Review the two brief reports to the left to acquire more background.
You can scan their QR codes to read them. Additional resources are also listed in Box 9.

Finally...
Scan the practices below to identify ones that may be most applicable to your land. These are explained in the report *Healthy Forests for Our Future*.

9. **Resources**

Find the Following Resources at Northam Forest Carbon www.northamforestcarbon.com

1. *Forest Carbon for Landowners* by Vermont Agency of Natural Resources
2. *What is Forest Carbon?* by Vermont Agency of Natural Resources
3. *Forest Carbon Markets for Vermont Landowners* by Vermont Agency of Natural Resources
4. *Forest Carbon Management Menu: a resource for identifying mitigation and adaptation practices* by US Department of Agriculture



For more information on carbon sequestration and storage and your property, please contact:
Sustainable Woodstock: www.sustainablewoodstock.org

- 10.
- PROTECT FORESTS**
Avoid forest loss
 - GROW NEW TREES & FORESTS**
Reforest
 - REDUCE STRESSORS**
Remove invasive vegetation
Protect plants from deer
 - MANAGE FORESTS**
Increase time between harvests
Establish forest reserves
Retain carbon when thinning