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Introduction to Forest Carbon Credits & Programs

A brief introduction to the system of carbon crediting, the programs available to landowners, & the process to enroll

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Sustainable & Comprehensive Forest Management

Outline

- Introduction to Heritage Habitat & Forestry
 - Personal Background
- The Carbon Cycle (brief)
- Ways Industries Mitigate CO2 (in our scope)
- Introduction to Forest Carbon Crediting
 - Types of forest carbon projects
- Carbon marketplaces
 - Carbon registries
- Small landowner involvement
- Decisions for Landowners
- Critiques of Carbon Credits
- Moving Forward
 - Our Expertise
- Works Cited & Addt'l Resources

Heritage Habitat & Forestry

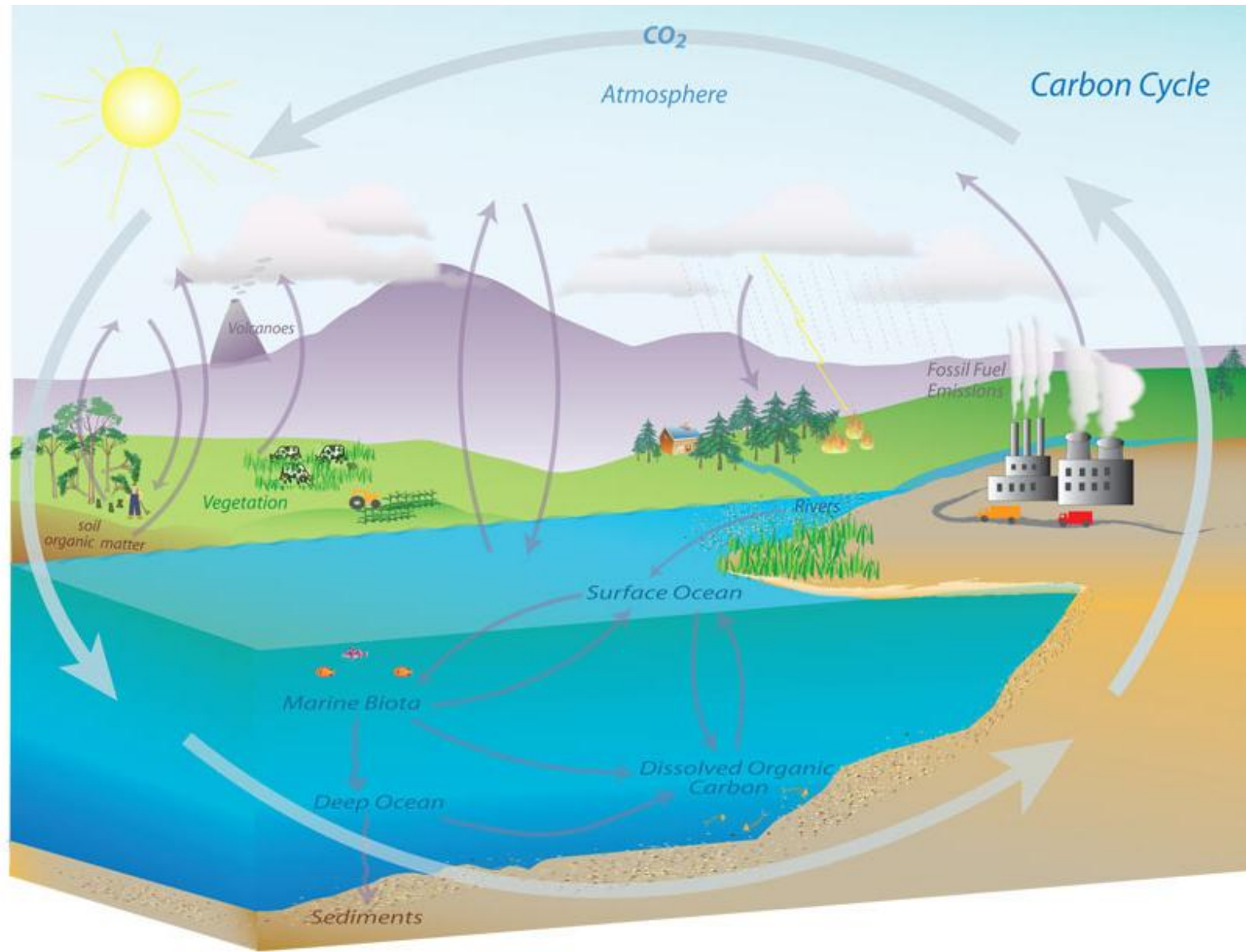
- Sustainable & Comprehensive Forest Management
- Serving landowners throughout Appalachia & the Midwest
 - Offices in Ohio, Pennsylvania, & West Virginia
 - Experience in 18 states & counting!
- Most popular services
 - Forest management plans
 - Ohio Forest Tax Law, Ohio CAUV, West Virginia Managed Timberland, West Virginia Stewardship Program, NRCS EQIP Forest Management Plans (CPA106)
 - Forest carbon consulting
 - Timber sale administration

Mission Statement

To wisely manage, conserve, and utilize our shared natural resources for the benefit of not only economic returns but also to the perpetual existence of our forests and the life within them using scientifically-based and ecologically-sound forest and habitat management principles.

Personal Background

- Anthony F. Pappas, Owner & Lead Consultant
 - Graduated West Virginia University, 2016 – Forest Resources Management
 - Worked in both private & public forest management industry
 - Certified Forester – Society of American Foresters
 - Registered Professional Forester – Arkansas & West Virginia
 - Also consult in Ohio & Pennsylvania, but those states do not have a licensing program
 - NRCS Technical Service Provider (TSP)
- Founded Heritage Habitat & Forestry in 2020
- Memberships
 - Society of American Foresters
 - Ohio Forestry Association
 - West Virginia Forestry Association
 - West Virginia Deer Association
 - Ducks Unlimited



<https://www.noaa.gov/education/resource-collections/climate/carbon-cycle>

Image: The carbon cycle (NOAA)

Heritage Habitat & Forestry - HeritageHabitatCo.com

Ways Industries Mitigate CO2

- Relevant to our discussion on forest carbon crediting:
 - Improve carbon-capture technology
 - Invest in renewable energy sources
 - Engineer most energy-efficient materials/processes
 - Buy/sell carbon credits

Additional reading:

<https://www.c2es.org/content/regulating-industrial-sector-carbon-emissions/>



How Carbon Sequestration and Offset Credits Work

Trees remove CO₂ from the atmosphere through photosynthesis

CO₂

Plant respiration

Humification and mineralization of carbon in soil

Carbon stored in soil

Carbon Credits

Landowners earn credits for carbon stored on their property

Corporations purchase credits from landowners to offset their emissions

\$

Types of Forest Carbon Offset Projects

Improved Forest Management (IFM)

- “Quantifying the greenhouse gas removals generated from preventing logging of forests that would have been logged in the absence of purchasing the forestry carbon credit.”

Avoided Conversion (AC)

- “Preventing the loss of existing forests to nonforest use by protecting or enhancing the forest cover.”

Afforestation/Reforestation (A/R)

- “Creating forests on land that was previously un-forested, restoring forests on land that was once forested.”

Descriptions: <https://www.arboday.org/carbon/project-types.cfm>

Carbon Credit Marketplaces

- Compliance
 - Global government-mandated cap-and-trade program
 - California Air Resources Board ([CARB](#))
 - Accounts for large amount of US compliance carbon programs
 - Regulates industry in California
 - Industry can purchase non-CA forest carbon credits
 - Leads to carbon projects nationwide
- Voluntary
 - Companies and/or individuals purchase or sell credits for voluntary purposes
 - “[Net-zero emissions](#)”, “100% offset”, and other marketing slogans
 - Typically, corporate goals are set to reduce carbon footprint

Carbon Credit Registries

- Three common registries develop their own internal protocols to quantitatively and qualitatively register and track carbon credits
 - Each registry has own unique protocols, leading to differences in credit pricing, quality, etc.
 1. American Carbon Registry ([ACR](#))
 2. Climate Action Reserve ([CAR](#))
 3. Verified Carbon Standard/Verra ([VCS](#))

Small Forest Landowner Involvement

- Programs discussed tailored for woodland owners with less than 5,000 forested acres

Large Landowner Forest Carbon Companies

Landowners greater than 5,000 acres



- Programs vary from no acreage requirement to 40 wooded acres
- Landowners get pooled (aggregated), and sold in “clumps” to purchasers
- Landowner may be agreeing to several things, including:
 - Growing your timber longer and larger over time period
 - Deferring timber harvesting
 - Planting trees
 - Combination thereof

Decisions for

SUBSEQUENT ENROLLMENTS OF PROJECT INSTANCES

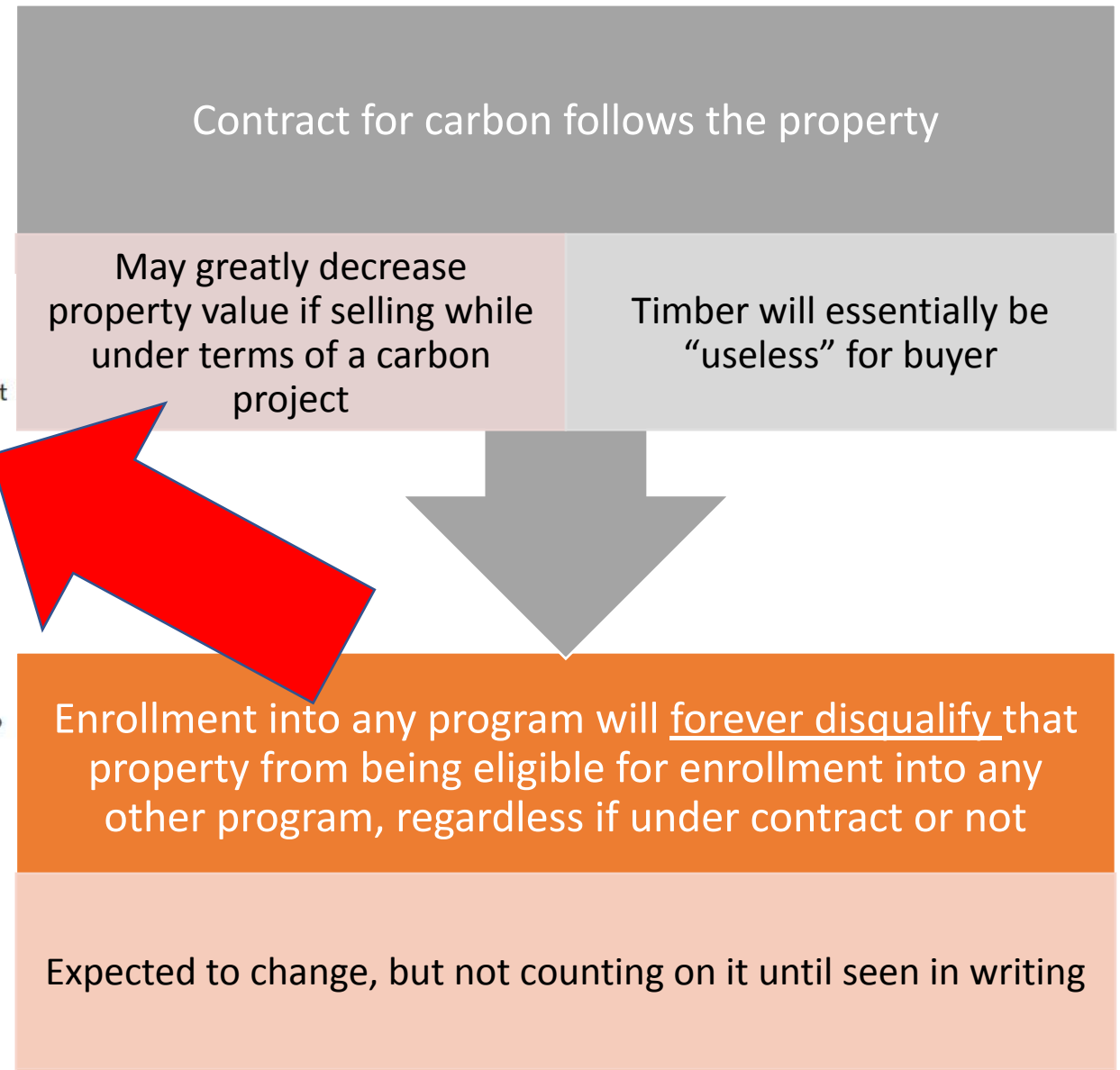
Landowners (e.g., farmers and family foresters) participating in grouped projects or non-grouped projects with multiple project activity instances want the flexibility to exit one project and enroll in another at a future date. In the absence of such flexibility, some are hesitant to enroll in a carbon project due to concerns that future eligibility to participate in another project being compromised.

In the immediate term, Verra will not allow landowners (e.g., farmers and family foresters) participating in grouped projects or non-grouped projects with multiple project activity instances to exit one project and enroll in another at a future date (subsequent project instance enrollments). Instead, Verra has begun drafting a plan to allow transfers; the new rules are tentatively scheduled to take effect in Q4 2024.

Forest Carbon Works:

Landowners may not enroll property that was previously listed as a verified forest carbon project.

If the property was previously included in a verified forest carbon project, such as through the now defunct Chicago Climate Exchange (CCX), then that property is not eligible for Membership with Forest Carbon Works. If you have signed a contract for a one-year harvest deferral program but have not yet been paid, check with your Membership Advisor to see if there is a pathway forward for your property.



Decisions for Landowners (cont.)

What is your “ownership strategy”?

- Short-term property
- Legacy property
- Unknown

What is your current forest condition?

- If needing harvest for sustainability and forest health, a harvest will be recommended

What does carbon credit research tell you?

- Relatively new market, should we enter now, or wait?

Landowner still maintains timber rights

- Landowner must legally be allowed to harvest timber, i.e., no preexisting encumbrances limiting or otherwise hampering landowner’s ability to cut trees

Critiques of Carbon Credits

- The Hidden Disequities of Carbon Trading: Carbon Emissions, Air Toxics, and Environmental Justice
 - <https://www.frontiersin.org/articles/10.3389/fenvs.2020.593014/full>
- Carbon-Credit ‘Fraud’ Assumptions Are Challenged in New Study
 - <https://www.bloomberg.com/news/articles/2022-11-03/carbon-credit-fraud-assumptions-are-challenged-in-new-study>
- Carbon offsets used by major airlines based on flawed system, warn experts
 - <https://www.theguardian.com/environment/2021/may/04/carbon-offsets-used-by-major-airlines-based-on-flawed-system-warn-experts>

Interested in Moving Forward?

- If interested in one or more particular programs, an assessment will need completed
 - Select program assessments are free
 - We can facilitate 3rd-party assessments
- A [quote](#) for your carbon
 - Landowner(s), parcel data, location, phone number, mailing address

Further resources...

Browse through our selection of articles related to forest carbon marketplace, carbon neutrality pledges, and program development and implementation.

Visit our website to learn more!

HeritageHabitatCo.com/forest-carbon-consulting





Our Expertise

- [Forest Carbon Consulting](#)
 - Over 100 carbon consultations under our belt and are proud to be the region's leading forest carbon consultant company
 - We offer our expertise to advise landowners on the available forest carbon programs offered in their area and assist them through the process of enrolling in a forest carbon program

We believe that carbon offsets are an exciting opportunity for landowners to get involved in the emerging carbon credit marketplace and we are committed to helping our clients maximize the benefits of these programs.

If you are a landowner interested in earning income from growing your timber, [contact us](#) today!

Landowner Forest Carbon Project Analysis

Name		Approx. Merchantable Volume	-	Board Feet		
Date				BF/ac		
Acres		Carbon Offer		Total		
State			#DIV/0!	\$/ac		
Program			#DIV/0!	\$/ac/yr		
Term Length			#DIV/0!	\$/BF		
		Comparable Offers		\$/ac	Your Offer	% Difference
				\$/ac/yr	#DIV/0!	#DIV/0!
				\$/BF	#DIV/0!	#DIV/0!
					#DIV/0!	#DIV/0!
Notes						

Works Cited & Additional Sources Summary

- <https://www.noaa.gov/education/resource-collections/climate/carbon-cycle>
- <https://www.c2es.org/content/regulating-industrial-sector-carbon-emissions/>
- <https://www.outdoors.org/resources/amc-outdoors/conservation-and-climate/how-amc-is-fighting-climate-change-through-carbon-credits/>
- <https://www.arboday.org/carbon/project-types.cfm>
- <https://ww2.arb.ca.gov/>
- <https://www.un.org/en/climatechange/net-zero-coalition>
- <https://americancarbonregistry.org/carbon-accounting/verification/verification>
- <https://www.climateactionreserve.org/>
- <https://verra.org/>
- Forestcarbonworks.org
- Familyforestcarbon.org
- Ncx.com
- Workingtrees.com
- <https://verra.org/verra-defers-updates-to-the-vcs-program/>
- <https://ncx.com/learning-hub/response-to-verra-tonne-year-accounting-update/>
- <https://www.frontiersin.org/articles/10.3389/fenvs.2020.593014/full>
- <https://www.theguardian.com/environment/2021/may/04/carbon-offsets-used-by-major-airlines-based-on-flawed-system-warn-experts>



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