

Forest Carbon Programs

Circa 2022

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Forest Carbon Offset Programs

- Overall goals of a forest carbon program
- Terminology/Definitions/Calculations
- Forest carbon supply and demand
- Carbon Programs for Non-Industrial Private Forests (NIPF)-NativState
- What's next and what should I do?
- Questions to consider

Overall Goals of a Forest Carbon Offset Program

- Offset the effects of climate change from excess CO₂ in the atmosphere.
- Quantify and monetize carbon sequestration processes in a forest, through a verified/certified process.
- Encourage responsible forest management and forest establishment, via long term agreements/contracts.
- Attempt to address societies need to “do something” about climate change and other climate related issues.

Terminology/Definitions/Calculations

Carbon credit – a transferable instrument certified by government or private certification bodies to represent an emission reduction of one metric ton of carbon dioxide. (mtCO₂e)

Additionality – the project must generate “additional” GHG reductions or removals, that exceed what would have occurred during a “business as usual” (baseline) forest management scenario.

Permanence – Sequestering CO₂ and other GHG for a long period, if not in perpetuity. Limiting the potential of a carbon project reversal risk.

Leakage – shifting of harvests to other lands, owned by project participants, but not enrolled in the carbon market. There is a possibility that reduced harvests within a program may increase market demand and shift harvests to other landowners, and a crediting deduction is applied to address this possibility.

One mtCO₂e = Carbon weight (C) = tree biomass (green weight) X percentage dry weight X 50% (carbon content is 50% of tree volume) X 3.67 (ratio of C to O atomic weight)

What to Look for in Your Forest Carbon Program

- Approved Methodologies with an accredited Registry – be sure your forest carbon credits are a quality, high-value product.
 - Demand a premium price
- Be sure each issued carbon credit is represented fairly.
 - At the registry, each credit issued represents an eligible metric-ton of CO₂e of additionality (1-for-1).
- Make sure you are paid when the credits are sold, delayed payment schedules erode value to the forest owners.
- Clear and transparent carbon revenue sharing.

Forest Carbon Supply vs. Demand

“Nothing happens until someone sells something”- Henry Ford

- Over-abundant supply of forestland.
 - 10,983,000 acres of private, non-industrial forest land in AR.
 - Pine growth/drain ratio (2019)= 1.6; Hardwood growth/drain ratio (2019)=2.5*
 - Average annual increase (2015-2019) in growing stock –Pine: 11,000,000 tons, Hardwood 9,600,000 tons* (735,714 full log trucks of over-supply)
- Stumpage prices reflect this over-supply and have for the past 10+ years.

*(*Forest Fact Sheet, Arkansas Department of Agriculture-Forestry Division, FLA data)*

Current and Projected Demand Picture

“The value of the global voluntary carbon market has topped \$1 billion in 2021” according to information and analysis group Ecosystem Marketplace.”

PLATTS CARBON CREDIT PRICES



Source: S&P Global Platts

Forest Carbon Programs Offer Economics & Scale

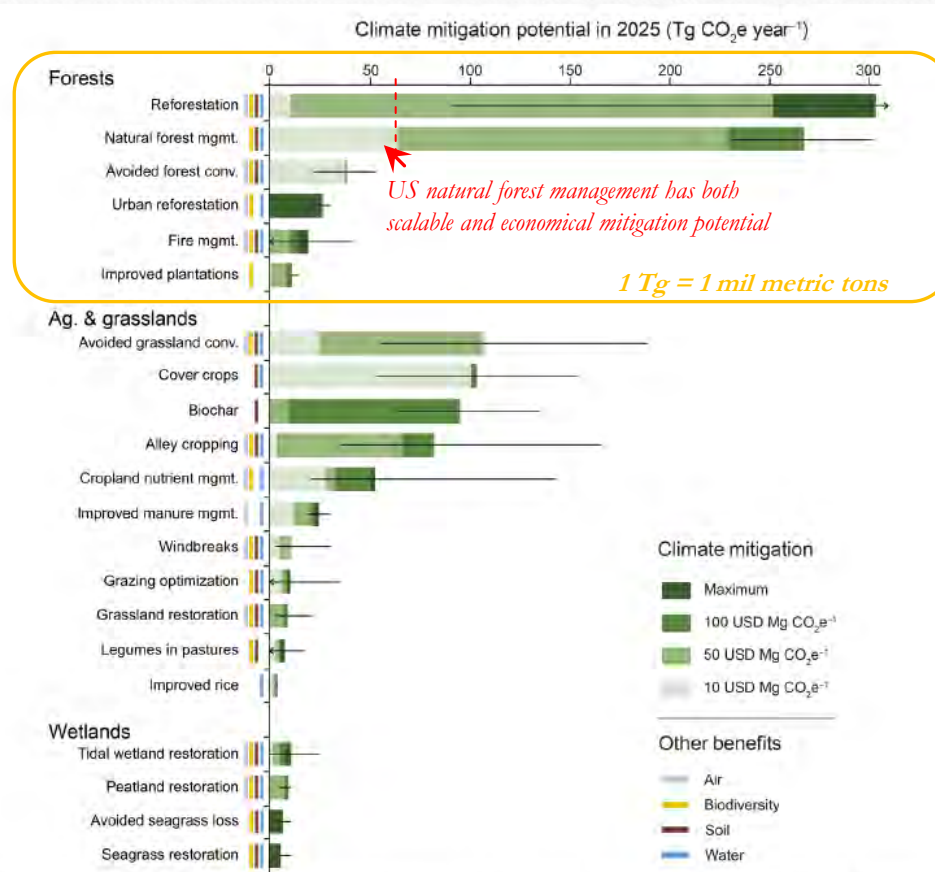


Fig. 1. Climate mitigation potential of 21 NCS in the United States. Black lines indicate the 95% CI or reported range (see table S1). Ecosystem service benefits linked with each NCS are indicated by colored bars for air (filtration), biodiversity (habitat protection or restoration), soil (enrichment), and water (filtration and flood control). See the Supplementary Materials for detailed findings and sources.

What's the demand picture currently?

- Current Voluntary Carbon Credits are supply constrained, buyers > suppliers
- Forest carbon credits demand a premium due to their long-term growing nature and ability to remove carbon, not just avoid emissions. Trees sequester CO2 as they continue to grow.
- Projected demand could increase 100-fold by 2050. (*McKinsey, Jan 29, 2021*)
- Since 2013, demand had increased from 32 MtCO2e to 96.7 by 2020 (*Trove Intelligence, 2021; University College – London*)
- Goldman Sachs estimates that there will be \$2 trillion in cumulative investment into natural carbon sinks by 2030. (*IEA, Goldman Sachs Global Investment Research*)
- Companies ES&G (environmental, social and corporate governance) are addressing carbon footprint:

				
<p>“Significant reallocation of capital to sustainable companies” -Larry Fink</p>	<p>Net Zero by 2050 45% by 2030</p>	<p>Net Zero by 2040 Conserve 50 million acres of Land</p>	<p>Net Zero by 2050 35% by 2028</p>	<p>1st Carbon neutral Oil and Gas Company</p>

FEBRUARY 12, 2021 6:47 AM UPDATED A YEAR AGO

Shell plans show steep curve ahead for carbon offset market

By Reuters Staff

LONDON (Reuters) - Royal Dutch Shell has set forth plans for nature-based carbon offsets, derived from forestry and soil stewardship projects, which outstrip the entire global market in its current form, as do its carbon capture and storage (CCS) capacity aims. Graphic: Shell's carbon offset ambition

Shell's carbon offset ambition

Royal Dutch Shell plans to use nature-based carbon offsets, for example offset credits derived from forestry projects, to make up for greenhouse gas emissions from the hydrocarbon products it sells.



Note: in mln tonnes CO2 equivalent a year

Source: Company, Ecosystem Marketplace

Registry, Credits and Country

Source	Location	Started	First Issued	Type	Total Credits Registered (MtCO ₂ e)	Offsets (%)	Countries
Verra	Washington DC	2007	N/A	Voluntary	291 (annual)	- Ag, Forestry & other , 31%	India – 25% China – 24% Indonesia – 5%
American Carbon Registry (ACR)	Arlington VA	1996	2002 (earliest vintage 1998)	Voluntary	194 (lifetime)	- Forest carbon, 82%	U.S. – 97% Brazil – 2.5%
Gold Standard	Geneva Switzerland	2003	2020	Voluntary	182 (lifetime)	- Other, includes forestry 15%	Turkey 25% India 14% China 14%
Climate Action Reserve	Los Angeles CA	2001	2005	Voluntary	166 (lifetime)	- Forestry 50%	U.S. 99.8%
Carbon Plan	CA	2020	2020	Voluntary	171 (lifetime)	- Forests 62%	U.S. 48% Australia 6% Philippines 6%

Current Carbon Programs operating in the South



www.bluesource.com

FiniteCarbon

www.finitecarbon.com



NATIVSTATE

www.NativState.com



www.NCX.com



NATIVSTATE

General Information

March 2022



Our Mission

To bring economics and scale to environmental stewardship for generations by investing in the communities in which we live and work.





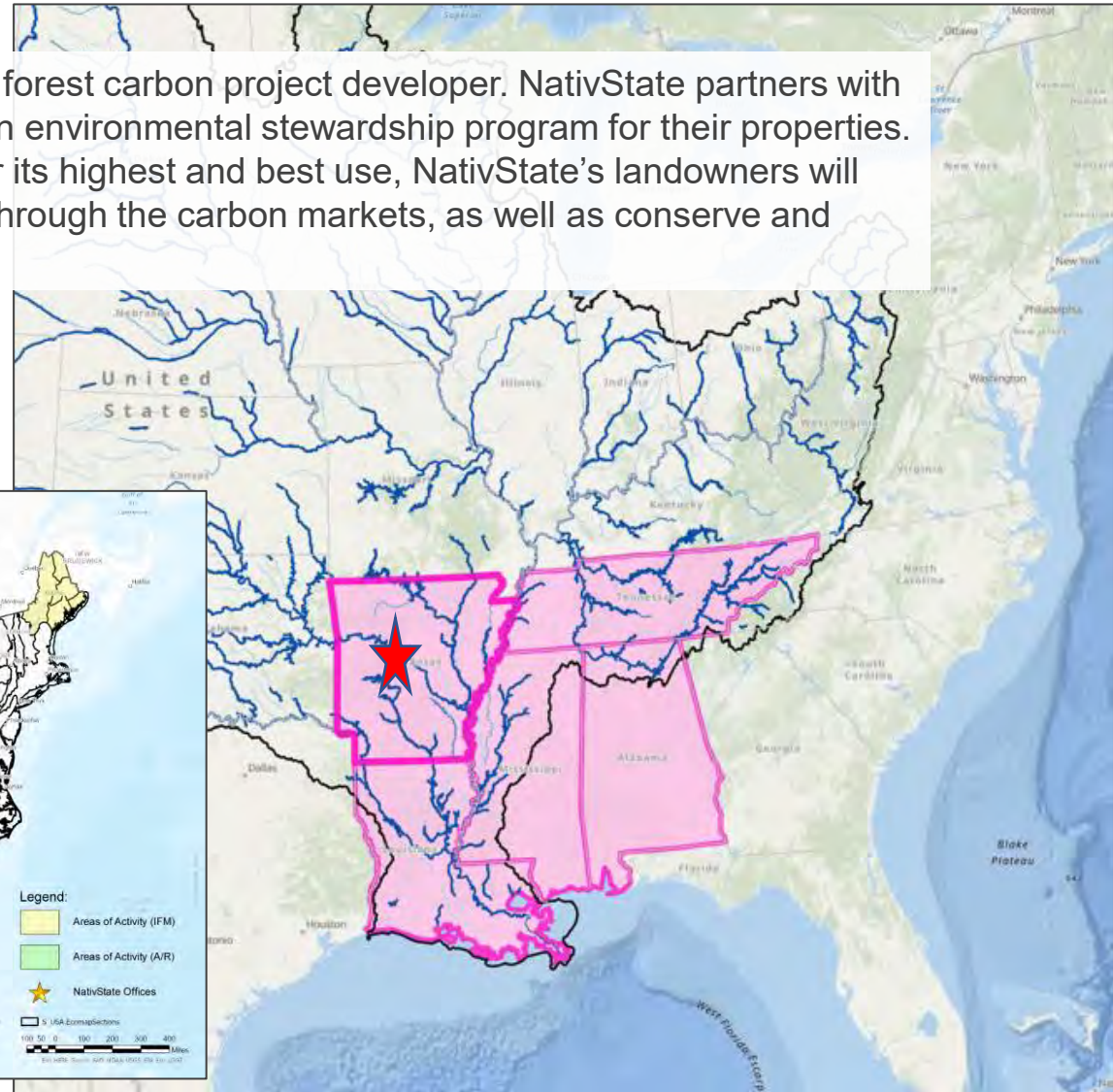
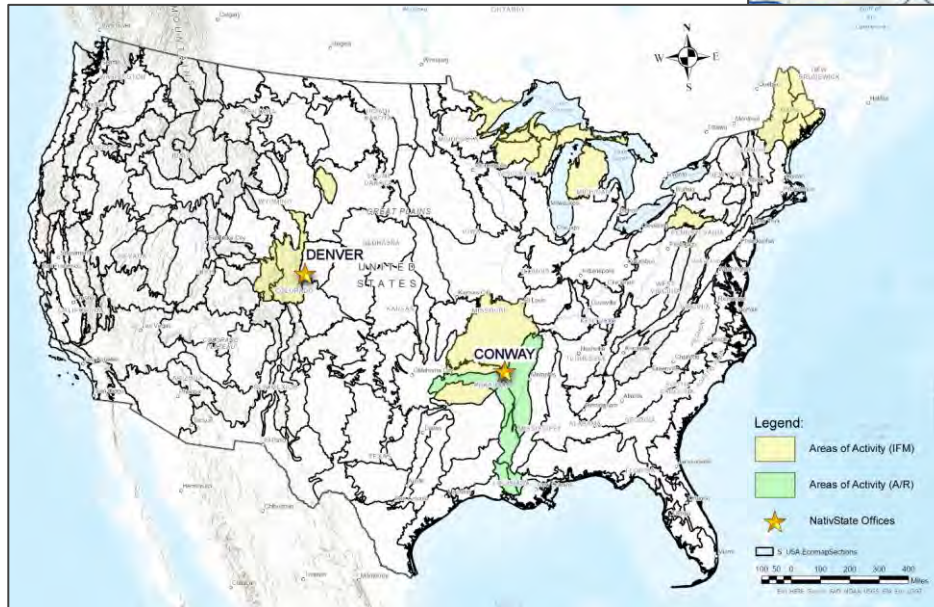
About NativState

- Placing each acre to its highest and best use
- Small to medium forest Owner focus
- Arkansas Heritage
- Creating a legacy through Conservation
- Dedicated management team with a combined 100+ years of resource management experience
- Over 200,000 acres in Arkansas in the Forest Carbon Program pipeline



NativState

NativState LLC is an Arkansas based forest carbon project developer. NativState partners with landowners to design and monetize an environmental stewardship program for their properties. Allowing each acre to be managed for its highest and best use, NativState's landowners will receive an additional income stream through the carbon markets, as well as conserve and improve the recreational habitat.



NativState Forest Carbon Program (FCP)

NativState's FCP provides access to carbon markets for the small to medium size landowners

Forest Management Plan developed by Arkansas Registered Foresters

Enrollment in the Forest Certification Program (ATFS, FSC, or SFI)

Turn-key Carbon Project Development

Marketing and Sales to the End User

No Cost to the Landowner



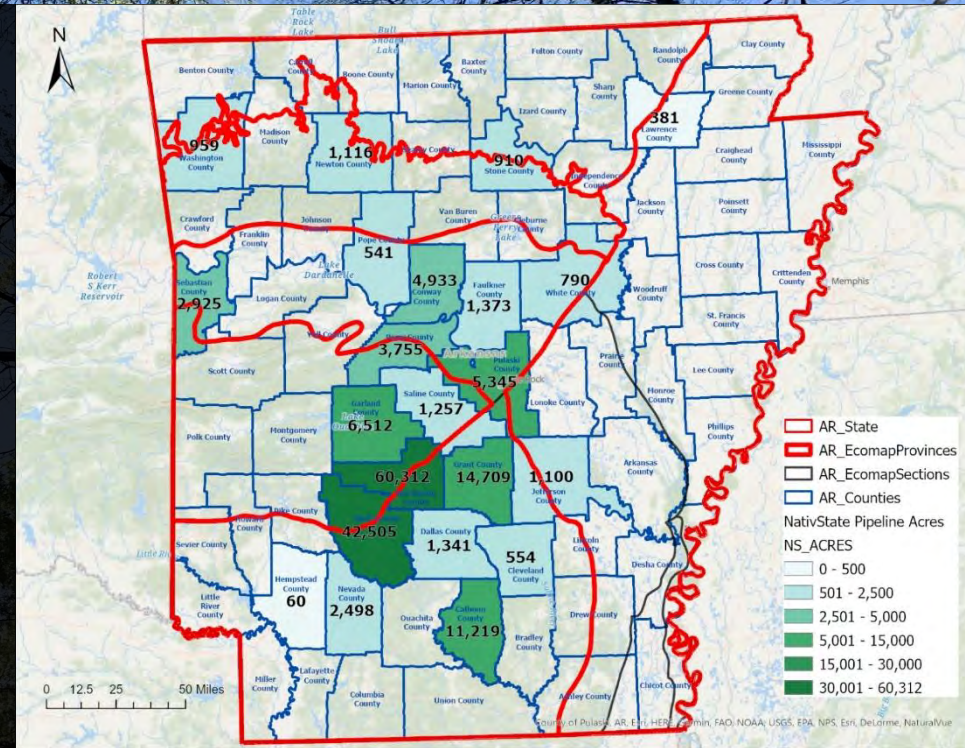
NativState Forest Carbon Program

NativState FCP

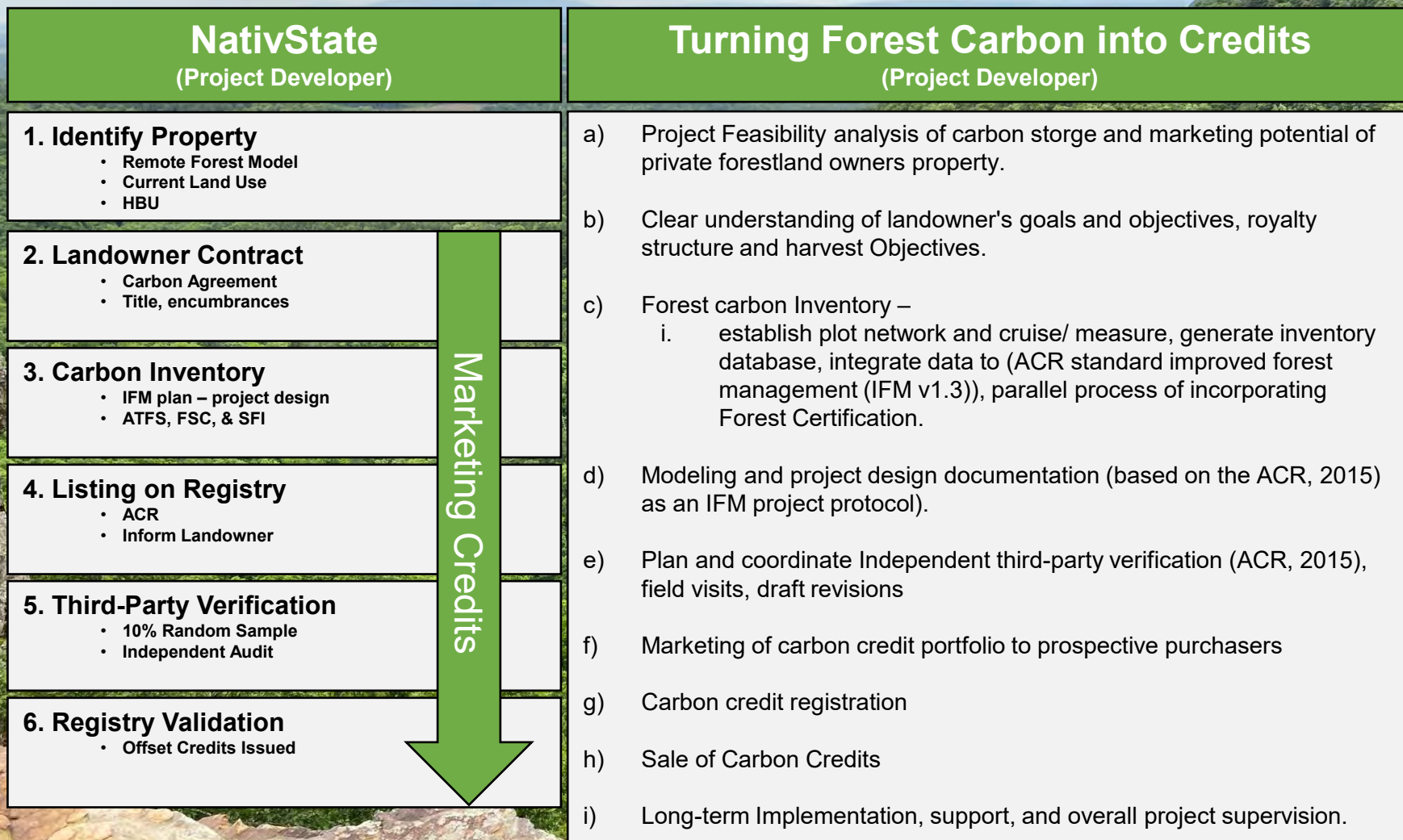
- Aggregation of small to medium size private landowners
- Over 200,000 acres in the project pipeline
- Our average landowner owns less than 1,000 acres

Goals

- 300,000 acres in Arkansas by 2025
- 1.5 MM acres in the South-Central States
- Over \$100,000,000 for Arkansas landowners



NativState Value Creation



NativState Value Creation

Arkansas Bottom Land Hardwoods (Average NativState BLH)

Deferred Harvest Program

Lease Bonus	= \$10.00/acre
Years (1-5)	= \$414/acre
Years (6-40)	= \$911/acre
Total	= \$1,335/acre *at current prices

Select Cut Program

Lease Bonus	= \$10.00/acre
Years (1-5)	= \$270/acre
Years (6-40)	= \$594/acre
Total	= \$874/acre *at current prices



Works for Recreational Landowner

- ✓ Food Plots
- ✓ Cabins
- ✓ Salvage Cuts
- ✓ Firewood
- ✓ Best Management Practices

Works for the Working Forest Owner (Timber Harvest)

Years (5-40)	= ~42 tons
Total	= \$1,890 **at current prices



Grand Total

Carbon	= \$874/acre
Timber	= \$1,890 **at current prices
Total	= \$2,764 / acre

*Credit prices are estimated off current markets prices and will change frequently. NativState conservatively estimates \$10.00 per AE Credits and \$18 per RE Credits based off these markets. Current estimates of carbon credits prices can be found at <https://carboncredits.com/carbon-prices-today/>, under voluntary Nature Based Credits.

**The Arkansas Timber Price Report (\$45/ton) <https://www.uaex.uada.edu/environment-nature/forestry/4th%20qtr%202021%20Timber%20price%20report.pdf>



Forest Carbon Program Considerations

1. 40-year Forest Carbon Project Term
2. Additionality thru forest management
 - a. Marketable credits are the incentive
 - b. Intentional reversals – repercussions
3. Activity-shifting leakage
 - a. Non-enrolled lands need to be certified with one of the following:
 - i. ATFS, SFI, or FSC
4. The verification process will result in changes that vary from our modeled scenario – i.e. baseline, actual growth, net credits issued
 - a. Desk verification annually, field verification at least every 5-years



NativState FCP Co-Benefits

Habitat

Legacy

Jobs

Climate

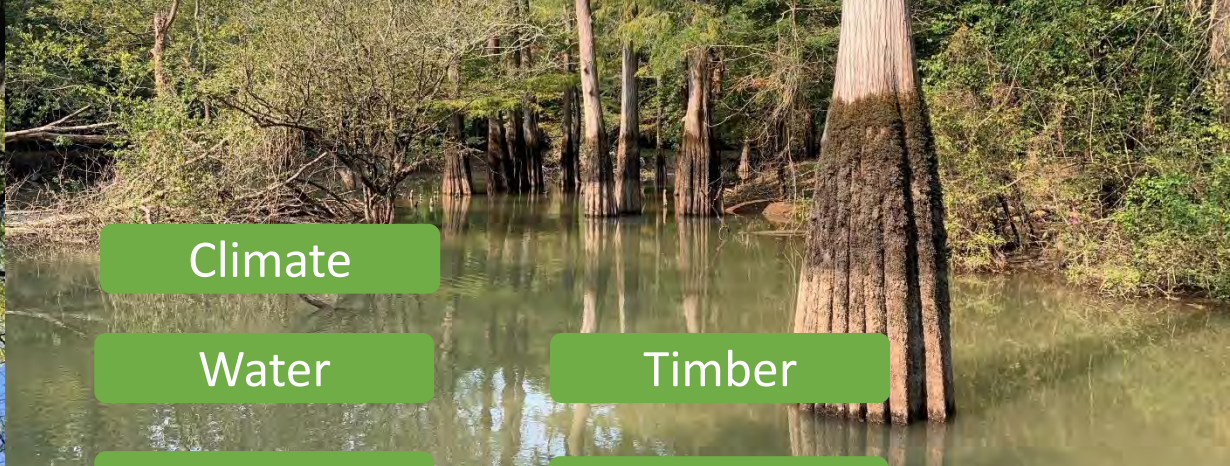
Water

Family

Timber

Recreation

Conservation



What's next and what should I do?

1. As with most commodities, we're likely to see a spike in the price of carbon credits over the near term, with a leveling off and perhaps a decrease in the long term, as the market responds to the demand.
2. Become familiar with the pros and cons of each different carbon program and see if it fits within the long-term management objectives of your own, your agencies or your clients timber property.
3. Keep an eye on the large industries such as oil & gas, manufacturing, retail and transportation for their plan to address GHG's and their stockholders attitude toward climate change and their ES&G policies.
4. We're likely to see some standardization across the various programs, or perhaps consolidation across multiple states to accumulate larger acreages. Hopefully government intervention is not needed and programs remain voluntary.
5. How will various federal/state cost share programs address carbon sequestration as a resource concern?

Questions Landowners and Managers Should Ask Before Enrolling in any Carbon Program

- What is the term of the contract and does that fit within my management plans?
- Are the credits “certified” or validated by a third party or registry organization?
- What are the landowner costs, if any?
- Can the carbon agreement or carbon rights convey, if I decide to sell my land?
- Is there a penalty for early termination?
- Is there a minimum or maximum acreage requirement for the program?
- What happens in case of a natural event causing an un-intentional reversal (fire, flood, tornado)?
- How are payments figured and when are they paid?
- What happens if the price/credit goes up over time?
- Will I make additional monies as my trees grow throughout the term of the contract?
- Can I selectively harvest my timber, or if I choose to, not harvest it at all?
- Can I enroll only a portion of my property?
- Can I reforest some open areas and count them as well?
- Who pays for the development of my forest management plan?
- Can I enroll properties that are in CRP or WRE?



*48.1" d.b.h. cherrybark oak, 134'
height, Saline River Bottoms, AR*

**Thanks for your time
and participation.**

**If you have additional questions,
you can contact me:**

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