NRCS CONSERVATION INNOVATION GRANT - FINAL REPORT

Sustainable Conservation Investment Fund: An impact investment Approach for Chesapeake Farms and Forests

Project Number: 69-3A75-1739
Grantee: Alliance for the Chesapeake, Inc
Project duration: September 30, 2016 - September 30, 2021
Project Team:
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Project Focal Areas: Maryland and Virginia

ALLIANCE for the Chesapeake Bay

Background/Project Rationale

For nearly a decade, the conservation community in the Chesapeake Bay Watershed has been working to bring about a more robust marketplace for water quality and offset credits to help meet aggressive pollution reduction goals. While the need for these reductions is most significant in urban areas, conservation practices on farms in the watershed have long been viewed as the source for these credits. Also, while markets for water quality credits have been slow to develop, other market-based conservation opportunities (such as forest and habitat mitigation banking, voluntary carbon offsets, and stormwater restoration credits) driven by state and local regulations have provided opportunity.

Maryland and Virginia are currently operating a few of the country's most innovative conservation markets that can help restore forests to the landscape. These markets are the Maryland's Forest Conservation Banking Program and Virginia Nutrient Trading and Growth Offset Programs. These programs allow private landowners to generate "conservation credits" that can then be sold to regulated entities like developers that need to comply with local, state and federal regulations. The model is based on the premise that landowners will be able to meet certain environmental outcomes like preventing pounds of nitrogen pollution from entering streams or restoring quality forest habitats more cheaply than developers can often do themselves on the development site. The market system allows developers to find the most cost-effective reductions because landowners are competing amongst themselves to sell their credits.

There is increasing and considerable potential for Maryland and Virginia agricultural landowners to participate in these environmental markets to further fund their conservation work and sustain their economy. However, the required up-front costs needed to establish environmental service credits prohibits participation by many. In addition, there is a lack of reliable and easy to understand informational resources available to landowners who wish to participate in these environmental markets and an insufficient number of service providers in the region available or capable to guide interested landowners through the process.

The Alliance for the Chesapeake Bay collaborated with a variety of partners to develop, pilot and promote new approaches to advance agricultural landowner access to environmental markets that accelerates whole farm conservation, improves water and air quality, enhances terrestrial and aquatic habitat and contributes to a healthier Chesapeake Bay. Through this project the Alliance sought to:

1. Establish a conservation investment mechanism that functions like a revolving loan fund to help offset the cost barriers associated with participating in Maryland's Forest Conservation Banking Programs and Virginia's Nutrient Trading program.
2. Increase the number of service providers available or capable to guide producers through existing and burgeoning ecosystem markets and whole farm conservation funding assessments by training other conservation organizations like land trusts.
3. Bring together investors and the conservation community by hosting Impact Investing

Roundtables that introduce investors to market opportunities on private lands and seek insight about their financial and social impact investment needs.

4. Bolster the amount of certified ecosystem service credits in regions with high demand but diminishing supply.
5. Work with specific Maryland local governments and other public entities to allocate public in-lieu mitigation fees for the purchase of high-quality private land conservation credits.
6. Create tools for working with landowners that translate market opportunities into an investment plan for conservation on the farm.

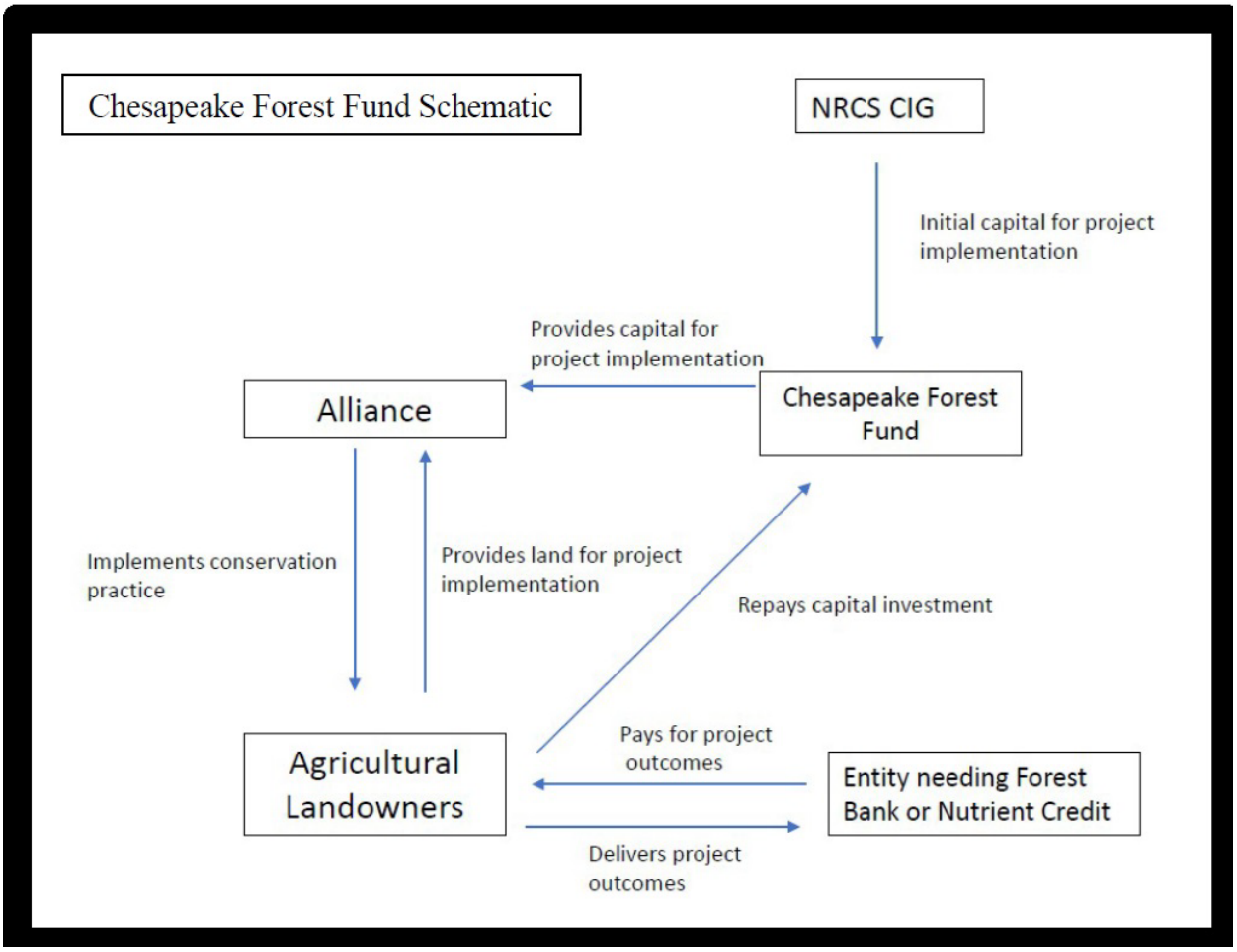
Summary of Project Methods and Activities

This multifaceted project was implemented over a five-year period. Activities employed to attain each deliverable were not linear. They occurred at various times throughout the period and often simultaneously. A summary of activities for each deliverable are provided below.

Deliverable 1 - *Establish a conservation investment mechanism that functions like a revolving loan fund to help offset the cost barriers associated with participating in Maryland's Forest Conservation Banking Programs and Virginia's Nutrient Trading program.*

The team approached the Maryland Agricultural and Resource-Based Industry Development Corporation (MARBIDCO) initially about developing and coordinating the "revolving loan fund". Established by the Maryland State Legislature, MARBIDCO offers assistance to qualifying farms and rural businesses in securing affordable capital and credit for equipment, commercial facilities, and real estate purchases. (They often serve as the financial intermediary for state and local land conservation organizations.) The goal of the fund was help agricultural landowners overcome the fiscal hurdle of participating in these ecosystem markets by offering the upfront capital to implement a restoration project that generates viable conservations credits. The investment would be repaid to the fund from the sale of these credits.

After much discussion and analysis of the ecosystem markets, the scope of the potential projects and the timeframe of the grant, we determined the best and most efficient course of action to initiate a funding mechanism was for the Alliance to invest directly into individual projects as they were derived. With consultation from MARBIDCO, the Green Trust Alliance and a real estate attorney we develop the structure and criteria for the *Chesapeake Forest Fund* and the guidelines and terms for landowners participation.



Deliverable 2 - *Increase the number of service providers available or capable to guide producers through existing and burgeoning ecosystem markets and whole farm conservation funding assessments by training other conservation organizations, like land trusts.*

In collaboration with the Land Trust Alliance (LTA), we solicited regional and local land trust organizations as a strategy to increase the number of service providers capable of guiding landowners through these markets. The land trust community is well represented in the Chesapeake watershed and both large and small land trusts have built strong localized strategies and landowner contact networks for land conservation. This community is well positioned to work with landowners in the long-term protection of entire parcels, but environmental markets continue to be an unfamiliar funding mechanism for land conservation among land trusts.

Through our partnership with LTA and other groups we organized several workshops and outreach events to educate land trusts and other conservation organizations about the various ecosystem markets and opportunities to engage their landowner clientele. We worked with Maryland Environmental Trust (MET) to offer an educational roundtable to all Maryland's land trusts on access ecosystem service markets and delivered a presentation solely on the Forest

Conservation Banking Program at their annual land trust conference. We also worked with the Friends of the Rappahannock and the Virginia United Land Trust (VaULT) to offer a workshop for Virginia's land trusts, conservation organizations and natural resources service providers to offer the workshop specifically about Virginia's Nutrient Trading program. We also engaged other conservation organizations and agricultural technical service providers in this ecosystem market through presentations at the Environment Virginia Conference and Virginia Soil and Water Conservation District Annual Conference.

Some of our initial perceptions about land trusts in our region being ready to engage their clientele in ecosystem markets were not fully realized, so we changed our approach to move forward. For instance, most land trusts in our region did not have the in-house capacity during the grant period to pursue the opportunities with their landowners like we thought, but they were interested in learning about ecosystem markets opportunities and how to apply them to their work in the future. This event led us to work with LTA and the Chesapeake Conservation Partnership (CCP) to leverage additional funding to develop and sponsor the multiday Chesapeake Conservation Finance Intensive , a training to help mid-career conservation and land trust professionals utilize innovative and effective financing strategies for land and resource conservation, restoration and stewardship. The course was held over three days and brought together conservation professionals from six states that all work with agricultural landowners. It was offered a second time in 2020 as a virtual training.

Deliverable 3 - *Bring together investors and the conservation community by hosting Impact Investing Roundtables that introduce investors to market opportunities on private lands and seek insight about their financial and social impact investment needs.*

We worked with LTA, CCP and the Environmental Policy Innovation Center to convene a group of about 40 participants from the conservation, private investment, and government sectors gathered to discuss the momentum of and impediments to private conservation finance, current and emerging ecosystem markets in the Chesapeake Bay and to identify opportunities to better use and expand them for Bay restoration goals and conservation on agricultural lands. The Roundtable: Private Capital Investment in Restoration and Land Conservation in the Chesapeake Bay

Key takeaways for the event:

• Conservation and restoration should be viewed as products, not services. Private companies – or nonprofits – can be held accountable for delivering products by holding payment until they do so (i.e. 'Pay for Success'). Private capital is a critical resource that allows timelines to play out longer, and thus allow projects to achieve outcomes that match up better with buyers' ultimate goals. However, we need a consistent, stable understanding of what those products are (how they are measured, defined, and/or verified) so that someone can produce them to specifications.

• What is the product and who would buy it? Historical natural resource products included timber, fisheries, and farm commodities; now we have organic produce and renewable energy. These are real assets with identified markets. Regulations and corporate sustainability have created new tangible and less tangible products: pollution reductions from land, habitat as a product, carbon-storing forests.

Consumers and regulations both create demand for these products which private investment can also support or deliver.

• The regulatory drivers associated with clean water and stormwater management have opened a diversity of options for private finance of conservation/restoration across the country. These regulatory programs are currently the largest driver behind private conservation finance in the Bay watershed, and policy improvements could expand the volume of this investment. The opportunity isn't just to meet 2025 TMDL regulatory goals but ongoing Clean Water Act compliance requirements, like MS4 (Municipal Separate Storm Sewer System) and NPDES (National Pollutant Discharge Elimination System) permits, and expanded section 404 Clean Water Act implementation which now covers stream mitigation as well as wetland mitigation. One important new tool is the Chesapeake Bay Program's Land Policy BMPs which recognize certain types of permanent land conservation and growth management practices to offset the pollution impacts of new growth and unplanned development.

• Greenhouse gas reduction strategies – whether at the state level, through international airline agreements, corporate sustainability, or future federal action – are a real and increasing driver of privately financed conservation in the Bay. Our discussion focused on the needs to aggregate land in Virginia and Pennsylvania to reach sufficient acreage size to make projects attractive to buyers, but more opportunities may soon exist across all states.

• One of government's most important roles is to give certainty to both sellers and buyers. The Chesapeake Bay Program's models that translate management actions into common units of impervious acres treated is one example of an improved certainty-producing tool, but more needs to be done by state and local governments to reduce real and perceived risks to investment.

A summary of the day's proceedings and recommendations can be found here.

Deliverable 4 - *Bolster the amount of certified ecosystem service credits in regions with high demand but diminishing supply.*

We targeted our outreach for ecosystem service credit projects to agricultural landowners from areas where the markets were strong and viable (ie. Credit demand was high, and supply was

diminishing). Both Maryland's Forest Conservation Banking Program and Virginia's Nutrient Trading Program were derived to offset impacts from land conversion and development, so this narrowed our focus to regions where development was growing, and a steady flow of offset credits would be required. Central Maryland and the James (lower) and Rappahannock River watersheds provided us the best opportunity.

Forest bank on Empty Cup Creek, Penn

Maryland's Forest Conservation Act (FCA) was established by the state legislature, but the implementation of the law is administered at the county level. Forest Conservation Banking Programs are not required by the compliance with FCA, but most counties offer a program as one method for developers to offset forest loss. Each county has a different program with different rules, so it was necessary from the onset of out efforts to meet with each county FCA coordinators to discern how their programs operated. Counties like Frederick, Montgomery and Carroll all have well defined programs and information was easily accessible. However, discerning the rules for programs in other counties like Baltimore program were difficult and problematic. We had several agricultural producers from Baltimore County that were interested in pursuing Forest Conservation banking projects, but we were ultimately unable to procure the necessary guidance to proceed.

After pursuing projects with agricultural landowners in several counties, we found that Carroll County's was the most viable to pursue projects for the timeframe of this grant. Carroll County's program only allows credits to be derived from afforestation and not forest retention like all other banking counties allow. Reforestation banks are much more expensive to establish than forest retention banks, so our projects would not be at a competitive disadvantage. Carroll's program also does not let developers pay in-lieu fees directly to the county to offset their reforestation obligations, so if they cannot meet their obligations on the site they are developing, procuring forest credits are their only option. Demand for forest credits, therefore, were steady and the supply of credits was diminishing.

In Virginia, the Chesapeake Bay Watershed Nutrient Credit Exchange Program legislation authorized nutrient trading in Virginia's portion of the Bay. This Nutrient Trading Program is administered by the VA Department of Environmental Quality and available to permitted facilities and land developers to offset new or increased nutrient discharges to the Bay and its tributaries. Nutrient credits are required to be traded within the major river basins of Virginia. Demand for phosphorous offsets are much greater than nitrogen. DEQ published the guidance *Trading Nutrient Reductions from Nonpoint source Best Management Practices in the Chesapeake Bay Watershed: Guidance for Agricultural Landowners and Your Potential Trading Partners* that describes how agricultural landowners could generate nutrient credits and how buyers could purchase those credits.

The Nutrient Program is robust in Virginia and there are available credits in all the river basins. There are several private restoration companies operating throughout Virginia to engage agricultural landowners in this market. Our goal, therefore, was not to compete with these companies but help provide access to agricultural landowners they may have been overlooked or determined to not fit into their strategic business model for investment. We also wanted to ensure that we were investing in high quality reforestation projects that endures on the landscape and furthers the landowners conservation goals.

We anticipated working on smaller reforestation projects in several basins. These projects were the ones often passed over by the private restoration firms. However, we were able to implement a larger reforestation project in the James River basin that met our criteria.

Heishman forest bank – 3rd growing season

Using the ***Chesapeake Forest Fund*** **(CFF),** we established 49 acres of new, permanently protected forests on five farms in Maryland and Virginia that generated potentially $700,000 worth of conservation credits for the agricultural landowners. Approximately, $55,000 of CFF investment has been repaid from proceeds of conservation credit transactions, and these resources have been reinvested into two additional reforestation projects totaling 10 acres (see Stull project).

Heishman Farm – Westminster, MD – 14 acre reforestation. This project was implemented in 2018. The Forest Conservation Bank credits will be available for transaction this spring 2022.

Matthews-Singleton Farm – New Windsor, MD – 1.5 acres reforestation. This project was implemented in 2019 and the Forest Conservation Bank Credits will be available for transaction in spring 2022.

Linton Farm – Smokehouse Lane LLC – Williamsburg, VA – 16 acre reforestation. This project was implemented in 2020. Twenty five percent of the nutrient credits were available in the Virginia Nutrient Trading Program immediately after that planting was inspected. Investment was repaid from transactions in Fall 2020. Proceeds were reinvested in a new forest bank project in 2021

Stull Farm, Manchester, MD – 6 acre reforestation
This project was implemented in 2020, but only a portion of the 16 acre bank was reforested in that year. 60% of Forest Conservation Bank credits were made available immediately. Proceeds from nutrient credits transactions in Virginia and forest credits have been transacted and were reinvested for an additional 4 acres in 2021. Credit sales from this forest bank was reinvested to plant the remaining 6 acres in the spring 2022.

Empty Cupboard Farms, Westminster, MD - 5.5 reforestation
This project was implemented in 2020 and 60% of the credits are available for transacting in Carroll County's Forest Conservation Banking Program.

Deliverable 5 - *Work with specific Maryland local governments and other public entities to allocate public in-lieu mitigation fees for the purchase of high-quality private land conservation credits.*

In most of the Forest Conservation Banking Programs developers are permitted to ("as a last resort") pay to and *in-lieu fee* to the county to offset their forest credit obligation. The county is to then use these funds to reforest or retain forest cover in adherence to the Forest Conservation Act. Several counties have had trouble implementing these projects and have accumulated vast cache of in-lieu fees. We set out to engage these counties to use these abundant resources to purchase available forest bank credits to reinvigorate their markets. Undoubtedly, we encountered many hurdles as the coordinators for the county were not authorized to use the in-lieu funds in that manner and would likely need to update their forest conservation ordinance. Fortunately, there has been collective effort by other organizations around the state to update the Forest Conservation Act to address these issues. House Bill 991 – Trees Solution Now Act 2021 provides new guidance for the county programs.

Deliverable 6 - *Create tools for working with landowners that translate market opportunities into an investment plan for conservation on the farm.*

Working towards this deliverable required us to update two existing tools to incorporate ecosystem market opportunities – Conservation Funding Assessment and LandServer

The Conservation Funding Assessment is a template we use on our work with landowners to connect the recommendations prescribed in their Forest Stewardship Plans or CAP 106 Forest Management Plans. We developed a new section to the template that included eligibility and specific requirements for participation in Forest Conservation Banking Program and Nutrient Trading Program.

LandServer is our web-based mapping tool that we originally designed to help agricultural and forest landowner learn about their properties natural resources attributes and discover conservation opportunities to help them meet their conservation goals. Leveraging portions of four Alliance grants, we have made some critical updates to the tool and added a new ecosystem market component. LandServer is set to be release for initial use on March 1, 2022. *https://forestsforthebay.staging.landserver.org/*

Deliverable	Output
Establish a conservation investment mechanism that functions like a revolving loan fund	Chesapeake Forest Fund establish. All funds invested into ecosystem credit generating projects. 22 credits
	transacted in markets and repaid to CFF. Proceeds reinvested to two new credit generating projects
Increase the number of service providers available or capable to guide producers	Over 250 conservation professionals educated on opportunities and guidelines of MD forest banking and VA nutrient trading. 60 participate in Conservation Finance Intensive training
Bring together investors and the conservation community by hosting Impact Investing Roundtables that introduce investors to market opportunities on private lands and seek insight about their financial and social impact investment needs.	40 participants from the conservation, private investment, and government sectors attend Roundtable: Private Capital Investment in Restoration and Land Conservation in the Chesapeake Bay. Three workgroups derived from event
Bolster the amount of certified ecosystem service credits in regions with high demand but diminishing supply.	49 acres of new, permanently protected forests on 5 farms in Maryland and Virginia that generated potentially $700,000 worth of conservation credits for the agricultural landowners.
Work with specific Maryland local governments and other public entities to allocate public in-lieu mitigation fees for the purchase of high-quality private land conservation credits.	Meetings with coordinators from 5 counties with in-lieu fees.
Create tools for working with landowners that translate market opportunities into an investment plan for conservation on the farm	LandServer will be read to launch in the spring 2022 Conservation Funding Assessment template can be adapted to convey conservation opportunities

Challenges/Lessons learned:

This Conservation Innovation Grant afforded us the opportunity to pursue, test and apply our ideas and strategies about ecosystem market potential to on-the-ground conservation. Some of our initial perceptions were not realized, so we changed our approach to move forward. For instance, most land trusts in our region did not have the in-house capacity during the grant period to pursue the opportunities with their landowners like we thought, but they were interested in learning about ecosystem markets opportunities and how to apply them to their work in the future. This interest and our collaboration help foster the Conservation Finance Intensive course to better train the land trust and conservation community about alternative finance mechanisms to advance their work. Also, we determined early in the period that the Maryland Nutrient Trading Program and Critical Areas Forest Banking Program are not robust or flexible enough programs yet to be viable opportunities for agricultural landowners. It was too difficult for many agricultural producers to meet the program conservation baselines.

This project overall was successful in furthering conservation on agricultural lands in Maryland and Virginia. It generated 49 acres of new and permanently protected forests on marginal agricultural land and approximately $700,000 in new conservation funding for the landowners. The landowners likely would not have pursued the reforestation and easement without compensation from these ecosystem markets. Twenty-two credits have been transacted and proceeds remitted back to the Chesapeake Forest Fund and then reinvested additional projects. Landowner interest in alternative conservation opportunities is growing. We have received inquiries from dozens of new landowners and natural resources professionals about potential projects. We are pursuing 3 new projects for 2022.

Next Steps:

The Bay's jurisdiction have proposed lofty action in their Watershed Implementation Plans to meet the Chesapeake Bay water quality goals, but there is not enough public funding and resources available to achieve them by 2025. Implementing conservation practices on agricultural land is an effective and efficient strategy to address the region's water quality and climate goals while also sustaining farms and the agricultural economy. While the USDA conservation cost share programs are always going to be essential in implementing agricultural BMPs, easing access for agricultural landowners to these burgeoning ecosystem markets only increases conservation practices by providing additional funding and opportunity.

Although we focused on Maryland's Forest Conservation Banking Programs and Virginia's Nutrient Trading Program, we are already adapting this model in support of other conservation outcome exigencies like local jurisdictions' National Pollutant Discharge Elimination System (NPDES) MS4 permit compliance and corporate GHG reduction initiatives as an opportunity to deliver needed conservation funding to agricultural lands.