
Bay Bank

The Chesapeake's Conservation Marketplace

Bay Bank Forest Conservation Protocol – Carroll County

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I. Introduction

a. About Bay Bank

The mission of Bay Bank is to sustain and improve the environment and the economic health of communities using innovative, market-based solutions. Bay Bank has established trading protocols that are compliant with existing regulatory and voluntary markets and ensure only high quality credits are transacted. This document provides the Bay Bank Regulatory Forest Conservation Market Protocol for use by participants in Maryland's regulatory forest mitigation bank market. This protocol provides the specific rules that must be followed to generate forest mitigation credits for transaction through the Bay Bank marketplace.

In addition to market protocols, which provide the rules for market participation, Bay Bank also provides an online marketplace and registry for ecosystem services credits. All credits generated using Bay Bank protocols, as well as credits generated through the use of other approved protocols, are listed in the Bay Bank market registry. The registry provides a listing of credits available for purchase in the forest mitigation banking and other ecosystem markets. It also tracks credits throughout the credit generation, marketing, sale, and monitoring process. The registry provides enough information to buyers to allow them to make initial inquiries about credit purchases, while protecting the identity of sellers. The Bay Bank registry is fully integrated with the Bay Bank marketplace, which connects buyers and sellers, provides basic transactional data, and reports transactions to the Bay Bank registry.

b. About Forest Conservation In Maryland

The key regulatory driver for forest mitigation markets and the only significant state level driver in the Chesapeake is Maryland's Forest Conservation Act (FCA). In short, the FCA requires developers to replace trees cut because of development through afforestation, reforestation, or forest conservation. Developers must first consider replacement of trees on-site. But if on-site reforestation is not possible, the developer may reforest off-site, using a mitigation bank, or pay into a forest mitigation fund. The Bay Bank facilitates the use of off-site and mitigation bank compliance through this protocol and its online marketplace and registry

Forest mitigation regulations exist at both the state and local level. Generally, a forest mitigation bank must be located in a priority area as defined by state and local statute, subject to a permanent conservation easement, and meet the rules of the local jurisdiction. Eight counties, Calvert, Montgomery, Queen Anne's, Howard, Frederick, Dorchester, Carroll, and Worcester have specific forest mitigation banking rules contained within their local forest conservation law. A market protocol is available to landowners in each of these counties. For landowners outside of these counties, there are other options they can consider including offering their land for off-site mitigation and participating in fee in-lieu programs where available. Information about these options is included in the landowner education portion of Bay Bank's website.

c. Organization of this Protocol

This protocol is divided into five sections: eligibility, credit definition, credit origination, credit development, and monitoring. Together, these sections provide a step-by-step guide to developing a forest mitigation bank in a given county, consistent with that county's regulations. Landowners interested in developing a forest mitigation bank should first read the entire protocol to gain a comprehensive understanding of the bank development process. Credits developed using this protocol are guaranteed to be eligible for sale through the Bay Bank marketplace. Questions about the protocol should be directed to Bay Bank staff at _____ or a Bay Bank approved service provider (hyperlink).

d. Contact Information

Bay Bank Forest Conservation Market Coordinator: Name, email, phone
Bay Bank Approved Service Provider List: Hyperlink
County Forest Conservation Staff Contact: Name, email, phone

e. Information for Credit Purchasers

Credit buyers are encouraged to review this protocol and contact Bay Bank staff with any questions or concerns. This protocol is designed to provide buyers with confidence that the credits they are purchasing are of high quality, meet regulatory standards, and are approved by county or state regulators. Transparency is critical to the success of ecosystem markets. As a result of this protocol, buyers can be assured that credits offered for sale through the Bay Bank marketplace are of the highest quality and were developed using standardized practices.

It is also possible for credit purchasers to participate in the credit development process through the use of this protocol. "Eligible" credits that have yet to be developed into sale-ready credits are listed on the Bay Bank marketplace. These credits may be developed under contract with the landowner by the buyer as an off-site mitigation project, subject to regulatory approval. Buyers interested in developing mitigation projects in this manner may use the Bay Bank protocol to guide the establishment of the off-site mitigation site, as the rules for location, planting density, etc. are the same for off-site mitigation and forest mitigation banking.

This protocol does not provide credit purchasers with information or guidance about when forest mitigation is required as a result of development activity.

II. Eligibility

a. Legal Requirements

Any land that is not forested at the time of the submission of an application for a Bank Establishment Plan is legally eligible for forest mitigation bank and/or off-site reserve status in Carroll County. Land that is already forested is ineligible.

Reforestation is defined as a biological community dominated by trees and other woody plants and containing at least 100 trees per acre with at least 50% of the trees having the potential to attain a diameter of 2 inches or greater at 4.5 feet above grade (diameter at breast height). Reforestation must take place in priority areas (listed below) and must be at least 35 feet wide and cover 2,500 square feet.

b. Geographic/Ecological Requirements

Forest mitigation banks and off-site reserves must consist of reforested or afforested land. Priority areas for reforestation and afforestation are:

- Stream buffers, with planting beginning at the top of the normal channel of a perennial or intermittent stream
- Forested corridors of at least 300 feet in width that connect existing forests and forested protected areas
- Buffers for critical areas as determined by the Maryland Department of Natural Resources Natural Heritage Program. Buffer size depends on the habitat type.
- Steep slopes with a gradient of 25% or greater or 15% or greater and soils with a K value of 0.35 or greater according to the universal soil loss equation.
- Buffers between differing or conflicting land uses, e.g. industrial and residential, or adjacent to highways or utility rights-of-way.
- Areas that increase contiguous forest cover by adding new forest adjacent to an existing forest.

III. Credit Definition

a. What is a Forest Mitigation Bank?

In Carroll County, a forest mitigation bank is an area that is reforested or afforested by the landowner and then permanently protected by recording a conservation easement or other form of permanent deed restriction. Forest mitigation banks are used by developers to meet forest mitigation requirements created by the state of Maryland's Forest Conservation Act and the county's ordinance implementing the act. In order for a forest mitigation bank to be accepted into Carroll County's banking program, it must meet the eligibility requirements noted in the previous sections and the administrative requirements discussed below. In order to sell credits through the Bay Bank, the landowner must first receive county approval for the forest mitigation bank and credits.

Carroll County also allows landowners to establish off-site forest reserves. An off-site reserve is a similar concept to a forest mitigation bank, but with one major difference: off-site reserves are not reforested by the landowner prior to sale to a developer. Instead, the landowner establishes the off-site reserve through a county permitting process and makes the area of the off-site reserve available for developers who wish to conduct off-site mitigation. Landowners establishing off-site reserves retain ownership of the land but, as with forest mitigation banks, the use of the land is restricted and must be maintained if forest in perpetuity.

b. Forest Mitigation Credit Units

Credit units are the commodity being bought and sold in a market transaction. There are two components to credit units: what does the credit represent and how much of it is contained within each credit, in this case measured in land area. In the case of forest mitigation banking in Carroll County, a credit represents a fixed amount of reforested land.

The Bay Bank defines one forest mitigation bank credit as one acre of a county approved forest mitigation bank. For example, a mitigation bank containing 20 acres of reforested land contains 20 forest mitigation credits. These credits may be sold as fractions: a bank owner may sell $\frac{1}{2}$ of a forest mitigation credit (representing $\frac{1}{2}$ of an acre of reforested land contained within the forest mitigation bank).

c. Trading Ratio

Trading ratios are the ratio between the number of credits needed for mitigation by the buyer and the number of credits the buyer is required to purchase by county regulations to meet its mitigation requirements stemming from development activity.

The trading ratio for Carroll County forest mitigation banks and off-site reserves is one to one: for each acre of mitigation needed by a buyer, he/she must purchase one credit from a forest mitigation bank or off-site reserve. A bank containing 20 acres contains 20 credits and may sell the 20 credits to buyers requiring up to 20 acres of mitigation. Fractions of credits may be sold, e.g. $\frac{1}{2}$ of a forest mitigation credit may be sold to a buyer to meet $\frac{1}{2}$ an acre of forest mitigation demand.

IV. Credit Origination

a. LandServer

LandServer is an easy to use, online tool for landowners. It allows landowners to estimate the environmental/ecosystem services produced by their land and generates a report outlining the programs and market areas they may be eligible for, including forest mitigation banking. LandServer can be accessed through Bay Bank's website (www.thebaybank.org) or directly (www.landserver.org).

Landowners interested in participating in a forest mitigation banking program, posting their forest mitigation bank credits in the Bay Bank registry, and connecting with credit purchasers through the Bay Bank marketplace should utilize LandServer to estimate their eligibility for forest mitigation banking and to begin the credit development process. LandServer will provide landowners with an estimate of eligibility for forest mitigation banking, an indication of the amount of land that may be eligible for forest mitigation banking and how many credits this land represents, an estimate of the value of forest mitigation bank credits based on previous market transactions, and provide landowners with the option to register their land in the Bay Bank registry if they are interested in pursuing the development of a forest mitigation bank. Landowners are not required to register in the Bay Bank registry to use LandServer, but they are required to register if they wish to develop forest mitigation bank credits. Landowners who elect to register with the Bay Bank registry

are assigned an account and the estimated credits as determined by LandServer are posted as “estimated.” Estimated credits are unverified for eligibility and may not be contracted for sale or sold through the Bay Bank marketplace.

b. Verification of Eligibility

Estimated credits must be verified on-site by a Bay Bank approved technical service provider before credits may be listed for contract or sale in the Bay Bank registry. The technical service provider must verify the following and submit a verification report to the Bay Bank registry (available in Appendix X):

- Land eligibility: does the proposed forest mitigation bank area meet the county requirements for slope, stream buffers, etc. (see Section II: Eligibility)?
- Land Area: Do the number of credits estimated by LandServer match the number of eligible credits available to the landowner? For example, LandServer may indicate that a land area of 20 acres are eligible for forest mitigation banking, resulting in 20 forest mitigation credits. On-site verification checks the LandServer estimate and adjusts it as necessary
- Size: After the land area is verified, verify that the actual acreage of eligible forest mitigation bank land complies with the county requirements (see Section II: Eligibility).

The Bay Bank provides a list of approved technical service providers on its website at www.thebaybank.com.

c. Listing of Originated Credits on the Bay Bank Marketplace Registry

When verification of eligibility by a Bay Bank approved technical service provider has been completed and the verification report accepted by the Bay Bank, estimated credits as determined by the landowner using LandServer, plus or minus any changes to the number of forest mitigation credits discovered during on-site verification, are upgraded in the Bay Bank registry to “prospective” credits.

Designation of forest mitigation credits as prospective is an important milestone in the forest mitigation bank development process. When credits are designated prospective, they represent credits that have a high probability of receiving regulatory approval. Prospective credits are listed on the Bay Bank registry and are visible to potential forest mitigation credit buyers on the Bay Bank marketplace. Prospective credits are eligible for contract with buyers to meet off-site mitigation requirements as an off-site reserve if a landowner does not wish to complete the forest mitigation bank development process. The terms of such contracts and the ultimate sale price of the credits are set between the buyer and the seller. For a discussion of the some of the advantages and disadvantages of contracting for off-site reserves vs. forest mitigation banking, see Appendix A.

V. Credit Development

a. Forest Mitigation Bank Plan

A forest mitigation bank plan must be developed by a Bay Bank approved technical service provider. The technical service provider developing the forest mitigation bank plan must be different from the provider who reviewed forest mitigation bank eligibility to help ensure there is no conflict of interest.

Landowners interested in developing a forest mitigation bank or off-site reserve in Carroll County must follow a two step application process. The first step is the completion, submission, and approval of a Forest Bank/Off-site Reserve Application. The second is the completion, submission, and approval of a Forest Bank/Off-site Reserve Establishment Plan. Both forest mitigation banks and off-site reserves use the same paperwork to complete the two step process, but the information provided to the county varies depending on the project type. This section provides details on information needed at each step of the process. The Carroll County forms are provided in Appendix X and X of this document.

Forest Bank/Off-site Reserve Application

The required information for a Forest Bank Application and an Off-site Reserve Application is identical. The application form is included in Appendix X of this document. The application allows the county to verify a landowner's eligibility and make a determination of the value of the proposed forest mitigation bank or off-site reserve based on its size, location and other characteristics related to the successful establishment of a functioning forest. Approval of the application is required before moving ahead with the actual development of a forest bank or off-site reserve. The following information must be provided in the application:

- Basic property information including ownership, specific location, and contact information for the landowners technical service provider.
- A site map showing existing site conditions including topography, soils, the existence of wetlands, floodplains, streams, existing forests on the property, and the proposed forest bank or off-site reserve location on the property. Landowners should explicitly depict on the site map how the proposed forest mitigation bank or off-site reserve meets one of the county's forest conservation priorities.
- A location map showing the property relative to the surrounding physiography.

At the time a forest mitigation bank or off-site reserve application is submitted, the physical location of the bank on the landowner's property must be flagged out to enable a site inspection by the county.

Forest Bank/Off-site Reserve Establishment Plan

A Bank Establishment Plan (BEP)/Off-site Reserve Establishment Plan is also required for the establishment of a forest bank or off-site reserve. This plan should be developed in consultation with the county following evaluation and approval of a forest bank/off-site reserve application. Generally, an establishment plan will include:

- The site where the bank or off-site reserve will be located on the landowner's property
- The planting method that will be used for forest banks
- A planting plan for forest banks

- Other elements as required by the county

b. Conservation Easement

Carroll County regulations require perpetual protection of forest mitigation banks and off-site reserves. For credits transacted through the Bay Bank, this protection must come in the form of a permanent conservation easement. The conservation easement shall be granted to Carroll County. The provisions of the conservation easement must provide for monitoring of the forest bank site. Evidence of recordation of the conservation easement in the Carroll County land records and county approval of the easement must be submitted to the Bay Bank before any credits are transacted through the Bay Bank.

c. Maintenance Agreement/Surety Bond

Carroll County requires the bank or reserve owner to post a financial assurance against the failure of the forest mitigation bank or off-site reserve unless the trees included in the bank area are over three years old and meet the definition of a forest as described above in II. Eligibility. In the latter case, the landowner must follow all of the provisions required to establish a forest mitigation bank described above, but must wait three years before any credits may be transacted. The purpose of the maintenance provision is to give the landowner the ability to sell credits immediately, while also providing the county with “insurance” against bank or reserve failure.

Financial assurance must be in the form of an irrevocable letter of credit or a cash bond from a financial institution. The amount of the bond will equal the estimated cost of the forest mitigation bank’s or off-site reserve’s planting and maintenance. The bond shall be made payable to Carroll County. Financial assurance must be provided before any credits may be sold during the initial three year maintenance agreement period. The bond must be in place until the maintenance agreement between the bank or reserve owner and the county is completed. However, 25% of the bond may be released by the county after 18 months if the reforestation meets the definition of forest described in section II. Eligibility. The remainder of the bond may be released by the county at the end of the maintenance agreement if the forest bank or off-site reserve still meets the definition of forest. In both cases, the landowner must request that the county release the bond.

In addition to financial assurance, the county also requires that a forest conservation and management agreement is executed and maintained on the forest bank/off-site reserve property for the maintenance period. Information on forest conservation and management agreements is available from the Maryland State Forest Service. If the reforestation conducted by the bank/reserve owner does not meet the county standards at either the end of the 18-month or 3 year periods, an extension of the maintenance agreement for an additional 3 years will be required.

d. Bank Verification

Forest Mitigation Bank and Off-Site Reserve verification is performed by the county. A county representative will review the forest mitigation bank or off-site reserve plan, the proposed mitigation bank or reserve site, and the replanting plan for the site.

Documentation of county forest mitigation bank or off-site reserve verification must be submitted to the Bay Bank.

e. Regulatory Approval/Certification

After each of the above steps has been completed by the landowner, a forest mitigation bank or off-site reserve will be eligible for regulatory approval by the county. Final regulatory approval is necessary prior to the sale of credits through the Bay Bank marketplace. It is the landowner's responsibility to obtain final regulatory approval from the county.

Documentation of regulatory approval of a forest mitigation bank or off-site reserve must be submitted to the Bay Bank before credits can be traded through the Bay Bank marketplace.

f. Sale of Credits on the Bay Bank Marketplace

Upon receipt of documentation showing county regulatory approval of a forest mitigation bank, the Bay Bank will reclassify the bank owner's credits as "certified credits" in the Bay Bank registry. Credit buyers will be able to access basic information and inquire about the purchase of the credits through the Bay Bank marketplace. The Bay Bank registry will record all transactions that take place through the Bay Bank marketplace and deduct forest mitigation credits sales from the seller's forest mitigation bank account in the registry. The terms of transactions are decided between the buyer and seller.

g. Credit Sale Reporting

In order to meet their regulatory obligations, developers must report the purchase of credits from a certified forest mitigation bank to the county. The county paperwork required for reporting transactions is provided to buyers and sellers participating in the Bay Bank marketplace. In addition to reporting transactions to the county, transactions must also be reported to Bay Bank to enable the tracking of credits in the Bay Bank registry. Buyers and sellers can report transactions through their accounts on Bay Bank's website.

VI. Monitoring

Monitoring of forest mitigation banks is generally carried out by the county where the bank is located. The county is to holder of the conservation easement providing for permanent protection of the forest bank, and therefore assumes the monitoring responsibility for the bank.

Counties have different approaches to monitoring; landowners should discuss monitoring procedures followed by the county at the beginning of the forest mitigation bank development process. Generally, monitoring will be relatively unobtrusive – its goal is to ensure the forest bank remains in place over time and that restricted uses do not take place within the forest bank area.

In addition to county monitoring, if a landowner elects to participate in more than one ecosystem market, Bay Bank or a Bay Bank representative may also conduct monitoring visits from time to time. The purpose of these visits will be to monitor the other ecosystem credits present on the property and to ensure these credit values do not inappropriately overlap with the forest bank

credits. Bay Bank monitoring will only occur if a landowner is engaged in more than one market; if forest conservation is the only market a landowner is currently participating in, Bay Bank will rely on the county to carry out its own monitoring program.

Appendix A: Estimated Costs and Returns from Establishing a Forest Bank

a. Option A: Landowner Financed

b. Option B: Developer Financed

Appendix C: Bay Bank Certified Verifier/Monitor Requirements