

Forest Mitigation Banking

Addressing the barriers to entry



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Chesapeake Forests

1. Outreach and Education
2. Forest Restoration





Arabella
Advisors



The D·N·Batten
FOUNDATION

Investing in the Chesapeake Bay's Conservation Marketplace



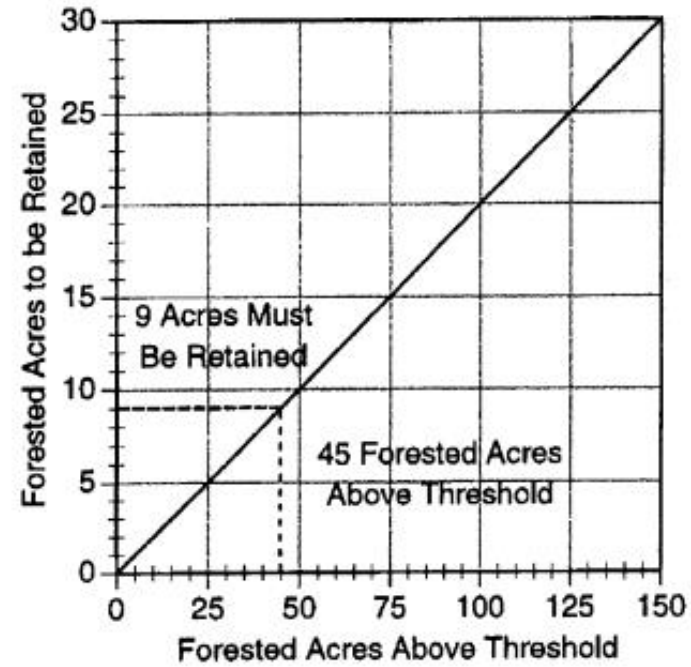
PINCHOT
INSTITUTE
FOR CONSERVATION

THE MARYLAND FOREST CONSERVATION ACT:

the law that conserves forests during development

1991





A simple relationship exists between the number of forested acres above the Conservation Threshold and the amount of forests required to be retained in order to be exempt from reforestation requirements. One acre of retention is required for every 5 acres of forest above the threshold (1:5 = 20%). The dashed lines above indicate how an applicant would calculate the break even point for the site used as an example

Source: Adapted from Forest Conservation Manual, 1991

Land Use Type	Conservation Threshold	Afforestation Threshold
Agricultural and Resources Areas	50%	20%
Medium Density Residential Areas	25%	20%
Institutional Development Areas	20%	15%
High Density Residential Areas	20%	15%
Mixed Use and Planned Unit Development Areas	15%	15%
Commercial and Industrial Use Areas	15%	15%

Agricultural and Resource Areas – undeveloped areas zoned for densities of less than or equal to one dwelling unit per five acres.

Medium Density Residential Areas – areas zoned for densities greater than one dwelling unit per five acres and less than or equal to one dwelling unit per acre, including both existing and planned development and their associated infrastructure, such as roads, utilities, and water and sewer service.

Institutional Development Areas – schools, colleges, universities, military installations, transportation facilities, utility and sewer projects, government offices and facilities, golf courses, recreation areas, parks, and cemeteries.

High Density Residential Areas – areas zoned for densities greater than one dwelling unit per acre, including both existing and planned development and their associated infrastructure, such as roads, utilities, and water and sewer service.

Mixed Use Development Areas – single, relatively high density development projects, usually commercial in nature, which include two or more types of uses.

Forest mitigation options

- On site
- Off site
- Fee in lieu
- Credit from a established Forest Bank

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Carroll County Forest Conservation Ordinance

- On site
- Off site
- ~~• Fee in lieu~~
- Afforestation only
- Credit from a established Forest Bank

HOME

FEATURES

McDaniel's Singleton Matthews Farm - What is it good for?

TOPICS: [Campus](#) [Farm](#) [Singleton Matthews Farm](#)



The Singleton Matthews Farm is owned by McDaniel College and is located just ten minutes from the campus. yet

How do you feel about the new semester?

- Great!
- Okay.
- Overwhelmed.
- Horrible.
- Not sure yet.

Vote

View Results

MCDANIEL FREE PRESS ON TWITTER

Tweets by @mcdfreepress



McDaniel Free Press
@mcdfreepress

Paradise in January: Bahamas Jan Term.
goo.gl/fjiDory



Embed

View on Twitter

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McDaniel College- Singleton Farm



Size	Number Required Per Acre	Approximate Spacing feet on center	Survivability Requirement	
			At the end of the second growing season	
Bare Root Seedlings or whips	700	8 x 8	55%	385
When using Tubex	436	10 X 10	75%	327
Bare Root Whips Container grown seedling tubes (minimum cavity width 1.5")	450	10 x 10	65%	290
When using Tubex	350	12 X 12	75%	263
Container Grown 1, 2, 3 Gallon	350	12 x 12	75%	260
Container Grown 5, 7 Gallon or 1" Caliper B & B	200	15 x 15	85%	170
Container Grown 15, 25 Gallon or 1.5 - 2" Caliper B & B	100	20 x 20	100%	100













Bill Radford- WestAir 21A LLC

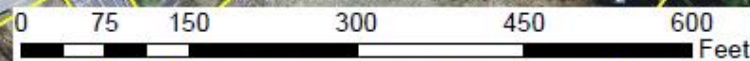
Legend

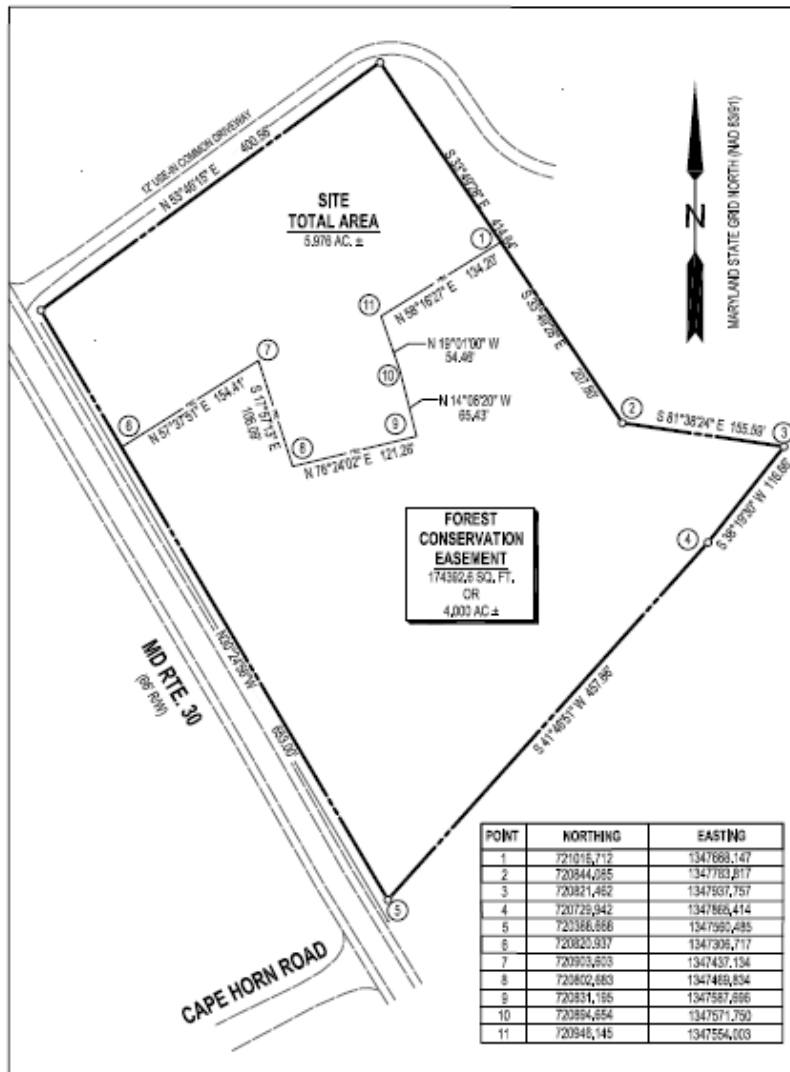
-  WestAir 21A Proposed Forest Conservation Area
-  Carroll County Parcel Boundaries



Coordinates: -76.875468, 39.645403

Date: 6/24/2015





POINT	NORTHING	EASTING
1	721015.712	1347688.147
2	720844.285	1347783.817
3	720821.482	1347937.757
4	720729.942	1347969.414
5	720386.888	1347995.485
6	720820.937	1347996.717
7	720925.853	1347437.134
8	720802.883	1347489.854
9	720831.185	1347587.896
10	720864.854	1347571.750
11	720948.148	1347554.003

JOHN E. LEMMERMAN, PROF. L.S. # 21095 EXP. 6-3-15 DATE



RTF
Associates, Inc.
LAND SURVEYORS
& PLANNERS
142 EAST MAIN STREET WESTMINSTER, MD 21157
410-584-2042 FAX 410-282-8942 410-578-1222
EMAIL: RTF142@GMAIL.COM WWW.RTF-SURVEYING.COM
CHECKED BY: JEL DATE: 6-3-2014
DRAWN BY: CAD DATE: 6-3-2014
SCALE: 1" = 330' R.T.F. JOB # 13-143

TITLE REFERENCE

WESTAIR21A, LLC
D.B.S. 7536 - 295
NOVEMBER 7, 2013

FCE EXHIBIT PLAT
FOR

**WESTAIR21A, LLC
PROPERTY**

6TH ELECTION DISTRICT, CARROLL CO. MD
TAX MAP 32, GRID: 6, PARCEL: 591



501 6th Street, Annapolis, MD 21403; www.allianceforthebay.org

Planting specifications:

West Air LLC
Route 30 Hanover Pike
Hampstead, MD 21074

MD Grid 39.38.40; 76.52.33 W

SITE OVERVIEW

The planting area consists of 4.0 contiguous acres. The site has been historically used for agriculture and is currently dominated by forbs and grasses.

One soil type dominates the planting area. The (BrC) Brinklow series consists of moderately deep, well drained soils common on side slopes in the uplands on the Piedmont Province. The site index (SI - height of tree at age 50) for Red oaks averages 75 feet while Tulip poplar has a site index of 90 feet. The site is productive for tree growth, hardwoods are well suited for this soil. The entire site is part of the "Prettyboy Reservoir" Drainage Basin # 2130806.

Planting material will conform to the current issue of "The American Standards for Nursery Stock", published by the "American Association of Nurserymen". Hardwoods, no less than 21" in height will be used. The planting stock will be Bare root stock. A total of 350 trees per acre with random distribution will be planted.

This area will require 1,400 trees. Each tree will be protected with a 5 foot shelter with a white oak or treated hardwood stake.

Quantity	Species	Spacing Feet
250	Poplar Liriodendron tulipifera	11 x 11
250	Red Oak -Quercus rubra	11 x 11
250	Black Oak -Quercus velutina	11 x 11
250	Red maple-Acer rubrum	11 x 11
200	White Dogwood- Cornus florida	11 x 11
200	Redbud-Cercis canadensis	11 x 11

SITE PREP:

Area should be mowed, after laying out individual rows for planting. Each planting hole should be sprayed with a post emergent in each row to be established. A glyphosate product will kill all existing green plants. Invasive plants must be kept under control, note Ailanthus trees are in close proximity and will invade the site.





Hunt Forest Mitigation Bank

Prince George's County, MD





MARBIDCO
growing rural ventures™

Maryland Agriculture Resource Based Industry Development Corporation



501 Sixth Street, Annapolis, MD 21403

Now Available: Hunt Forest Mitigation Bank

198.81 acres of preserved existing woodland eligible for woodland conservation or critical area FIDS credits.

\$40,000. per acre of woodland conservation credit.

The Hunt family property protects the headwaters to Rock Creek and provides key habitat for abundant wildlife.

For more information visit our Registry at:
woodland.ecosystemcredits.org/registry

Interested parties contact Eric Sprague,
esprague@allianceforthebay.org

Perceived Landowner Barriers to Entry

- High upfront costs to establish forest credits.
- Lack of reliable and easy-to-understand resources on the local forest banking programs.
- Insufficient number of services providers in the region available to guide interested landowners through the process.
- Risk of no economic return.

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



CONSERVATION INNOVATION GRANTS

Eligibility Requirements [In addition to the following state eligibility criteria: (1) Establishing or enhancing a riparian forest buffer along streams and floodplains with a minimum width of 50 feet on each side of the stream. (2) May not be enrolled in CREP. (3) Buffers between conflicting land uses, e.g. industrial and residentials, or adjacent to highways or utility rights-of-way. (4) Increase contiguous forest cover by adding new forest adjacent to an existing forest. (5) Forests

	Jurisdiction	Allows Private Landowner Banking (Y/N)	MUST be a forest buffer along streams and floodplains with a minimum width of 50 feet on each side of the stream.	May not be enrolled in CREP	Buffers between conflicting land uses, e.g. industrial and residentials, or adjacent to highways or utility rights-of-way.	Increase contiguous forest cover by adding new forest adjacent to an existing forest.	Fores	
1	Allegheny	N						
2	Aberdeen	N			x	x		
3	Annapolis	N						
4	Anne Arundel	Y			x	x		
5	Baltimore County	Y						
6	Baltimore City	N						
7	Bel Air	N						
8	Calvert	Y			x	x		
9	Charles	Y						
10	Caroline	Y						
11	Carroll	Y		x	x	x		
12	Cecil	Y		x	x	x		
13	Elkton	Y						
14	Gaithersburg	N						
15	Garrett	N						
16	Harford	Y			x	x		
17	Havre de Grace	Y				x		
18	Howard	Y				x		
19	Dorchester	Y		x		x		
20	Frederick	Y	x	x				
21	Kent	Y	www.forestsforthebay.org					
22	Montgomery	Y			x	x		
23	Prince George's	Y			x	x		

5/1/2014

Lewis Farm

A Conservation Funding Assessment



Forests for the Bay
ALLIANCE FOR THE CHESAPEAKE BAY
501 6TH ST. ANNAPOLIS, MD 21403

Ecosystem Markets

- Virginia Nutrient Trading Program
- Maryland Forest Conservation Banking programs
- Maryland Critical Areas Banking Program
- Maryland Nutrient Trading Program*

A photograph of a forest scene. In the foreground on the left, a large, textured tree trunk is visible. The rest of the image is filled with dense green foliage and smaller trees, creating a lush, natural setting. The text "Thank you" is overlaid in the center in a bright yellow font.

Thank you