124 South Street #3
Annapolis, MD 21401

Phone : 301-717-1579
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February 11 ,2021

SUPPORT with amendments HB0583- SB 0414 Climate Solutions Now Act of 2021

Dear Mr. Chairman and members of the Environment and Transportation Committee

The Bill before you are a defining set of actions to address and mitigate the relentless rise in CO2 emissions and the accompanying changes to long term weather patterns called climate. These effects can be addressed through near-term mitigation actions and through long term adaptative behavior. Taken together and looked at strategically, they form the basis for the bill as drafted. While not perfect and not sufficient without accompanying actions in other states. This bill is a bold, ambitious and essential set of actions to strengthen and prioritize state programs to address CO2 reduction.

We are particularly mindful of the role trees can play in the work. The benefits of tree planting for water and air quality are widely known and supported. Trees are no less important as a natural carbon sink and properly sited and managed through the practice of good silva culture to resist the many emerging threats to their health and growth offer a proven, affordable and essential component to our state's climate strategy. Planting and managing millions more trees will provide a steady stream of economic and health benefits for Maryland families both now and in the future. Ample opportunity exists for planting throughout the . Attached you will find a data recently developed by the Department of Natural resources to affirm our confidence in the efficiency of the goal set in this legislation.

We think the legislation could be significantly strengthen by at least three changes.**ONE** On 17 page 42 the 5 million Team coordinator should read the **Department of Natural Resources not the Department of the Environment.** That is the agency with the field network (local foresters) the agency mission and staff expertise (including the contractors in line 20 for this work. It's also where the program resources (Trust Fund) come from. Stakeholders should not be focused on the current named leadership or future carbon markets all these will change in the years ahead but the responsibility and accountability will not. The current language creates confusion and needless inter-agency gaps.

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Page two

TWO-We further recommend page 47 at line 12 **add**

A number **5.landowners participating in this program are expected to practice accepted silva culture management to sustain the health and maturity of trees planted.**

This change should alleviate concern about the tree removal on lands planted for 15 years or more. Fifteen years frames the parameters for the present carbon market. Not all landowners will want to participate in such markets. That should NOT be a barrier for planting trees under this program. We have found a 10 -year stewardship agreement very effective in securing broad participation in our statewide tree planting work. A 15 fifteen-year commitment may be. A15 year forest management plan offering local property tax incentives is a better tool. To achieve this **THREE**These five provisions for 15 years should not be mandatory for all participants.
We would be please to provide greater detail on appropriate management and maintenance strategies based on our work across the state.

We strongly support a favorable report on the "Climate Solutions Now Act of 2021" with these changes. . Maryland needs to pass legislation to plant more trees. manage them for health and growth and mitigate the growing impact of climate change.

Respectfully,

Gary G. Allen
President, Maryland Forestry Foundation
marylandforestryfoundation.org

Potential Tree Planting Opportunity

Purpose

This project was commissioned by SB729 in 2019, "Technical Study on Changes in Forest Cover and Tree Canopy in Maryland", which requested data on several different aspects of tree canopy in Maryland. The goal of this layer is to identify areas in Maryland that could potentially have tree planting projects. The layer overestimates the total available area for tree planting. It would be nearly impossible to account for every type of land use or ownership that might prevent a tree planting project from happening. This layer does not consider all powerlines, locations of sceptic systems, or land ownership, all which would be important to consider before starting a tree planting project. Instead, this layer broadly identifies spots that are likely to be good locations for tree planting projects based on their land cover and land use.

We estimate that only about of third of unforested "potential planting" sites are actually practical for tree planting, with an unknown amount where landowners are interested in planting. Given that, this layer is best used for narrowing down locations for tree planting projects. It can also be combined with other, more local/specialized layers, like green infrastructure, to provide a more focused look at potential tree planting opportunities in specific areas.

Methods

Tree planting opportunity was estimated for each county in Maryland using ArcMap v 10.4. Using the Chesapeake Conservancy's 2013/2014 high resolution land cover data, land cover classifications that were suitable for tree planting, low vegetation and barren, were identified to create the target layer. Spatial data that might be classified as low vegetation or barren in a land cover analysis but are not suitable for planting trees were identified so they could be removed; these layers will be further refer to as exclusion layers. This included airports, beaches, Ecologically Sensitive Areas (ESAs)/ rare species habitat, agricultural areas on prime farmland, Important Bird Areas as identified by the Audubon Society, areas under major power lines, railroads, wetlands, areas directly around buildings, and areas that would be inundated with a 4ft sea level rise. See table 1 for details about data sources how the different layers were processed. All patches of tree planting opportunity that were less than 10 meters in width and 100 square meters in area were removed.

Layers	Layer Type	Sources (Data Year)	Processing
Land Cover	Target	Chesapeake Conservancy High Resolution Land Cover (2013)	Isolate low vegetation and barren land classifications to create target layer
Airports	Exclusion	"Maryland Transit - Airports"- imap (2019); Parcel Data (2013-2015)	Identified airport locations with imap point data, parcels that those points landed in were identified as airports.
Beaches	Exclusion	MDP Land Use/Cover Data (2010)	Identified areas classified as "Beach" in land cover data set
Ecologically Sensitive Areas/ Rare Species Habitat	Exclusion	DNR Internal Data (2020)	NA
Agricultural Area on Prime Farmland	Exclusion	MDP Land Use/Cover Data (2010); "Maryland SSURGO Soils - SSURGO Soils" – imap (2019); National Hydrology Dataset (NHD) (2016)	Identified agricultural land using the MDP land cover data set and "Prime Farmland"/ "Farmland of Statewide Importance" with the SSURGO data set. Calculated where they overlap and removed 100ft stream buffers based on NHD data.
Grassland Important Bird Areas (IBAs)	Exclusion	National Audubon Society (2020)	NA
Power lines	Exclusion	"Electric Power Transmission Lines"- Homeland Infrastructure Foundation-Level Data (2019); Parcel Data (2013-2015)	Created 20m buffer around power lines and identified and parcels owned by power companies in parcel data, merged the two layers
Railroads	Exclusion	"TIGER/Line Shapefile, 2015, nation, U.S., Rails National Shapefile"- Data.gov (2015)	Created 10m buffer around railroads
Wetlands	Exclusion	DNR Internal Data (2010)	Isolated wetlands that are not ponds or rivers, created 100ft buffer around remaining wetlands
Buildings	Exclusion	Microsoft (2019)	Created 15ft buffer around all buildings
4ft Sea level rise	Exclusion	DNR Internal Data (2020)	NA

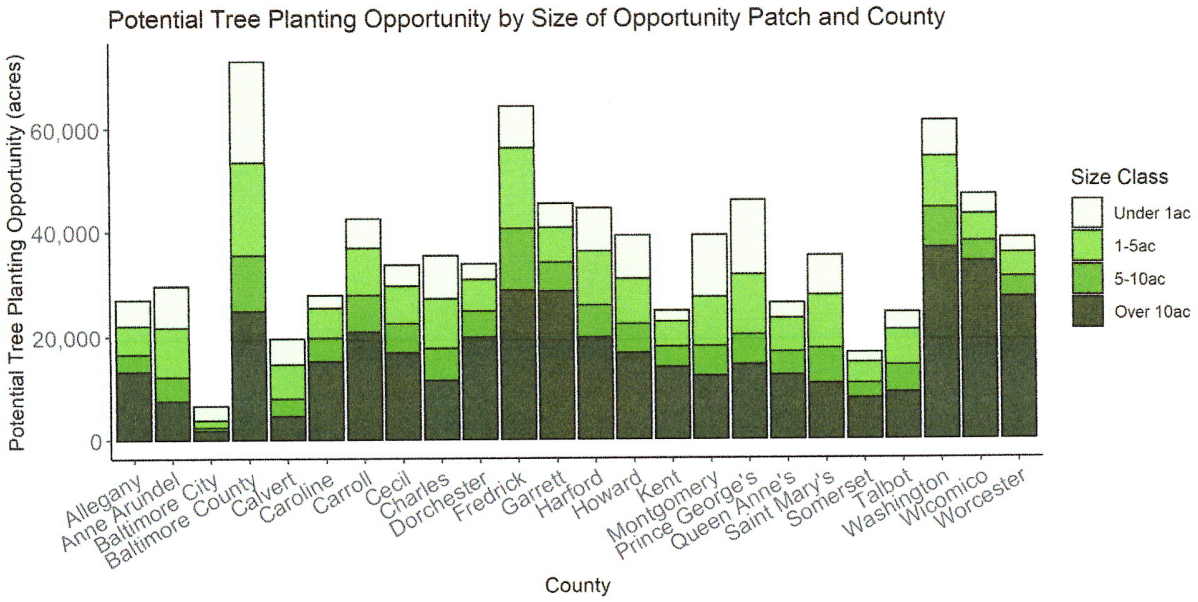
Table 1. Data sources and processing for all layers used the analysis

Results

We identified 883,257 acres of tree planting opportunity and 707,796 acres of forest planting opportunity (tree planting opportunity patches larger than 1 acre and 120ft wide) in Maryland.

Of that planting opportunity, 143,285 acres are within the upper 50% of census block groups ranked by percent minority population, 384,565 acres are within the upper 50% of census block groups ranked by percent low income population, and 419,636 acres are within the upper 50% of census block groups ranked by percent of population with less than a high school degrees. There are 50,682 acres of potential tree planting opportunity where the above 3 categories overlap.

*See attached excel sheet for more detailed breakdown of data by County



County	Total Area (acres)		Critical Area		300ft Stre
	Tree Planting Opportunity	Forest* Planting Opportunity	Tree Planting Opportunity	Forest* Planting Opportunity	Tree Planting Opportunity
Allegany	27,120.46	22,028.36	-	-	5,898.65
Anne Arundel	29,683.45	21,623.09	3,345.28	2,123.74	3,696.20
Baltimore City	6,570.33	3,776.23	459.00	344.73	902.28
Baltimore County	73,028.40	53,326.54	4,071.31	2,598.00	12,386.93
Calvert	19,623.09	14,448.36	2,858.75	2,079.81	1,231.96
Caroline	27,914.02	25,260.22	1,885.41	1,570.48	10,492.40
Carroll	42,509.94	36,835.94	-	-	8,431.20
Cecil	33,687.43	29,592.32	3,239.67	2,707.18	5,303.37
Charles	35,487.77	27,115.01	3,218.74	2,597.94	3,325.72
Dorchester	33,854.87	30,786.07	8,995.05	7,711.04	10,132.69
Frederick	64,307.50	55,933.34	-	-	16,460.92
Garrett	45,420.26	40,711.65	-	-	5,180.56
Harford	44,486.20	36,100.81	4,116.46	3,567.98	5,795.18
Howard	39,197.77	30,836.74	-	-	7,894.11
Kent	24,882.80	22,714.88	5,536.85	4,722.47	6,630.59
Montgomery	39,280.45	5,750.28	-	-	9,230.31
Prince George's	46,038.34	31,540.02	987.48	750.60	5,344.46
Queen Anne's	26,376.67	23,240.62	8,804.64	7,301.94	5,830.31
Somerset	16,734.40	14,652.78	4,387.87	3,727.11	3,894.40
St. Mary's	35,362.11	27,740.38	6,966.15	5,429.53	4,612.15
Talbot	24,536.90	20,929.69	8,863.95	7,205.99	6,632.85
Washington	61,405.60	54,166.52	-	-	13,433.72
Wicomico	47,078.83	43,037.69	2,931.26	2,483.46	8,524.70
Worcester	38,668.98	35,648.06	4,182.93	3,577.55	18,126.15
TOTAL	883,256.55	707,795.60	74,850.81	60,499.55	179,391.81

;am Buffer Forest* Planting Opportunity	100ft Stream Buffer Tree Planting Opportunity	100ft Stream Buffer Forest* Planting Opportunity	Tree Planting Opportunity on Protected Lands	Tree Planting Opportunity on Private Lands
4,480.10	1,896.91	1,402.11	2,066.11	22,230.13
2,565.99	784.00	532.71	6,510.56	22,972.17
606.52	215.66	130.83	1,388.16	3,388.31
9,365.90	4,007.34	3,010.46	14,626.65	60,061.86
899.72	156.06	113.45	3,304.93	17,641.66
9,749.96	5,654.35	5,422.97	4,302.19	26,236.47
7,420.20	2,421.43	2,136.41	5,431.70	37,956.02
4,747.48	1,427.78	1,294.60	4,190.34	29,986.04
2,542.01	652.98	496.18	4,645.91	31,052.61
9,494.06	5,575.47	5,384.61	4,624.89	31,478.51
14,592.89	6,094.58	5,489.03	6,373.04	57,226.69
4,365.54	1,454.07	1,138.61	2,981.49	42,413.38
4,838.03	1,694.33	1,393.95	14,288.01	32,787.08
6,278.82	2,241.27	1,810.88	8,355.85	32,176.44
6,204.72	2,449.65	2,330.78	5,607.25	23,370.64
1,532.52	2,617.89	441.27	12,098.29	29,774.88
3,350.27	1,313.99	741.86	7,221.57	33,126.55
5,228.46	2,352.94	2,221.60	6,578.56	23,790.98
3,499.48	1,901.91	1,775.05	1,787.98	15,471.20
3,618.91	847.96	682.07	3,422.67	32,407.88
5,852.80	2,983.06	2,758.79	2,877.47	22,246.96
12,151.43	5,107.38	4,687.49	6,414.47	54,696.45
8,011.38	3,497.47	3,369.69	3,478.17	44,071.48
17,220.62	10,057.22	9,776.10	4,169.59	35,564.36
148,617.81	67,405.69	58,541.48	136,745.81	762,128.74

*Forest planting oppor

tunity is tree planting opportunity patches over 1 acre in area and 120ft wide