



Committee: T&E
Committee Review: Completed
Staff: Christine Wellons, Senior Legislative Attorney
Purpose: Final action – vote expected
Keywords: #NoNetLoss #ForestConservation #Chapter22A

AGENDA ITEMS #4A & 5B
March 21, 2023
Action

SUBJECTS

Bill 25-22, Forest Conservation – Trees

Resolution to Approve Montgomery County Planning Board Regulation No. 25-22 on Forest Conservation – Trees

Lead Sponsor: Then-Council President Albornoz at the Request of the Planning Board

EXPECTED ATTENDEES

Kristin Taddei, Forest Conservation Planning Coordinator, Planning Department (invited)
Robert Kronenberg, Planning Department (invited)
Christina Sorrento, Planning Department (invited)
Laura Miller, Forest Conservation Coordinator, Department of Environmental Protection (invited)
Frank Dawson, Chief, Division of Watershed Management Capital Projects, Department of Environmental Protection (invited)
Tim Cupples, Chief, Division of Transportation Engineering, Department of Transportation (invited)

COUNCIL DECISION POINTS & COMMITTEE RECOMMENDATION

The Transportation & Environment (T&E) Committee voted (3-0) to recommend the enactment of Bill 25-22 with amendments, and to adopt a resolution approving Forest Conservation – Trees Regulations.

The decision points are:

- (1) whether to further amend the T&E's recommended bill by including an expedited effective date and a transition clause;
- (2) whether to enact Bill 25-22 as amended; and
- (3) whether to adopt a resolution approving Montgomery County Planning Board Regulation No. 25-22 on Forest Conservation – Trees.

DESCRIPTION/ISSUE

Bill 25-22 and Regulation No. 25-22 would amend Chapter 22A, the Forest Conservation Law, and the Planning Board's forest conservation regulations. The amendments would require greater forest planting and forest conservation with a goal of no net loss.

The T&E Committee recommends enactment of the bill with amendments to:

- (1) expand the types of priority areas that must be retained, unless the applicant qualifies for a variance, to include floodplains and stream buffers;
- (2) if a variance is granted for a floodplain or stream buffer, require a ratio of 2:1 if the reforestation occurs within the same watershed or within another watershed priority area, and require a ratio of 2 ½:1 if the reforestation occurs elsewhere in the County outside of a watershed priority area;
- (3) provide additional flexibility regarding forest banks in the event the General Assembly amends state law to allow the banks to include existing forest credits; and
- (4) make technical clarifications.

SUMMARY OF KEY DISCUSSION POINTS

- The Council might wish to further amend the bill to adopt an expedited effective date (as requested by Planning Department staff) and a transition clause. See page 7 of the Staff Report.

This report contains:

Staff report	Pages 1-8
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Resolution to Approve Montgomery County Planning Board Regulation No. #-22 on Forest Conservation – Trees	© 34
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MEMORANDUM

March 16, 2023

TO: County Council

FROM: Christine Wellons, Senior Legislative Attorney

SUBJECTS: Bill 25-22, Forest Conservation - Trees ¹
Forest Conservation – Trees Regulations

PURPOSE: Action – Roll-call vote expected

COMMITTEE RECOMMENDATION: The Transportation & Environment (T&E) Committee voted (3-0) to recommend the enactment of Bill 25-22 with amendments, and to adopt a resolution approving Forest Conservation – Trees Regulations.

Expected Attendees

Kristin Taddei, Forest Conservation Planning Coordinator, Planning Department (invited)
Robert Kronenberg, Planning Department (invited)
Christina Sorrento, Planning Department (invited)
Laura Miller, Forest Conservation Coordinator, Department of Environmental Protection (invited)
Frank Dawson, Chief, Division of Watershed Management Capital Projects, Department of Environmental Protection (invited)
Tim Cupples, Chief, Division of Transportation Engineering, Department of Transportation (invited)

Bill 25-22, Forest Conservation - Trees, sponsored by the Council President at the request of the Planning Board, was introduced on July 25, 2022. Two public hearings were held on the bill: one on October 4, 2022, and the other on February 7, 2023. The T&E Committee held a worksession on February 27. The Committee voted (3-0) to recommend:

- (1) The enactment of Bill 25-22 with amendments; and
- (2) The approval of a resolution to approve Method (2) regulations, Forest Conservation - Trees Regulations.

¹#ForestConservation

Bill 25-22 would:

- exclude activities in the Commercial Residential (CR) zone from qualifying for certain Forest Conservation Plan (FCP) exemptions;
- exclude any development that occurs within an environmental buffer from qualifying for a FCP exemption;
- change the timeline for approval of a Natural Resources Inventory/Forest Stand Delineation (NRI/FSD);
- increase the amount of forest required to be preserved in lower density land use categories;
- increase forest planting requirements in higher density land use categories;
- increase reforestation ratios;
- require planting of forest in all unforested stream valley buffers;
- amend the requirements where forest retention required by the Forest Conservation Law is not possible;
- broaden the terms of maintenance and management agreements to include required maintenance for areas of existing forest retained to meet forest mitigation requirements;
- expand mitigation requirements for variance trees to include mitigation for variance trees located within a forest;
- allow landscaping to meet both reforestation or afforestation requirements in equity focus areas;
- update the allowable types of forest mitigation banks allowed in the County per recent amendment to the state's Forest Conservation Act; and
- generally amend Chapter 22A.

The Planning Board also transmitted to the Council proposed companion regulations to implement Bill 25-22. The regulations were published in the County Register and received no public comments.

BACKGROUND

As explained by the Planning Department, Bill 25-22 would make a variety of amendments to the forest conservation law (Chapter 22A) intended to advance the goal of “no net loss” of forests in the County. The Planning Chair stated with respect to the bill:

Although we are approaching “no net loss” of forest now, more can be done. These current amendments are proposed to achieve even greater forest planting and forest conservation in Montgomery County, with a goal of achieving an equal or greater area of forest planted than forest removed on a County-wide level by projects subject to the Montgomery County Forest Conservation Law.

In addition to revising Chapter 22A consistent with the “no net loss” goal, Bill 25-22 would make various clarifications and updates to Chapter 22A.

SUMMARY OF IMPACT STATEMENTS

Racial Equity and Social Justice. The Office of Legislative Oversight (OLO) anticipates that Bill 25-22 would have negligible impacts upon racial equity and social justice in the County.

Fiscal impact. The Office of Management and Budget (OMB) anticipates that Bill 25-22 would slightly decrease revenues and slightly increase expenditures for the County.

Economic impact. OLO anticipates that Bill 25-22 would have a negative economic impact in the County due to increased development costs.

PUBLIC HEARINGS - SUMMARY

Over the course of two public hearings, on October 4, 2022 and February 7, 2023, numerous individuals and entities testified regarding Bill 25-22. Testimony in support of the bill included the following points:

- The Planning Department noted that the state Department of Natural Resources has reviewed the bill to ensure its compliance with state law.
- Advocates making up the Montgomery County Forest Conservation Coalition noted:
 - o The importance of the natural regeneration of forests;
 - o The benefits of trees protecting waterways, cooling the air, and sequestering carbon dioxide;
 - o The interrelationship of three County laws: the forest conservation law, the tree canopy law, and the roadside safety law, all of which need improvements to achieve net zero forest loss; and
 - o The importance of combating invasive species, perhaps through a grant program.

Testimony raising concerns about Bill 25-22 included the following points:

- The Maryland Building Industry Association (MBIA) testified that the bill is unnecessary to achieve no net loss of forests, and that the bill would create obstacles to development and make the creation of new housing less likely.

SUMMARY OF COMMITTEE’S WORKSESSION AND AMENDMENTS

The Committee considered the following issues, and adopted the following amendments, in connection with Bill 25-22.

1. **Pending State Legislation Regarding Forest Conservation**

Maryland Senate Bill 526, pending in the General Assembly, would make significant changes to the state’s forest conservation law – which enables local forest conservation laws. <https://mgaleg.maryland.gov/mgawebsite/Legislation/Details/SB0526>

Under the state bill, the state would replace its goal of “no net loss” of forest with a more ambitious goal of “increasing the acreage” of forest land and tree canopy in the state. To further this

goal, the bill would increase required reforestation ratios. The bill also would enable localities to propose, subject to state DNR approval, alternative measures that are expected to result in at least the existing level of forest cover over a 2-year period.

Senate Bill 526 had a Senate hearing on March 2. Its cross file, House Bill 723, had a hearing before the House on March 1. Both bills are in committee.

Depending upon the outcome of Senate Bill 526/ House Bill 723, it is possible that the County will need to re-revise its forest conservation law in the coming months.

2. The Hughes Report

According to a study released in 2022 by the Harry R. Hughes Center for Agro-Ecology at the University of Maryland (the “Hughes report”), forest area in Maryland “has shown a slightly decreasing trend over 5- and 20-year intervals but with a trend toward stabilization in the past 10 years (-0.14% annually from 2013-2018; -0.23% annually from 1999-2019). The decrease in forest cover has been offset somewhat by an increase in tree canopy outside forests, resulting in a more modest decrease in the total tree canopy (-0.077% annually).”

With respect to Montgomery County, the Hughes report noted, “The distribution of tree canopy loss [in the state] is highly skewed — two counties, Montgomery and Prince George’s, accounted for more than 50% of the state’s total tree canopy loss....”

The Hughes report indicated that a goal of increasing forest acreage and tree cover within the state is achievable. The report is available at:

https://agnr.umd.edu/sites/agnr.umd.edu/files/files/documents/Hughes%20Center/Maryland%20Forest%20Technical%20Study_Use_Final_Web.pdf

3. Committee Amendment: Expansion of Priority Areas – Floodplains and Stream Buffers

The T&E Committee approved the following amendment, which was requested by the Forest Coalition to expand the type of priority areas that must be retained unless the applicant qualifies for a variance. The priority areas generally would be expanded to forests within floodplains and stream buffers. The Planning Department concurs with the amendment.

Amend lines 443-463 as follows.

(b) *Retention.*

* * *

(3) The following trees, shrubs, plants, and specific areas are priority for retention and protection and must be left in an undisturbed condition unless the Planning Board or Planning Director, as appropriate, finds that the applicant qualifies for a variance under Section 22A-21:

- (A) Any tree, shrub, or plant that is rare, threatened, or endangered under:
 - (i) the Federal Endangered Species Act of 1973 in 16 U.S.C. Sections 1531 — 1544 and in 50 CFR 17;
 - (ii) the Maryland Nongame and Endangered Species Conservation Act, Title 10, Subtitle 2A of the Natural Resources Article of the Maryland Code; or
 - (iii) COMAR 08.03.08;
- (B) Any tree that is:
 - (i) 1 inch in caliper or larger and part of a historic site or located within an historic district,
 - (ii) associated with a historic structure, or
 - (iii) designated by the State or County as a national, State, or County champion tree; ~~[[or]]~~
- (C) Any tree with a diameter, measured at 4.5 feet above the ground, of:
 - (i) 30 inches or more; or
 - (ii) 75% or more of the diameter, measured at 4.5 feet above ground, of the current State champion tree of that species; or
- (D) Any forest in a floodplain or stream buffer, except if the activity occurring within the floodplain or stream buffer is permitted under the environmental guidelines.

* * *

4. Committee Amendment: Ratios when a Variance is Granted

In conjunction with the amendment discussed above under Issue #3, the T&E Committee also amended the reforestation ratios required if a variance is granted to remove forest in a floodplain or stream buffer.

The amendment would require a ratio of 2:1 if the reforestation occurs within the same watershed or within another watershed priority area, and to require a ratio of 2½:1 if the reforestation occurs elsewhere in the County outside of a watershed priority area.

After line 701, insert a new subsection (f) as follows.

- (f) If the applicant is granted a variance in connection with disturbance of forest in a floodplain or stream buffer under Section 22A-12(b)(3)(D), the applicant must reforest at a minimum ratio of:
- (1) 2:1, if the reforestation is occurring within the same 8-digit watershed as the project or a priority 8-digit watershed under Section 22A-12(c); or
 - (2) 2 ½:1, if the reforestation is occurring within the County outside of the same 8-digit watershed and outside of a priority 8-digit watershed under Section 22A-12(c).

5. Committee Amendment: Forest Mitigation Banks

The Committee adopted the following amendment, which the Planning Department staff requested. The amendment would provide additional flexibility regarding forest banks in the event the General Assembly amends state law to allow the banks to include existing forest credits.

Amend lines 663-673 to read as follows.

- (e) The forest mitigation bank plan must include:
- (1) a maintenance agreement which meets the standards in subsection 22A-12(h)(1);
 - (2) all information required by subsection 22A-10(c) for a forest conservation plan; and
 - (3) draft easements, covenants, or deed restrictions for the area included in the forest mitigation bank; and
 - (4) the number of forest mitigation bank credits available for sale as [either existing forest credits or] either:
 - (A) if permitted by state law, existing forest credits, where 1 acre of forest mitigation bank credit equals 2 acres of existing forest; or
 - (B) planted forest credits, where 1 acre of forest mitigation bank credit equals 1 acre of planted forest[, or 2 acres of existing forest].

6. Committee Amendments: Technical Amendments

The Committee adopted technical amendments, which are reflected at ©257. The amendments are non-substantive.

7. Trees Regulations

The Committee voted to recommend the adoption of a Council resolution approving Method (2) regulations promulgated by the Planning Department: Forest Conservation – Trees Regulations. The Committee asked staff to identify any amendments that should be made to the regulations in order to align them with the amendments to Bill 25-22. Planning Department staff have determined that no amendments to the regulations are necessary.

REMAINING ISSUES FOR FULL COUNCIL CONSIDERATION

1. Whether to Expedite the Bill

Planning Staff have recommended amending Bill 25-22 to make it expedited. To expedite the bill, the following amendments would need to be adopted, and the Council would have to enact the bill with the affirmative vote of at least 7 Councilmembers.

After the last line of the bill, insert:

Sec. 2. Expedited Effective Date. This Act is necessary for the immediate protection of the public health, safety, or interest and must take effect on the day that it becomes law.

2. Whether to Adopt a Transition Clause

When the Council adopted the forest conservation law in 2001, and when it amended the forest conservation law in 2021, it included transition clauses so that residents, developers, and County agencies would know whether the amendments applied to particular projects or applications. Similarly, the Council might wish to adopt a transition clause for Bill 25-22.

After the last line of the bill, insert a new section:

Sec. 3. Transition. Any amendment to Chapter 22A under Section 1 of this Act does not apply to: (a) a preliminary or final forest conservation plan approved before this Act took effect; or (b) a County highway project if, prior to the effective date of this Act, funding has been appropriated for the project, and the project has been submitted to the Planning Board under mandatory referral.

NEXT STEPS. Whether to enact Bill 25-22, with amendments, as recommended by the T&E Committee (including any additional amendments discussed above under “Remaining Issues”); and

(2) whether to adopt a resolution approving Forest Conservation – Trees Regulations, proposed by the Planning Department.

This packet contains:	<u>Circle #</u>
Bill 25-22	1
Resolution to Approve Montgomery County Planning Board Regulation No. #-22 on Forest Conservation – Trees	34
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Montgomery Planning Staff Report Transmittal	39
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Bill No. 25-22
Concerning: Forest Conservation – Trees
Revised: 03/09/2023 Draft No. 3
Introduced: September 13, 2022
Expires: _____
Enacted: _____
Executive: _____
Effective: _____
Sunset Date: _____
Ch. _____, Laws of Mont. Co. _____

COUNTY COUNCIL FOR MONTGOMERY COUNTY, MARYLAND

By: Then-Council President Albornoz at the Request of the Planning Board

AN ACT to:

- (1) exclude activities in the Commercial Residential (CR) zone from qualifying for certain Forest Conservation Plan (FCP) exemptions;
- (2) exclude any development that occurs within an environmental buffer from qualifying for a FCP exemption;
- (3) change the timeline for approval of a Natural Resources Inventory/Forest Stand Delineation (NRI/FSD);
- (4) increase the amount of forest required to be preserved in lower density land use categories;
- (5) increase forest planting requirements in higher density land use categories;
- (6) increase reforestation ratios;
- (7) require planting of forest in all unforested stream valley buffers;
- (8) amend the requirements where forest retention required by the Forest Conservation Law is not possible;
- (9) broaden the terms of maintenance and management agreements to include required maintenance for areas of existing forest retained to meet forest mitigation requirements;
- (10) expand mitigation requirements for variance trees to include mitigation for variance trees located within a forest;
- (11) allow landscaping to meet both reforestation or afforestation requirements in equity focus areas;
- (12) update the allowable types of forest mitigation banks allowed in the County per recent amendment to the State’s Forest Conservation Act; and
- (13) generally amend Chapter 22A.

By amending

Montgomery County Code
Chapter 22A, Forest Conservation – Trees
Sections 22A-3, 22A-4, 22A-5, 22A-6, 22A-9, 22A-10, 22A-11, 22A-12, 22A-13,

and 22A-21

Boldface	<i>Heading or defined term.</i>
<u>Underlining</u>	<i>Added to existing law by original bill.</i>
[Single boldface brackets]	<i>Deleted from existing law by original bill.</i>
<u>Double underlining</u>	<i>Added by amendment.</i>
[[Double boldface brackets]]	<i>Deleted from existing law or the bill by amendment.</i>
* * *	<i>Existing law unaffected by bill.</i>

The County Council for Montgomery County, Maryland approves the following Act:

1 **Sec. 1. Sections 22A-3, 22A-4, 22A-5, 22A-6, 22A-9, 22A-10, 22A-11, 22A-**
 2 **12, 22A-13, and 22A-21 are amended as follows:**

3 **22A-3. Definitions.**

4 * * *

5 *Administrative subdivision* means a plan for a proposed subdivision [or
 6 resubdivision] prepared and submitted for approval by the Planning
 7 Director under Division 50.6 of Chapter 50 before preparation of a
 8 subdivision plat.

9 * * *

10 *Agricultural and resource area* means an undeveloped area zoned for a
 11 density of less than or equal to one dwelling unit per 5 acres.

12 *Biohealth priority campus plan* means a plan that qualifies as a Biohealth
 13 Priority Campus under Section 3.5.8.E of Chapter 59 and is approved
 14 under Section 7.3.6 of Chapter 59.

15 * * *

16 *District Council* means the County Council in its capacity, under Division
 17 II of the Land Use Article of the Maryland Code, to act on planning and
 18 zoning for the Maryland-Washington Regional District.

19 *Environmental buffer* means perennial, intermittent, or ephemeral
 20 streams/channels and their associated buffers; wetlands and their
 21 associated buffers; ~~[[and,]] hydraulically connected steep slopes~~
 22 according to the latest version of ~~[[Environmental Guidelines: Guidelines~~
 23 for the Environmental Management of Development in Montgomery
 24 County, Maryland (MNCPPC),]] the environmental guidelines or an
 25 appropriate master plan; and floodplains.

26 Environmental guidelines mean the Guidelines for Environmental
27 Management of Development in Montgomery County, Maryland (M-
28 NCPPC), as amended.

29 Equestrian Facility: A] means any building, structure, or land area that
30 is primarily used for the care, breeding, boarding, rental, riding, sport
31 eventing, or training of horses or ponies, the teaching of equestrian skills,
32 or competitive equestrian events.

33 * * *

34 Forest conservation threshold means the percentage of the net tract area
35 at which the reforestation [requirement changes from a ratio of ¼ acre
36 planted for every one acre removed to a ratio of 2 acres planted for every
37 one acre removed] ratio increases as specified in Section 22A-12.

38 * * *

39 Forest mitigation banking means the intentional [preservation,]
40 restoration[,] or creation of forests undertaken expressly to provide
41 credits for afforestation or reforestation requirements.

42 * * *

43 Minor subdivision means a plan for a proposed subdivision [or
44 resubdivision] prepared and submitted for approval by the Planning
45 Director under Division 50.7 of Chapter 50.

46 * * *

47 Park development plan means an application submitted by the
48 Montgomery County Parks Department for the construction and
49 development of a specific park.

50 Patuxent Primary Management Area (PMA) means [[areas]] an area of
51 environmental importance within the Patuxent River watershed, as
52 further defined in the [[Environmental]] environmental guidelines.

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Preliminary plan of subdivision means a plan for a proposed subdivision [or resubdivision] prepared and submitted for approval by the Planning Board under Division 50.4 of Chapter 50 before preparation of a subdivision plat.

Project plan means [a plan or] an amendment to a project plan referred to in Section 7.7.1.B of Chapter 59 [or a sketch plan approved under Section 7.3.3 of Chapter 59].

* * *

Special Protection Area (SPA) means a geographic area designated by the County Council under Section 19-62(a).

Specimen tree means a tree that is a particularly impressive or unusual example of a species due to its size, shape, age, or any other trait that epitomizes the character of the species as further described in the most recent version of the Trees Technical Manual.

* * *

22A-4. Applicability.

Except as otherwise expressly provided in this Chapter, this Chapter applies to:

- (a) a person required by law to obtain an approval or amendment to a development plan, diagrammatic plan, project plan, floating zone plan, sketch plan, biohealth priority campus plan, preliminary plan of subdivision, administrative subdivision, minor subdivision, or site plan;

* * *

22A-5. Exemptions.

The requirements of Article II do not apply to:

79 (a) an activity conducted on an existing single lot of any size that is required
 80 to construct a dwelling house or accessory structure (such as a pool, tennis
 81 court, or shed) intended for the use of the owner, if the activity:

- 82 (1) does not require a special exception;
- 83 (2) does not occur within an environmental buffer, except for the
 84 allowable uses stated in the environmental guidelines;

85 [(2)] (3) does not result in the cutting, clearing, or grading of:

86 * * *

87 (k) any lot covered by a preliminary plan of subdivision or site plan that did
 88 not receive a sediment control permit before July 1, 1991, and for which
 89 the preliminary plan of subdivision or site plan:

- 90 (1) was approved before July 1, 1984, and has less than 40,000 square
 91 feet of forest cover; or
- 92 (2) was approved or extended between July 1, 1984 and July 1, 1991,
 93 and
- 94 (3) the construction will not result in the cutting, clearing, or grading
 95 of:
 - 96 (A) any forest in a stream buffer, or
 - 97 (B) any forest on property located in a special protection area
 98 which must submit a water quality plan.

99 A preliminary plan of subdivision or site plan approved before July
 100 1, 1991, that is revised after that date at the initiative of the
 101 applicant and which results in the cutting of more than 5,000
 102 additional square feet of forest is not exempt. Development or
 103 redevelopment of a property which requires [re]subdivision is not
 104 exempt. This subsection does not apply to a planned unit
 105 development subject to subsection (l);

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(n) any minor subdivision under Division 50.7 of Chapter 50 if:

(1) the only development located on the resulting lot is a single family dwelling unit or an accessory structure (such as a pool, tennis court, or shed); development does not occur within an environmental buffer, except for the allowable uses stated in the environmental guidelines; and development does not result in the cutting, clearing, or grading of:

* * *

(s) (1) an activity occurring on a tract of land that is less than 1.5 acres and that [[meets all of the following criteria]]:

(A) is not located within the Commercial Residential (CR) zone classification;

(B) has [with] no existing forest, [[or]] existing specimen, or champion tree[, and];

(C) would not result in an [the] afforestation [requirements would not] requirement that [exceed] exceeds 10,000 square feet; and

(D) would not result in development within an environmental buffer, except for the allowable uses stated in the environmental guidelines; or

(2) an activity occurring on a tract of land that is less than 1 acre and that [[meets all of the following criteria]]:

(A) is not located within the Commercial Residential (CR) zone classification;

131 (B) [that will] would not result in the clearing of more than a
 132 total of 20,000 square feet of existing forest, or any existing
 133 specimen or champion tree; [, and]

134 (C) would not result in a reforestation [requirements]
 135 requirement that [would not] exceeds 10,000 square feet;[.]

136 (D) would not result in development within an environmental
 137 buffer, except for the allowable uses stated in the
 138 environmental guidelines; and

139 (E) [Forest]preserves forest in any [priority area] on-site
 140 floodplains, stream buffers, steep slopes, critical habitats,
 141 and areas designated as priority save areas in a master plan
 142 or functional plan [[must be preserved.]]]; and];

143 (t) a modification to a:

144 (1) non-residential developed property if:

145 (A) no more than 5,000 square feet of forest is ever cleared at
 146 one time or cumulatively after an exemption is issued;

147 (B) the modification does not result in the cutting, clearing, or
 148 grading of any forest in a stream buffer or forest located
 149 on property in a special protection area which must submit
 150 a water quality plan;

151 (C) the development does not occur within an environmental
 152 buffer, with the exception of the allowable uses stated in
 153 the environmental guidelines;

154 [(C)](D) the modification does not require approval of a
 155 preliminary plan, administrative subdivision plan, or
 156 conditional use/special exception;

157 ~~[(D)]~~(E) the modification does not increase the developed
158 area by more than 50%, and any existing principal
159 building, as defined in Chapter 59, is retained; and

160 ~~[(E)]~~(F) the pending development application does not
161 propose any residential uses; or

162 (2) residential developed property if:

163 (A) forest is not impacted or cleared;

164 (B) the ~~[modification is not located in a stream buffer]~~
165 development does not occur within an environmental
166 buffer, with the exception of the allowable uses stated in
167 the environmental guidelines;

168 * * *

169 **22A-6. Special provisions – Exemptions; tree save plans; and highway projects.**

170 (a) *Tree save plan requirements.* An activity or development that would be
171 exempt under Section 22A-5, and that would impact a significant,
172 specimen, or champion tree, requires the approval of a tree save plan. ~~[,~~
173 which may] The tree save plan must require tree preservation or
174 planting of mitigation trees at a ratio of 1 caliper inch replaced for every
175 4 inches of trunk diameter removed, measured at 4.5 feet above the
176 ground, [for loss of individual trees. The plan requirements must be]
177 based on the size and character of the trees to be cleared. If trees to be
178 cleared are part of an existing scenic buffer between public parkland
179 and a proposed development, trees that [which] are smaller than
180 specimen size may be included in the tree save plan.

181 (b) *Exemption expiration.* A confirmed exemption is valid for 5 years from
182 the date the exemption is confirmed [that has not started any authorized

land disturbance within 5 years from the date of approval of the exemption is expired], unless the confirmed exemption pertains to a subdivision with a validity period of more than 5 years, in which case]. If the subdivision has a validity period of more than 5 years,] the confirmed exemption does not expire until the end of the subdivision validity period. If site development activities have not been authorized by the forest conservation inspector to commence before the expiration date, including inspections detailed under 22A-15(c)(2)(A) and (B), the approved exemption will expire at that time.

* * *

22A-9. County and Municipal Highway Projects

(a) *General.*

(1) This Section applies to construction of a highway or by the County or a municipality as part of an approved Capital Improvements Program project.

(2) The construction should minimize forest removal, land disturbance, and loss of significant, specimen, or champion trees to the extent possible while balancing other design, construction, and environmental standards. The constructing agency must make a reasonable effort to minimize land disturbance to avoid the cutting or clearing of trees and other woody plants.

(b) If the forest to be cut or cleared for a County highway project equals or exceeds 20,000 square feet, the constructing agency must reforest a suitable area at the rate of one acre of protected reforestation for each acre of forest cleared.

208 (c) Reforestation for County highway projects must meet the standards in
209 subsections 22A-12(e), (g) and (h).

210 (d) Any mitigation requirement for loss of significant, specimen, or
211 champion trees must be based on the size and character of the tree.

212 * * *

213 **22A-10. General**

214 * * *

215 (b) *Forest stand delineation.*

216 * * *

217 (4) An approved forest stand delineation is not valid after 2 years
218 unless:

219 (A) a forest conservation plan or a plan under Section 22A-9
220 has been accepted as complete; or

221 (B) the delineation has been recertified by the preparer, which
222 may occur within one year after the expiration date if the
223 requirements of Section 22A.00.01.06.F, as amended, of
224 the Forest Conservation – Trees Regulations are met.

225 (5) An approved forest stand delineation may not be amended. A
226 new forest stand delineation must be submitted for review in
227 order to make any changes.

228 * * *

229 **22A-11. Application, review, and approval procedures**

230 (a) [General] *General.*

231 (1) [[Application]] Application. The submission of a development
232 plan, floating zone plan, project plan, sketch plan, subdivision
233 plan, site plan, biohealth priority campus plan, special exception,

234 conditional use, mandatory referral, park development plan, or
 235 sediment control permit under this Section must include an
 236 approved forest stand delineation or a confirmed exemption from
 237 submitting a forest conservation plan under Section 22A-5.

238 [(1)](2) [[Coordinated with project review]] Coordinated with project
 239 review. The [forest stand delineation and] forest conservation
 240 plan must be submitted and reviewed in conjunction with the
 241 review process for a development plan, floating zone plan,
 242 project plan, [sketch plan,] subdivision plan, site plan, biohealth
 243 priority campus plan, special exception, conditional use,
 244 mandatory referral, park development plan, or sediment control
 245 permit under this Section. The Planning Director must coordinate
 246 review of the forest conservation plan with the Director of
 247 Environmental Protection, the Director of Permitting Services,
 248 the Washington Suburban Sanitary Commission, other relevant
 249 regulatory agencies, and entities that will provide public utilities
 250 to the tract, to promote consistency between the objectives of this
 251 Chapter and other development requirements. To the extent
 252 practicable, entities providing public utilities should design
 253 facilities that will serve a tract in a manner that avoids identified
 254 conservation areas and minimizes tree loss.

255 [(2)](3) [[Modification to an approved plan]] Modification of an
 256 approved plan. The Planning Director may approve
 257 modifications to an approved forest conservation plan that are
 258 consistent with this Chapter if:

259 (A) field inspections or other evaluation reveals minor
 260 inadequacies of the plan; or

261 (B) each modification is a minor amendment, as defined in
 262 Section 22A.00.01.13.A.1, as amended, of the Forest
 263 Conservation – Trees Regulations, and does not impact
 264 any forest in a priority area (such as substituting an on-site
 265 conservation area for an equal or greater on-site area of
 266 similar character, or substituting a marginal on-site
 267 conservation area for equal or greater amount of off-site
 268 priority area); or

269 (C) action is otherwise required in an emergency situation.

270 Any other modification, including major amendments, must be
 271 approved by the agency that approved the forest conservation
 272 plan.

273 ~~[(3)]~~(4) ~~[[Notice]]~~ Notice. Public posting and written notice of forest
 274 conservation plan applications must be provided by applicants as
 275 specified in ~~[regulation]~~ Section 50/59.10.01.04, as amended, of
 276 the Administrative Procedures for Development Review.

277 (b) *Project requiring development plan, floating zone plan, project plan,*
 278 *[sketch plan,] preliminary plan of subdivision, biohealth priority*
 279 *campus plan, or site plan approval.*

280 (1) ~~[[Forest stand delineation]]~~ Forest stand delineation. The
 281 applicant must submit to the Planning Director a forest stand
 282 delineation ~~[with the]~~ and the forest stand delineation must be
 283 approved before the applicant ~~[[can]]~~ may submit an application
 284 for a development plan, floating zone plan, project plan, [sketch

285 plan,] preliminary plan of subdivision, biohealth priority campus
 286 plan, or site plan[, whichever comes first]. Within 30 days of
 287 receipt, the Planning Director must notify the applicant whether
 288 the forest stand delineation is complete and correct. If the
 289 Planning Director fails to notify the applicant within 30 days, the
 290 delineation will be treated as complete and correct. The Planning
 291 Director may require further information or provide for one
 292 extension of this deadline for an additional 15 days for
 293 extenuating circumstances. The applicant must submit revised
 294 drawings to address comments within 90 days from the date the
 295 Planning Director sends comments to the applicant. If the
 296 applicant fails to submit revised drawings, the application is
 297 deemed withdrawn. The Planning Director may provide for one
 298 extension of this deadline for extenuating circumstances.

299 (2) [[Forest conservation plan]] Forest conservation plan.

300 (A) [[Application]] Application. After being notified that the
 301 forest stand delineation is complete and correct, the
 302 applicant must submit a forest conservation plan to the
 303 Planning Director with the related application for a
 304 development plan, floating zone plan, project plan,
 305 preliminary plan of subdivision, biohealth priority campus
 306 plan, or site plan. If the development proposal will require
 307 more than one [of the] [approvals] approval subject to this
 308 subsection, the applicant must submit a preliminary forest
 309 conservation plan to the Planning Director in conjunction
 310 with the first approval, and a final forest conservation plan

311 in conjunction with the last approval; however, if multiple
 312 approvals subject to this subsection are submitted to the
 313 Planning Director for simultaneous review, the applicant
 314 need ~~[[only]]~~ submit only a final forest conservation plan
 315 that will be considered for each relevant application. If
 316 only one approval subject to this subsection is required, an
 317 applicant must submit [a preliminary forest conservation
 318 plan and] a final forest conservation plan at the time of the
 319 development application.

320 (B) ~~[[Review]]~~ Review. Within 45 days from receipt of a final
 321 forest conservation plan, including a plan that is not
 322 reviewed in 2 stages, the Planning Director must notify the
 323 applicant whether the forest conservation plan is complete
 324 and approved for submission to the Planning Board as part
 325 of the development application. If the applicant is not
 326 notified within 45 days, the plan will be treated as
 327 complete and approved for submission. The Planning
 328 Director may require further information or provide for
 329 one extension of this deadline for an additional 15 days for
 330 extenuating circumstances. In addition, at the request of
 331 the applicant, the Director may extend this deadline further
 332 for extenuating circumstances.

333 (C) ~~[[Approval]]~~ Approval. The Planning Board must review
 334 and act on the forest conservation plan concurrently with
 335 the development plan, floating zone plan, project plan,
 336 [sketch plan,] preliminary plan of subdivision, biohealth

337 priority campus plan, or site plan, as appropriate.
 338 Compliance with the preliminary forest conservation plan,
 339 when required and as amended by the Board, must be
 340 made a condition of any approval of the first applicable
 341 development application. Compliance with the final forest
 342 conservation plan, as amended by the Board, must be
 343 made a condition of any approval of the last development
 344 application. For a development plan or a floating zone
 345 plan, a Planning Board recommendation to the District
 346 Council on the preliminary forest conservation plan must
 347 be made under Section 59-7.2.1. A final forest
 348 conservation plan must be approved by the Planning
 349 Board or Planning Director, as appropriate, before the
 350 Planning Board approves a record plat.

351 (c) *Project requiring special exception or conditional use approval.*

352 (1) ~~[[Forest stand delineation]]~~ Forest stand delineation. If a special
 353 exception or conditional use proposal is subject to the
 354 requirements of this Chapter, the applicant must submit a forest
 355 stand delineation to the Planning Director before the Board of
 356 Appeals may consider the application for the special exception.
 357 The deadlines for reviewing a forest stand delineation are the
 358 same as in [paragraph] paragraphs (a)(1) and (b)(1) of this
 359 Section.

360 (2) ~~[[Forest conservation plan]]~~ Forest conservation plan. Upon
 361 notification that the forest stand delineation is complete and
 362 correct, the applicant must submit a preliminary forest

363 conservation plan to the Planning Director. The Board of
 364 Appeals must consider the preliminary forest conservation plan
 365 when approving the special exception or conditional use
 366 application and must not approve a special exception or
 367 conditional use application that conflicts with the preliminary
 368 forest conservation plan. A final forest conservation plan must
 369 be submitted before obtaining a sediment control permit, or at
 370 the time of preliminary plan of subdivision or site plan
 371 application, if required. The deadlines for reviewing a final forest
 372 conservation plan are the same as in paragraph (d)(2) of this
 373 Section.

374 (d) *Project requiring a sediment control permit only.*

375 (1) ~~[[Forest stand delineation]]~~ Forest stand delineation. If an
 376 application for a sediment control permit ~~[[may]]~~ might be
 377 subject to the requirements of this Chapter, the applicable
 378 sediment control permit issuing authority must direct the
 379 applicant to the Planning Director for a determination. If the
 380 Planning Director finds the sediment control permit application
 381 to be subject to this Chapter, the applicant must submit a forest
 382 stand delineation to the Planning Director for review. The
 383 deadlines for reviewing a forest stand delineation are the same as
 384 in ~~[paragraph]~~ paragraphs (a)(1) and (b)(1) of this Section.

385 (2) ~~[[Forest conservation plan]]~~ Forest conservation plan. Upon
 386 notification that the forest stand delineation is complete and
 387 correct, the applicant must submit to the Planning Director a
 388 forest conservation plan. Within 45 days from receipt of the

389 forest conservation plan, the Planning Director must notify the
 390 applicant if the forest conservation plan is complete and
 391 approved. If the applicant is not notified within 45 days, the plan
 392 will be treated as complete and approved. The Director may
 393 require further information or provide for an extension of this
 394 deadline for an additional 15 days for extenuating circumstances.
 395 In addition, at the request of the applicant, the Director may
 396 extend this deadline further for extenuating circumstances.

397 (3) ~~[[Issuance of sediment control permit]]~~ Issuance of sediment
 398 control permit. A sediment control permit must not be issued to
 399 a person who must comply with this Article until a final forest
 400 conservation plan, if required, is approved.

401 (e) *Project requiring mandatory referral or park development plan.*

402 (1) ~~[[Forest stand delineation]]~~ Forest stand delineation. A person
 403 seeking mandatory referral or a park development plan for a
 404 project that is subject to the requirements of this Chapter must
 405 first submit a forest stand delineation to the Planning Director for
 406 review. The deadlines for reviewing a forest stand delineation are
 407 the same as in ~~[paragraph]~~ paragraphs (a)(1) and (b)(1) of this
 408 Section.

409 (2) ~~[[Forest conservation plan]]~~ Forest conservation plan. Upon
 410 notification that the forest stand delineation is complete and
 411 correct, the applicant must submit to the Planning Director a final
 412 forest conservation plan. The Planning Board must consider the
 413 final forest conservation plan when reviewing the mandatory
 414 referral application or the park development plan.

415 (3) ~~[[Issuance of a sediment control permit]]~~ Issuance of a sediment
 416 control permit. Issuance of a sediment control permit is subject
 417 to the conditions specified in paragraph (d)(3) of this Section.

418 (f) *Project requiring sketch plan approval.*

419 (1) ~~[[Forest stand delineation]]~~ Forest stand delineation. For any
 420 sketch plan application filed on or after November 14, 2017, the
 421 applicant must submit to the Planning Director, for approval, a
 422 forest stand delineation [reviewed concurrently with] before the
 423 sketch plan application. The deadlines for reviewing a forest
 424 stand delineation are the same as in [paragraph] paragraphs (a)(1)
 425 and (b)(1) of this Section. [The forest stand delineation must be
 426 approved prior to Planning Board approval of the sketch plan.]

427 (2) ~~[[Forest conservation plan]]~~ Forest conservation plan. Upon
 428 notification that the forest stand delineation is complete and
 429 correct, the applicant must submit a preliminary forest
 430 conservation plan to the Planning Director with the first
 431 development application after approval of the sketch plan. The
 432 deadlines for reviewing a preliminary and final forest
 433 conservation plan are the same as in [paragraph] paragraphs
 434 (b)(2)(B) and (b)(2)(C) of this Section.

435 (g) *Project requiring administrative subdivision approval.*

436 (1) ~~[[Forest stand delineation]]~~ Forest stand delineation. The
 437 applicant must submit to the Planning Director a forest stand
 438 delineation before the administrative subdivision application.
 439 The deadlines for reviewing a forest stand delineation are the

440 same as in [paragraph] paragraphs (a)(1) and (b)(1) of this
 441 Section.

442 (2) ~~[[Forest conservation plan]]~~ Forest conservation plan. Upon
 443 notification that the forest stand delineation is complete and
 444 correct, the applicant must submit a preliminary forest
 445 conservation plan to the Planning Director. The Planning Director
 446 must consider the preliminary forest conservation plan when
 447 approving the administrative subdivision application and must not
 448 approve an administrative subdivision application that conflicts
 449 with the preliminary forest conservation plan. A final forest
 450 conservation plan must be submitted and approved before
 451 obtaining a sediment control permit[,] or record plat, whichever
 452 comes first. The deadlines for reviewing a final forest conservation
 453 plan are the same as in paragraph (d)(2) of this Section. If the
 454 Director defers the approval of an administrative subdivision to the
 455 Planning Board, the Planning Board must review and act on the
 456 preliminary forest conservation plan with the administrative
 457 subdivision plan. The deadlines for reviewing a final forest
 458 conservation are the same as in paragraph (b)(2)(C) of this Section.

459 * * *

460 **22A-12. Retention, afforestation, and reforestation requirements.**

461 (a) *Table.*

<p>462 <i>Forest Conservation Threshold and Required Afforestation as a Percentage of Net Tract Area</i></p>

<i>Land Use Category</i>	<i>Forest Conservation Threshold</i>	<i>Required Afforestation</i>
Agricultural and resource areas	[50]55%	20%
<u>Cluster medium-density residential areas</u>	<u>45%</u>	<u>20%</u>
Medium-density residential areas	[25]35%	20%
Institutional development areas	[20]25%	[15]20%
High-density residential areas	20%	15%
Mixed-use development areas	20%	15%
Planned unit development areas	20%	15%
Commercial and industrial use areas	15%	15%

463

464

* * *

465

(b) *Retention.*

466

* * *

467

(3) The following trees, shrubs, plants, and specific areas are priority for retention and protection and must be left in an undisturbed condition unless the Planning Board or Planning Director, as appropriate, finds that the applicant qualifies for a variance under Section 22A-21:

468

469

470

471

472

(A) Any tree, shrub, or plant that is rare, threatened, or endangered under:

473

474

(i) the Federal Endangered Species Act of 1973 in 16 U.S.C. Sections 1531 — 1544 and in 50 CFR 17;

475

476 (ii) the Maryland Nongame and Endangered Species
477 Conservation Act, Title 10, Subtitle 2A of the
478 Natural Resources Article of the Maryland Code; or

479 (iii) COMAR 08.03.08;

480 (B) Any tree that is:

481 (i) 1 inch in caliper or larger and part of a historic site
482 or located within an historic district,

483 (ii) associated with a historic structure, or

484 (iii) designated by the State or County as a national,
485 State, or County champion tree; ~~[[or]]~~

486 (C) Any tree with a diameter, measured at 4.5 feet above the
487 ground, of:

488 (i) 30 inches or more; or

489 (ii) 75% or more of the diameter, measured at 4.5 feet
490 above ground, of the current State champion tree of
491 that species; or

492 (D) Any forest in a floodplain or stream buffer, except if the
493 activity occurring within the floodplain or stream buffer is
494 permitted under the environmental guidelines.

495 * * *

496 (c) *Reforestation.* The forest conservation plan must provide for
497 reforestation as follows:

498 (1) For all existing forest cover measured to the nearest 1/10 acre
499 cleared on the net tract area below the applicable forest
500 conservation threshold, the area of forest removed must be
501 reforested at a ratio of 2 acres planted for every one acre removed

502 if reforestation is occurring within the same 8-digit watershed as
 503 the project or a priority 8-digit watershed, special protection area,
 504 or the Patuxent Primary Management Area (PMA); or 2 ½ acres
 505 planted for every one acre removed if reforestation is occurring
 506 within the County outside of the same 8-digit watershed and
 507 outside of a priority 8-digit watershed, special protection area, or
 508 the Patuxent Primary Management Area (PMA).

- 509 (2) For all existing forest cover measured to the nearest 1/10 acre
 510 cleared on the net tract area above the applicable forest
 511 conservation threshold, the area of forest removed must be
 512 reforested at a ratio of [¼] ½ acre planted for every one acre
 513 removed if reforestation is occurring within the same 8-digit
 514 watershed as the project or a priority 8-digit watershed, special
 515 protection area, or the Patuxent Primary Management Area
 516 (PMA); or 1 acre planted for every one acre removed if
 517 reforestation is occurring within the County outside of the same
 518 8-digit watershed and outside of a priority 8-digit watershed,
 519 special protection area, or the Patuxent Primary Management
 520 Area (PMA).

521 * * *

522 (d) *Afforestation.*

- 523 (1) A site with less than 20 percent of the net tract area in forest cover
 524 must be afforested in accordance with the required afforestation
 525 percentages shown on the table in subsection (a) of this Section.
 526 (2) Afforestation [should] must be accomplished by the planting of
 527 forest cover[. However], unless the applicant demonstrates to the

528 satisfaction of the Planning Board or Planning Director, as the
 529 case may be, that afforestation using forest cover is inappropriate
 530 for a site because of its location in an urban setting,
 531 redevelopment context, high-density residential, commercial,
 532 industrial, planned unit development, or institutional area (as
 533 defined in Section 22A-3), or similar reason, in which case
 534 afforestation requirements may be satisfied by tree cover.

535 * * *

536 (e) *Standards for reforestation and afforestation.*

537 (1) General requirements.

538 (A) *Preferred sequence.* Except as provided in the technical
 539 manual or otherwise in paragraph (1) of this subsection,
 540 the preferred sequence for afforestation and reforestation
 541 is, in general: on- site afforestation or reforestation; off-
 542 site afforestation or reforestation; enhancement of existing
 543 forest through on-site selective clearing, supplemental
 544 planting, or both; acquiring credit(s) from an off-site forest
 545 mitigation bank; paying a fee in-lieu; and landscaping
 546 with an approved plan.

547 (B) Stream valley buffers. All unforested stream valley
 548 buffers on site must be afforested or reforested, except if
 549 the applicant demonstrates to the satisfaction of the
 550 Planning Board or Planning Director that [[afforestation or
 551 reforestation in the stream valley buffer]]:

552 (i) afforestation or reforestation in the stream valley
 553 buffer would be in conflict with allowable uses as

554 established in the latest version of the
 555 environmental guidelines;

556 (ii) the stream valley buffer is located on park property
 557 stewarded by the Department of Parks, and the
 558 afforestation or reforestation would ~~[[conflicts]]~~
 559 conflict with the mission and established
 560 stewardship practices of the Department of Parks;
 561 or

562 (iii) the stream valley buffer is not suitable to establish
 563 and retain required planting materials, ~~[[then]] in~~
 564 which case a substitute environmental protective
 565 measure must be implemented.

566 All unforested stream valley buffers in a special protection
 567 area and stream valley buffers within the Patuxent Primary
 568 Management Area must be afforested as established in the
 569 latest version of the environmental guidelines.

570 ~~[(B)]~~(C) ~~[[Governmental considerations]]~~ *Governmental*
 571 *considerations.* The sequence provided in subparagraph
 572 (A) of this paragraph may be modified for a specific
 573 project if the applicant demonstrates to the satisfaction of
 574 the Planning Board or the Planning Director, as the case
 575 may be, that a different sequence is necessary:

576 (i) to achieve the objectives of a master or sector plan
 577 or other County land use policies or to take
 578 advantage of opportunities to consolidate forest
 579 conservation efforts;

580 (ii) for public sites acquired or required to be dedicated
 581 before July 1, 1991, to ensure that the site can be
 582 used for its intended purpose without major design
 583 changes; or

584 (iii) for educational, recreational, and public safety
 585 facilities, to ensure that public safety is not
 586 compromised.

587 ~~[(C)]~~(D) ~~[[Public Utility Considerations]]~~ Public utility
 588 considerations. The sequence provided in subparagraph
 589 (A) of this paragraph for public utility projects may be
 590 modified to reflect applicable electrical or other safety
 591 codes, or right-of-way constraints.

592 (2) ~~[[Off-site afforestation and reforestation]]~~ Off-site afforestation
 593 and reforestation. If no opportunities for planting forest exist
 594 per under Section 22A-12(e)(1)(A)~~[[In addition to the use of~~
 595 ~~other sites proposed by an applicant and approved by the~~
 596 ~~County], off-site afforestation or reforestation may also include:~~

597 (A) ~~[[Forest]]~~ forest mitigation banks designated in advance
 598 by the County~~[[.]]~~;

599 (B) ~~[[Protection of existing off-site forest. Acquisition]]~~
 600 acquisition of an off-site protective easement for existing
 601 forested areas not currently protected in perpetuity ~~[[is an~~
 602 ~~acceptable mitigation technique instead of off-site~~
 603 ~~afforestation or reforestation planting, but]]~~, if the forest
 604 cover protected ~~[[must be]]~~ is 2 times the afforestation and
 605 reforestation requirements~~[[.]]~~; or

- 606 (C) ~~[[For]]~~ for sites located in existing population centers, use
 607 of street trees which meet landscape or streetscape goals
 608 identified in an applicable master plan.
- 609 (3) ~~[[Priority areas and plantings]]~~ Priority areas and plantings.
 610 Afforestation and reforestation should be directed to stream
 611 buffer areas, connections between and additions to forested
 612 areas, critical habitat areas, topographically unstable areas, and
 613 land use and road buffers. The use of native plant materials is
 614 preferred.
- 615 (4) ~~[[Location requirements]]~~ Location requirements.
- 616 (A) ~~[[Required]]~~ Except as permitted under subparagraphs (B)
 617 and (C) of this paragraph, required reforestation or
 618 afforestation must occur in both the county and the 8-digit
 619 watershed in which the project is located~~[[, except that if~~
 620 it]].
- 621 (B) If the required reforestation or afforestation cannot be
 622 reasonably accomplished in the same county and 8-digit
 623 watershed in which the project is located, then the
 624 reforestation or afforestation [may] must occur in a
 625 priority 8-digit watershed, special protection area, or the
 626 Patuxent Primary Management Area (PMA) in the same
 627 county in which the project is located~~[[, except that if it]]~~.
- 628 (C) If the required reforestation or afforestation cannot be
 629 reasonably accomplished in a priority 8-digit watershed,
 630 special protection area, or the Patuxent Primary
 631 Management Area (PMA) in the same county in which the

632 project is located, then the reforestation or afforestation
633 may occur anywhere in [either] the county [or watershed]
634 in which the project is located.

635 (5) ~~[[Deadline for plant installation]]~~ Deadline for plant installation.
636 The afforestation and reforestation requirements under this
637 subsection must be accomplished within ~~[[one]]~~ 1 year or ~~[2]~~
638 ~~[[two]]~~ 2 growing seasons after a development project is
639 complete.

640 * * *

641 (f) *Special provisions for minimum retention, reforestation and*
642 *afforestation.*

643 * * *

644 (3) If the Planning Board or Planning Director, as appropriate, finds
645 that forest retention required in this subsection is not possible,
646 the applicant must provide the maximum possible on-site
647 retention and must meet the balance of the remaining
648 requirement through any [in] combination [with] of on-site or
649 off-site reforestation [and] or afforestation [not including
650 landscaping].

651 * * *

652 (g) *In lieu fee.* A person contributing money to the forest conservation fund
653 as an in lieu fee must do so at a rate specified by law or Council
654 resolution, but not less than the rate required under Section 5-1610, as
655 amended, of the Natural Resources Article of the Maryland Code. Any
656 in lieu fee payment must be made before any land disturbing activity,
657 as defined in Section 22A-3, occurs on a section of the tract subject to

658 the forest conservation plan. A person may make an in lieu fee payment
 659 to the forest conservation fund only if the person satisfactorily
 660 demonstrates that:

661 (1) (A) the requirements for reforestation or afforestation on-site
 662 or off-site cannot reasonably be accomplished;

663 (B) appropriate credits generated by a forest mitigation bank
 664 in the same watershed within the County are not available;
 665 ~~[[and]]~~

666 ~~(C)~~ if appropriate credits generated by a forest mitigation bank
 667 in the same 8-digit watershed within the County are not
 668 available, appropriate credits generated by a forest
 669 mitigation bank in a priority 8-digit watershed, special
 670 protection area, or the Patuxent Primary Management
 671 Area (PMA) are not available; and

672 ~~[(C)](D)~~ if appropriate credits generated by a forest
 673 mitigation bank in the same 8-digit watershed, a priority
 674 8-digit watershed, special protection area, or the Patuxent
 675 Primary Management Area (PMA) within the County are
 676 not available, appropriate credits generated by a forest
 677 mitigation bank in the County are not available; or

678 * * *

679 (h) *Agreements.*

680 (1) ~~[[Maintenance agreement]]~~ Maintenance agreement. A forest
 681 conservation plan must include a 5-year binding agreement for
 682 maintenance of all planted forest conservation areas, including
 683 areas of afforestation, reforestation, as well as any required

684 mitigation plantings. A forest conservation plan may require a 5-
 685 year binding agreement for maintenance of existing forest to be
 686 retained to ensure long-term health of forest stands. For park
 687 property with an approved mission and established stewardship
 688 practices including conservation and forest management plans, a
 689 maintenance agreement for existing forest is not required. A
 690 person subject to the binding agreement may request that the
 691 binding agreement be reduced to 3 years if the forest conservation
 692 inspector finds that the agreement has been fulfilled, unless the
 693 forest conservation plan is within a special protection area. If the
 694 forest conservation plan is within a special protection area, the
 695 binding maintenance agreement must be for a minimum of 5 years
 696 and may not be reduced. The binding maintenance agreement may
 697 include watering (as practical), feeding, non-native invasive plant
 698 control, and replanting of areas to be afforested or reforested. A
 699 maintenance agreement may also be required for non-native
 700 invasive plant control of forest edge or ~~[[to]]~~ for control of non-
 701 native invasive species in adjacent areas that may impact forest
 702 conservation. The binding agreement for maintenance starts upon
 703 satisfactory inspection of the plantings or maintenance required
 704 under the forest conservation plan. A staged project may have
 705 more than one agreement.

706 * * *

707 **22A-13. Forest mitigation banks.**

708 * * *

709 (e) The forest mitigation bank plan must include:

- 710 (1) a maintenance agreement which meets the standards in
- 711 subsection 22A-12(h)(1);
- 712 (2) all information required by subsection 22A-10(c) for a forest
- 713 conservation plan; ~~[[and]]~~
- 714 (3) draft easements, covenants, or deed restrictions for the area
- 715 included in the forest mitigation bank; and
- 716 (4) the number of forest mitigation bank credits available for sale as
- 717 [either existing forest credits or] either:
- 718 (A) if permitted by state law, existing forest credits, where 1
- 719 acre of forest mitigation bank credit equals 2 acres of
- 720 existing forest; or
- 721 (B) planted forest credits, where 1 acre of forest mitigation bank
- 722 credit equals 1 acre of planted forest[, or 2 acres of existing
- 723 forest].

* * *

(g) *Purchasing and selling forest mitigation bank credits.*

* * *

- 727 (3) Forest mitigation bank credits must be acquired from a forest
- 728 mitigation bank within the same 8-digit watershed, as delineated
- 729 by the State of Maryland, ~~[[as]]~~ where the development activity
- 730 is located. If forest mitigation bank credits are not available
- 731 within the same 8-digit watershed within the County, applicants
- 732 [may] must acquire forest mitigation bank credits from a forest
- 733 mitigation bank within a priority 8-digit watershed, special
- 734 protection area, or the Patuxent Primary Management Area
- 735 (PMA). If forest mitigation bank credits are not available within

736 a priority 8-digit watershed, special protection area, or the
737 Patuxent Primary Management Area (PMA), applicants may
738 acquire forest mitigation bank credits from any approved forest
739 mitigation bank within the County.

740 * * *

741 **22A-21. Variance.**

742 * * *

743 (e) If the applicant is granted a variance to remove any of the subject trees
744 listed as priority for retention in Section 22A-12(b)(3), the applicant
745 must replant mitigation trees at a minimum ratio of 1 caliper inch
746 replaced for every 4 inches of trunk diameter removed, measured at 4.5
747 feet above the ground, regardless of whether those trees are within or
748 outside of forest area, in addition to any reforestation, afforestation, or
749 landscape credit requirements. Mitigation for trees that are part of an
750 historic site or associated with an historic structure is only required for
751 the removal of trees located outside of forest.

752 (f) If the applicant is granted a variance in connection with disturbance of
753 forest in a floodplain or stream buffer under Section 22A-12(b)(3)(D),
754 the applicant must reforest at a minimum ratio of:

755 (1) 2:1, if the reforestation is occurring within the same 8-digit
756 watershed as the project or a priority 8-digit watershed under
757 Section 22A-12(c); or

758 (2) 2 ½:1, if the reforestation is occurring within the County outside
759 of the same 8-digit watershed and outside of a priority 8-digit
760 watershed under Section 22A-12(c).

761 [(e)] ~~[(f)]~~ (g) [Approval procedures; Conditions] *Approval procedures;*
 762 ~~[[Conditions]]~~ *conditions*. The Planning Board must find that the
 763 applicant has met all requirements of this Section before granting a
 764 variance. However, the Planning Director may grant a variance if the
 765 Director is authorized to approve the forest conservation plan and the
 766 applicant meets all requirements of this Section. The Board or Director
 767 may impose appropriate conditions to promote the objectives of this
 768 Chapter and protect the public interest.

769 [(f)] ~~[(g)]~~ (h) [Notice to State Department of Natural Resources; Right
 770 to initiate or intervene in proceedings] *Notice to State Department of*
 771 *Natural Resources; ~~[[Right]]~~ right to initiate or intervene in*
 772 *proceedings*.

773 * * *

Resolution No.: _____
Introduced: September 13, 2022
Adopted: _____

**COUNTY COUNCIL
FOR MONTGOMERY COUNTY, MARYLAND**

By: Council President Albornoz at the Request of the Planning Board

SUBJECT: Approval of Montgomery County Planning Board Regulation No. 25-22 on Forest Conservation – Trees

Background

1. On May 10, 2022, the County Council received Planning Board Regulation No. 25-22 on Forest Conservation – Trees.
2. The Planning Board submitted the regulation to the Council under Method (2) of Section 2A-15 of the County Code, as required by the Forest Conservation Law (Section 22A-26 of the County Code).
3. This regulation implements Bill 25-22, Forest Conservation – Trees, which revised Chapter 22A (Forest Conservation Law) of the County Code in order to achieve greater forest planting and forest conservation in Montgomery County.

Action

The County Council for Montgomery County Maryland approves the following resolution:

Planning Board Regulation No. 25-22 on Forest Conservation – Trees is approved.

This is a correct copy of Council action.

Judy Rupp, Clerk of the Council

May 10, 2022

The Honorable Gabe Albornoz

President, Montgomery County Council
100 Maryland Avenue
Rockville, MD 20850

Dear Council President Albornoz,

On April 28, 2022, the Montgomery County Planning Board recommended transmittal of a bill to the County Council for changes to Chapter 22A of the County code (The Montgomery County Forest Conservation Law) and posting of proposed amendments to Chapter 22A of the Code of Montgomery County Regulations (The Forest Conservation – Trees Regulations).

Much progress has been made on forest conservation efforts in Montgomery County to date. Through the current Forest Conservation Law, which is administered by Montgomery Planning, and through implementation of the Reforest Montgomery program, the County has required permanent protection for over 15,000 acres of forest in Montgomery County (including 2,500 acres of planted forest) since 1992. We believe this continuous dedication to forest conservation, along with 5 previous amendments to the Forest Conservation Law, has contributed to a recent 1.8% increase in the County’s tree canopy (inclusive of forest canopy) between 2018 – 2020 (from 44.9% to 46.7%), and an increase of 1,758 acres of forest in the County between 2008 and 2015.

Although we are approaching “no net loss” of forest now, more can be done. These current amendments are proposed to achieve even greater forest planting and forest conservation in Montgomery County, with a goal of achieving an equal or greater area of forest planted than forest removed on a County-wide level by projects subject to the Montgomery County Forest Conservation Law. Planning staff and the Planning Board have developed these recommendations with careful consideration of the impact on development in the County, and believe the changes proposed are reasonable and would not impair redevelopment opportunities, particularly in the urban areas of the County. For example, the Board introduced additional language to staff’s draft to offer more flexibility with regards to required reforestation of stream valley buffers and decided not to propose changes to the forest conservation thresholds or afforestation requirements in higher-density land use categories, so as to continue incentivizing urban redevelopment.

Other minor changes recommended are intended to clarify and update sections of the Forest Conservation Law and Forest Conservation – Trees Regulations. A summary of the proposed changes appears below, and are further detailed in the attached staff report:

1. Excluding activities located within the Commercial Residential (CR) zone classification from qualifying for the (s)(1) and (s)(2) FCP exemptions to require forest mitigation for activities in

2. this zone that are currently receiving the highest density but providing the least forest mitigation.
3. Adjusting the timeline for approval of a Natural Resources Inventory/Forest Stand Delineation (NRI/FSD) so that an approved NRI/FSD must be submitted with certain development plans. This change will ensure that high quality forest is properly considered and preserved whenever possible.
4. Increasing the amount of forest that needs to be preserved (forest conservation threshold) in lower density land use categories including medium density residential, cluster medium density residential, agricultural and resources areas, and institutional land use categories. Cluster medium density residential is a new category introduced as part of this proposed amendment, and will include the rural cluster (RC), rural neighborhood cluster (RNC) and RE-2C zones.
5. Increasing the forest planting (afforestation) requirement for institutional properties.
6. Incentivizing mitigation in the same watershed or a priority watershed (to be defined by Planning Department staff) through increased reforestation ratios.
7. Requiring planting of forest in all unforested stream valley buffers, with some exceptions, such as if the stream valley buffer is on park property or the condition of the stream valley buffer is not suitable for afforestation or reforestation. The Board's proposed language to section 22A-12(e)(1) is:
 - (B) All unforested stream valley buffers on site must be afforested or reforested, except if the applicant demonstrates to the satisfaction of the Planning Board or Planning Director that afforestation or reforestation in the stream valley buffer:
 - (i) would be in conflict with allowable uses as established in the latest version of the environmental guidelines;
 - (ii) is located on park property stewarded by the Department of Parks, and conflicts with the mission and established stewardship practices of the Department of Parks; or
 - (iii) is not suitable to establish and retain required planting materials, then a substitute environmental protective measure must be implemented.
8. Strengthening the requirements for applicants who find that the forest retention required by the Forest Conservation Law is not possible, so that the remainder of the forest mitigation required must be met off-site through a combination of afforestation or reforestation at a 1:1 ratio and forest retention at a 2:1 ratio.
9. Broadening the terms of maintenance and management agreements to include required maintenance for areas of existing forest retained to meet forest mitigation requirements, primarily to manage non-native invasive vegetation and increase the overall health of retained forest stands. The Board determined that the Department of Parks' established stewardship practices meet or exceed the requirements of a maintenance and management agreement established to maintain areas of existing forest. Therefore, the Board added the following language to Section 22A-12(h):

(1) Maintenance agreement... For park property with an approved mission and established stewardship practices including conservation and forest management plans, a maintenance agreement for existing forest is not required...

10. Expanding mitigation requirements for “variance trees” to include mitigation for variance trees located within a forest. With the proposed amendment, removal of any variance tree, regardless of whether it is inside or outside of a forest, would require replanting at a minimum ratio of 1 caliper inch replaced for every 4 inches of trunk diameter removed (the Planning Department’s current standard for removal of “variance trees” outside of forest).
11. Expanding options to create forest ecosystems and increase long-term resilience of planted forests by:
 - a. Including an option for applicants and Planning Department staff to identify an alternative methodology to establish planted forest in Forest Conservation Plans, in order to better establish forest ecosystem using the best methodology for the site.
 - b. Requiring new notes to be included on Forest Conservation Plans to indicate whether downed woody material will be retained in retention, afforestation, or reforestation areas to build habitat; or whether soil restoration techniques will be implemented. Planning Department staff may require either of these techniques to build micro-habitats and improve the soil micro-biome, which will support planted forests long-term.
12. Ensuring trees planted to meet the requirements of a landscaping or tree save plan have adequate soil conditions, volume, and surface area to sustain plantings.
13. Allowing landscaping, including planting trees in rights-of-way, to meet both reforestation or afforestation requirements in equity focus areas, to encourage tree planting wherever possible in areas of the county characterized by high concentrations of lower-income households, people of color, and individuals who are not fluent in English. Outside of equity focus areas, landscaping on site could be used to meet afforestation requirements and could include landscaping in the rights-of-way.

In addition to the proposed legislative amendments, the Planning Board is requesting consideration by the County Council of the following supplemental programs to help meet the goals of these “no net loss of forest” amendments and the Climate Action Plan:

- Approve future budget requests to expand the Planning Department’s forest conservation staff to increase capacity for the department to support applicants and enable conservation of existing forest by creating additional programs, such as connecting applicants seeking off-site mitigation opportunities with property owners willing to protect forest on their properties.
- Create tax incentives and/or subsidy programs to support forest conservation, such as:
 - Offering tax incentives for developers who plant or protect forest above and beyond requirements of Chapter 22A, or choose to develop property without forest.
 - Providing subsidies for applicants looking to meet their forest mitigation requirements if they are offering affordable housing units.

The Honorable Gabe Albornoz

May 10, 2022

Page 4

Enclosed is a complete copy of the proposed amendment to the Forest Conservation Law that the Planning Board would like to be introduced as a bill, a copy of the proposed amendment to the Forest Conservation – Trees Regulations that will be posted in the County Register, and a copy of the staff report dated April 14, 2022. Members of the Planning Board and Staff of the Maryland-National Capital Park & Planning Commission area available to assist the Council in its review of the proposed legislation.

Please note that Maryland Department of Natural Resources has reviewed the proposed changes to the Forest Conservation – Trees Regulations, and is currently reviewing the proposed amendment to the Montgomery County Forest Conservation Law for compliance with the enabling state law, the Maryland Forest Conservation Act.

Sincerely,



Casey Anderson

Chair

cc: Christine Wellons
Kristin Taddei
Christina Sorrento

Attachments:

Staff Report Proposed No Net Loss of Forest Amendments_22A Law and Regulations

Attachment A - Proposed Amendments to the Forest Conservation Law

Attachment B - Proposed Amendments to the Forest Conservation - Trees Regulations – Changes

Attachment C - Proposed Amendments to the Forest Conservation - Trees Regulations – Clean

STAFF REPORT: 'NO NET LOSS OF FOREST' AMENDMENTS TO THE FOREST CONSERVATION LAW & REGULATIONS



Description

Changes to Chapter 22A of the Montgomery County Code (the Forest Conservation Law) and Chapter 22A of the Code of Montgomery County Regulations (the Forest Conservation – Trees Regulations) are proposed to achieve greater forest planting and forest conservation in Montgomery County, with a goal of achieving an equal or greater area of forest planted than forest removed on a County-wide level, by projects subject to the Montgomery County Forest Conservation Law. Other minor changes recommended by staff are intended to clarify and update sections of the Forest Conservation Law and Forest Conservation – Trees Regulations. Staff is recommending approval of the recommended changes for transmittal and introduction to the County Council.

Completed: 4-14-2022

MCPB
Item No. x
2022

Montgomery County
Planning Board
2425 Reedie Drive,
Floor 14
Wheaton, MD 20902

Planning Staff

KT

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CS

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Summary:

- Changes to Chapter 22A of the Montgomery County Code (the Forest Conservation Law) and Chapter 22A of the Code of Montgomery County Regulations (the Forest Conservation – Trees Regulations) are being proposed by Planning staff to achieve greater forest planting and forest conservation in Montgomery County.
- The goal of the Planning Department’s No Net Loss of Forest initiative is to ensure that the acreage of planted forest is greater than the acreage of forest cleared on a County-wide level, while also allowing development to continue moving forward. Staff also have several suggestions for resources and programs that would complement the proposed amendments.
- There are several minor technical changes recommended by staff, intended to clarify and update sections of the Forest Conservation Law and Forest Conservation – Trees Regulations.
- This staff report provides an overview of the Planning Department’s No Net Loss of Forest initiative and progress to date, and describes how proposed changes to the Forest Conservation Law and Forest Conservation – Trees Regulations (Attachments A and B) would achieve a more balanced approach to forest conservation in Montgomery County.
- Staff is recommending approval of the recommended changes for transmittal and introduction to the County Council, and posting of the proposed Forest Conservation – Trees Regulations in the County Register.

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SECTION 1: ABOUT THE ‘NO NET LOSS OF FOREST’ INITIATIVE

No net loss of forest is an effort by Montgomery Planning to achieve a more balanced approach to forest conservation that is tailored to Montgomery County. The primary goal of the initiative is to achieve “no net loss of forest” county-wide, while also allowing development to continue moving forward. Planning staff are focusing on strengthening the requirements of the Forest Conservation Law and Regulations, but also have suggestions for additional programs and resources to complement these amendments.

Montgomery County adopted its own Forest Conservation Law after the Maryland Forest Conservation Act was enacted in 1991. The county law has since been amended 5 times to strengthen requirements and incorporate state amendments. In the past 30 years, Montgomery County’s Forest Conservation Law has resulted in permanent protection of 15,705 acres of forest (including mature forest and newly planted forest). Of that area, the majority (12,844 acres) is mature forest protected by forest conservation easements.

Montgomery County’s Forest Conservation Law has required planting of 2,861 acres of new forest and mitigation for the clearing of 4,400 acres of forest. In the past 10 years, the law has required planting of 693 acres and mitigation for the clearing of 805 acres of forest, showing a trend towards more infill development and less forest clearing. This trend is also supported by the 2020 report “Examining the Role of Forests and Trees in Montgomery County’s Greenhouse Gas Inventory, prepared by experts and representatives of several Montgomery County agencies, including the Planning Department and Department of Environmental Protection. This report found that from 2011-2016, average annual emissions as a result of the loss of forests and trees were less than the period from 2001-2011, and that tree canopy in the county increased during the 2011-2016 time period.

While we are getting closer to achieving no net loss of forest in Montgomery County, one of the goals of this initiative is to increase the acreage of planted forest so that it is greater than the acreage of forest cleared in the county. This initiative aligns well with several goals of the Montgomery County Climate Action Plan and Thrive 2050, which generally include forest retention and restoration, increasing tree canopy, establishing strategies to protect plant diversity while complementing land use policies such as redevelopment, and improving the survivability of planted forests and trees.

In November and December 2021, the Planning Department held 4 working group sessions to bring key stakeholders together to collectively begin brainstorming and working toward the same goal. Representatives from twenty-four different groups, including non-profits, agency representatives, and the development community, participated in these working groups. These sessions included a review of relevant data, reports, other counties’ recent amendments, and analysis of possible amendments using real projects with Forest Conservation Plans. Requests raised by stakeholders during the

working group sessions include:

- Less forest clearing, more forest planting, and mitigation as close to the project as possible
- 1:1 replacement of forest cleared
- Establishment of high-quality forest ecosystems
- Consideration of the increasing expenses associated with forest planting requirements
- Moderate increase in mitigation requirements to keep increased costs reasonable
- More options to find off-site mitigation opportunities.

Planning staff also held additional meetings with individual stakeholder groups as requested to further discuss ideas and the outcome of proposed amendments.

In January and February 2022, the Planning Department’s forest conservation staff incorporated the ideas generated during the working groups into draft amendments to the Forest Conservation Law and Regulations, and circulated the drafts for peer review and legal review. On March 18, 2022, the revised draft amendments were forwarded to Maryland Department of Natural Resources to be reviewed for compliance with Maryland’s Forest Conservation Act.

SECTION 2: SUMMARY OF PROPOSED CHANGES

In addition to minor changes for clarity and consistency purposes (unrelated to the goals of the ‘no net loss of forest’ initiative); the proposed amendments to the Forest Conservation Law and Forest Conservation – Trees Regulations to achieve ‘no net loss of forest’ in Montgomery County include:

- 1. Excluding activities located within the Commercial Residential (CR) zone classification from qualifying for the (s)(1) and (s)(2) FCP exemptions to require forest mitigation for activities in this zone that are currently receiving the highest density but providing the least forest mitigation.***
- 2. Adjusting the timeline for approval of a Natural Resources Inventory/Forest Stand Delineation (NRI/FSD) so that an approved NRI/FSD must be submitted with certain development plans. This change will ensure that high quality forest is properly considered and preserved whenever possible.***
- 3. Increasing the amount of forest that needs to be preserved (forest conservation threshold) in lower density land use categories including medium density residential, cluster medium density residential, agricultural and resources areas, and institutional land use categories. Cluster medium density residential is a new category introduced as part of this proposed amendment, and will include the rural cluster (RC), rural neighborhood cluster (RNC) and RE-2C zones.***

4. ***Increasing forest planting (afforestation) requirements in higher density land use categories if the net tract area is less than 5 acres in high density residential, mixed-use, and commercial/industrial land use categories. Afforestation requirements in institutional land use categories would increase regardless of whether the net tract area is less than 5 acres.***
5. ***Incentivizing mitigation in the same watershed or a priority watershed (to be defined by Planning Department staff) through increased reforestation ratios.***
6. ***Requiring planting of forest in all unforested stream valley buffers.***
7. ***Strengthening the requirements for applicants who find that the forest retention required by the Forest Conservation Law is not possible, so that the remainder of the forest mitigation required must be met through a combination of afforestation or reforestation at a 1:1 ratio and forest retention at a 2:1 ratio.***
8. ***Broadening the terms of maintenance and management agreements to include required maintenance for areas of existing forest retained to meet forest mitigation requirements, primarily to manage non-native invasive vegetation and increase the overall health of retained forest stands.***
9. ***Expanding mitigation requirements for variance trees to include mitigation for variance trees located within a forest. With the proposed amendment, removal of any “variance tree”, regardless of whether it is inside or outside of a forest, would require replanting at a minimum ratio of 1 caliper inch replaced for every 4 inches of trunk diameter removed (the Planning Department’s current standard for removal of “variance trees” outside of forest).***
10. ***Expanding options to create forest ecosystems and increase long-term resilience of planted forests by:***
 - a. ***Including an option for applicants and Planning Department staff to identify an alternative methodology to establish planted forest in Forest Conservation Plans, in order to better establish forest ecosystem using the best methodology for the site.***
 - b. ***Requiring new notes to be included on Forest Conservation Plans to indicate whether downed woody material will be retained in retention, afforestation, or reforestation areas to build habitat; or whether soil restoration techniques will be implemented. Planning Department staff may require either of these techniques to build micro-habitats and improve the soil micro-biome, which will support planted forests long-term.***

11. Ensuring trees planted to meet the requirements of a landscaping or tree save plan have adequate soil conditions, volume, and surface area to sustain plantings.

12. Allowing landscaping to meet both reforestation or afforestation requirements in equity focus areas, to encourage tree planting wherever possible in areas of the county characterized by high concentrations of lower-income households, people of color, and individuals who are not fluent in English. Outside of equity focus areas, landscaping would only be allowed to be used to meet afforestation requirements.

During working group meetings in November and December 2021, Planning Department staff and stakeholders reviewed recent Forest Conservation Law amendments introduced by other comparable counties in Maryland, and tested possible amendments to Montgomery County's Forest Conservation Law using 15 real projects that required Forest Conservation Plans to comply with Montgomery County's Forest Conservation Law. Projects were carefully selected to ensure an even distribution of location within the County, development type, net tract area, zone, level of forest removal, and/or afforestation required.

Table 1: Comparison of ‘No Net Loss of Forest’ Amendments in Howard, Anne Arundel, and Frederick Counties with Proposed ‘No Net Loss of Forest’ Amendment to Montgomery County’s Forest Conservation Law & Regulations

County	Reforestation Ratios	Forest Conservation Thresholds	Required Afforestation
Howard County	<p>Clearing above forest conservation threshold: Increased to ½:1 or 1:1, depending on whether reforestation is occurring within or outside same watershed, respectively.</p> <p>Clearing below forest conservation threshold: Increased to 2:1 or 3:1, depending on whether reforestation is occurring within or outside same watershed, respectively.</p>	No change	No change
Frederick County	Increased to “whichever method results in greater replanting,” Either 1:1 replacement overall or original reforestation ratios (1/4:1 if clearing above forest conservation threshold and 2:1 if clearing below forest conservation threshold).	No change	No change
Anne Arundel County	Increased to ½:1 if clearing above forest conservation threshold and retained 2:1 ratio if clearing below forest conservation threshold	<p>Increased for sites within Priority Funding Areas with a net tract area greater than 5 acres in:</p> <ul style="list-style-type: none"> • Medium Density Residential from 25% to 30% • High Density Residential from 20% to 25% • Mixed Use from 15% to 20% • Commercial/Industrial from 15% to 20% <p>Increased for sites within Priority Funding Areas with a net tract area less than 5 acres in:</p> <ul style="list-style-type: none"> • Medium Density Residential from 25% to 40% • High Density Residential from 20% to 35% • Mixed Use from 15% to 30% • Commercial/Industrial from 15% to 30% 	No change
Montgomery County – Proposed Amendments	<p>Clearing above forest conservation threshold: Increase to ½:1 or 1:1, depending on whether reforestation is occurring within or outside same/priority watershed, respectively.</p> <p>Clearing below forest conservation threshold: Increase to 2:1 or 2.5:1, depending on whether reforestation is occurring within or outside same/priority watershed, respectively.</p>	<p>Increase in:</p> <ul style="list-style-type: none"> • Agricultural from 50% to 55% • Cluster Medium Density Residential from 25% to 45% • Medium Density Residential from 25% to 35% • Institutional from 20% to 25%. 	<p>Increase in Institutional from 15% to 20%.</p> <p>Increase from 15% to 20% if net tract area is less than 5 acres in:</p> <ul style="list-style-type: none"> • High Density Residential • Mixed Use • Commercial/Industrial

Table 2: Summary of 15 projects with Forest Conservation Plans, comparing current requirements with requirements resulting from proposed 'No Net Loss of Forest' Amendment to Montgomery County Forest Conservation Law

	Forest Conservation Law Effective 2/22/21	Proposed Amendment to the Forest Conservation Law as of 4/28/22
Total Forest Removed (from 7 of 15 projects)	15.52 acres	15.52 acres
Total Forest Mitigation Required for 7 Projects that Removed Forest	14.95 acres	Within same or priority watershed: 17.58 acres Outside same or priority watershed, within county: 25.24 acres
Total Forest Mitigation Required for all 15 Projects	50.22 acres	Within same or priority watershed: 58.79 acres Outside same or priority watershed, within county: 66.35 acres

Ultimately, staff found that the amendments proposed above, particularly amendments 3 through 6, would result in higher forest mitigation and required forest planting on a County-wide scale at relatively moderate increased costs to applicants, achieving no net loss of forest. Staff also felt that these proposed amendments would incentivize less forest clearing when possible. The proposed amendments carefully balance the requests of stakeholders heard during the working groups, and take into account other related and important priorities in the county, such as providing affordable housing and mitigating climate change.

In addition to these proposed amendments, staff is proposing several supporting programs that the Planning Department can offer and for County Council consideration.

Planning Department:

1. Yearly nominations for projects with the best outcomes for forest in Montgomery County (e.g. achieving significant net gain in forest, or going above and beyond requirements of Chapter 22A)
2. Create supplemental list of fast-growing native tree and shrub species that are resilient to deer browse, changing climate, sun exposure, and invasive pressure to accelerate canopy closure and establishment.
3. Expand public benefit options to include establishment of micro-forests, forests established using alternative methods, purchasing credits from off-site existing forest retention banks, increased off-site forest planting or retention, and planting street trees.

For County Council Consideration:

1. Offer tax incentives to developers who plant or protect forest above and beyond requirements of Chapter 22A, or choose to develop property without forest.
2. To help meet the goals of the Climate Action Plan, offer funding subsidies (perhaps on a sliding scale) for applicants to meet forest mitigation requirements if offering affordable/attainable housing units.
3. Expand the Planning Department’s forest conservation staff to increase capacity for the department to support applicants seeking opportunities for forest mitigation.

SECTION 3: DETAILED DISCUSSION OF CHANGES

PROPOSED CHANGES TO THE FOREST CONSERVATION LAW

SECTION 22A-3 DEFINITIONS.

Proposal

Lines 9-15 incorporate definitions of “environmental buffer” and “environmental guidelines.”

Analysis

These definitions are incorporated from the Forest Conservation – Trees Regulations and would be needed if proposed language under Sections 22A-5(a), 22A-5(n), 22A-5(s), and 22A-5(t) is adopted.

Proposal

Lines 20-23 update the definition of “forest conservation threshold.”

Analysis

This definition would need to be updated if the proposed language under Section 22A-12 is adopted.

SECTION 22A-5 EXEMPTIONS.

Proposal

Lines 50-51, 72-73, 82-83, 91-92, 104-105, and 113-115 clarify that in order for an activity to qualify for the FCP exemptions under Section 22A-5(a), 22A-5(n), 22A-5(s), or 22A-5(t), the activity must not occur within an environmental buffer.

Analysis

This new language makes clear that in order to receive a confirmed FCP exemption under Section 22A-5(a), 22A-5(n), 22A-5(s), or 22A-5(t), the activity must not occur within an environmental buffer, except for the allowable uses stated in the environmental guidelines.

Proposal

Line 78 and 86 exclude activities located within the Commercial Residential (CR) zone classification from qualifying for the (s)(1) and (s)(2) FCP exemptions.

Analysis

The intent with this proposed change is to require forest mitigation for activities in this zone that are currently receiving the highest density but providing the least forest mitigation by qualifying for one of the (s) FCP exemptions.

SECTION 22A-11 EXEMPTIONS.

Proposal

Lines 168-173, 205-206, 260, 277, 294, 305-308, and 317 introduce a new requirement for Natural Resource Inventories/Forest Stand Delineations (NRI/FSDs) to be approved prior to the submittal of any development plan, floating zone plan, project plan, sketch plan, subdivision plan, site plan, special exception, conditional use, mandatory referral, park development plan, or sediment control permit.

Analysis

This change will ensure that all environmental features are considered before development and are known and properly assessed at the time a development plan is submitted to the Planning Department for review. The primary goal with this change is to ensure that high quality forest is properly considered and preserved whenever possible.

SECTION 22A-12 RETENTION, AFFORESTATION, AND REFORESTATION REQUIREMENTS

Proposal

Line 355 amends the forest conservation thresholds and required afforestation for subject activities in different land use categories.

Analysis

Proposed changes would increase forest conservation thresholds in lower density land use categories where additional open space exists for forest preservation or planting. These land use categories include the medium density residential, cluster medium density residential, agricultural and resource areas, and institutional land use categories. Cluster medium density residential is a new category introduced as part of this proposed amendment, and would include the rural cluster (RC), rural neighborhood cluster (RNC) and RE-2C zones. The medium density residential and use category would continue to include the RE-1 and RE-2 zones. Staff felt that increasing forest conservation thresholds in the cluster medium density residential land use categories was appropriate since these clustered

developments provide more yield within the zone, allowing for remaining open space to be preserved as forest, or planted.

For required afforestation, the proposed changes would increase requirements in higher density land use categories if the net tract area is less than 5 acres in the high density residential, mixed-use, and commercial/industrial land use categories. Afforestation requirements in institutional land use categories would increase regardless of whether the net tract area is less than 5 acres. Afforestation is typically required to meet requirements for projects that remove little to no forest. Therefore, staff felt that it would be appropriate and reasonable to increase afforestation requirements for projects with smaller net tract areas, that may be receiving higher density. Analysis of several projects on larger institutional properties indicated that there would be additional space on those property types to accommodate a greater afforestation requirement.

Proposal

Lines 361-364 and 367-371 increase the reforestation ratios and introduce a new tiered approach to mitigation, and lines 430-436, lines 459-463, and lines 490-493 update the location requirements and requirements for applicants purchasing credits from a forest mitigation bank according to these new proposed standards.

Analysis

These proposed changes increase reforestation ratios from ¼:1 to ½:1 and 1:1, if forest cleared is above the forest conservation threshold; and increase reforestation ratios to 2:1 (retained) and 2 ½ :1, if forest cleared is below the forest conservation threshold. If forest mitigation were to take place within the same watershed as the project, or a priority watershed (to be defined by Planning Department staff), the lower reforestation ratios in each category would apply. In this way, these revised ratios would incentivize mitigation in the same watershed as the project, or a watershed within the county where forest mitigation is a high priority.

Proposal

Lines 392-398 would expand stream valley buffer planting requirements so that all unforested stream valley buffers on site must be afforested or reforested.

Analysis

Currently unforested stream valley buffers must be reforested in special protection areas and within the Patuxent Management Area. This proposed change would expand this requirement to apply to all unforested stream valley buffers in the county, except if reforestation or afforestation of the stream valley buffer conflicts with one of the natural resource management goals of the Department of Parks, such as designated meadow habitat, or an allowable use for stream valley buffers per the environmental guidelines.

Proposal

Lines 445-447 would codify staff’s policy for applicants who find that the forest retention required by the Forest Conservation Law is not possible.

Analysis

This proposed change would make it clear that applicants in these cases are required to meet the remainder of required forest mitigation through a combination of afforestation or reforestation, on-site or off-site.

Proposal

Lines 468-479 would expand the use of maintenance and management agreements to potentially include required maintenance for areas of existing forest retained to meet forest mitigation requirements.

Analysis

The intent of this change is to ensure that existing forest stands retained to meet forest mitigation requirements are high quality. Primarily, this will mean that retained forest will require maintenance if needed, potentially including control of non-native invasive vegetation or supplemental plantings.

SECTION 22A-21 VARIANCE

Proposal

Lines 498-504 would expand replanting requirements for applicants granted a variance to remove trees listed as priority for retention (“variance trees”)

Analysis

Currently applicants that propose to remove “variance trees” outside of forest must replant at a minimum ratio of 1 caliper inch replaced for every 4 inches of trunk diameter removed. The proposed changes to this section expand the replanting requirement to apply to all “variance trees” proposed for removal, regardless of whether they are located within or outside forest.

THROUGHOUT THE AMENDMENT

Proposal

Lines 14-16, 25, 28-32, 34-36, 41, 67, 93-95, 120-134, 141, 147, 150, 160-164, 176, 190-191, 197, 199-201, 203, 207, 221-224, 227-230, 244-246, 325, 352-353, 377-378, 414-416, and 423-424 are technical corrections.

Analysis

These updates are proposed for clarity and consistency purposes and are mostly unrelated to the goals of the ‘no net loss of forest’ initiative.

PROPOSED CHANGES TO THE FOREST CONSERVATION - TREES REGULATIONS

SECTION 22A.00.01.03 DEFINITIONS

Proposal

Changes to this section include a new definition of “equity focus areas,” as defined by the Planning Department’s equity review group.

Analysis

This definition would be needed if the proposed language under Section 22A.00.01.08.G.8 is adopted.

SECTION 22A.00.01.06 NATURAL RESOURCE INVENTORY AND FOREST STAND DELINEATION (NRI/FSD) REQUIREMENTS

Proposal

Proposed sub-section F incorporates the Planning Department’s policies on NRI/FSD validity periods and recertification standards.

Analysis

These standards are currently outlined in the guidance document for preparing and reviewing NRI/FSDs. Staff are proposing that these policies be incorporated into the Forest Conservation Trees – Regulations for consistency.

SECTION 22A.00.01.08 GENERAL FOREST CONSERVATION PLAN PROVISIONS

Proposal

Sub-section E(3) increases minimum gallon sizes for certain trees and shrubs and extends the maintenance and management period to the end of the 3rd or 5th growing season.

Analysis

Forest conservation staff suggested increasing the minimum gallon sizes for smaller trees and shrubs for consistency with current growing standards and sizes typically offered by nurseries and distributors. Staff are also recommending extending the point at which survival requirements are assessed to match the length of the maintenance period, which was increased from 2 years to 5 years during the last amendment cycle (effective 2/22/21).

Proposal

A new note under sub-section E(3) allows for an alternative methodology to establish planted forest.

Analysis

This proposed addition would allow applicants and Planning Department review staff to work together to implement an alternative methodology to establish planted forest as required by a Forest Conservation Plan where appropriate. An alternative method, such as planting smaller trees and shrubs at a higher density (referred to in some instances as the “Miyawaki method”), may be a better method to establish forest ecosystem depending on the unique conditions of the site, and may establish a resilient forest ecosystem more quickly. However, the density and survival requirements detailed in this same section would still need to be met at a minimum to ensure standards are being implemented equally across projects.

Proposal

Proposed sub-section G(5) introduces a new requirement for landscaping and tree save plans, to ensure trees planted to meet afforestation and reforestation requirements have adequate soil conditions, volume, and surface area.

Analysis

This proposed addition would allow Planning staff to ensure that trees planted to meet these requirements have adequate soil conditions and space to survive and offer maximum tree canopy at maturity.

Proposal

Proposed language in sub-section G(8) would revise how landscaping can be used to meet requirements.

Analysis

If adopted, this change would only allow landscaping to meet reforestation or afforestation requirements in equity focus areas of Montgomery County. The intent with this proposed change is to encourage tree planting wherever possible in areas of the county characterized by high concentrations of lower-income households, people of color, and individuals who are not fluent in English. Outside of equity focus areas, landscaping would only be allowed to be used to meet afforestation requirements, which are required of projects removing little to no forest. Under the current Forest Conservation Law, landscaping may be used to meet both reforestation or afforestation requirements anywhere in the County.

SECTION 22A.00.01.09 FOREST CONSERVATION PLAN REQUIREMENTS

Proposal

Proposed changes in subsection B introduce two new notes required to be included in Forest Conservation Plans.

Analysis

These proposed additions would indicate whether downed woody material will be retained in retention, afforestation, or reforestation areas to build habitat; or whether soil restoration techniques will be implemented. Planning Department staff may require either of these techniques to build micro-habitats and improve the soil micro-biome, which will support planted forests long-term and generally benefit the forest ecosystem.

THROUGHOUT THE AMENDMENT

Proposal

All other proposed changes are technical corrections.

Analysis

These updates are proposed for clarity and consistency purposes and are mostly unrelated to the goals of the 'no net loss of forest' initiative.

SECTION 4: CONCLUSION

Staff recommends the Planning Board approve transmittal of the proposed changes to Chapter 22A of the County Code and Chapter 22A of the Code of Montgomery County Regulations to the President of the Montgomery County Council for introduction, and posting of the proposed Forest Conservation – Trees regulations in the County Register.

[ATTACHMENT A: PROPOSED AMENDMENTS TO THE FOREST CONSERVATION LAW](#)

[ATTACHMENT B: PROPOSED AMENDMENTS TO THE FOREST CONSERVATION – TREES REGULATIONS](#)

MONTGOMERY COUNTY PLANNING BOARD REGULATION

MNCPPC – 2425 Reedie Drive – Wheaton, Maryland 20902

Subject Forest Conservation – Trees Regulations	Number
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Montgomery Planning Board Regulation on

FOREST CONSERVATION – TREES

Issued by: Montgomery County Planning Board
Regulation No.
COMCOR No. 22A.00.01

Authority: Montgomery County Code, Chapter 22A-26
Council Review: Method (2) under Code Section 2A-15

Effective Date: XXXXXX
Comment Deadline: XXXXXXX

Summary: These regulations contain administrative requirements related to the review and processing of Natural Resource Inventories, Forest Stand Delineations, Exemptions from Submitting a Forest Conservation Plan, and Forest Conservation Plans that are acted upon by the Planning Board or the Planning Director under Chapter 22A.

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Address: 2425 Reedie Drive
Wheaton, MD 20902

Background: These regulations clarify and further develop administrative procedures to implement the submittal of applications under Chapter 22A of the County Code. This regulation amends the Forest Conservation Regulations that were adopted by the Planning Board in 2001 and amended in 2021, and approved by the County Council under Method 2 procedures.

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CHAPTER 22A. FOREST CONSERVATION – TREES REGULATIONS

22A.00.01.01 Purpose

These regulations identify the steps that an applicant must take to comply with Chapter 22A of the County Code. These regulations were adopted by the Planning Board and approved as regulations by the County Council under Chapter 22A.

22A.00.01.02 Authority

In accordance with Chapter 22A, sometimes referred to in these regulations as the “Forest Conservation Law,” the following Planning Board Regulations shall pertain to all development applications, mandatory referrals, conditional uses, sediment control permits, or park development applications. In addition, the *Trees Technical Manual* is a guidance document, adopted by the Planning Board, which provides further clarification of the requirements of Chapter 22A of the Montgomery County Code and these regulations.

22A.00.01.03 Definitions

- 1) “Afforestation” means the creation, on a tract that is not presently in forest cover, of a biological community dominated by trees and other woody plant (including plant communities, the understory, and forest floor), which is at least 10,000 square feet in area and 50 feet wide, and containing at least 100 trees per acre, with at least 50 of those trees having the potential of growing to a 2 inch or greater diameter at 4.5 feet above the ground within 7 years. In some instances, afforestation includes creation of tree cover by landscaping areas under an approved landscaping plan.
- 2) “Afforestation threshold” means the afforestation required for a site per Sections 22A-12(a), (d), and (f) of the Forest Conservation Law.
- 3) “Applicant” means the person who is applying for a subdivision, sketch plan, site plan, sediment control permit, project plan, special exception/conditional use, mandatory referral, or park development plan.
- 4) “Break-even point” means an exact level of forest retention that precludes the need for reforestation.

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- 5) “Champion tree” means the largest tree of its species within the United States, the State, county or municipality, as appropriate.
- 6) “Conservation easement” means a restriction on the land and the natural features on this land. This easement must be shown on the record plat, if applicable, and its terms and conditions are recorded in the county’s land records. If no plat is required, the easement is recorded in the County’s land records only.
 - (a) “Category I Conservation Easement” means a restriction on the land to permanently protect existing forest, planted forest, or forested or unforested environmental buffers.
 - (b) “Category II Conservation Easement” means a restriction on the land that permanently protects large trees, landscape areas, and any tree planted outside of forest that receives forest conservation plan credit.
- 7) “Conservation threshold” means a specific percentage of a tract that is used in determining reforestation requirements per Sections 22A-12(a) and (f) of the Forest Conservation Law.
- 8) “Critical habitat area” means a critical habitat for an endangered species and its surrounding protection area. A critical habitat area:
 - (a) is likely to contribute to the long-term survival of the species;
 - (b) is likely to be occupied by the species for the foreseeable future; and
 - (c) constitutes habitat of the species which is considered critical under the Annotated Code of Maryland Natural Resources Article.
- 9) “Critical habitat for endangered species” means a habitat occupied by an endangered species as determined or listed under the Annotated Code of Maryland Natural Resources Article .
- 10) “Critical root zone” means the zone in which the roots of a tree are located, as defined in the latest version of the Trees Technical Manual. It is also the area around a tree that should be undisturbed unless protection measures are provided to protect the long-term viability of the tree.
- 11) “Development application” means an application made to the Planning Board, Board of Appeals, Department of Permitting Services, or the Planning Director for approval of a regulated activity.
- 12) “Declaration of intent” means a signed and notarized statement by a landowner that the cutting of trees on the landowner’s property:
 - (a) is for purposes exempted under Chapter 22A of the Montgomery County Code; and
 - (b) will not circumvent the requirements of the Chapter.
- 13) “Development program” means a sequence of construction events and timing for submittal of the major forest conservation program elements.
- 14) “Development project” means grading or construction activities occurring on a specific tract. This includes redevelopment projects.
- 15) “Environmental buffer” means perennial, intermittent, or ephemeral streams/channels and their associated buffers; wetlands and their associated buffers; and, hydraulically connected steep slopes

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according to the latest version of the environmental guidelines, or an appropriate master plan; and floodplains.

- 16) “Environmental guidelines” means the *Guidelines for Environmental Management of Development in Montgomery County, Maryland (MNCPPC)*, as amended.
- 17) “Ephemeral channel/stream” means a channel defined as ephemeral per the latest version of the environmental guidelines.
- 18) “Extenuating circumstances” means conditions requiring extension of a set time limit to process an application, render a decision, or conduct a public hearing.
- 19) “Equity focus areas” mean geographic areas of Montgomery County characterized by high concentrations of lower-income households, people of color, and individuals who may speak English less than very well. Boundaries are determined by Planning Department staff and are mapped on the Planning Department website.
- 20) “Field survey” means a field investigation of the environmental characteristics of a site, including existing forest.
- 21) “Flood, One Hundred-Year” means a flood which has a 1 percent statistical probability of being equaled or exceeded in any given year. Unless otherwise stated, this calculation is based on the contributing watershed under existing zoning
- 22) “Floodplain, One Hundred-Year” means the area along or adjacent to a stream or body of water, except tidal waters, that is capable of storing or conveying floodwaters during a 100-year frequency storm event, or 100-year flood, based on ultimate development of the watershed under existing zoning.
- 23) “Forest clearing” means the cutting or destruction of any trees or understory which are part of an existing forest even if the resulting community continues to meet the definition of forest, except if it is done as part of an approved management plan or timber harvest permit. Forest loss will be based on a measure of the aerial extent of forest cover which includes the outer perimeter of individual trees.
- 24) “Forest conservation plan” means a plan which outlines the strategies and specific plan proposed for retaining, protecting, and reforesting or afforesting areas on a site.
- 25) “Forest conservation worksheet” means a step-by-step form for determining compliance with the requirements of the forest conservation law.
- 26) “Forest management plan” means a plan establishing conservation and management practices for a landowner after assessment of the resource values of forested properties. This plan is approved by the MD Department of Natural Resources forester assigned to the county after coordination with the county, and by the Planning Director if located within a conservation easement.

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- 27) “Forest mitigation bank plan” means a plan that a property owner submits to document the acreage of forest mitigation bank credits and shows the credits based on the amount of existing forest permanently protected, forest planted and protected, and a planting plan.
- 28) “Forest mitigation bank credits” means the credits available for sale at a forest mitigation bank, where 1 acre of mitigation bank credit equals 2 acres of existing forest or 1 acre of planted forest.
- 29) “Forest retention” means the forest shown on a forest conservation plan that will be saved, counted as forest retained on the worksheet, and included in a long-term protective agreement.
- 30) “Forest stand delineation” or “FSD” means the evaluation of existing vegetation in relation to the natural resources on a site proposed for development or land disturbing activity. The FSD is submitted as part of the Natural Resources Inventory/Forest Stand Delineation (NRI/FSD).
- 31) “Growing season” means a period of consecutive frost-free days as stated in the current soil survey for the county. In an average year, a period commencing on April 1st and ending on October 31st.
- 32) “Intermittent stream” means a stream defined as intermittent in the latest version of the environmental guidelines.
- 33) “Landscaping credit” means areas shown on a forest conservation plan, that are not forest, but will receive credit toward a site’s reforestation or afforestation requirements, so long as the plantings are not required to meet zoning or other requirements. The forest conservation plan must show the dimensions and details for tree planting and landscaping areas. Any planting for landscaping credit to meet the forest conservation plan requirements must use native plants or cultivars of native plants..
- 34) “Limits of disturbance” means a clearly designated area within which land disturbance may occur.
- 35) “Maintenance and management agreement” means the short-term management agreement associated with a forest conservation plan, and may include the control of non-native and invasive plants.
- 36) “Major amendment to a Forest Conservation Plan” means an amendment that results in more than a total of 5,000 square feet of additional forest clearing and/or the removal or partial removal of any conservation easement.
- 37) “Minor amendment to a Forest Conservation Plan” means an amendment that does not result in more than a total of 5,000 square feet of additional forest clearing or the removal or partial removal of any conservation easement .
- 38) “Native” means a plant or animal species whose geographic range during precolonial time included the Piedmont Region of Maryland. Information on native plants can be found in *Woody Plant of Maryland* (Brown and Brown, 1972) and *Herbaceous Plants of Maryland* (Brown and Brown, 1984), as well as other literature sources.
- 39) “Natural regeneration” means the natural establishment of native trees and other native vegetation.

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- 40) “Natural resources inventory” or “NRI” means the collection and presentation of environmental information for a property according to the guidelines specified in these regulations and in the latest version of the environmental guidelines. The NRI is submitted as part of the Natural Resources Inventory/Forest Stand Delineation (NRI/FSD).
- 41) “Offsite” means outside the limits of the areas encompassed by a tract.
- 42) “Onsite” means within the limits of an area encompassed by a tract.
- 43) “Perennial stream” means a stream defined as perennial in the latest version of the environmental guidelines.
- 44) “Planting plan” means a plan showing how areas to be reforested or afforested will be planted.
- 45) “Priority planting area” means areas in which planting must occur when present.
- 46) “Priority retention area” means areas, identified in Section 22A-12(b) of the Forest Conservation Law that are ranked as the highest priority for retention as part of a forest conservation plan.
- 47) “Qualified professional” means a Maryland licensed forester, Maryland licensed landscape architect, or other qualified professional approved by the State.
- 48) “Regulated activity” means any of the following activities:
- (a) Subdivision;
 - (b) Site plan;
 - (c) Project plan;
 - (d) Sketch plan;
 - (e) Special exception/conditional use on a tract of land greater than 40,000 square feet;
 - (f) Clearing of more than 5,000 square feet of forest;
 - (g) Park development project on a tract of land greater than 40,000 square feet;
 - (h) An activity that requires a sediment control permit on a tract of land, individually or cumulatively that is greater than 40,000 square feet; or
 - (i) Mandatory referral on a tract of land greater than 40,000 square feet.
- 49) “Retention area” means forested areas, tree stands and the critical root zone of individual trees that will be retained on a site.
- 50) “Selective clearing” means the careful and planned removal of trees, shrubs, and plants using specific standards and protection measures under an approved forest conservation plan.
- 51) “Specimen tree” means a tree that is particularly impressive or unusual example of a species due to its size, shape, age, or any other trait that epitomizes the character of the species as further described in the most recent version of the Trees Technical Manual.
- 52) “Stream buffer” means a strip of land contiguous with and parallel to the bank of a perennial or intermittent stream, the width of which must be determined according to the latest version of the environmental guidelines.
- 53) “Subdivision” means the definition of subdivision in Chapter 50 of the Montgomery County Code.

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- 54) “Tract” means:
 - (a) The property, or adjacent properties, subject to a development application, the boundaries of which are described by deed or record plat; or
 - (b) The length and width of the right-of-way or the limits of disturbance, whichever is greater, for a linear project.
- 55) “Tree save area” means an area designating trees, or stands of trees, outside existing forest cover which are to be retained.
- 56) “Tree save plan” means a plan approved by the Planning Board, or Planning Director, under Chapter 22A or Chapter 50 of County Code which covers individual trees or stands of trees to be saved as part of, or instead of a forest conservation plan.
- 57) “Tree stand” means an area where trees are concentrated at too low a density, or that is too small in size or area to meet the definition of “forest.”

22A.00.01.05 Application

- A. Except as provided in Sections 22A-5, 22A-6, 22A-7, 22A-8, 22A-9 and the Variance provisions in Section 22A-21 of the Forest Conservation Law, these regulations apply to the following plans or regulated activities:
 - (1) a development plan approved or amended under Division 59-D-1 of Chapter 59 of the County Code that was in effect prior to October 30, 2014;
 - (2) a project plan approved or amended under Division 59-D-1 of Chapter 59 of the County Code that was in effect prior to October 30, 2014;
 - (3) a preliminary plan of subdivision, administrative subdivision, or minor subdivision approved by the Planning Board, or Planning Director, under Chapter 50 of the County Code;
 - (4) a site plan approved or amended under Division 59-D-3 of Chapter 59 of the County Code that was in effect prior to October 30, 2014;
 - (5) a site plan approved or amendment under Section 59.7.3.4 of Chapter 59 of the County code;
 - (6) a sketch plan approved under Section 59.7.3.3 of Chapter 59 of the County code;
 - (7) a sediment control permit required under Chapter 19 of the County Code;
 - (8) clearing or grading conducted on two or more platted contiguous lots that are part of the same project, that collectively total 40,000 square feet or larger, that are graded at the same time, and where sediment control is required under Chapter 19 of the County Code.
 - (9) a special exception approved under Article 59-G of Chapter 59 of the County Code that was in effect prior to October 30, 2014;

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- (10) a conditional use approved under Section 59.7.3.1 of Chapter 59 of the County Code;
- (11) a mandatory referral; and
- (12) a park development plan.

- B. The general procedure for meeting the requirements of Chapter 22A for these plans is:
 - (1) Preparation by a qualified professional, of a natural resources inventory which may include a forest stand delineation, as described in Section 22A.00.01.06 and in the latest versions of the environmental guidelines and the *Trees Technical Manual* (MNCPPC). To be reviewed and approved by the Planning Director.
 - (2) Identification by a qualified professional, of forest and tree retention areas per subsection 22A-12(b) of the Forest Conservation Law, Sections 22A.00.01.06 and 22A.00.01.07, and the criteria for areas to be cleared in the *Trees Technical Manual*.
 - (3) Preparation by a qualified professional, of forest conservation plan to be approved by Planning Board or Planning Director, as applicable, which includes:
 - (a) lot lines, building, and proposed infrastructure, located to maximize retention areas and avoid environmentally sensitive areas such as environmental buffers and critical habitats wherever practical;
 - (b) areas of existing forest, areas of forest to be removed, and areas of forest to be retained;
 - (c) afforestation and reforestation areas and planting plan, as required;
 - (d) appropriate protection and maintenance measures; and
 - (e) a timetable for construction and planting.

22A.00.01.06 Natural Resource Inventory and Forest Stand Delineation (NRI/FSD) Requirements

- A. A Natural Resource Inventory (NRI) application must be considered complete if it contains a complete analysis of existing natural resources and man-made features on a property which is verified by field survey and contains the following information to cover the development site and first 100 feet of adjoining land around the perimeter or the width of adjoining properties, whichever is less:
 - (1) property boundaries;
 - (2) topography at a minimum scale of 1" = 200' with contour intervals not more than 5 feet (larger scale may be required by the Planning Director on a case-by-case basis, if necessary to determine the accuracy of the plan);
 - (3) slopes 25% and greater, and slopes between 15% and 25% that are associated with erodible soils;

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- (4) perennial and intermittent streams and stream buffers per the latest version of the environmental guidelines;
- (5) ephemeral channels/streams and buffers for those locations where such buffers are required per the latest version of the environmental guidelines or appropriate master plan;
- (6) Existing one-hundred year floodplains and associated 25' building restriction lines;
- (7) wetlands and their buffers per the latest version of the environmental guidelines;
- (8) soils and geologic conditions including, soil type, structural limitations, soils that are hydric or have hydric inclusions, erodible soils per the list in Appendix C of the environmental guidelines, and known serpentinite soils in Montgomery County;
- (9) rare, threatened or endangered plants or animals observed in the field;
- (10) critical habitat areas observed or documented by the Maryland Department of Natural Resources;
- (11) aerial extent of forest and tree cover which includes the outside perimeter of the canopy of individual trees;
- (12) champion trees and trees that have a diameter at 4.5 feet above the ground (DBH) that is 75% or more of the diameter of the current state champion for that species;
- (13) Specimen Trees;
- (14) a table that identifies individual trees that have a diameter at 4.5 feet above the ground (DBH) of 24" or greater by size and species and the health of those trees;
- (15) cultural features and historic sites;
- (16) a site vicinity map at 1" = 2000' which shows the location of the site within a square mile and indicates major roads; and
- (17) a table containing acreage of wetland, 100-year floodplains, stream buffers, and environmental buffers; and
- (18) A completed NRI/FSD application form, fee schedule worksheet, and review fee.

B. A Forest Stand Delineation (FSD) application must be considered complete if it contains a detailed summary of existing forest and trees on a tract, or forest stand delineation which is verified by field survey and contains the following information to cover the development site and first 100 feet of adjoining land around the perimeter or the width of adjoining properties, whichever is less:

- (1) forest stands and field verified boundaries;
- (2) a description of each stand including:
 - (a) acreage;
 - (b) dominant and codominant tree species;
 - (c) size class by species;
 - (d) percent canopy closure;

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- (e) number of canopy layers (vertical structure);
 - (f) percent of forest floor covered by herbaceous plants (native species), downed woody material, and alien or invasive species;
 - (g) a stand condition narrative for each stand including, priority for retention, information on condition classes, structure, function, retention potential, transplant and regenerative potential, and comments on evidence of past management; and specimen trees by size and species; champion trees and trees that have a diameter at 4.5 feet above the ground (DBH) that is 75% or more of the diameter of the current state champion for that species, which must also be clearly numbered with corresponding tags in the field;
 - (4) a table that identifies individual trees that have a diameter at 4.5 feet above the ground (DBH) of 24” or greater by size and species and the health of those trees, which must also be clearly numbered with corresponding tags in the field;
 - (5) field survey reference points demarked on a plan drawing and in the field;
 - (6) a table containing total acreage of forest, forest in priority retention areas, forest not in priority retention areas, forest within existing wetlands, forest within 100-year floodplains, and forest within stream buffers;
 - (7) a summary map, which in addition to the information in subsections (1) and (2), shows the priority of forest stands for retention as described in Section 22A.00.01.07; and
 - (8) A completed NRI/FSD application form, fee schedule worksheet and review fee.
- C. A simplified forest stand delineation may be used per subsection 22A-10(b)(2) of the Forest Conservation Law. The simplified plan must also include:
- (1) forest stands as determined by dominant species types and priority for retention;
 - (2) stand condition narrative as described in subsection B(2);
- D. When necessary the items described in A and B, or A and C, above must be combined into one plan drawing and is called a Natural Resources Inventory/Forest Stand Delineation.
- E. The Natural Resources Inventory and Forest Stand Delineation must be prepared by a licensed forester, licensed landscape architect or other qualified professional; and must exhibit a stamp or certification of the preparer. The Natural Resources Inventory/Forest Stand Delineation must be used to determine areas of forest to be saved or planted.
- F. A Natural Resources Inventory and Forest Stand Delineation is valid for two years from the date it is approved. If a forest conservation plan or a plan under Section 22A-9 has not been accepted as

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complete during the two-year validity period, an approved Natural Resources Inventory and Forest Stand Delineation expires at the end of its validity period. An expired Natural Resources Inventory and Forest Stand Delineation may be recertified within one year after the expiration date, if the original plan preparer attests that there are no changes to the size and shape of the application tract, existing conditions, forest acreage, tree canopy, or any other detail of the originally approved Natural Resources Inventory and Forest Stand Delineation. A Natural Resources Inventory and Forest Stand Delineation may only be recertified one time. A new Natural Resources Inventory and Forest Stand Delineation may be required if there are changes to site conditions, applications, plan preparer, or applicant.

22A.00.01.07 Priorities for Retention

A. The following areas are considered the highest priority retention areas for protection and must be left in an undisturbed condition unless the Planning Director or Planning Board find that the provisions of subsection 22A-12(b)(1) of the Forest Conservation Law, have been met and the development proposal cannot reasonably be altered:

- (1) trees, shrubs and other plants located in sensitive areas including environmental buffers, slopes over 25 percent (not man-made), erodible soils on slopes of 15% or more, and critical habitats;
- (2) a contiguous forest that connects the largest undeveloped or most vegetated tracts of land within and adjacent to the site;
- (3) trees, shrubs, or plants identified on the Maryland Department of Natural Resources list of rare, threatened, and endangered species;
- (4) a forest area which has been designated as priority for retention in master plans or functional plans, or in the absence of such plans, a forest which exhibits all of the following characteristics as further described in the most recent version of the *Trees Technical Manual*:
 - (a) high structural and species diversity;
 - (b) few alien or invasive species present;
 - (c) very good overall stand health; and
 - (d) high potential to provide a significant amount of habitat for forest interior dwelling plant, animal, and bird species; and
- (5) an individual tree, and its critical root zone, with one or more of the following characteristics:
 - (a) a tree that is 1” caliper or larger and part of a historic site or associated with a historic structure;

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- (b) a tree designated as a national, state, or County champion tree;
- (c) a tree having a diameter, measured at 4.5 feet above the ground, of 75 percent or more of the diameter of the designated state or County champion tree;
- (d) trees which have a diameter, measured at 4.5 feet above the ground with a diameter of 30 inches or greater; and
- (e) a tree which is a specimen of a species.

- B. The following areas are not subject to the retention provision in subsection 22A-12(b)(1) of the Forest Conservation Law, but should be given consideration for preservation where feasible:
 - (1) a forested area which provides corridor 300 feet or more of primarily native vegetation between two larger forested tracts;
 - (2) a forested stream buffer up to 300 feet on either side of a stream channel;
 - (3) trees which act as a buffer between incompatible land uses and between dwelling and roads;
 - (4) a forest stand, or portions of a stand, with food forest structural diversity; and
 - (5) an individual tree with a diameter, measured at 4.5 feet above the ground, of 24 inches or greater which will significantly enhance the site through preservation.

22A.00.01.08 General Forest Conservation Plan Provisions

- A. In developing a forest conservation plan, the applicant must give priority to techniques for maximizing retention of existing forest on the site. The Forest Conservation Law specifies percentages of all forested sites which, at a minimum, should be preserved. Applicants must strive to maximize forest retention whenever practical.
- B. If existing forest on the site subject to a forest conservation plan cannot be retained, the applicant must demonstrate, to the satisfaction of the Planning Board or Planning Director, as applicable:
 - (1) How techniques for retention have been exhausted;
 - (2) Why the forests in priority retention areas specified in Section 22A.00.01.07 are not being retained;
 - (3) If forests in priority retention areas cannot be left undisturbed, how the sequence for afforestation or reforestation will be followed in compliance with subsection 22A-12e(1)(A) of the Forest Conservation Law;
 - (4) Where on site in priority planting areas the afforestation or reforestation will occur in compliance with subsection 22A-12(e)(3) of the Forest Conservation Law; and
 - (5) How the standards for afforestation and reforestation requirements in subsection 22A-12(e)(4) of the Forest Conservation Law will be met.

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C. Wetlands. A regulated activity within the net tract area that occurs wholly or partly in areas regulated as nontidal wetlands under Environment Article, Title 9, Annotated Code of Maryland, is subjected to the reforestation requirements of both the nontidal wetlands regulations and this subtitle, subject to the following:

- (1) Forested nontidal wetlands which are retained, must be counted toward the forest conservation requirements of this subtitle;
- (2) Forested wetlands which are permitted to be cleared must be replaced as required under the provisions of Environment Article, Title 9, Annotated Code of Maryland;
- (3) Clearing within forested wetlands must be shown on the forest conservation plan; and
- (4) Wetlands are priority retention areas.

D. Retention Areas.

- (1) Forest retention areas must be at least 10,000 square feet in size and 50 feet wide, or be a part of a larger forest area which extends off-site and is protected.
- (2) Individual trees described as highest priority for retention in subsection 22A.00.01.07A may receive retention credit equal to the area of their critical root zone protected when at least two thirds of the entire critical root zone is permanently protected by an easement.
- (3) Individual trees which are not the highest priority for retention and tree stands less than 10,000 square feet and 50 feet wide may be credited toward afforestation and reforestation requirements as part of landscaping credit.
- (4) Retention area boundaries must be determined by a measure of the aerial extent of remaining forest cover which includes the outer perimeter of the canopy of individual trees, or the critical root zones that are protected, whichever is greater.

E. Afforestation and Reforestation.

- (1) Afforestation and reforestation areas must be at least 10,000 square feet in size and 50 feet wide, or be adjacent to an existing forest area (either on-site or off-site) which is protected.
- (2) The following must be considered as highest priority planting areas for forest conservation plans with required afforestation and reforestation:
 - (a) environmental buffers;
 - (b) establish or enhance forest in buffers adjacent to ephemeral streams, when such streams are required to have buffers as recommended in an applicable Master Plan or in the latest version of the environmental guidelines;
 - (c) establish or enhance forested areas on 100-year floodplains, when appropriate;
 - (d) establish or increase existing forested corridors to connect existing forest within or adjacent to the site. Where practical forested corridors should be a minimum of 300 feet in width to facilitate wildlife movement;
 - (e) establish or enhance forest buffers adjacent to critical habitats where appropriate;

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- (f) establish planting to stabilize natural slopes of 25% or greater and 15% or greater with erodible soils including slopes of ravines or other natural depressions;
 - (g) establish buffers adjacent to areas of differing land use where appropriate, or adjacent to highways or utility rights-of-way;
 - (h) establish forest areas adjacent to existing forests to increase the overall area of contiguous forest cover, when appropriate; and
 - (i) non-forested wetlands are priority planting areas; however, these areas may be left in their existing condition when appropriate.
- (3) Planting plans for afforestation and reforestation must include the following:
- (a) a minimum of 5 native tree species (unless the site is to be actively managed under an approved forest management plan) and 2 species of native understory shrubs;
 - (b) appropriate site preparation, protection and/or maintenance measures as described in the latest version of the Trees Technical Manual; and
 - (c) a stocking rate for trees and shrubs and survival requirements, as shown in the following chart:

Size	Number Required (per acre) (1)	Approximate Spacing (feet on center) (2)	Survival Requirements (starting at the end of the 3 rd or 5 th growing season) (3)
TREES			
¾" to 1" caliper; B&B or container grown (minimum 7 gal.)	200	12' to 15'	75% or 150 per acre(4)
1 ½" to 2" caliper; B&B or container grown (minimum 15 gal.)	100	15' to 20'	100% or 100 per acre(5)
SHRUBS			
18" to 24" height; container grown (minimum 3 gal.)	33	(6)	

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Notes:

- (1) In certain circumstances, any combination of the above mentioned stocking options may be appropriate strategies to fulfill the requirements of an approved Forest Conservation Plan. Instances where the use of combination planting may be appropriate are described in the *Trees Technical Manual*. Use of alternative stocking will be evaluated, along with necessary protection and maintenance measures, on a case-by-case basis by the Planning Board.
- (2) Spacing does not imply that trees or shrubs must be planted in a grid pattern although it may be necessary for mowing to control invasive vegetation or otherwise reduce competition for the planted tree.
- (3) If the tree survival at the end of the maintenance period falls below the survival requirements, reinforcement planting up to that amount will be required. If tree survival falls below 50% of the total trees planted, extension of the maintenance period will be required in addition to reinforcement planting. Natural regeneration may be counted toward survival requirements, in addition to the required planting, on a case-by-case basis as determined by the Planning Director.
- (4) Surviving tree must be at least 1” caliper to receive full credit toward survival requirements. Reinforcement planting must be 1” trees. All trees to be accepted must be healthy and have the main leader intact with minimal deer browse.
- (5) Surviving tree must be at least 2” caliper to receive full credit toward survival requirements. Reinforcement planting must be 2” trees. All trees to be accepted must be healthy and have the main leader intact with minimal deer browse.
- (6) Shrubs should be evenly distributed over the planting area and among the trees. On a case-by-case basis, shrubs may be substituted with native trees particularly when there is evidence of deer predation or high incidence of non-native and invasive plants and materials.
- (7) An alternative methodology to establish planted forest, such as planting smaller trees and shrubs at a higher density, or supplemental planting of live stakes, may be approved by the Planning Director as appropriate to encourage the establishment of an overstory or understory, build resilience against invasive species or deer, or otherwise establish forest ecosystem using the best methodology for the site. However, the density and survival requirements detailed in the table above must be met at a minimum.

F. Tree Save Plans.

- (1) Development applications on tracts which impact significant, specimen or champion trees, including those on adjoining properties, are required to submit a tree save plan.
- (2) Preserving significant, specimen or champion trees, and stands of trees which are valuable for compatibility reasons, must be included in these plans. If the loss of these trees is shown to be unavoidable, replacement must be required.
- (3) The replacement ratio must be determined in the following manner:
 - (a) Specimen and champion trees must be replaced by a planting plan which may be required to include planting or transplanting of large trees;
 - (b) Significant tree stands must be replaced to replace the function of the stand; for instance, trees which provided screening must be replaced in sufficient kind and number to perform the same function.

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- (4) The tree save plans must show on-site or off-site trees 6” DBH or greater located along the limits of disturbance if the proposed activity would impact the critical root zone of those trees, and must identify methods to preserve and protect those trees.

G. Credit Toward Afforestation and Reforestation for Landscaping and Tree Save.

- (1) The Planning Board or Planning Director, as applicable, must find that all opportunities for establishing forest have been incorporated into on-site afforestation and reforestation plans before any credit for landscaping or tree save area is applied.
- (2) Trees receiving credit towards forest conservation requirements must not also be credited towards landscaping requirements, including planting and screening required by zoning or other regulatory requirements.
- (3) Newly planted landscape trees, within landscape areas must be 3” minimum caliper stock to be counted toward requirements.
- (4) Newly planted trees outside of forest, or designated landscape areas, must be 3” minimum caliper stock to be counted toward requirements.
- (5) The area(s) where trees are planted must have adequate soil conditions, volume, and surface area to sustain plantings;
- (6) Afforestation areas may be established as tree cover if the Planning Board or Planning Director, as applicable, find that tree cover is appropriate. Instances where it may be appropriate to satisfy afforestation requirements using tree cover include:
 - (i) developments in urban areas;
 - (ii) redevelopments;
 - (iii) high-density residential developments;
 - (iv) commercial and industrial developments;
 - (v) high density mixed-use developments; and
 - (vi) some institutional areas.
- (7) Landscaping, retention of tree stands, and retention of individual trees may be credited toward a sites’ reforestation requirements only for projects located within an equity focus area as follows:
 - (a) landscaping areas or retained tree stands which are at least 2,500 square feet in size and 35 feet wide may receive full credit for their area;
 - (b) landscaping areas and retained tree stands which are less than 2,500 square feet in size or 35 feet wide may receive one quarter credit for their area;
 - (c) individual landscape trees may receive one quarter credit for the projected area of their canopy at 20 years;
 - (d) individual non-priority trees which are retained may receive one quarter credit for the protected area of their critical root zone when at least two third of the entire critical root zone is protected; and

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- (e) the total credit from these areas must not exceed twenty percent of the overall reforestation requirement for a site.
- (8) Landscaping, retention of tree stand, and retention of individual trees may be credited toward a sites’ afforestation requirements as follows:
 - (a) sites with tree cover requirements per subsection (3):
 - (i) landscaping areas or retained tree stands of any size may receive full credit for their area; and
 - (ii) individual landscape trees which are retained may receive full credit for the protected area of canopy at 20-years;
 - (b) sites with special provisions for meeting minimum afforestation requirements per Section 22A-12(f) of the Forest Conservation Law:
 - (i) landscaping areas or retained tree stands which are at least 2,500 square feet in size and 35 feet wide may receive full credit for their area;
 - (ii) landscaping areas or retained tree stands which are at least 2,500 square feet in size or less than 35 feet wide may receive one quarter credit for their area;
 - (iii) individual non-priority landscape trees may receive one quarter credit for the projected area of their canopy at 20-years;
 - (iv) individual trees which are retained may receive one quarter credit for the protected area of their critical root zone when at least two third of the entire critical root zone is protected; and
 - (v) the total credit from these areas must not exceed twenty percent of the overall afforestation requirement for a site.

22A.00.01.09 Forest Conservation Plan Requirements

- A. Preliminary Forest Conservation Plans.
 - (1) Development applications that need more than one approval must submit a preliminary forest conservation plan in conjunction with the first approval, unless multiple applications are submitted for simultaneous review and only a final forest conservation plan is required. The preliminary forest conservation plan may be based on conceptual analysis if the basic parameters are met and any assumptions are realistic.
 - (2) A preliminary forest conservation plan must contain the following:
 - (a) the shape and dimension of lots, showing locations of any existing structures and improvements, including paved areas;
 - (b) locations and dimension of all existing and proposed rights-of-way, setback, easements, stockpile areas, and stormwater management facilities (road and utility rights-of-way which will not be improved as parts of the development application must be identified);

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- (c) location of building restriction lines and areas to be conserved including environmental buffers;
- (d) conceptual locations of proposed structures and improvements, drainage systems, and sediment control measures;
- (e) preliminary limits of disturbance of the natural terrain, and location of forest and tree retention areas, including acreage, with appropriate justification and proposed long-term protection methods (a conceptual grading plan and/or a more detailed tree survey may be required to determine the feasibility of proposed retention areas);
- (f) proposed locations of afforestation and reforestation areas, including acreage, and mitigation trees, if required;
- (g) a table containing the following information:
 - (i) acreage of tract;
 - (ii) acreage of the tract remaining part of an agricultural use;
 - (iii) acreage of road and utility rights-of-way which will not be improved as part of the development application;
 - (iv) acreage of total existing forest;
 - (v) acreage of forest in priority retention areas;
 - (vi) acreage of forest not in priority retention areas;
 - (vii) acreage of total forest retention in priority retention areas;
 - (viii) acreage of total forest retention not in priority retention areas
 - (ix) acreage of total forest cleared in priority retention areas;
 - (x) acreage of forest cleared not in priority retention areas;
 - (xi) land use category and conservation and afforestation thresholds from subsection 22A-12(a) of the Forest Conservation Law;
 - (xii) acreage of forest retained, cleared, and planted within wetlands;
 - (xiii) acreage of forest retained, cleared, and planted within 100-year floodplains;
 - (xiv) acreage of forest retained, cleared, and planted within stream buffers;
 - (xv) total acreage of forest retained, cleared, and planted within priority planting areas; and
 - (xvi) linear feet average width of stream buffer provided; and
- (h) a forest conservation worksheet showing calculation of forest conservation requirements.

B. Final Forest Conservation Plans

- (1) A final forest conservation plan must be based on final site grading, if known, and must be submitted in conjunction with the final approval needed as part of a development

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application. However, if the development project requires the approval of one development application, the final forest conservation plan must be submitted with that development application.

- (2) In addition to the items listed in subsection A(2)(a-c), (f), (g) and (h) a final forest conservation plan must include:
- (a) conceptual or final grading plans which include building locations and footprint, retaining walls, road and parking layout, sidewalks and pathways, and location of recreation facilities;
 - (b) a limits of disturbance line which reflects the limits of all clearing and grading on the tract, and the proposed location of sediment and erosion control devices and staging areas;
 - (c) a survey of trees with a diameter of 24 inches and greater at 4.5 feet above the ground (or trees of other sizes if requested by Planning Department staff to determine the feasibility of proposed retention areas) , within 50’ on either side of the limits of disturbance, with critical root zones delineated, and with the distance from the tree face to the limits of disturbance shown on the plan or in an associated table.
 - (d) retention areas including forest, tree stands and other individual trees to be saved including acreage;
 - (e) a note describing whether on site downed woody material is to be retained and incorporated into retention, afforestation, or reforestation areas to build habitat.
 - (f) an afforestation and/or reforestation planting plan, if required, which contains:
 - (i) a note indicating whether soil restoration techniques will be implemented;
 - (ii) location and acreage of areas to be planted;
 - (iii) an analysis of the suitability of the site for planting and a description of necessary methods;
 - (iv) a list of target tree and shrub species, chosen based on analysis of site conditions which can be used for site planting;
 - (v) a plant materials table including size of plants to be installed and quantities;
 - (vi) planting and inspection schedule which is tied to the construction sequence for the project;
 - (vii) a maintenance plan which includes provision for necessary watering, control of competing vegetation, protection from disease, pest, and mechanical injury, removal of protective measures such as deer caging, and reinforcement planting if plant survival falls below the requirements of subsection 22A.00.01.08E(3)(c);; and
 - (viii) a maintenance and management agreement; and

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- (g) permanent protection area boundaries and long-term protection agreement, where appropriate, and building restrictions lines;
- (h) a protection plan which shows:
 - (i) location of temporary protection devices which must be installed if clearing, grading, or construction occurs within 50 feet of a retention area boundary;
 - (ii) stockpile areas and borrow pits;
 - (iii) specifications and details for the protection device;
 - (iv) a narrative of stress reduction or other measures which are needed for specific trees;
 - (v) a field inspection schedule pursuant to Section 22A.00.01.10;
 - (vi) location of permanent protection devices; an arborist report that shows the methods to be utilized to protect any tree, 24” dbh and greater, when 30% or more of the critical root zone is impacted; and
 - (vii) An arborist report may be required, on a case-by-case basis, for trees less than 24” dbh, when 30% or more of the critical root zone is impacted.
- (i) identification of how the off-site planting requirements will be met either by making a fee in lieu payment, by acquiring mitigation credits from an approved forest mitigation bank, or by planting offsite;
- (j) If off-site planting is going to occur, the forest conservation plan must include the items listed in subsection (e) plus a map of the proposed planting site showing location, soils, and environmental features which are priority planting areas as stated in subsection 22A.00.01.08E(2).

C. Noticing Requirements for Forest Conservation Plans.

- (1) Applicants that require approval of a forest conservation plan must follow the noticing requirements identified in Administrative Procedures for Development Review in COMCOR Chapter 50/59.00.01.04.

22A.00.01.10 Inspections

- A. The Planning Department must conduct field inspections of a site subject to an approved forest conservation plan as follows:
 - (1) after the limits of disturbance have been staked and flagged, but before any clearing or grading begins (the purpose of the meeting should be to field verify the limits of clearing specified on the approved plan, authorize necessary adjustments, and to authorize necessary stress reduction measures and installation of protection devices);
 - (2) after necessary stress reduction measures have been completed and the protection measures have been installed, but before any clearing or grading begins (the purpose of the

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meeting should be to field verify that both measures have been done correctly and to authorize clearing and grading);

- (3) after completion of all construction activities to determine the level of compliance with the approved plan;
- (4) before the start of any required reforestation planting (the purpose of the meeting should be to determine whether necessary pre-planting measures have been completed and authorize any necessary adjustments to the planting specification);
- (5) after required reforestation and afforestation planting has been completed to verify that the planting is acceptable and to begin the required maintenance and management period;
- (6) Two years after reforestation and afforestation have been completed, to determine survival and assess necessary maintenance activities for the remaining duration of the maintenance and management period; and
- (7) At the end of the maintenance and management period to determine the level of compliance with provisions of the planting plan and, if appropriate, authorize release of any financial security.

- B. The applicant must:
 - a. Request these inspections at the designated points.
 - b. Submit to the Planning Department semi-annual reports and photographs showing compliance with the provisions of the forest conservation plan by October 31st and April 30th of each year for the duration of the maintenance and management period.
- C. The Planning Department is authorized to conduct field inspections at any time other than those identified in Section 22A.00.01.10.A.
- D. For sites without any planting requirements the final inspection is for the Planning Department to authorize removal of any tree protection measure. For sites with planting requirements, the final inspection occurs at the end of the maintenance and management period.

22A.00.01.11 Exemptions from Submitting a Forest Conservation Plan

- A. A request for exemption from forest conservation plan requirements per Sections 22A-5, 22A-6, and 22A-7 of the Forest Conservation Law must be in writing to the Planning Director.
- B. The following information must be provided as part of an exemption request:
 - (1) An application form;
 - (2) A written request detailing how the exemption applies to the proposed plan;
 - (3) A Natural Resources Inventory, or Natural Resources Inventory/Forest Stand Delineation if forest is proposed to be removed, prepared per Section 22.00.01.06 and the environmental guidelines;
 - (4) an original copy of a declaration of intent, if required, signed by the applicant named on the development or sediment control application; and

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- (5) other appropriate information which supports the exemption request including a copy of the proposed plan for development, if applicable.
- C. A waiver from the requirement to provide a Natural Resources Inventory with an exemption request may be granted for:
- (1) single lot exemptions per subsection 22A-5(a) of the Forest Conservation Law if information is submitted, and the Planning Director affirms, that a natural resource inventory is not necessary but the information does show existing and proposed topography and forest boundaries;
 - (2) agricultural exemptions per subsection 22A-5(b) of the Forest Conservation law if a diagram is submitted with the exemption request showing existing and future forest boundaries;
 - (3) commercial logging and timber harvesting exemptions per subsection 22A-5(d) of the Forest Conservation law if a diagram is submitted with the exemption request showing existing and future forest boundaries, environmental buffers, harvest areas, and haul roads; and
 - (4) applications for other exemptions, if the site being developed does not contain any forest, specimen or significant trees, existing conservation easements, or environmentally sensitive features, and a plan showing existing features and topography is submitted with the exemption request.
- D. The Planning Director may require a person requesting an exemption from submitting a forest conservation plan to submit a tree save plan in conjunction with the exemption request.
- E. The Planning Board, or Planning Director, may require a person failing to file an exemption request per section 22A-4 of the Forest Conservation Law, or found in noncompliance with an exemption or a declaration of intent to:
- (1) Submit a Forest Conservation Plan and meet the requirements in the Forest Conservation Law for a regulated activity;
 - (2) Pay a noncompliance fee;
 - (3) Be subject to other enforcement actions appropriate under Article III of the Forest Conservation Law; and/or
 - (4) Submit a request to be exempt from submitting a forest conservation plan.
- F. In its determination of appropriate enforcement action, the Planning Board may consider whether failure to file an exemption by a person required to file is a violation of this subtitle.
- G. A confirmed exemption that has not started any authorized land disturbance within 5 years from the date of confirmation automatically expires without notice.

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H. A confirmed exemption may not be amended. A new exemption must be submitted for review in order to make any changes.

22A.00.01.12 Declaration of Intent

- A. A declaration of intent is an affirmation by an applicant that a property is subject to the following activities and limitations and therefore is eligible for an exemption from the Forest Conservation Plan. A declaration of intent is required for the following exemptions from submitting a forest conservation plan;
 - (1) An activity conducted on an existing single lot that is required to construct a dwelling house or accessory structure intended for the use of the owner, if the activity complies with subsection 22A-5(a) of the Forest Conservation Law;
 - (2) An agricultural activity that complies with subsection 22A-5(b) of the Forest Conservation Law;
 - (3) A commercial logging and timber harvesting operation that complies with subsection 22A-5(d) of the Forest Conservation Law;
 - (4) A real estate transfer subject to subsection 22A-5(m) of the Forest Conservation Law.
 - (5) A minor subdivision that complies with subsection 22A-5(n) of the Forest Conservation Law;
 - (6) An activity involving the demolition of an existing structure that complies with subsection 22A-5(x) of the Forest Conservation Law.

- B. The declaration of intent must provide Planning Department staff with access to the property to verify compliance with the declaration.

- C. The declaration of intent is in effect for 5 years after the date defined in the declaration of intent.

- D. The filing of a declaration of intent does not preclude another exempted activity on the property subject to a declaration of intent, if the activity:
 - (1) Does not conflict with the purpose of any existing declaration of intent; and
 - (2) Complies with the applicable requirements for an exempted activity.

- E. If a regulated activity on the area covered by the declaration of intent occurs within 5 years of the effective date of the declaration of intent:
 - (1) the exemption immediately terminates without any action by the Planning Board;
 - (2) the Planning Director may require approval of a Forest Conservation Plan for the property; and
 - (3) the Planning Director, or Planning Board may take other enforcement actions, including those listed under Section 22A-17(a) of Article III of the Forest Conservation Law.

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F. An applicant may apply for a regulated activity on the area of the property not covered under the declaration of intent if the requirements of Section 22A-5 are satisfied.

22A.00.01.13 Amendment to Forest Conservation Plan

A. Forest Conservation Plan Amendments.

- (1) Minor amendments which do not result in more than a total of 5,000 square feet of additional forest clearing may be approved by the Planning Director on a case by case basis. These minor amendments may include field modifications and substituting one area of forest, for retention of another of equal or greater size and value.
- (2) Major amendments which entails:
 - (a) more than a total of 5,000 square feet of additional forest clearing must be approved by Planning Board or Planning Director (depending on who approved the original plan), or
 - (b) Removal of any conservation easement must be approved by the Planning Board.
- (3) All Forest Conservation Plan amendment applications must conform to the requirements of the Forest Conservation Law and regulations in effect at the time of submission.

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22A.00.01.14 Forest Conservation Maintenance and Management Agreements

A. Maintenance Agreements.

- (1) A person required to conduct afforestation or reforestation under this regulation and the Forest Conservation Law must include in the forest conservation plan a binding maintenance agreement for a minimum length of 5 years unless reduced pursuant to Section 22A-12(h)(1) of the Forest Conservation Law. The binding maintenance agreement for forest conservation plans within Special Protection Areas must have a minimum length of 5 years and cannot be reduced.
- (2) The maintenance agreement must be submitted and approved by the Planning Director before the start of any land disturbing activities.
- (3) The maintenance agreement must detail how the areas designated for afforestation or reforestation will be maintained to ensure protection and satisfactory establishment of forest.
- (4) The “obligee,” or person required to conduct the afforestation or reforestation must present evidence of a legal right to implement the proposed maintenance agreement on a selected property by providing:
 - (a) an executed deed conveying title to a selected property to the obligee;
 - (b) an executed conservation easement agreement;

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- (c) written evidence of the landowner’s consent to the use of a selected property;
 - (d) a fully executed option agreement, long-term lease agreement, or contract of sale for a selected property; or
 - (e) other written evidence of a possessory or ownership interest in a selected property.
- (5) The Planning Director must be a signatory to the maintenance agreement, or must be designated a third-party beneficiary of the agreement.
 - (6) The maintenance agreement must provide Planning Department staff with access to the property to verify compliance with the Forest Conservation Plan.
 - (7) If the plantings have not met the survival requirements established in section 22A.00.01.08 or required control of non-native and invasive vegetation, reinforcement plantings and/or additional non-native invasive control will be required, and the maintenance period may be extended.

B. Bonding.

- (1) Financial security must be provided per subsection 22A-12(i) of the Forest Conservation Law.
- (2) Financial security must be provided before authorization is granted to begin any clearing, grading, demolition, or land disturbing activities.
The value of the financial security must equal the in-lieu fee applicable at the time of land disturbance, or be based on a cost estimate, approved by the Planning Director, for implementing the planting and maintenance of trees and shrubs (including mitigation trees) and control of non-native and invasive plants.
- (3) The financial security must be in force until all measure for reforestation, afforestation, and maintenance requirements have been met to the satisfaction of the Planning Director.
- (4) A surety bond or other alternative form of security must not be canceled by the surety, bank or other issuing entity unless both of the following conditions are satisfied:
 - (a) the surety notifies the Planning Director and the applicant of its intent to cancel the bond, in writing, by registered mail, not less than 90 days before cancellation; and
 - (b) at least 45 days before the cancellation date indicated in the notice, the applicant files a commitment from a surety, bank, or other issuing entity to provide a substitute security which must take effect on the cancellation date indicated in the notice.
- (5) Release of part of the financial security may be authorized by the Planning Department enforcement and monitoring staff after planting has been done. Any remaining financial security must be at least 50 percent, or greater, than the in-lieu fee that was in effect at the time of the first land disturbance.
- (6) An applicant must request an inspection of the planted areas by Planning Department enforcement and monitoring staff immediately after planting is complete.

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- (7) Planning Department enforcement and monitoring staff must determine whether a partial release should occur, after planting has occurred, and how much, based on the following factors:
 - (a) evidence of deer browse on existing trees and forest;
 - (b) adherence to the planting plan;
 - (c) condition of the planted material;
 - (d) time of year when the planting has occurred and whether or not watering will occur;
 - (e) size of planting stock; and
 - (f) provisions of the protection and maintenance plan, including required control of non-native invasive vegetation.
- (8) Planning staff must release the financial security if the applicant requests a final inspection and the Planning staff determines that survival requirements have been met at the end of the maintenance period.

22A.00.01.15 Long-Term Protective Agreements

An applicant must have in effect at all times, approved long-term protective measures as provided in subsection 22A-12(h)(2) of the Forest Conservation Law, to retain as forest, all land forested, afforested, or reforested and all unforested lands left in an undisturbed condition per section 22A-12(b) of the Forest Conservation Law and limit the uses of those areas which are consistent with forest conservation.

- (1) Long-term protective measures may include, but are not limited to:
 - (a) Conservation easements or covenants;
 - (b) Deed restrictions; and
 - (c) Dedication to M-NCPPC Parks as a conservation area.
- (2) A forest management plan may be included as part of a long-term protective agreement if the Planning Director finds it is consistent with County forest conservation objectives.

MONTGOMERY COUNTY PLANNING BOARD REGULATION

MNCPPC – 2425 Reedie Drive – Wheaton, Maryland 20902

Subject Forest Conservation – Trees Regulations	Number
Originating Department Montgomery County Planning Department	Effective Date

Montgomery Planning Board Regulation on

FOREST CONSERVATION – TREES

Issued by: Montgomery County Planning Board
Regulation No.
COMCOR No. 22A.00.01

Authority: Montgomery County Code, Chapter 22A-26
Council Review: Method (2) under Code Section 2A-15

Effective Date: XXXXXX
Comment Deadline: XXXXXXX

Summary: These regulations contain administrative requirements related to the review and processing of Natural Resource Inventories, Forest Stand Delineations, Exemptions from Submitting a Forest Conservation Plan, and Forest Conservation Plans that are acted upon by the Planning Board or the Planning Director under Chapter 22A.

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Address: 2425 Reedie Drive
Wheaton, MD 20902

Background: These regulations clarify and further develop administrative procedures to implement the submittal of applications under Chapter 22A of the County Code. This regulation amends the Forest Conservation Regulations that were adopted by the Planning Board in 2001 and amended in 2021, and approved by the County Council under Method 2 procedures.

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CHAPTER 22A. FOREST CONSERVATION – TREES REGULATIONS

22A.00.01.01 Purpose

[(a) Purpose.] These regulations identify the steps that an applicant must take to comply with Chapter 22A of the County Code. These regulations were adopted by the Planning Board and approved as regulations by the County Council under Chapter 22A.

22A.00.01.02 Authority

In accordance with Chapter 22A, sometimes referred to in these regulations as the “Forest Conservation Law,” the following Planning Board Regulations shall pertain to all development applications, mandatory referrals, conditional uses, sediment control permits, or park development applications.[.] In addition, the *Trees Technical Manual* is a guidance document, adopted by the Planning Board, which provides further clarification of the requirements of Chapter 22A of the Montgomery County Code and these regulations.

22A.00.01.03 Definitions

- 1) “Afforestation” means the creation, on a tract that is not presently in forest cover, of a biological community dominated by trees and other woody plant (including plant communities, the understory, and forest floor), which is at least 10,000 square feet in area and 50 feet wide, and containing at least 100 trees per acre, with at least 50 of those trees having the potential of growing to a 2 inch or greater diameter at 4.5 feet above the ground within 7 years. In some instances, afforestation includes creation of tree cover by landscaping areas under an approved landscaping plan.
- 2) “Afforestation threshold” means the afforestation required for a site per Sections 22A-12(a), (d), and (f) of the Forest Conservation Law.
- 3) “Applicant” means the person who is applying for a development plan, diagrammatic plan, subdivision, floating zone plan, sketch plan, site plan, [sediment control permit,]project plan, biohealth priority campus plan, preliminary plan of subdivision, administrative subdivision, minor subdivision, sediment control permit, special exception/conditional use, mandatory referral, or [P]park development plan.

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- 4) “Break-even point” means an exact level of forest retention that precludes the need for reforestation.
- [5] “Category I Conservation Easement” means a restriction on the land to permanently protect existing forest, planted forest, or forested or unforested environmental buffers.
- 6) “Category II Conservation Easement” means a restriction on the land that permanently protects large trees, landscape areas, and any tree planted outside of forest that receives forest conservation plan credit.]
- [7] 5 “Champion tree” means the largest tree of its species within the United States, the State, county or municipality, as appropriate.
- [8] 6 “Conservation easement” means a restriction on the land and the natural features on this land. This easement must be shown on the record plat, if applicable, and its terms and conditions are recorded in the county’s land records. If no plat is required, the easement is recorded in the County’s land records only.
- (a) “Category I Conservation Easement” means a restriction on the land to permanently protect existing forest, planted forest, or forested or unforested environmental buffers.
- (b) “Category II Conservation Easement” means a restriction on the land that permanently protects large trees, landscape areas, and any tree planted outside of forest that receives forest conservation plan credit.
- [9] 7 “Conservation threshold” means a specific percentage of a tract [which]that is used in determining reforestation requirements per Sections 22A-12(a) and (f) of the Forest Conservation Law.
- [10] 8 “Critical habitat area” means a critical habitat for an endangered species and its surrounding protection area. A critical habitat area:
- (a) is likely to contribute to the long-term survival of the species;
- (b) is likely to be occupied by the species for the foreseeable future; and
- (c) constitutes habitat of the species which is considered critical under the Annotated Code of Maryland Natural Resources Article.
- [11] 9 “Critical habitat for endangered species” means a habitat occupied by an endangered species as determined or listed under the Annotated Code of Maryland Natural Resources Article .

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[12]] 10) “Critical root zone” means the zone in which the roots of a tree are located, as defined in the latest version of the Trees Technical Manual. It is also the area around a tree [which]that should be undisturbed unless protection measures are provided to protect the long-term viability of the tree.

[13]] 11) “Development application” means an application made to the Planning Board, Board of Appeals, Department of Permitting Services, or the Planning Director for approval of a regulated activity.

[14]] 12) “Declaration of intent” means a signed and notarized statement by a landowner that the cutting of trees on the landowner’s property:

- (a) is for purposes exempted under Chapter 22A of the Montgomery County Code; and
- (b) will not circumvent the requirements of the Chapter.

[15]] 13) “Development program” means a sequence of construction events and timing for submittal of the major forest conservation program elements.

[16]] 14) “Development project” means grading or construction activities occurring on a specific tract. This includes redevelopment projects.

[17]] 15) “Environmental buffer” means perennial, intermittent, or ephemeral streams/channels and their associated buffers; wetlands and their associated buffers; and, hydraulically connected steep slopes according to the latest version of [*Environmental Guidelines: Guidelines for the Environmental Management of Development in Montgomery County, Maryland* (MNCPPC)]the environmental guidelines, or an appropriate master plan; and floodplains.

16) “Environmental guidelines” means the *Guidelines for the Environmental Management of Development in Montgomery County, Maryland (M-NCPPC)*, as amended.

[18]] 17) “Ephemeral channel/stream” means a channel defined as ephemeral per the latest version of the [*Guidelines for Environmental Management of Development in Montgomery County, Maryland* (MNCPPC)]environmental guidelines.

[19]] 18) “Extenuating circumstances” means conditions requiring extension of a set time limit to process an application, render a decision, or conduct a public hearing.

19) “Equity focus areas” means geographic areas of Montgomery County characterized by high concentrations of lower-income households, people of color, and individuals who may speak English less than very well. Boundaries are determined by Planning Department staff and are mapped on the Planning Department website.

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- 20) “Field survey” means a field investigation of the environmental characteristics of a site, including existing forest.
- 21) “Flood, One Hundred-Year” means a flood which has a 1 percent statistical probability of being equaled or exceeded in any given year. Unless otherwise stated, this calculation is based on the contributing watershed under existing zoning
- [23] 22) “Floodplain, One Hundred-Year” means the area along or adjacent to a stream or body of water, except tidal waters, that is capable of storing or conveying floodwaters during a 100-year frequency storm event, or 100-year flood, based on ultimate development of the watershed under existing zoning.
- 23) “Forest clearing” means the cutting or destruction of any trees or understory which are part of an existing forest even if the resulting community continues to meet the definition of forest, except if it is done as part of an approved management plan or timber harvest permit. Forest loss will be based on a measure of the aerial extent of forest cover which includes the outer perimeter of individual trees.
- 24) “Forest conservation plan” means a plan which outlines the strategies and specific plan proposed for retaining, protecting, and reforesting or afforesting areas on a site.
- 25) “Forest conservation worksheet” means a step-by-step form for determining compliance with the requirements of the forest conservation law.
- 26) “Forest management plan” means a plan establishing conservation and management practices for a landowner after assessment of the resource values of forested properties. This plan is approved by the MD Department of Natural Resources forester assigned to the county after coordination with the county, and by the Planning Director if located within a conservation easement.
- 27) “Forest mitigation bank plan” means a plan that a property owner submits to document the acreage of forest mitigation bank credits and shows the credits based on the amount of existing forest permanently protected, forest planted and protected, and a planting plan.
- 28) “Forest mitigation bank credits” means the credits available for sale at a forest mitigation bank, where 1 acre of mitigation bank credit equals 2 acres of existing forest or 1 acre of planted forest.
- 29) “Forest retention” means the forest shown on a forest conservation plan that will be saved, counted as forest retained on the worksheet, and included in a long-term protective agreement.

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- 30) “Forest stand delineation” or “FSD” means the evaluation of existing vegetation in relation to the natural resources on a site proposed for development or land disturbing activity. The FSD is submitted as part of the Natural Resources Inventory/Forest Stand Delineation (NRI/FSD).
- 31) “Growing season” means a period of consecutive frost-free days as stated in the current soil survey for the county. In an average year, a period commencing on April 1st and ending on October 31st.
- 32) “Intermittent stream” means a stream defined as intermittent in the latest version of the *[Guidelines for Environmental Management of Development in Montgomery County, Maryland (MNCPPC)]*environmental guidelines.
- 33) “Landscaping credit” means areas shown on a forest conservation plan, that are not forest, but will [be] receive credit toward a site’s reforestation or afforestation requirements, so long as the plantings are not required to meet zoning or other requirements. The forest conservation plan must show the dimensions and details for tree planting and landscaping areas. Any planting for landscaping credit to meet the forest conservation plan requirements must use native plants or cultivars of native plants.
- 34) “Limits of disturbance” means a clearly designated area within which land disturbance may occur.
- 35) “Maintenance and management agreement” means the short-term management agreement associated with a forest conservation plan, and may include the control of non-native and invasive plants.
- 36) “Major amendment to a Forest Conservation Plan” means an amendment that results in more than a total of 5,000 square feet of additional forest clearing and/or the removal or partial removal of any conservation easement.
- 37) “Minor amendment to a Forest Conservation Plan” means an amendment that does not result in more than a total of 5,000 square feet of additional forest clearing or the removal or partial removal of any conservation easement.
- 38) “Native” means a plant or animal species whose geographic range during precolonial time included the Piedmont Region of Maryland. Information on native plants can be found in *Woody Plant of Maryland* (Brown and Brown, 1972) and *Herbaceous Plants of Maryland* (Brown and Brown, 1984), as well as other literature sources.
- 39) “Natural regeneration” means the natural establishment of native trees and other native vegetation.
- 40) “Natural resources inventory” or “NRI” means the collection and presentation of environmental information for a property according to the guidelines specified in these regulations and in the

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latest version of [*Guidelines for Environmental Management of Development in Montgomery County, Maryland* (MNCPPC) and the *Tree Technical Manual* (MNCPPC)]the environmental guidelines. The NRI is submitted as part of the Natural Resources Inventory/Forest Stand Delineation (NRI/FSD).

- 41) “Offsite” means outside the limits of the areas encompassed by a tract.
- 42) “Onsite” means within the limits of an area encompassed by a tract.
- 43) “Perennial stream” means a stream defined as perennial in the latest version of [*Guidelines for Environmental Management of Development in Montgomery County, Maryland* (MNCPPC)]the environmental guidelines.
- 44) “Planting plan” means a plan showing how areas to be reforested or afforested will be planted.
- 45) “Priority planting area” means areas in which planting must occur when present[unless those areas are not present].
- 46) “Priority retention area” means areas, identified in Section 22A-12(b) of the Forest Conservation Law that are ranked as the highest priority for retention as part of a forest conservation plan.
- 47) “Qualified professional” means a Maryland licensed forester, Maryland licensed landscape architect, or other qualified professional approved by the State.
- 48) “Regulated activity” means any of the following activities:
 - (a) Subdivision;
 - (b) Biohealth priority campus plan;
 - [(b)] (c) Site plan;
 - [(c)] (d) Project plan;
 - [(d)] (e) Sketch plan;
 - (f) Floating zone plan;
 - (g) Development plan;
 - [(e)] (h) Special exception/conditional use on a tract of land greater than 40,000 square feet;
 - [(f)] (i) Clearing of more than 5,000 square feet of forest;

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[(g)] (j) Park [D]evelopment project on a tract of land greater than 40,000 square feet;

[(h)] (k) An activity that requires a sediment control permit on a tract of land, individually or cumulatively that [are]is greater than 40,000 square feet; or

[(i)] (l) Mandatory referral on a tract of land greater than 40,000 square feet.

- 49) “Retention area” means forested areas, tree stands and the critical root zone of individual trees that will be retained on a site.
- 50) “Selective clearing” means the careful and planned removal of trees, shrubs, and plants using specific standards and protection measures under an approved forest conservation plan.
- 51) “Specimen tree” means a tree that is particularly impressive or unusual example of a species due to its size, shape, age, or any other trait that epitomizes the character of the species as further described in the most recent version of the Trees Technical Manual.
- 52) “Stream buffer” means a strip of land contiguous with and parallel to the bank of a perennial or intermittent stream, the width of which must be determined according to the latest version of [*Guidelines for Environmental Management of Development in Montgomery County, Maryland* (MNCPPC)]the environmental guidelines.
- 53) “Subdivision” means the definition of subdivision in Chapter 50 of the Montgomery County Code.
- 54) “Tract” means:
 - (a) The property, or adjacent properties, subject to a development application, the boundaries of which are described by deed or record plat; or
 - (b) The length and width of the right-of-way or the limits of disturbance, whichever is greater, for a linear project.
- 55) “Tree save area” means an area designating trees, or stands of trees, outside existing forest cover which are to be retained.
- 56) “Tree save plan” means a plan approved by the Planning Board, or Planning Director, under Chapter 22A or Chapter 50 of County Code which covers individual trees or stands of trees to be saved as part of, or instead of a forest conservation plan.
- 57) “Tree stand” means an area where trees are concentrated at too low a density, or that is too small in size or area to meet the definition of “forest.”

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22A.00.01.05 Application

A. Except as provided in Sections 22A-5, 22A-6, 22A-7, 22A-8, 22A-9 and the Variance provisions in Section 22A-21 of the Forest Conservation Law, these regulations apply to the following plans or regulated activities:

- (1) a development plan approved or amended under Division 59-D-1 of Chapter 59 of the County Code that was in effect prior to October 30, 2014;
- (2) a project plan approved or amended under Division 59-D-1 of Chapter 59 of the County Code that was in effect prior to October 30, 2014;
- (3) a preliminary plan of subdivision, administrative subdivision, or minor subdivision approved by the Planning Board, or Planning Director, under Chapter 50 of the County Code;
- (4) a site plan approved or amended under Division 59-D-3 of Chapter 59 of the County Code that was in effect prior to October 30, 2014;
- (5) a site plan approved or amendment under Section 59.7.3.4 of Chapter 59 of the County code;
- (6) a sketch plan approved under Section 59.7.3.3 of Chapter 59 of the County code;
- (7) a sediment control permit required under Chapter 19 of the County Code;
- ~~[(7)]~~(8) clearing or grading conducted on two or more platted contiguous lots that are part of the same project, that collectively total 40,000 square feet or larger, that are graded at the same time, and where sediment control is required under Chapter 19 of the County Code.
- ~~[(8)]~~(9) a special exception approved under Article 59-G of Chapter 59 of the County Code that was in effect prior to October 30, 2014;
- ~~[(9)]~~(10) a conditional use approved under Section 59.7.3.1 of Chapter 59 of the County Code;
- ~~[(10)]~~(11) a mandatory referral; and
- ~~[(11)]~~(12) a park development plan.

B. The general procedure for meeting the requirements of Chapter 22A for these plans is:

- (1) Preparation by a qualified professional, of a natural resources inventory which may include a forest stand delineation, as described in Section 22A.00.01.06 and in the latest

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versions of [*Guidelines for Environmental Management of Development in Montgomery County, Maryland* (MNCPPC)]the environmental guidelines and the *Trees Technical Manual* (MNCPPC). To be reviewed and approved by the Planning Director.

- (2) Identification by a qualified professional, of forest and tree retention areas per subsection 22A-12(b) of the Forest Conservation Law, Sections 22A.00.01.06 and 22A.00.01.07, and the criteria for areas to be cleared in the *Trees Technical Manual*.
- (3) Preparation by a qualified professional, of forest conservation plan to be approved by Planning Board or Planning Director, a[. A]s applicable, which includes:
 - (a) lot lines, building, and proposed infrastructure, located to maximize retention areas and avoid environmentally sensitive areas such as environmental buffers and critical habitats wherever practical;
 - (b) areas of existing forest, areas of forest to be removed, and areas of forest to be retained;
 - (c) afforestation and reforestation areas and planting plan, as required;
 - (d) appropriate protection and maintenance measures; and
 - (e) a timetable for construction and planting.

22A.00.01.06 Natural Resource Inventory and Forest Stand Delineation (NRI/FSD)

Requirements

A. A Natural Resource Inventory (NRI) application must be considered complete if it contains a complete analysis of existing natural resources and man-made features on a property which is verified by field survey and contains the following information to cover the development site and first 100 feet of adjoining land around the perimeter or the width of adjoining properties, whichever is less:

- (1) property boundaries;
- (2) topography at a minimum scale of 1" = 200' with contour intervals not more than 5 feet (larger scale may be required by the Planning Director on a case-by-case basis, if necessary to determine the accuracy of the plan);
- (3) slopes 25% and greater, and slopes between 15% and 25% that are associated with erodible soils;
- (4) perennial and intermittent streams and stream buffers per the latest version of the [*Guidelines for Environmental Management of Development in Montgomery County, Maryland* (MNCPPC)]environmental guidelines;
- (5) ephemeral channels/streams and buffers for those locations where such buffers are required per the latest version of the [*Guidelines for Environmental Management of*

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Development in Montgomery County, Maryland (MNCPPC)]environmental guidelines or appropriate master plan;

- (6) Existing one-hundred year floodplains and associated 25’ building restriction lines;
- (7) wetlands and their buffers per the latest version of the [*Guidelines for Environmental Management of Development in Montgomery County, Maryland (MNCPPC)]environmental guidelines;*
- (8) soils and geologic conditions including, soil type, structural limitations, soils that are hydric or have hydric inclusions, erodible soils per the list in Appendix C of the [*Guidelines for Environmental Management in Montgomery County, Maryland (MNCPPC)]environmental guidelines, and known serpentinite soils in Montgomery County;*
- (9) rare, threatened or endangered plants or animals observed in the field;
- (10) critical habitat areas observed or documented by the Maryland Department of Natural Resources;
- [(10)] (11) aerial extent of forest and tree cover which includes the outside perimeter of the canopy of individual trees;
- [(11)] (12) champion trees and trees that have a diameter at 4.5 feet above the ground (DBH) that is 75% or more of the diameter of the current state champion for that species;
- [(12)] (13) Specimen Trees;
- [(13)] (14) a table that identifies individual trees that have a diameter at 4.5 feet above the ground (DBH) of 24” or greater by size and species and the health of those trees;
- [(14)] (15) cultural features and historic sites;
- [(15)] (16) a site vicinity map at 1” =2000’ which shows the location of the site within a square mile and indicates major roads; [and]
- [(16)] (17) a table containing acreage of wetland, 100-year floodplains, stream buffers, and environmental buffers[.]; and
- [(17)] (18) A completed NRI/FSD application form, fee schedule worksheet, and review fee.

- B. A Forest Stand Delineation (FSD) application must be considered complete if it contains a detailed summary of existing forest and trees on a tract, or forest stand delineation which is verified by field survey and contains the following information to cover the development site and first 100 feet of adjoining land around the perimeter or the width of adjoining properties, whichever is less:

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- (1) forest stands and field verified boundaries;
 - (2) a description of each stand including:
 - (a) acreage;
 - (b) dominant and codominant tree species;
 - (c) size class by species;
 - (d) percent canopy closure;
 - (e) number of canopy layers (vertical structure);
 - (f) percent of forest floor covered by herbaceous plants (native species), downed woody material, and alien or invasive species;
 - (g) a stand condition narrative for each stand including, priority for retention, information on condition classes, structure, function, retention potential, transplant and regenerative potential, and comments on evidence of past management; and specimen trees by size and species; champion trees and trees that have a diameter at 4.5 feet above the ground (DBH) that is 75% or more of the diameter of the current state champion for that species, which must also be clearly numbered with corresponding tags in the field;
 - (4) a table that identifies individual trees that have a diameter at 4.5 feet above the ground (DBH) of 24" or greater by size and species and the health of those trees, which must also be clearly numbered with corresponding tags in the field;
 - (5) field survey reference points demarked on a plan drawing and in the field;
 - (6) a table containing total acreage of forest, forest in priority retention areas, forest not in priority retention areas, forest within existing wetlands, forest within 100-year floodplains, and forest within stream buffers;
 - (7) a summary map, which in addition to the information in subsections (1) and (2), shows the priority of forest stands for retention as described in Section 22A.00.01.07; and
 - (8) A completed NRI/FSD application form, fee schedule worksheet and review fee.
- C. A simplified forest stand delineation may be used per subsection 22A-10(b)(2) of the Forest Conservation Law. The simplified plan must also include:
- (1) forest stands as determined by dominant species types and priority for retention;
 - (2) stand condition narrative as described in subsection B(2);
- D. When necessary the items described in A and B, or A and C, above must be combined into one plan drawing and is called a Natural Resources Inventory/Forest Stand Delineation.

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E. The Natural Resources Inventory and Forest Stand Delineation must be prepared by a licensed forester, licensed landscape architect or other qualified professional; and must exhibit a stamp or certification of the preparer. The Natural Resources Inventory/Forest Stand Delineation must be used to determine areas of forest to be saved or planted.

F. A Natural Resources Inventory and Forest Stand Delineation is valid for two years from the date it is approved. If a forest conservation plan or a plan under Section 22A-9 has not been accepted as complete during the two-year validity period, an approved Natural Resources Inventory and Forest Stand Delineation expires at the end of its validity period. An expired Natural Resources Inventory and Forest Stand Delineation may be recertified within one year after the expiration date, if the original plan preparer attests that there are no changes to the size and shape of the application tract, existing conditions, forest acreage, tree canopy, or any other detail of the originally approved Natural Resources Inventory and Forest Stand Delineation. A Natural Resources Inventory and Forest Stand Delineation may only be recertified one time. A new Natural Resources Inventory and Forest Stand Delineation may be required if there are changes to site conditions, applications, plan preparer, or applicant.

22A.00.01.07 Priorities for Retention

A. The following areas are considered the highest priority retention areas for protection and must be left in an undisturbed condition unless the Planning Director or Planning Board find that the provisions of subsection 22A-12(b)(1) of the Forest Conservation Law, have been met and the development proposal cannot reasonably be altered:

- (1) trees, shrubs and other plants located in sensitive areas including environmental buffers, slopes over 25 percent (not man-made), erodible soils on slopes of 15% or more, and critical habitats;
- (2) a contiguous forest that connects the largest undeveloped or most vegetated tracts of land within and adjacent to the site;
- (3) trees, shrubs, or plants identified on the Maryland Department of Natural Resources list of rare, threatened, and endangered species;
- (4) a forest area which has been designated as priority for retention in master plans or functional plans, or in the absence of such plans, a forest which exhibits all of the following characteristics as further described in the most recent version of the *Trees Technical Manual*:
 - (a) high structural and species diversity;
 - (b) few alien or invasive species present;

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- (c) very good overall stand health; and
- (d) high potential to provide a significant amount of habitat for forest interior dwelling plant, animal, and bird species; and
- (5) an individual tree, and its critical root zone, with one or more of the following characteristics:
 - (a) a tree that is 1" caliper or larger and part of a historic site or associated with a historic structure;
 - (b) a tree designated as a national, state, or County champion tree;
 - (c) a tree having a diameter, measured at 4.5 feet above the ground, of 75 percent or more of the diameter of the designated state or County champion tree;
 - (d) trees which have a diameter, measured at 4.5 feet above the ground with a diameter of 30 inches or greater; and
 - (e) a tree which is a specimen of a species.

- B. The following areas are not subject to the retention provision in subsection 22A-12(b)(1) of the Forest Conservation Law, but should be given consideration for preservation where feasible:
 - (1) a forested area which provides corridor 300 feet or more of primarily native vegetation between two larger forested tracts;
 - (2) a forested stream buffer up to 300 feet on either side of a stream channel;
 - (3) trees which act as a buffer between incompatible land uses and between dwelling and roads;
 - (4) a forest stand, or portions of a stand, with food forest structural diversity; and
 - (5) an individual tree with a diameter, measured at 4.5 feet above the ground, of 24[" inches or greater which will significantly enhance the site through preservation.

22A.00.01.08 General Forest Conservation Plan Provisions

- A. In developing a forest conservation plan, the applicant must give priority to techniques for maximizing retention of existing forest on the site. The F[f]orest C[c]onservation L[l]aw specifies percentages of all forested sites which, at a minimum, should be preserved. Applicants [should] must strive to maximize forest retention whenever practical.
- B. If existing forest on the site subject to a forest conservation plan cannot be retained, the applicant must demonstrate, to the satisfaction of the Planning Board or Planning Director, as applicable:
 - (1) How techniques for retention have been exhausted;
 - (2) Why the forests in priority retention areas specified in Section 22A.00.01.07 are not being retained;

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- (3) If forests in priority retention areas cannot be left undisturbed, how the sequence for afforestation or reforestation will be followed in compliance with subsection 22A-12e(1)(A) of the Forest Conservation Law;
- (4) Where on site in priority planting areas the afforestation or reforestation will occur in compliance with subsection 22A-12(e)(3) of the Forest Conservation Law; and
- (5) How the standards for afforestation and reforestation requirements in subsection 22A-12(e)(4) of the Forest Conservation Law will be met.

C. Wetlands. A regulated activity within the net tract area that occurs wholly or partly in areas regulated as nontidal wetlands under Environment Article, Title 9, Annotated Code of Maryland, is subjected to the reforestation requirements of both the nontidal wetlands regulations and this subtitle, subject to the following:

- (1) Forested nontidal wetlands which are retained, must be counted toward the forest conservation requirements of this subtitle;
- (2) Forested wetlands which are permitted to be cleared must be replaced as required under the provisions of Environment Article, Title 9, Annotated Code of Maryland;
- (3) Clearing within forested wetlands must be shown on the forest conservation plan; and
- (4) Wetlands are priority retention areas.

D. Retention Areas.

- (1) Forest retention areas must be at least 10,000 square feet in size and 50 feet wide, or be a part of a larger forest area which extends off-site and is protected.
- (2) Individual trees described as highest priority for retention in subsection 22A.00.01.07A may receive retention credit equal to the area of their critical root zone protected when at least two thirds of the entire critical root zone is permanently protected by an easement.
- (3) Individual trees which are not the highest priority for retention and tree stands less than 10,000 square feet and 50 feet wide may be credited toward afforestation and reforestation requirements as part of landscaping credit.
- (4) Retention area boundaries must be determined by a measure of the aerial extent of remaining forest cover which includes the outer perimeter of the canopy of individual trees, or the critical root zones that are protected, whichever is greater.

E. Afforestation and Reforestation.

- (1) Afforestation and reforestation areas must be at least 10,000 square feet in size and 50 feet wide, or be adjacent to an existing forest area (either on-site or off-site) which is protected.
- (2) The following must be considered as highest priority planting areas for forest conservation plans with required afforestation and reforestation:
 - (a) environmental buffers; [;]

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- (b) establish or enhance forest in buffers adjacent to ephemeral streams, when such streams are required to have buffers as recommended in an applicable Master Plan or in the latest version of the [*Guidelines for Environmental Management for Development in Montgomery County, Maryland* (MNCPPC)]environmental guidelines;[.]
 - (c) establish or enhance forested areas on 100-year floodplains, when appropriate;
 - (d) establish or increase existing forested corridors to connect existing forest within or adjacent to the site. Where practical forested corridors should be a minimum of 300 feet in width to facilitate wildlife movement;
 - (e) establish or enhance forest buffers adjacent to critical habitats where appropriate;
 - (f) establish planting to stabilize natural slopes of 25% or greater and 15% or greater with erodible soils including slopes of ravines or other natural depressions;
 - (g) establish buffers adjacent to areas of differing land use where appropriate, or adjacent to highways or utility rights-of-way[’s];
 - (h) establish forest areas adjacent to existing forests to increase the overall area of contiguous forest cover, when appropriate; and
 - (i) non-forested wetlands are priority planting areas; however, these areas may be left in their existing condition when appropriate.
- (3) Planting plans for afforestation and reforestation must include the following:
- (a) a minimum of 5 native tree species (unless the site is to be actively managed under an approved forest management plan) and 2 species of native understory shrubs;
 - (b) appropriate site preparation, protection and/or maintenance measures as described in the latest version of the Trees Technical Manual; and
 - (c) a stocking rate for trees and shrubs and survival requirements, as shown in the following chart:

Size	Number Required (per acre) (1)	Approximate Spacing (feet on center) (2)	Survival Requirements (starting at the end of the [2 nd] 3 rd or 5 th growing season) (3)
TREES			
¾" to 1" caliper; B&B or container grown (minimum [5] 7 gal.)	200	12' to 15'	75% or 150 per acre(4)
1 ½" to 2" caliper; B&B or container grown	100	15' to 20'	100% or 100 per acre(5)

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(minimum 15 gal.)			
SHRUBS			
18” to 24” height; container grown (minimum 3 gal.)	33	(6)	

Notes:

- (1) In certain circumstances, any combination of the above mentioned stocking options may be appropriate strategies to fulfill the requirements of an approved Forest Conservation Plan. Instances where the use of combination planting may be appropriate are described in the *Trees Technical Manual*. Use of alternative stocking will be evaluated, along with necessary protection and maintenance measures, on a case-by-case basis by the Planning Board.
- (2) Spacing does not imply that trees or shrubs must be planted in a grid pattern although it may be necessary for mowing to control invasive vegetation or otherwise reduce competition for the planted tree.
- (3) If the tree survival at the end of the maintenance period falls below the survival requirements, reinforcement planting up to that amount will be required. If tree survival falls below 50% of the total trees planted, extension of the maintenance period will be required in addition to reinforcement planting. Natural regeneration may be counted toward survival requirements, in addition to the required planting, on a case-by-case basis as determined by the Planning Director.
- (4) Surviving tree must be at least 1” caliper to receive full credit toward survival requirements. Reinforcement planting must be 1” trees. All trees to be accepted must be healthy and have the main leader intact with minimal deer browse.
- (5) Surviving tree must be at least 2” caliper to receive full credit toward survival requirements. Reinforcement planting must be 2” trees. All trees to be accepted must be healthy and have the main leader intact with minimal deer browse.
- (6) Shrubs should be evenly distributed over the planting area and among the trees. On a case-by-case basis, shrubs may be substituted with native trees particularly when there is evidence of deer predation or high incidence of non-native and invasive plants and materials.
- (7) An alternative methodology to establish planted forest, such as planting smaller trees and shrubs at a higher density, or supplemental planting of live stakes, may be approved by the Planning Director as appropriate to encourage the establishment of an overstory or understory, build resilience against invasive species or deer, or otherwise establish forest ecosystem using the best methodology for the site. However, the density and survival requirements detailed in the table above must be met at a minimum.

F. Tree Save Plans.

- (1) Development applications on tracts which impact significant, specimen or champion trees, including those on adjoining properties, are required to submit a tree save plan.
- (2) Preserving significant, specimen or champion trees, and stands of trees which are valuable for compatibility reasons, must be included in these plans. If the loss of these trees is shown to be unavoidable, replacement must be required.
- (3) The replacement ratio must be determined in the following manner:

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- (a) Specimen and champion trees must be replaced by a planting plan which may be required to include planting or transplanting of large trees;
- (b) Significant tree stands must be replaced to replace the function of the stand; for instance, trees which provided screening must be replaced in sufficient kind and number to perform the same function.
- (4) The tree save plans must show on-site or off-site trees 6” DBH or greater located along the limits of disturbance if the proposed activity would impact the critical root zone of those trees, and must identify methods to preserve and protect those trees.

G. Credit Toward Afforestation and Reforestation for Landscaping and Tree Save.

- (1) The Planning Board or Planning Director, as applicable, must find that all opportunities for establishing forest have been incorporated into on-site afforestation and reforestation plans before any credit for landscaping or tree save area is applied.
- (2) Trees receiving credit towards forest conservation requirements must not also be credited towards landscaping requirements, including planting and screening required by zoning or other regulatory requirements.
- (3) Newly planted landscape trees, within landscape areas must be 3” minimum caliper stock to be counted toward requirements.

(4) Newly planted trees outside of forest, or designated landscape areas, must be 3” minimum caliper stock to be counted toward requirements.

(5) The area(s) where trees are planted must have adequate soil conditions, volume, and surface area to sustain plantings;

[(5) Street trees planted within a public right-of-way or along private streets/roads will not receive any credit toward the requirements.]

(6) Afforestation areas may be established as tree cover if the Planning Board or Planning Director, as applicable, find that tree cover is appropriate. Instances where it may be appropriate to satisfy afforestation requirements using tree cover include:

- (i) developments in urban areas;
- (ii) redevelopments;
- (iii) high-density residential developments;
- (iv) commercial and industrial developments;
- (v) high density mixed-use developments; and
- (vi) some institutional areas.

(7) Landscaping, retention of tree stands, and retention of individual trees may be credited toward a sites’ reforestation requirements only for projects located within an equity focus area as follows:

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- (b) landscaping areas or retained tree stands which are at least 2,500 square feet in size and 35 feet wide may receive full credit for their area;
 - (c) landscaping areas and retained tree stands which are less than 2,500 square feet in size or 35 feet wide may receive one quarter credit for their area;
 - (d) individual landscape trees may receive one quarter credit for the projected area of their canopy at 20 years;
 - (e) individual non-priority trees which are retained may receive one quarter credit for the protected area of their critical root zone when at least two third of the entire critical root zone is protected; and
 - (f) the total credit from these areas must not exceed twenty percent of the overall reforestation requirement for a site.
- (8) Landscaping, retention of tree stand, and retention of individual trees may be credited toward a sites’ afforestation requirements as follows:
- (g) sites with tree cover requirements per subsection (3):
 - (i) landscaping areas or retained tree stands of any size may receive full credit for their area; and
 - (ii) individual landscape trees which are retained may receive full credit for the protected area of canopy at 20-years; [and]
 - [(iii) individual trees, or tree stands, which are retained may receive full credit for the protected area of their critical root zone when at least two thirds of the entire critical root zone is permanently protected by an easement;]
 - (h) sites with special provisions for meeting minimum afforestation[forest cover] requirements per Section 22A-12(f) of the Forest Conservation Law:
 - (i) landscaping areas or retained tree stands which are at least 2,500 square feet in size and 35 feet wide may receive full credit for their area;
 - (ii) landscaping areas or retained tree stands which are at least 2,500 square feet in size or less than 35 feet wide may receive one quarter credit for their area;
 - (iii) individual non-priority landscape trees may receive one quarter credit for the projected area of their canopy at 20-years;
 - (iv) individual trees which are retained may receive one quarter credit for the protected area of their critical root zone when at least two third of the entire critical root zone is protected; and
 - (v) the total credit from these areas must not exceed twenty percent of the overall afforestation requirement for a site.

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22A.00.01.09 Forest Conservation Plan Requirements

A. Preliminary Forest Conservation Plans.

(1) Development applications that need more than one approval must submit a preliminary forest conservation plan in conjunction with the first approval, unless multiple applications are submitted for simultaneous review and only a final forest conservation plan is required. The preliminary forest conservation plan may be based on conceptual analysis if the basic parameters are met and any assumptions are realistic.

- (2) A preliminary forest conservation plan must contain the following:
- (a) the shape and dimension of lots, showing locations of any existing structures and improvements, including paved areas;
 - (b) locations and dimension of all existing and proposed rights-of-way, setback, easements, stockpile areas, and stormwater management facilities (road and utility rights-of-way which will not be improved as parts of the development application must be identified);
 - (c) location of building restriction lines and areas to be conserved including environmental buffers;
 - (d) conceptual locations of proposed structures and improvements, drainage systems, and sediment control measures;
 - (e) preliminary limits of disturbance of the natural terrain, and location of forest and tree retention areas, including acreage, with appropriate justification and proposed long-term protection methods (a conceptual grading plan and/or a more detailed tree survey may be required to determine the feasibility of proposed retention areas);
 - (f) proposed locations of afforestation and reforestation areas, including acreage, and mitigation trees, if required;
 - (g) a table containing the following information:
 - (i) acreage of tract;
 - (ii) acreage of the tract remaining part of an agricultural use;
 - (iii) acreage of road and utility rights-of-way which will not be improved as part of the development application;
 - (iv) acreage of total existing forest;
 - (v) acreage of forest in priority retention areas;
 - (vi) acreage of forest not in priority retention areas;
 - (vii) acreage of total forest retention in priority retention areas;
 - (viii) acreage of total forest retention not in priority retention areas;
 - (ix) acreage of total forest cleared in priority retention areas;
 - (x) acreage of forest cleared not in priority retention areas;

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- (xi) land use category and conservation and afforestation thresholds from subsection 22A-12(a) of the Forest Conservation Law;
- (xii) acreage of forest retained, cleared, and planted within wetlands;
- (xiii) acreage of forest retained, cleared, and planted within 100-year floodplains;
- (xiv) acreage of forest retained, cleared, and planted within stream buffers;
- (xv) total acreage of forest retained, cleared, and planted within priority planting areas; and
- (xvi) linear feet average width of stream buffer provided; and
- (h) a forest conservation worksheet showing calculation of forest conservation requirements.

B. Final Forest Conservation Plans

- (1) A final forest conservation plan must be based on final site grading, if known, and must be submitted in conjunction with the final approval needed as part of a development application. However, if the development project requires the approval of one development application, the final forest conservation plan must be submitted with that development application [and in conjunction with the preliminary forest conservation plan].
- (2) In addition to the items listed in subsection A(2)(a-c), (f), (g) and (h) a final forest conservation plan must include:
 - (a) conceptual or final grading plans which include building locations and footprint, retaining walls, road and parking layout, sidewalks and pathways, and location of recreation facilities;
 - (b) a limits of disturbance line which reflects the limits of all clearing and grading on the tract, and the proposed location of sediment and erosion control devices and staging areas;
 - (c) a survey of trees with a diameter of 24 inches and greater at 4.5 feet above the ground (or trees of other sizes if requested by Planning Department staff to determine the feasibility of proposed retention areas) , within 50’ on either side of the limits of disturbance, with critical root zones delineated, and with the distance from the tree face to the limits of disturbance shown on the plan or in an associated table.
 - (d) retention areas including forest, tree stands and other individual trees to be saved including acreage;
 - (e) a note describing whether on site downed woody material is to be retained and incorporated into retention, afforestation, or reforestation areas to build habitat.

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[(e)] (f) an afforestation and/or reforestation planting plan, if required, which contains:

(i) a note indicating whether soil restoration techniques will be implemented;

[(i)] (ii) location and acreage of areas to be planted;

[(ii)] (iii) an analysis of the suitability of the site for planting and a description of necessary methods;

[(iii)] (iv) a list of target tree and shrub species, chosen based on analysis of site conditions which can be used for site planting;

[(iv)] (v) a plant materials table including size of plants to be installed and quantities;

[(v)] (vi) planting and inspection schedule which is tied to the construction sequence for the project;

[(vi)] (vii) a maintenance plan which includes provision for necessary watering, control of competing vegetation, protection from disease, pest, and mechanical injury, removal of protective measures such as deer caging, and reinforcement planting if plant survival falls below the requirements of subsection 22A.00.01.08E(3)(c);; and

[(vii)] (viii) a maintenance and management agreement; and

(d) permanent protection area boundaries and long-term protection agreement, where appropriate, and building restrictions lines;

(e) a protection plan which shows:

(i) location of temporary protection devices which must be installed if clearing, grading, or construction occurs within 50 feet of a retention area boundary;

(ii) stockpile areas and borrow pits;

(iii) specifications and details for the protection device;

(iv) a narrative of stress reduction or other measures which are needed for specific trees;

(v) a field inspection schedule pursuant to Section 22A.00.01.10;

(vi) location of permanent protection devices; an arborist report that shows the methods to be utilized to protect any tree, 24” dbh and greater, when 30% or more of the critical root zone is impacted; and

(vii) An arborist report may be required, on a case-by-case basis, for trees less than 24” dbh, when 30% or more of the critical root zone is impacted.

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- (f) identification of how the off-site planting requirements will be met either by making a fee in lieu payment, by acquiring mitigation credits from an approved forest mitigation bank, or by planting offsite;
- (g) If off-site planting is going to occur, the forest conservation plan must include the items listed in subsection (e) plus a map of the proposed planting site showing location, soils, and environmental features which are priority planting areas as stated in subsection 22A.00.01.08E(2).

C. Noticing Requirements for Forest Conservation Plans.

- (1) Applicants that require approval of a forest conservation plan must follow the noticing requirements identified in Chapter Administrative Procedures for Development Review in COMCOR 50/59.00.01.04.

22A.00.01.10 Inspections

A. The Planning Department must conduct field inspections of a site subject to an approved forest conservation plan as follows:

- (1) after the limits of disturbance have been staked and flagged, but before any clearing or grading begins (the purpose of the meeting should be to field verify the limits of clearing specified on the approved plan, authorize necessary adjustments, and to authorize necessary stress reduction measures and installation of protection devices);
- (2) after necessary stress reduction measures have been completed and the protection measures have been installed, but before any clearing or grading begins (the purpose of the meeting should be to field verify that both measures have been done correctly and to authorize clearing and grading);
- (3) after completion of all construction activities to determine the level of compliance with the approved plan;
- (4) before the start of any required reforestation planting (the purpose of the meeting should be to determine whether necessary pre-planting measures have been completed and authorize any necessary adjustments to the planting specification);
- (5) after required reforestation and afforestation planting has been completed to verify that the planting is acceptable and to begin the required maintenance and management period;
- (6) Two years after reforestation and afforestation have been completed, to determine survival and assess necessary maintenance activities for the remaining duration of the maintenance and management period; and
- (7) At the end of the maintenance and management period to determine the level of compliance with provisions of the planting plan and, if appropriate, authorize release of any financial security.

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- B. The applicant must:
 - a. Request these inspections at the designated points.
 - b. Submit to the Planning Department semi-annual reports and photographs showing compliance with the provisions of the forest conservation plan by October 31st and April 30th of each year for the duration of the maintenance and management period.
- C. The Planning Department is authorized to conduct field inspections at any time other than those identified in Section 22A.00.01.10.A.
- D. For sites without any planting requirements the final inspection is for the Planning Department to authorize removal of any tree protection measure. For sites with planting requirements, the final inspection occurs at the end of the maintenance and management period.

22A.00.01.11 Exemptions from Submitting a Forest Conservation Plan

- A. A request for exemption from forest conservation plan requirements per Sections 22A-5, 22A-6, and 22A-7 of the Forest Conservation Law must be in writing to the Planning Director.
- B. The following information must be provided as part of an exemption request:
 - (1) An application form;
 - (2) A written request detailing how the exemption applies to the proposed plan;
 - (3) A Natural Resources Inventory, or Natural Resources Inventory/Forest Stand Delineation if forest is proposed to be removed, prepared per Section 22.00.01.06 and the environmental guidelines[in the latest version of *Guidelines for Environmental Management of Development in Montgomery County, Maryland* (MNCPPC)];
 - (4) an original copy of a declaration of intent, if required, signed by the applicant named on the development or sediment control application; and
 - (5) other appropriate information which supports the exemption request including a copy of the proposed plan for development, if applicable.
- C. A waiver from the requirement to provide a Natural Resources Inventory with an exemption request may be granted for:
 - (1) single lot exemptions per subsection 22A-5(a) of the Forest Conservation Law if information is submitted, and the Planning Director affirms, that a natural resource inventory is not necessary but the information does show existing and proposed topography and forest boundaries;
 - (2) agricultural exemptions per subsection 22A-5(b) of the Forest Conservation law if a diagram is submitted with the exemption request showing existing and future forest boundaries;
 - (3) commercial logging and timber harvesting exemptions per subsection 22A-5(d) of the Forest Conservation law if a diagram is submitted with the exemption request showing existing and future forest boundaries, environmental buffers, harvest areas, and haul roads; and

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- (4) applications for other exemptions, if the site being developed does not contain any forest, specimen or significant trees, existing conservation easements, or environmentally sensitive features, and a plan showing existing features and topography is submitted with the exemption request.
- D. The Planning Director may require a person requesting an exemption from submitting a forest conservation plan to submit a tree save plan in conjunction with the exemption request.
- E. The Planning Board, or Planning Director, may require a person failing to file an exemption request per section 22A-4 of the Forest Conservation Law, or found in noncompliance with an exemption or a declaration of intent to:
 - (1) Submit a Forest Conservation Plan and meet the requirements in the Forest Conservation Law for a regulated activity;
 - (2) Pay a noncompliance fee;
 - (3) Be subject to other enforcement actions appropriate under Article III of the Forest Conservation Law; and/or
 - (4) Submit a request to be exempt from submitting a forest conservation plan.
- F. In its determination of appropriate enforcement action, the Planning Board may consider whether failure to file an exemption by a person required to file is a violation of this subtitle.
- G. A confirmed exemption that has not started any authorized land disturbance within 5 years from the date of confirmation automatically expires without notice.
- H. A confirmed exemption may not be amended. A new exemption must be submitted for review in order to make any changes.

22A.00.01.12 Declaration of Intent

- A. A declaration of intent is an affirmation by an applicant that a property is subject to the following activities and limitations and therefore is eligible for an exemption from the Forest Conservation Plan. A declaration of intent is required for the following exemptions from submitting a forest conservation plan;
 - (1) An activity conducted on an existing single lot that is required to construct a dwelling house or accessory structure intended for the use of the owner, if the activity complies with subsection 22A-5(a) of the Forest Conservation Law;

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- (2) An agricultural activity that complies with subsection 22A-5(b) of the Forest Conservation Law;
 - (3) A commercial logging and timber harvesting operation that complies with subsection 22A-5(d) of the Forest Conservation Law;
 - (4) A real estate transfer subject to subsection 22A-5(m) of the Forest Conservation Law.
 - (5) A minor subdivision that complies with subsection 22A-5(n) of the Forest Conservation Law;
 - (6) An activity involving the demolition of an existing structure that complies with subsection 22A-5(x) of the Forest Conservation Law.
- B. The declaration of intent must provide Planning Department staff with access to the property to verify compliance with the declaration.
- C. The declaration of intent is in effect for 5 years after the date defined in the declaration of intent.
- D. The filing of a declaration of intent does not preclude another exempted activity on the property subject to a declaration of intent, if the activity:
- (1) Does not conflict with the purpose of any existing declaration of intent; and
 - (2) Complies with the applicable requirements for an exempted activity.
- E. If a regulated activity on the area covered by the declaration of intent occurs within 5 years of the effective date of the declaration of intent:
- (1) the exemption immediately terminates without any action by the Planning Board;
 - (2) the Planning Director may require approval of a Forest Conservation Plan for the property; and
 - (3) the Planning Director, or Planning Board may take other enforcement actions, including those listed under Section 22A-17(a) of Article III of the Forest Conservation Law.
- F. An applicant may apply for a regulated activity on the area of the property not covered under the declaration of intent if the requirements of Section 22A-5 are satisfied.

22A.00.01.13 Amendment to Forest Conservation Plan [and Exemptions from Submitting a Forest Conservation Plan]

- A. Forest Conservation Plan Amendments.
- (1) Minor amendments which do not result in more than a total of 5,000 square feet of additional forest clearing may be approved by the Planning Director on a case by case basis. These minor amendments may include field modifications and substituting one area of forest, for retention of another of equal or greater size and value.
 - (2) Major amendments which entails:

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- (a) more than a total of 5,000 square feet of additional forest clearing must be approved by Planning Board or Planning Director (depending on who approved the original plan), or
- (b) Removal of any conservation easement must be approved by the Planning Board.

(3) All Forest Conservation Plan amendment applications must conform to the requirements of the Forest Conservation Law and regulations in effect at the time of submission.

[B. Exemptions from Submitting a Forest Conservation Plan

- (1) A request to amend an exemption from submitting a forest conservation plan must be submitted to and approved by the Planning Director.]

22A.00.01.14 Forest Conservation Maintenance and Management Agreements

A. Maintenance Agreements.

- (1) A person required to conduct afforestation or reforestation under this regulation and the Forest Conservation Law must include in the forest conservation plan a binding maintenance agreement for a minimum length of 5 years unless reduced pursuant to Section 22A-12[(g)](h)(1) of the Forest Conservation Law. The binding maintenance agreement for forest conservation plans within Special Protection Areas must have a minimum length of 5 years and cannot be reduced.
- (2) The maintenance agreement must be submitted and approved by the Planning Director before the start of any land disturbing activities.
- (3) The maintenance agreement must detail how the areas designated for afforestation or reforestation will be maintained to ensure protection and satisfactory establishment of forest.
- (4) The “obligee,” or person required to conduct the afforestation or reforestation must present evidence of a legal right to implement the proposed maintenance agreement on a selected property by providing:
 - (a) an executed deed conveying title to a selected property to the obligee;
 - (b) an executed conservation easement agreement;
 - (c) written evidence of the landowner’s consent to the use of a selected property;
 - (d) a fully executed option agreement, long-term lease agreement, or contract of sale for a selected property; or
 - (e) other written evidence of a possessory or ownership interest in a selected property.
- (5) The Planning Director must be a signatory to the maintenance agreement, or must be designated a third-party beneficiary of the agreement.

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- (6) The maintenance agreement must provide Planning Department staff with access to the property to verify compliance with the Forest Conservation Plan.
- (7) If the plantings have not met the survival requirements established in section 22A.00.01.08 or required control of non-native and invasive vegetation, reinforcement plantings and/or additional non-native invasive control will be required, and the maintenance period may be extended.

B. Bonding.

- (1) Financial security must be provided per subsection 22A-12(i) of the Forest Conservation Law.
- (2) Financial security must be provided before authorization is granted to begin any clearing, grading, demolition, or land disturbing activities.
The value of the financial security must equal the in-lieu fee applicable at the time of land disturbance, or be based on a cost estimate, approved by the Planning Director, for implementing the planting and maintenance of trees and shrubs (including mitigation trees) and control of non-native and invasive plants.
- (3) The financial security must be in force until all measure for reforestation, afforestation, and maintenance requirements have been met to the satisfaction of the Planning Director.
- (4) A surety bond or other alternative form of security must not be canceled by the surety, bank or other issuing entity unless both of the following conditions are satisfied:
 - (a) the surety notifies the Planning Director and the applicant of its intent to cancel the bond, in writing, by registered mail, not less than 90 days before cancellation; and
 - (b) at least 45 days before the cancellation date indicated in the notice, the applicant files a commitment from a surety, bank, or other issuing entity to provide a substitute security which must take effect on the cancellation date indicated in the notice.
- (5) Release of part of the financial security may be authorized by the Planning Department enforcement and monitoring staff after planting has been done. Any remaining financial security must be at least 50 percent, or greater, than the in-lieu fee that was in effect at the time of the first land disturbance.
- (6) An applicant must request an inspection of the planted areas by Planning Department enforcement and monitoring staff immediately after planting is complete.
- (7) Planning Department enforcement and monitoring staff must determine whether a partial release should occur, after planting has occurred, and how much, based on the following factors:
 - (a) evidence of deer browse on existing trees and forest;
 - (b) adherence to the planting plan;
 - (c) condition of the planted material;
 - (d) time of year when the planting has occurred and whether or not watering will occur;
 - (e) size of planting stock; and

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Subject Forest Conservation – Trees Regulations	Number
Originating Department Montgomery County Planning Department	Effective Date

- (f) provisions of the protection and maintenance plan, including required control of non-native invasive vegetation.
- (8) Planning staff must release the financial security if the applicant requests a final inspection and the Planning staff determines that survival requirements have been met at the end of the maintenance period.

22A.00.01.15 Long-Term Protective Agreements

An applicant must have in effect at all times, approved long-term protective measures as provided in subsection 22A-12(h)(2) of the Forest Conservation Law, to retain as forest, all land forested, afforested, or reforested and all unforested lands left in an undisturbed condition per section 22A-12(b) of the Forest Conservation Law and limit the uses of those areas which are consistent with forest conservation.

- (1) Long-term protective measures may include, but are not limited to:
 - (a) Conservation easements or covenants;
 - (b) Deed restrictions; and
 - (c) Dedication to M-NCPPC Parks as a conservation area.
- (2) A forest management plan may be included as part of a long-term protective agreement if the Planning Director finds it is consistent with County forest conservation objectives.

[The *Trees Technical Manual* is a guidance document, adopted by the Planning Board, which provides further clarification of the requirements of Chapter 22A of the Montgomery County Code and these regulations.]



Fiscal Impact Statement

Office of Management and Budget

Bill 25-22

Forest Conservation - Trees

Bill Summary

Bill 25-22 proposes changes to the County's Forest Conservation law to strengthen tree planting requirements to promote forest retention, afforestation, and reforestation. The legislation aims to increase forest and canopy cover across Montgomery County beyond a no-net-loss threshold. Bill 25-22 makes many changes to the Forest Conservation Law, as outlined in the Fiscal Impact Analysis section below.

Fiscal Impact Summary

As described in more detail in the Fiscal Impact Analysis section, the bill could slightly reduce revenues and increase expenditures. The magnitude of the impact is difficult to assess at this time as it would depend on several unknown factors.

Bill 25-22 contains changes throughout the Forest Conservation Law. Highlights of the changes include the following:

- Strengthen the restrictions for development in stream valley buffers and require buffers to be afforested or reforested.
- Increase planting requirements for certain activities.
- Extending required maintenance on plantings from two years to five years.
- Amend the Tree Save Plan statute to require a higher number of trees be planted when a larger tree is removed.
- Require approval of a Forest Stand Delineation by the Planning Director before a development plan can be submitted.
- Create a new land use category, Cluster Medium-density Residential Area, set a forest conservation threshold and afforestation requirement for this new category, and increase those requirements for Agricultural, Medium-density Residential, and Institutional areas.
- Enhance reforestation requirements when land is cleared below its forest conservation threshold.
- Adds to the requirements that must be met before an in-lieu fee can be paid because the reforestation or afforestation requirements cannot be met.

Fiscal Impact Analysis

Bill 25-22 may slightly reduce revenues because fewer developers may pay the in-lieu fee, though it is difficult to project the impact of the new requirements that must be met before the in-lieu fee may be paid.

In terms of expenditures, each of the proposed amendments noted generally increase mitigation requirements, require additional plantings in stream buffers, and increase long-term maintenance requirements, and thus have potential to increase County expenditures. This will impact all projects, particularly stormwater management and stream restoration projects that are frequently located in buffers and forested areas.

However, it is unknown which part of the amended law will impact County projects in future years. The following are unknown:

- the amount of mitigation needed,
- existing condition at future project sites and their existing forest and buffer cover,
- availability of grant funding, and
- weather conditions starting three years from now.



In addition, the County generally exceeds the minimum standards in its plantings and reforestation efforts to improve environmental conditions. As a result, the County may already be meeting the enhanced requirements of Bill 25-22, or it may not significantly increase costs.

Staff Impact Staff time is estimated to increase slightly to meet Bill 25-22's enhanced requirements, but can be absorbed within the existing complements of the Department of Environmental Protection and Department of Transportation

Actuarial Analysis The bill is not expected to impact retiree pension or group insurance costs.

Information Technology Impact The bill is not expected to impact the County Information Technology (IT) or Enterprise Resource Planning (ERP) systems.

Other Information

Later actions that may impact revenue or expenditures if future spending is projected The bill does not authorize future spending.

Ranges of revenue or expenditures that are uncertain or difficult to project The impact of Bill 25-22 is difficult to project because revenues depend on developer behavior and expenditures depend on individual site conditions at the County's projects. Every additional acre of reforestation the County must plant costs between \$40,000 and \$54,000, while long-term care on an acre of reforested land is about \$2,000 per year. However, the County may already meet the standards proposed by Bill 25-22 due to its practice of exceeding the current law's minimum requirements.

Sources of information Department of Environmental Protection, Department of Transportation

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Economic Impact Statement

Office of Legislative Oversight

Bill 25-22

Forest Conservation - Trees

SUMMARY

The Office of Legislative Oversight (OLO) anticipates that Bill 25-22 would have an overall negative impact on economic conditions in the County in terms of the Council's priority indicators. By increasing the geographic scope and requirements for preservation, afforestation, and reforestation of the County's Forest Conservation Law, the Bill would increase capital and operating costs for certain property owners and developers undertaking development projects. To protect profit margins, certain property owners and developers likely would pass-through some portion of costs to certain buyers and commercial/residential tenants. While certain County-based nursery and landscaping companies may see increased demand, property owners and developers would also rely on companies based outside the County, thereby generating capital outflows.

BACKGROUND

Forest Conservation Law

Originally enacted in 1992, the County's Forest Conservation Law seeks "to save, maintain, and plant forested areas for the benefit of County residents and future generations."¹ To achieve this goal, the law subjects certain development projects to requirements that minimize tree loss because of development, protect trees and forests during and after construction or other land-disturbing activities, and establish forests on land previously forested ("reforestation") or land previously unforested ("afforestation").² The Montgomery County Planning Board is the agency responsible for implementing the law. To attain a development permit, property owners, government entities, and developers who are subject to the law must submit to the agency a Forest Conservation Plan (FCP) which outlines specific strategies for meeting these requirements on a development site.³

Bill Description

The goal of Bill 25-22 is to achieve "no net loss of forest" in the County, while allowing development to move forward.⁴ The Bill would make many substantive and technical changes to the County's Forest Conservation Law. Through textual analysis of the Bill and correspondence with Planning staff, OLO has determined these changes generally fall into the following three categories:

¹ Department of Environmental Protection, [Tree Laws, Programs and Committees](#).

² Ibid.

³ Montgomery Planning, [Forest Conservation Plan](#).

⁴ Montgomery Planning, [Staff Report: 'No Net Loss of Forest'](#).

Economic Impact Statement

Office of Legislative Oversight

1. **Increase the law’s preservation, afforestation, and reforestation requirements**
 - a. by increasing the amount of forest required to be preserved in lower density land use categories, reforestation ratios, and incentives for reforestation/afforestation within the same watershed as the project or in a priority area for forest conservation;
 - b. by broadening the terms of maintenance and management agreements to include required maintenance for areas of existing forest retained to meet forest mitigation requirements; and
 - c. by expanding mitigation requirements for variance trees to include mitigation for variance trees located within a forest.
2. **Expand the law’s the geographic scope**
 - a. by requiring planting of forest in all unforested stream valley buffers; and
 - b. by excluding activities in the Commercial Residential zone from qualifying for certain FCP exemptions and any development that occurs within an environmental buffer from qualifying for a FCP exemption.
3. **Enhance the law’s regulatory flexibility** by allowing landscaping to meet reforestation and afforestation requirements in equity focus areas.

In addition, Bill 25-22 would amend the Forest Conservation Law by changing the timeline for approval of a Natural Resources Inventory/Forest Stand Delineation (NRI/FSD); amending the requirements where forest retention required by the Forest Conservation Law is not possible; and, as required by the state, updating the allowable types of forest mitigation banks allowed in the County per recent amendment to the state’s Forest Conservation Act.⁵

INFORMATION SOURCES, METHODOLOGIES, AND ASSUMPTIONS

Per Section 2-81B of the Montgomery County Code, the purpose of this Economic Impact Statement is to assess, both, the impacts of Bill 25-22 on residents and private organizations in terms of the Council’s priority economic indicators and whether the Bill would have a net positive or negative impact on overall economic conditions in the County.⁶ To do so, OLO limits its scope of analysis to assessing the impacts of the Bill’s three primary changes to the Forest Conservation Law previously identified—that is, increasing the law’s: (1) preservation, afforestation, and reforestation requirements; (2) geographic scope; and (3) regulatory flexibility.

To do so, OLO assesses how the Bill would impact various stakeholders—property owners and developers undertaking development projects, buyers and tenants of developed properties, nurseries, and landscaping companies—and whether the Bill’s economic costs to some stakeholders would outweigh its economic benefits to others. The primary information

⁵ [Bill 25-22](#).

⁶ Montgomery County Code, [Sec. 2-81B](#).

Economic Impact Statement

Office of Legislative Oversight

sources for this analysis are OLO consultations with Planning staff and materials on the County’s Forest Conservation Law and “no net loss of forest” initiative.⁷

VARIABLES

The primary variables that would affect the economic impacts of enacting Bill 25-22 are the following:

- Number of development projects subject to the Forest Conservation Law;
- Capital expenses associated with purchasing and planting trees;
- Operating costs associated with managing and maintaining forests;
- Pass-through rates for affected projects; and
- Demand for County-based nurseries and landscaping companies.

IMPACTS

WORKFORCE ▪ TAXATION POLICY ▪ PROPERTY VALUES ▪ INCOMES ▪ OPERATING COSTS ▪ PRIVATE SECTOR CAPITAL INVESTMENT ▪ ECONOMIC DEVELOPMENT ▪ COMPETITIVENESS

Businesses, Non-Profits, Other Private Organizations

OLO anticipates that enacting Bill 25-22 would have mixed, yet overall negative impacts on certain private organizations in the County in terms of several economic indicators prioritized by the Council.

Property Owners and Developers: The primary business group negatively affected by the Bill would be property owners and developers undertaking development projects subject to the changes to the Forest Conservation Law.

By increasing the law’s preservation, afforestation, and reforestation requirements, the Bill likely would increase capital expenditures⁸ associated with planting trees for projects that otherwise would have less stringent requirements in the absence of the change of law. Similarly, expanding the law’s geographic scope likely would increase capital expenditures for projects that otherwise would have been exempt from certain planting requirements. Moreover, certain property owners and developers likely would experience higher operating costs due to increased maintenance for areas of existing forest retained to meet forest mitigation requirements.

To protect profit margins, property owners and developers likely would mitigate some portion of increased capital and operating costs through several means. First, they may reduce operating costs in other areas (i.e., labor). Second, they may pass on some portion of costs to contractors, buyers, or building tenants. Third, for projects with less tree loss on or near the site than otherwise would occur in the absence of the Bill, property owners and developers may be able to

⁷ See

⁸ Capital expenses are “funds used by a company to acquire, upgrade, and maintain physical assets such as property, plants, buildings, technology, or equipment.” Fernando, “[Capital Expenditure \(CapEx\)](#).”

Economic Impact Statement

Office of Legislative Oversight

recover a portion of costs through higher property sales. Indeed, researchers have found increasing tree canopy cover in the vicinity of a property increases its value.⁹ Fourth, for projects in equity focus areas, the option for landscaping to meet reforestation and afforestation requirements may offset any costs from the Bill.

Buyers and Tenants: The Bill likely would also negatively impact certain buyers and commercial tenants of properties. As noted above, property owners and developers who experience increased costs from the changes to the Forest Conservation Law likely would pass on some portion of the costs to future buyers and building tenants.

Nurseries and Landscaping Companies: The Bill likely would positively impact certain County-based nurseries and landscaping companies. Increasing the Forest Conservation Law's preservation, afforestation, and reforestation requirements and geographic scope likely would increase demand for these companies' goods and services. Holding all else equal, increased revenues would increase these entities' business incomes. Moreover, certain businesses may increase the size of their workforces to meet greater demand.

Beyond these potential impacts, OLO does not expect the Bill to affect private organizations in terms of the Council's other priority economic indicators.

Residents

OLO anticipates that enacting Bill 25-22 would have mixed economic impact on certain residents in the County in terms of the Council's priority indicators. On the one hand, certain home buyers and tenants of residential buildings likely would be negatively affected from cost pass-throughs. On the other hand, certain nurseries and landscaping companies may hire residents and/or increase hours for resident employees.

Beyond this potential impact, OLO does not expect the Bill to affect residents in terms of the Council's other priority indicators.

Net Impact

OLO anticipates that enacting Bill 25-22 would have a net negative impact on economic conditions in the County in terms of the Council's priority indicators. First, property owners and developers likely would be unable to pass on the total cost to businesses based outside the County. Thus, a significant portion of additional costs would be borne directly by property owners and developers and indirectly by other market actors based in the County through cost pass-throughs. Second, property owners and developers likely would not rely exclusively on nurseries and landscaping companies based in the County. Thus, the Bill would generate capital outflows.

Additionally, OLO notes the Bill likely would not reduce the County's competitiveness to surrounding jurisdictions with less stringent planting requirements. The reason being that the magnitude of the increased costs to property owners and

⁹ Li, et al, "[A comparison of the economic benefits of urban green spaces.](#)"

Economic Impact Statement

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developers likely would be a negligible share of the total cost of projects. However, increasing regulations may contribute to a reputation of the County being unfriendly to development.

DISCUSSION ITEMS

Information and time constraints prevented OLO from performing a quantitative assessment of Bill 25-22's impact on development costs in the County. Councilmembers may want to consider whether the Montgomery County Planning Board or another agency should perform a quantitative assessment to better understand the economic implications of the Bill.

WORKS CITED

Li, Wei, Jean-Daniel M. Saphores, and Thomas W. Gillespie. "[A comparison of the economic benefits of urban green spaces estimated with NDVI and with high-resolution land cover data.](#)" *Landscape and Urban Planning* 133 (2015): 105-117.

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Montgomery County Council. [Bill 25-22, Forest Conservation – Trees.](#) Introduced on September 13, 2022.

Montgomerycountymd.gov. [Tree Laws, Programs and Committees.](#) Department of Environmental Protection.

Montgomeryplanning.org. [Forest Conservation Plan.](#) Montgomery Planning.

Montgomery Planning. [Staff Report: 'No Net Loss of Forest' Amendments to the Forest Conservation Law & Amendments.](#) April 14, 2022.

CAVEATS

Two caveats to the economic analysis performed here should be noted. First, predicting the economic impacts of legislation is a challenging analytical endeavor due to data limitations, the multitude of causes of economic outcomes, economic shocks, uncertainty, and other factors. Second, the analysis performed here is intended to *inform* the legislative process, not determine whether the Council should enact legislation. Thus, any conclusion made in this statement does not represent OLO's endorsement of, or objection to, the Bill under consideration.

CONTRIBUTIONS

Stephen Roblin (OLO) prepared this report.

Racial Equity and Social Justice (RESJ) Impact Statement

Office of Legislative Oversight

BILL 25-22: FOREST CONSERVATION – TREES

SUMMARY

The Office of Legislative Oversight (OLO) anticipates Bill 25-22 could have a negligible impact on racial equity and social justice (RESJ) in the County given the Bill does not address tree cover disparities in BIPOC communities and could only minimally impact affordable housing development in Commercial Residential (CR) zones.

PURPOSE OF RESJ IMPACT STATEMENTS

The purpose of RESJ impact statements is to evaluate the anticipated impact of legislation on racial equity and social justice in the County. Racial equity and social justice refer to a **process** that focuses on centering the needs, leadership, and power of communities of color and low-income communities with a **goal** of eliminating racial and social inequities.¹ Achieving racial equity and social justice usually requires seeing, thinking, and working differently to address the racial and social harms that have caused racial and social inequities.²

PURPOSE OF BILL 25-22

Originally enacted in 1992, the County's Forest Conservation Law aims to protect, plant, and maintain trees and forests.^{3,4} Per the law, trees and forest cover constitute an important natural resource, as trees:⁵

- Filter groundwater, reduce surface runoff, help alleviate flooding, and supply necessary habitat for wildlife;
- Cleanse the air, offset the heat island effects of urban development, and reduce energy needs; and,
- Improve the quality of life in a community by providing for recreation, compatibility between different land uses, and aesthetic appeal.

Other laws for conserving trees in the County include the Tree Canopy Law and the Roadside Tree Law.⁶ Generally, the Forest Conservation Law applies to properties over 40,000 square feet when a sediment control permit is required or when subdivision occurs.⁷ The Forest Conservation Law has resulted in the planting and protection of more than 15,000 acres of forest in the County.⁸

Since its enactment, the County's Forest Conservation Law has required planting of 2,861 acres of new forest and mitigation for the clearing of 4,400 acres of forest.⁹ In November 2021, the Montgomery County Planning Department launched the 'No Net Loss of Forest' initiative with the goal of bringing the acreage of forest planted and acreage of forest cleared closer together for the County as a whole.¹⁰ As a result of this initiative at the request of the Planning Board, Bill 25-22 was introduced on September 13, 2022 to revise the County's Forest Conservation Law (Chapter 22A, Forest Conservation – Trees).¹¹ A resolution to approve revisions for corresponding forest conservation regulations was also introduced on the same day.¹²

In July 2022, OLO published a RESJ impact statement (RESJIS) for Bill 13-22, Buildings – Comprehensive Building Decarbonization,¹³ which also considers the effect of climate change on BIPOC communities. OLO builds on Bill 13-22's RESJ analysis for this RESJIS.

RESJ Impact Statement

Bill 25-22

THE CLIMATE GAP, TREE COVER, AND RACIAL EQUITY

As explained in the County's Forest Conservation Law, trees and forest cover provide numerous benefits to residents. In urban settings, trees also play an important role in mitigating and adapting to the effects of climate change.¹⁴ Climate change has far-reaching harmful consequences on public health, community assets, and the economy that will impact all residents.¹⁵ BIPOC residents, especially those who are low-income, are disproportionately harmed by climate change, yet have the fewest resources to respond and adapt to its consequences.¹⁶

The term "climate gap" refers to the unequal impact that climate change has on BIPOC and low-income communities. As noted by researchers at the University of Southern California, the climate gap means that BIPOC and low-income communities will experience more illness and deaths during extreme heat waves, breathe dirtier air, pay more for basic necessities, and likely have fewer job opportunities.¹⁷ Drivers of the climate gap include racial inequities in housing, education, employment, and healthcare.¹⁸

The remainder of this section provides background on the role of government in fostering the climate gap, data on the environmental risk experienced by BIPOC residents, and data on tree cover disparities in the County.

Drivers of the Climate Gap. Inequities that drive the climate gap originate from a history of land and wage theft that enriched a subset of White people at the expense of BIPOC and low-income people. Slavery, the Indian Removal and Homestead Acts, and occupational segregation have undermined the economic development of people of color,¹⁹ increasing their vulnerability to disruptions like climate change.

Government actions segregating BIPOC residents, undermining their ability to build wealth and live in adequate housing, have also contributed to the climate gap. Redlining, racial covenants, and exclusionary zoning – along with policies and practices of the Federal Housing Administration, the Social Security Act, GI Bill, and the Department of Transportation – have all played a role in creating or solidifying residential segregation.²⁰ Housing for BIPOC and low-income residents has often been located near polluting facilities and infrastructure.²¹ BIPOC residents have also been concentrated into densely populated neighborhoods with fewer trees and larger amounts of impervious surfaces, making them more vulnerable to effects of excessive heat and flood events exacerbated by climate change.²²

Government efforts to cultivate and protect White wealth by segregating BIPOC residents and excluding them from comparable wealth-building opportunities has resulted in the siting of BIPOC communities in or adjacent to environmentally hazardous areas. As such, government has played a significant role in developing the climate gap.

Environmental Risk. Nationally, BIPOC and low-income communities are frequently located near pollution sources, such as major roadways, toxic waste sites, landfills, and chemical plants.²³ Public health concerns related to air pollution include cancer, cardiovascular disease, respiratory diseases, diabetes, obesity, and reproductive, neurological, and immune system disorders.²⁴

The County's Climate Action Plan shows that communities with high concentrations of BIPOC and low-income residents (greater than 25 percent for each) are located in areas of the County with higher levels of traffic and air pollution.²⁵ Further, between 2017 and 2019, Black residents had the highest rates of emergency room visits for chronic lower respiratory diseases (including asthma) at 1,594 visits per 100,000, followed by Latinx residents (923 visits per 100,000) and White residents (526 visits per 100,000).²⁶

RESJ Impact Statement

Bill 25-22

Disparities in Tree Cover. Research suggests that tree cover is not equitably distributed in BIPOC communities. A meta-analysis of 42 studies considering the relationship between urban forest cover and race found evidence of significant race-based inequity in urban forest cover.²⁷ Further, a more recent study of 37 metropolitan areas exploring the relationship between redlining and urban tree canopy found that former “D” graded areas, which were mostly inhabited by BIPOC, have on average 23% tree canopy, half the amount of former “A” graded areas (43%), which were characterized by U.S.-born White residents.

In 2021, American Forests – a national non-profit focused on forest conservation – published neighborhood-level Tree Equity Scores for 4,000 municipalities throughout the country. Tree Equity Scores factor in the gap between existing tree canopy and target tree canopy in individual neighborhoods, and are weighted to prioritize the need for tree planting based on the following neighborhood characteristics:²⁸

- Income: Percentage of population below 200% of poverty
- Employment: Unemployment rate
- Race: Percentage of people who are not white non-Hispanic
- Age: Ratio of seniors and children to working-age adults
- Climate: Urban Heat Island severity
- Health: Prevalence of poor mental, physical, respiratory, and cardiac health (composite index)

A lower Tree Equity Score indicates a greater priority for closing the tree canopy gap in a given neighborhood.

American Forests calculated an overall Tree Equity Score of 96 for Montgomery County.²⁹ Table 1 below shows the distribution of scores for 495 neighborhoods in unincorporated areas of the County where a Tree Equity Score was calculated, along with select characteristics of those neighborhoods.

Table 1: Distribution of Neighborhood Tree Equity Scores in Montgomery County and Select Characteristics

Tree Equity Score	Number of neighborhoods	Tree Canopy % (Average)	% BIPOC Residents (Average)	% People in Poverty (Average)	Average Temperature on Hot Summer's Day
59 or Less Score	1	28.1%	87.5%	41.5%	90.4
60-69 Score	4	22.9%	67.5%	28.1%	87.7
70-79 Score	9	27.9%	63.0%	29.7%	87.9
80-89 Score	11	30.8%	50.6%	13.7%	86.9
90-99 Score	43	40.4%	56.5%	16.8%	84.1
100 Score	427	56.5%	49.4%	15.5%	82.9

Source: 2021 Tree Equity Score Data, American Forests.

Table 1 demonstrates 14 neighborhoods in the County with Tree Equity Scores of less than 80 that are higher priority for tree planting. On average, these neighborhoods have between 22.9 percent and 28.1 percent tree canopy, compared to 56 percent in neighborhoods with a score of 100. Further, the average temperature on a hot summer's day in these higher priority neighborhoods is between 4.8 and 7.5 degrees higher than the average in neighborhoods with a 100 score.

RESJ Impact Statement

Bill 25-22

ANTICIPATED RESJ IMPACTS

To consider the anticipated impact of Bill 25-22 on RESJ in the County, OLO recommends the consideration of two related questions:

- Who are the primary beneficiaries of this bill?
- What racial and social inequities could passage of this bill weaken or strengthen?

For the first question, OLO considered who could benefit from the increased forest conservation proposed by this Bill. In the last 10 years, development has resulted in a net loss of 112 acres of forest, with the Forest Conservation Law requiring planting of 693 acres and mitigation for the clearing of 805 acres of forest.³⁰ Bill 25-22 primarily works to increase forest conservation requirements towards the goal of minimizing forest loss.

Changes to forest conservation requirements proposed through this Bill would apply in varying ways to areas throughout the County, including CR zones, medium-density residential areas, and institutional development areas. Of note, the Planning Board decided not to propose changes to forest conservation requirements in higher-density land use categories, with the intent of continuing to incentivize urban redevelopment in these areas.³¹

Given the broad reach, OLO estimates that all County residents would benefit from the increased forest conservation proposed through this Bill, including BIPOC residents. OLO anticipates property developers/owners will bear the increased costs of forest conservation associated with implementing this Bill, and White and affluent residents disproportionately account for property developers/owners in the County.³² However, they too will yield benefits from increased forest conservation in the County, so their costs are likely offset by their benefits, at least in the long-term.

For the second question, OLO considered the effect this Bill could have on addressing racial disparities in tree cover. Since the Bill primarily intends to minimize forest loss – not necessarily to increase existing forests – it would likely not increase existing tree cover in BIPOC communities.

Of note, the existing Forest Conservation Law allows for landscaping to meet afforestation or reforestation requirements anywhere in the County.^{33,34} This Bill would maintain this allowance for Equity Focus Areas (EFAs),³⁵ with the intent of allowing for as much tree planting as possible within these communities; outside of EFAs, landscaping could only be used to meet afforestation requirements. Since the Bill maintains an existing allowance for EFAs, this will likely not change behavior with regards to tree planting within these communities, unless they are located in zones where the Bill is changing forest conservation requirements (e.g., CR zones, medium-density residential areas).

Changing forest conservation requirements in CR zones could increase the cost of affordable housing development in these areas. A decrease in affordable housing would disproportionately harm BIPOC residents, as they experience higher levels of housing insecurity.³⁶ To offset the potentially negative impact of increasing forest conservation requirements on affordable housing in CR zones, Planning Department staff recommends the Council consider offering subsidies to affordable housing developers to help meet these requirements.³⁷ Yet, OLO anticipates at best a small impact of increased forest conservation requirements on the supply of affordable housing units in CR zones.

Taken together, OLO anticipates Bill 25-22 could have a negligible impact on RESJ in the County, since the Bill does not address tree cover disparities in BIPOC communities and the potential impacts on affordable housing development in CR zones would be small.

RESJ Impact Statement

Bill 25-22

RECOMMENDED AMENDMENTS

The Racial Equity and Social Justice Act requires OLO to consider whether recommended amendments to bills aimed at narrowing racial and social inequities are warranted in developing RESJ impact statements.³⁸ OLO finds Bill 25-22 would not negatively impact RESJ in the County. As such, OLO does not offer recommended amendments.

CAVEATS

Two caveats to this racial equity and social justice impact statement should be noted. First, predicting the impact of legislation on racial equity and social justice is a challenging analytical endeavor due to data limitations, uncertainty, and other factors. Second, this RESJ impact statement is intended to inform the legislative process rather than determine whether the Council should enact legislation. Thus, any conclusion made in this statement does not represent OLO's endorsement of, or objection to, the bill under consideration.

CONTRIBUTIONS

OLO staffer Janmarie Peña, Performance Management and Data Analyst, drafted this RESJ impact statement with assistance from Elaine Bonner-Tompkins, OLO Senior Legislative Analyst.

¹ Definition of racial equity and social justice adopted from “Applying a Racial Equity Lens into Federal Nutrition Programs” by Marlysa Gamblin, et.al. Bread for the World, and from Racial Equity Tools. <https://www.racialequitytools.org/glossary>

² Ibid

³ “Montgomery County Forest Conservation Law,” Montgomery Planning, Updated November 8, 2021.

<https://montgomeryplanning.org/planning/environment/forest-conservation-and-trees/montgomery-county-forest-conservation-law/>

⁴ *Forest* means a biological community dominated by trees and other woody plants (including plant communities, the understory, and forest floor) covering a land area which is 10,000 square feet or greater and at least 50 feet wide. See Chapter 22A Forest Conservation – Trees, Sec. 22A-3 Definitions.

⁵ Chapter 22A Forest Conservation – Trees, Sec. 22A-2 Findings and Purpose, Montgomery County Code.

https://codelibrary.amlegal.com/codes/montgomerycounty/latest/montgomeryco_md/0-0-0-131305#JD_22A-2

⁶ “Tree Laws, Programs and Committees,” Department of Environmental Protection, Accessed September 16, 2022.

<https://www.montgomerycountymd.gov/green/trees/laws-and-programs.html>

⁷ *Sediment control permit* means a permit required to be obtained for certain land disturbing activities. *Subdivision* is the division or assemblage of a lot, tract, or parcel of land into one or more lots or parcels or other divisions for the purpose, whether immediate or further, of sale or development. See Chapter 22A Forest Conservation – Trees, Sec. 22A-3 Definitions.

⁸ “Staff Report: ‘No Net Loss of Forest’ Amendments to the Forest Conservation Law & Regulations,” Bill 25-22, Forest Conservation – Trees, Montgomery County Council, Introduced September 13, 2022.

https://apps.montgomerycountymd.gov/ccllms/DownloadFilePage?FileName=2766_1_22451_Bill_25-2022_Introduction_20220913.pdf

⁹ Ibid

¹⁰ “No Net Loss of Forest Initiative”

¹¹ Bill 25-22, Forest Conservation – Trees

¹² Statutes also referred to as codes, are laws written and enacted by the legislative branch of government (e.g., Montgomery County Council). Regulations also referred to as rules, are written by agencies (e.g., Montgomery County Planning Department) to implement laws passed by the legislature.

¹³ Racial Equity and Social Justice Impact Statement for Bill 13-22, Office of Legislative Oversight, Montgomery County, Maryland, July 7, 2022. <https://montgomerycountymd.gov/OLO/Resources/Files/resjis/2022/Bill13-22.pdf>

RESJ Impact Statement

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¹⁴ Hannah Safford, et al, “Urban Forests and Climate Change,” Climate Change Resource Center, U.S. Forest Service, United States Department of Agriculture, August 2013. <https://www.fs.usda.gov/ccrc/topics/urban-forests>

¹⁵ “Montgomery County Climate Action Plan: Building a Healthy, Equitable, Resilient Community,” Department of Environmental Protection, Montgomery County, Maryland, June 2021.

<https://www.montgomerycountymd.gov/green/Resources/Files/climate/climate-action-plan-printer-friendly.pdf>

¹⁶ Ibid

¹⁷ Rachel Morello-Frosch, et al, *The Climate Gap: Inequities in How Climate Change Hurts Americans and How to Close the Gap*, Dornsife Center, University of Southern California, May 2009. <https://dornsife.usc.edu/pere/climategap/>

¹⁸ Health Equity and Climate Change, “Climate Change, Health, and Equity: A Guide for Local Health Departments,” American Public Health Association, 2018. https://www.apha.org/-/media/Files/PDF/topics/climate/Guide_Section2.ashx

¹⁹ “Turning the Floodlights on the Root Causes of Today’s Racialized Economic Disparities: Community Development Work at the Boston Fed Post-2020,” Federal Reserve Bank of Boston, December 2020. <https://www.bostonfed.org/publications/community-development-field-notes/2020/racialized-economic-disparities.aspx>

²⁰ Kilolo Kijakazi, et al, “The Color of Wealth in the Nation’s Capital,” The Urban Institute, November 2016.

<https://www.urban.org/research/publication/color-wealth-nations-capital>

²¹ Richard Rothstein, *The Color of Law* (Liveright, 2017)

²² Louis R. Iverson and Elizabeth A. Cook, “Urban Forest Cover of the Chicago Region and Its Relation to Household Density and Income,” Urban Ecosystems, 2000 (cited in Zero Cities Project, Equity Assessment Tool).

<https://www.fs.usda.gov/treesearch/pubs/21911>

²³ Joel D. Kaufman and Anjum Hajat, “Confronting Environmental Racism,” Environmental Health Perspectives, May 2021.

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8137098/>

²⁴ “Air Pollution and Your Health,” National Institute of Environmental and Health Sciences, Last Reviewed June 24, 2022.

<https://www.niehs.nih.gov/health/topics/agents/air-pollution/index.cfm>

²⁵ “Montgomery County Climate Action Plan”

²⁶ “Health in Montgomery County, 2010-2019: A Surveillance Report on Population Health,” Department of Health and Human Services, Montgomery County, Maryland, April 2022.

<https://www.montgomerycountymd.gov/HHS/Resources/Files/Health%20in%20Montgomery%20County%202010-19.pdf>

²⁷ Shannon Lea Watkins and Ed Gerrish, “The Relationship Between Urban Forests and Race: A Meta-Analysis,” Journal of Environmental Management, February 2018. <https://urbanforestry.indiana.edu/doc/publications/2018-watkins-UF-race.pdf>

²⁸ “Tree Equity Score Methodology,” Tree Equity Score, American Forests, Accessed September 26, 2022.

<https://www.treeequityscore.org/methodology/>

²⁹ Municipality Tree Equity Score Report for Montgomery County, Tree Equity Score, American Forests, Accessed September 26, 2022. <https://www.treeequityscore.org/reports/place/montgomery-county-md/#12.01/39.11584/-77.15947>

³⁰ “Staff Report: ‘No Net Loss of Forest’ Amendments to the Forest Conservation Law & Regulations”

³¹ Letter from Planning Board Chair to Council President, Bill 25-22, Forest Conservation – Trees

³² See OLO RESJ Statements for Bills 38-21, 39-21, and 46-21 for discussion and data on racial inequities in homeownership, economic development, and entrepreneurship in the County:

<https://www.montgomerycountymd.gov/OLO/Resources/Files/resjis/2021/Bill38-21.pdf>;

<https://www.montgomerycountymd.gov/OLO/Resources/Files/resjis/2021/Bill39-21.pdf>;

<https://www.montgomerycountymd.gov/OLO/Resources/Files/resjis/2021/Bill46-21.pdf>

³³ Generally: *landscaping* refers to onsite planting of trees, shrubs and other plants that are not necessarily considered to be forest; *afforestation* refers to planting of forest when little to no forest has been cleared; *reforestation* refers to replanting of forest when forest has been cleared. See Chapter 22A Forest Conservation – Trees, Sec. 22A-3 Definitions.

³⁴ Because of the definition of *forest* (see note 4) it may not always be feasible to meet afforestation and reforestation requirements by planting forest on a project’s site. Thus, afforestation and reforestation requirements are often met through on-site landscaping and/or planting forest off-site.

³⁵ Equity Focus Areas, developed by the Planning Department, are census tracts within the County that are characterized by high concentrations of lower-income households, people of color, and people who may also speak English less than very well. More information: <https://montgomeryplanning.org/planning/equity-agenda-for-planning/the-equity-focus-areas-analysis/>

³⁶ Racial Equity and Social Justice Impact Statement for Bill 22-22, Office of Legislative Oversight, Montgomery County, Maryland, July 29, 2022. <https://montgomerycountymd.gov/OLO/Resources/Files/resjis/2022/BillE22-22.pdf>

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³⁷ “Staff Report: ‘No Net Loss of Forest’ Amendments to the Forest Conservation Law & Regulations”

³⁸ Bill 27-19, Administration – Human Rights – Office of Racial Equity and Social Justice – Racial Equity and Social Justice Advisory Committee – Established, Montgomery County Council



OFFICE OF THE COUNTY EXECUTIVE

Marc Elrich
County Executive

MEMORANDUM

February 7, 2023

TO: Evan Glass, President
Montgomery County Council

FROM: Marc Elrich, County Executive *Marc Elrich*

SUBJECT: Bill 25-22, Forest Conservation – Trees

Thank you for the opportunity to express my support for Bill 25-22, which would increase forest and canopy cover across Montgomery County to reach at least a no-net-loss threshold.

This timely and appropriate goal aligns with many of Montgomery County's long-term goals for environmental protection, climate change, carbon emissions, and livable communities. These amendments recognize that retention of forests and canopy is needed in addition to planting. The amendments aim to increase forest retention and planting requirements, provide for long-term maintenance of new plantings, and enhance stream buffers.

While these proposed amendments will move the County towards no-net-loss of forests regulated by the Forest Conservation Law (FCL), the Department of Environmental Protection recognizes that much of the current development activity that impacts forests and tree canopy is not subject to the Forest Conservation Law. As the development patterns have shifted from subdivision of greenfields to small lot redevelopment, a large portion of the forests and tree canopy facing development is not subject to the FCL or these updates. Therefore, the extent of the protections provided in the proposed amendments will be limited.

I look forward to working with the County Council and the Planning Department to consider additional efforts to conserve and increase the forest and canopy cover in Montgomery County.

Public Hearing Testimony to the Montgomery County Council
RE: Bill 25-22 Forest Conservation – Trees (Oct. 4, 2022 Public Hearing)
From: John Parrish

Dear Councilmember,

The Planning Board’s draft bill will continue to allow forests and their ecosystems to be destroyed for land development. Why are we pretending to call this a Forest Conservation Law? We can and we must do better than this! The Forest Conservation Law (FCL) needs to protect all existing forests and allow new forests to grow to reverse the legacy of forest loss in our County and to combat climate extremes.

The Importance of Forest Soils

A mature forest has well developed organic rich soils at and near the surface of the ground. This organic layer or “topsoil” is where most soil life exists. This includes a complex mix of decayed plants and animals, insects, fungi, microorganisms and minerals with which plant roots interact with for nourishment. A rich organic layer takes many decades to develop. In fact an inch of topsoil may take 500 years to fully develop. Forest soils are the basis for most plant life and fauna native to our region. They also sequester huge amounts of carbon. Carbon capture is essential if we are to meet Montgomery’s climate goals.

Planting Trees is not Forest Conservation

Preserving all of our existing forest cover is true forest conservation. Planting groups of trees on open ground to mitigate forest loss cannot replicate the loss of long-established forest soils, structure and biodiversity of forests destroyed by development. Not only do we need to preserve all forest cover, but we need to set aside land to allow natural forest regeneration to take place coupled with requirements that non-native plant species be controlled for at least five or ten years so that young trees are not suffocated by aggressive vines nor have to compete with non-native trees. It will take 100 years or more for a forest to develop soils and structure capable of sustaining a full complement of native plants and animals.

An Example of the Failure of our FCL to Conserve Forests

A housing development was approved this year in the sensitive Ten Mile Creek Watershed near Clarksburg for the Miles-Coppola Property. According to the Forest Conservation Plan (FCP), see page 36 at: <https://eplans.montgomeryplanning.org/UFS/32841/99201/30-PBRESandMailingList-120220010.pdf/30-PBRESandMailingList-120220010.pdf> 18.07 acres of forest loss was approved!! Incredibly, the FCL not only allows this loss, but did not require any forest planting to mitigate the loss! In the end, M-NCPPC staff worked out a deal to plant 4.12 acres. The net result is eighteen acres of forest loss and planting four acres of saplings. This does not equate to forest conservation! The FCL must be strengthened to prevent these failures. This result is especially insulting because the 2014 Ten Mile Creek Area Master Plan Amendment calls for increasing forest cover in the watershed from 46% to 65%. That assumes that over 500 acres will be reforested and there will be no further forest lost due to land development. Clearly, we are not headed in the right direction. How will a “no net loss” policy achieve the goals of the Ten Mile Creek Master Plan?

Conclusion

The “*no net loss*” policy is a failed policy as long as it allows for the loss of existing forests and the planting of trees as mitigation to enable the further loss of existing forests. We need a “*net gain*” policy to replenish our county’s natural landscape. Existing forests must be fully protected and land set aside to allow forests to regenerate. Please strengthen the FCL to safeguard existing forests. Our climate, native biodiversity and water quality depends on it.

To: Montgomery County Council President, Gabe Albornoz and Councilmembers

From: Roberta G Steinman

Subject: Testimony on Bill 25-22, Forest Conservation - Trees

I do not support allowing existing forests to be used as mitigation banks. I support preservation and expansion of our forests and forested ecosystems. Therefore, I do not support the passage of Bill 25-22 because it will lead to a net loss of forests and forest ecosystems.

PRELUDE: We are in an era of Climate Chaos, Plunging Biodiversity, and Worldwide Forest Loss. Retaining and increasing our natural forest ecosystems is the best technology and our best hope to mitigate the worst impacts of climate disruption and help bring back balance to our planet, our home. Forests are a refuge for biological diversity and a sink for carbon sequestration. Our future lies with the temperate forests of the Eastern U.S. – preserving the older forests, safeguarding the young forests, and encouraging the regeneration of new forests. So it all comes down to whether or not **we are going to protect our temperate forests of the East**. Do we continue to cut them down for various commercial purposes, or do we preserve and expand them?

PRESERVE AND EXPAND OUR FORESTS

The urgency of the climate situation requires preservation and expansion of our forested ecosystems. The **“No Net Loss” vision, while laudable, is not a viable strategy because it does not protect existing forest ecosystems, nor does it allow for natural regeneration to increase forest preservation.**

Allowing existing forests to be used for forest mitigation requirements leads to **net loss** of mature or maturing forest along with the loss of complex ecological relationship with ecological value. **We cannot “plant” a forest ecosystem.** Forest ecosystems, especially mature forest ecosystems, cannot be duplicated. We humans simply cannot "plant" a forest that replicates the ecological services that are lost. It takes several hundred years for forest soils to develop and for forest canopy, sub-canopy, and understory to develop to full maturity. These qualities simply cannot be recreated by planting. With the window quickly closing for effective climate action, **we need to preserve all our existing forests**, and encourage expansion of our forests through a natural regeneration process.

In October 2020, Attorney General, Brian Frosh responded to a question from Steuart Pittman, Anne Arundel County Executive as to whether the Forest Conservation Act permitted existing forests to be used as mitigation banks rather than using created (afforestation) or restored (reforestation) forests as mitigation banks. Frosh concluded that the language of the Forest Conservation Act made a clear case that "the only forests in Maryland that are eligible for treatment as “forest mitigation banks” from which developers may buy credits for that offset method are forests that were “intentional[ly]” created or restored “expressly” for that purpose..” In other words, existing forests were not allowed to be used as mitigation banks under the Forest Conservation Act. I believe this interpretation offers the correct course of action for our time.

ENVIRONMENTAL SIGNIFICANCE OF FOREST PRESERVATION - HEALTHY AIR, LAND, WATER, AND COMMUNITIES

- **HEALTHY AIR** → In this time of climate chaos and elevated greenhouse gas emissions, the critical role of forests cannot be overstated. Forests sequester carbon thus reducing greenhouse gases in the atmosphere. Annually, one acre of trees can remove 40 tons of carbon from the air and produce 108 tons of oxygen.¹ Trees filter out pollutants and release fresh oxygen. Forests clean the air of particulate matter, and their cooling effect counteracts the urban heat island effect.

¹ Conserving the Forests of the Chesapeake: The Status, Trends, and Importance of Forest for the Bay’s Sustainable Future, USDA Forest Service, 1996. P.7

- **HEALTHY LAND** → Forests are critical for the protection and restoration of biodiversity. Forests provide habitat and migration corridors for native flora and fauna (birds, bugs, and other animals), thus promoting sustainability of the native species. The decay of the forests' fallen leaves and deadfall enrich the composition and texture of the soil, thereby creating healthy, fertile soil essential to the fungal relationships that support the life of the forest.
- **HEALTHY WATER** → Forests are the most beneficial land use in terms of water quality. By absorbing water, the forested ecosystem filters the water, feeds the forest soil and wetlands, and provides the mechanism for groundwater recharge for the seeps, springs, and creeks. Forests are also our best storm management system. By retaining water, the forests stabilize the soil and reduce runoff that would otherwise pollute the streams with toxins and sediment.
- **HEALTHY MONTGOMERY COUNTY FAMILIES** → Preserving our existing forests provides economic and health benefits for Montgomery County families.
 - Health care costs are reduced with improved air quality.
 - Forests protect the water we drink. Every 10% increase in forest cover in a watershed produces double the savings in water treatment downstream, according to research reported by American Forests.²
 - Forests reduce flooding. The loss of forests can result in increased property damage to homes and businesses.
 - Forests moderate or buffer weather extremes. Trees cool the air and reduce the need for air conditioning because they provide shade cover and transpire moisture.
 - Forests contribute to a higher quality of life. By connecting us with nature, forests improve human health, reduce stress and give people a sense of well-being. The beauty and grace of the forest trees provide aesthetic benefits, and the uplifting nature of trees offers Peace and Serenity. Studies show that populations living near forested areas exhibit lower asthma, diabetes, and high blood pressure rates.

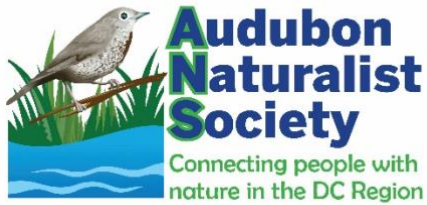
RECOMMENDATIONS:

- **Do not allow existing forests to be used as mitigation banks.**
- **Protect existing Forest Ecosystems and provide for the expansion of forests through natural regeneration.** Preserve all remaining Forests in Montgomery County to protect existing forest ecosystems.
- **Prioritize natural riparian forest regeneration.** To improve the water quality in Montgomery County, allow for the reforestation of riparian areas that are currently without forest cover to regenerate naturally. This applies to watercourses of all sizes. If natural regeneration is not practical, replant only with locally native species. Upland forest regeneration is also very important but should not be prioritized ahead of the riparian forest restoration.
- **If there is to be tree replacement, strengthen tree replacement requirements at a 2:1 ratio based on Diameter at Breast Height. To ensure no-net-loss of forests after development,** state and local entities should calculate tree replacement replanting at a 2 to 1 ratio based upon the diameter at breast height (dbh) lost. For example, the loss of one 24" dbh tree would be replaced with sixteen 3 inch dbh trees or twelve 4 inch dbh.

CONCLUSION

Forests are vitally important for sustaining life on Earth and play a major role in the fight against climate change. If we are really serious about tackling climate change and the decline in biodiversity and achieving “No Net Forest Loss,” we need to preserve our forests and allow them to naturally regenerate. This is the most cost effective way to fight climate change. Preserving and expanding our forested ecosystems is crucial for sustaining life on Earth!

² Maryland League of Conservation Voters, HB991, Forest Conservation, Mar2021.



October 3, 2022

Written Testimony for 10/4/22 County Council public hearing on Bill 25-22, Forest Conservation – Trees¹

Submitted by

Denisse Guitarra, Maryland Conservation Advocate, Audubon Naturalist Society (ANS)

Dear Montgomery County Council,

For 125 years, Audubon Naturalist Society (ANS) has inspired people to enjoy, learn about and protect nature. We thank the County Council for the opportunity to provide testimony on **Bill 25-22, Forest Conservation – Trees** which addresses modifications to Montgomery County’s Forest Conservation Law (FCL).

Forests and trees provide countless ecological services that help create healthy communities by reducing stormwater runoff & flooding, capturing & storing carbon, purifying our air and the water, reducing urban heat island effects, and enhancing quality of life for both people and wildlife alike. None of these natural ecological services could ever be replaced by built infrastructure. Numerous studies show the direct correlation between a healthy forests and healthy well-being for people of all ages.^{2,3,4} Furthermore, other local jurisdictions in Maryland have successfully strengthened their county-level forest conservation laws.⁵

ANS’s testimony will cover two main areas which are as follow:

- I. Montgomery County Forest Coalition’s FCL Recommendations.**
- II. Analyzing Planning Staff’s FCL Recommendations and Comparing to the MoCo Forest Coalition’s.**

I. Montgomery County Forest Coalition’s FCL Recommendations

In 2020, ANS and our local and state environmental partners formed the Montgomery County Forest Coalition.⁶ The coalition’s goals are for the county to 1) reach a “no net loss” (no more cutting down trees) and 2) a “net gain” (planting more trees) by prioritizing the protection of forest ecosystems.

¹ Bill 25-22, Forest Conservation – Trees. Available at:

<https://apps.montgomerycountymd.gov/ccllms/BillDetailsPage?RecordId=2766>

² U.S. Department of Agriculture, Forest Service. 2018. Urban nature for human health and well-being: a research summary for communicating the health benefits of urban trees and green space. FS-1096. Washington, DC. 24 p.

Available at: <https://www.vibrantcitieslab.com/resources/urban-nature-for-human-health-and-well-being/>

³ Forest School: What Is It and What Are the Benefits? Xenia Spencer-Milnes. 2021. Available at:

<https://www.highspeedtraining.co.uk/hub/what-is-a-forest-school/>

⁴ The Youth Guide to Forests. Food and Agriculture Organization for the United Nations. 2014. Available at:

<https://www.fao.org/publications/card/en/c/0789f373-979d-4bba-a880-e8d84155aed4/>

⁵ Forest Conservation Law Memo. Montgomery County Forest Coalition. April 2021. Available at:

<https://cleanstreams.anshome.org/wp-content/uploads/2022/01/Forest-Conservation-Law-Memo-April-2021-1.pdf>

⁶ Montgomery County Forest Coalition Blog. January 2022. Available at:

<https://conservationblog.anshome.org/blog/moco-forest-coalition/>

While I am not testifying today on behalf of the Coalition itself, I am pleased to report that there is broad support for our recommendations: 66 individuals and 13 organizations have signed on in support of our Coalition's recommendations, and we and our supporters collectively sent 330 letters to Council and the Planning Board urging support for a much stronger FCL at the April 28th Planning Board public hearing.⁷

The Coalition has been meeting regularly with County Councilmembers and staff, Planning Staff, and Department of Environmental Protection staff to learn more and discuss introducing draft legislation to update the FCL. We have also been active participants in the Planning Department's "No Net loss of Forests initiative,"⁸ which was developed in response to Montgomery County Forest Coalition's persistent advocacy on the urgent need to protect our forests. And while we do support many of the Planning Department's recommendations, we still advocate for stronger protections that will help people, wildlife, and the environment even more in the long term by giving our county's forests and trees more protections than they have under existing laws and Planning's proposal.

ANS asks the Montgomery County Council to pass and approve the strongest possible protections for our forests by taking into consideration the following nine main recommendations developed by the Montgomery County Forest Coalition.⁹ For each recommendation, we identify whether we support the language on this issue as it exists in the draft amendment, or recommend strengthening it further:

1. Protect existing Forest Ecosystems. (Strengthen)

All remaining pre-existing Forests in MoCo should be designated & treated as priority forest in FCL. Our first priority must be to protect existing forest ecosystems.

- a. All remaining forest cover should be considered priority and may only be removed upon appropriate findings by the Planning Director or Planning Board.
- b. Certain types of forests may only be removed with a variance granted by the Planning Board or Planning Director. Types of forests and trees that would receive a stronger level of protection and require a variance to be removed include forested: Floodplains; Stream Buffers; Forested Stream Buffers along Ephemeral Streams; Steep Slopes; Critical Habitats; Contiguous Forests; Forest Connective Corridors; Rare, Threatened, & Endangered Species; Historic Site trees; Champion Trees and other exceptionally large trees; areas designated as "Priority Save Areas" in Master Plan or any Functional Plan.
- c. Forest removal subject to a variance must be replaced with forest ecosystem at a 2:1 ratio.

2. Strengthen replanting ratios to ensure no-net-loss. (Strengthen)

- a. Re-planting requirement should be strengthened from ¼ acre planted for every 1 acre removed to 2 acres forest ecosystem planted for every 1 acre removed; or

⁷ TAKE ACTION NOW! Tell Montgomery County Planning Board to save our forests! April 2022. ANS Conservation Blog. Available at: <https://conservationblog.anshome.org/blog/fcl-4-28-22-pb-hearing/>

⁸ No Net Loss of Forest initiative. Montgomery Planning Department. Available at: <https://montgomeryplanning.org/planning/environment/forest-conservation-and-trees/no-net-loss-of-forest-initiative/>

⁹ Montgomery County Forest Coalition's Top Recommendations for updates to Montgomery County's Forest Conservation Law (FCL) one pager. September 2022. Available at: https://conservationblog.anshome.org/wp-content/uploads/2022/09/FCL-Handout_final.pdf

- b. Re-planting requirement should be strengthened from ¼ acre planted for every 1 acre removed to 1 acre forest ecosystem planted for every 1 acre removed, with no retention credit.
 - c. Require that at least 75% of the re-planting requirement be satisfied by the newly re-planted forest ecosystem.
- 3. **Strengthen Watershed Considerations. (Strengthen)**
For meeting afforestation and reforestation requirements, areas obtained outside the County or outside the sub-watershed where forest was removed for development, the requirement should be that existing forest retained through forest mitigation bank shall be at a 4:1 ratio or replanting of forest ecosystem shall be done at a 2:1 ratio.
- 4. **Strengthen Re-planting requirements to require the planting of Forest Ecosystem, not just trees. (Strengthen)**
When what's being removed is forest ecosystem, what's being replaced should be forest ecosystem as well. Reforestation or afforestation of forest ecosystem includes consideration of, payment for, and maintenance to establish the following in the re-planting: healthy soil; drainage; healthy fungi in the soil; healthy macrobiotic communities in the soil; biomass; groundcover; shrub layer; tree understory layer; tree canopy layer; diversity of different types of trees and plants.
- 5. **Forest stand delineation must be evaluated & submitted to Planning prior to submitting any application plan for development of a site. (Support)**
Adjust the timeline for approval of a Natural Resources Inventory/Forest Stand Delineation (NRI/FSD) so that an approved NRI/FSD must be submitted with certain development plans. This change will ensure that high quality forest is properly considered and preserved whenever possible.
- 6. **Eliminate certain CR exemptions. (Support)**
Exclude activities located within the Commercial Residential (CR) zone classification from qualifying for the (s)(1) and (s)(2) FCP exemptions to require forest mitigation for activities in this zone that are currently receiving the highest density but providing the least forest mitigation.
- 7. **Expanding mitigation requirements for "variance trees" to include mitigation for variance trees located within a forest. (Support)**
With the proposed amendment, removal of any variance tree, regardless of whether it is inside or outside of a forest, would require replanting at a minimum ratio of 1 caliper inch replaced for every 4 inches of trunk diameter removed (the Planning Department's current standard for removal of "variance trees" outside of forest).
- 8. **Tighten requirements around forest conservation easements so that they may not be so easily extinguished or relocated. (New addition to strengthen)**
 - a. For all existing forest cover subject to an existing forest conservation easement, the area of forest removed must be reforested at a ratio of 5 acres of forest ecosystem for every 1 acre removed.
 - b. This deterrent allows forest banks time to become mature forest ecosystems, and also keeps forest banks in the sub-watershed where they were originally intended to be planted.
- 9. **Allow landscaping to meet requirements in limited circumstances. (Support)**
Allowing landscaping, including planting trees in rights-of-way, to meet both reforestation or afforestation requirements in equity focus areas, to encourage tree planting wherever possible in areas of the county characterized by high concentrations of lower-income

households, people of color, and individuals who are not fluent in English. Outside of equity focus areas, landscaping on site could be used to meet afforestation requirements and could include landscaping in the rights-of-way.

Additional considerations for Council to support implementation:

- **Increase resources for Forest Conservation Staff.**

We understand and support the need to expand the Planning Department's Forest conservation staff to increase capacity for the department to support applicants and enable conservation of existing forest by creating additional programs, such as connecting applicants seeking off-site mitigation opportunities with property owners willing to protect forest on their properties.

- **Create tax incentives and/or subsidy programs to support forest conservation.**

There may be additional opportunities and resources to further support and encourage additional forest conservation.

The Montgomery County's Forest Coalition's recommendations would strengthen protections for our forests in our now ever-changing environment. More forests coverage would help to reduce stormwater runoff from heavy and frequent storms already happening throughout our region.¹⁰ Tree roots can help hold on to the soil, and trees can infiltrate more rain on site down into the soil instead of causing more runoff that pollutes our streams and rivers and eventually our Chesapeake Bay. Furthermore, trees are a major part of helping us adapt to climate change by reducing urban heat island effects.¹¹ On the mental health side, our trees create natural spaces for all of us to reduce our stress levels and enjoy the natural beauty that surrounds us, something that can be appreciated by all people especially during the pandemic.¹²

II. Analyzing Planning Staff's FCL Recommendations and Comparing to the MoCo Forest Coalition's

Below are some recommended improvements, suggestions, and highlights comparing both Montgomery County Forest Coalition's and the Planning Staff's FCL proposals.

Improvements needed to Planning staff's FCL recommendations.¹³

- **Overall, although Planning staff's FCL recommendations make some important improvements to the existing county's FCL, most of their recommendations are not ambitious enough to truly get the county to "no net loss" and a "net gain" of forests. If**

¹⁰ Samenow J. and Streit D. 2020. Torrential rain triggers widespread flooding in D.C. area, inundating roads, stranding motorists. Washington Post. Available at: <https://www.washingtonpost.com/weather/2020/09/10/dc-area-forecast-tropical-downpours-today-could-produce-areas-flooding/>

¹¹ Eliza Cava. 2019. Climate change makes the pavement problem worse...trees are the best medicine! ANS Conservation Blog. Available at: <http://conservationblog.anshome.org/blog/climate-change-makes-the-pavement-problem-worse-trees-are-the-best-medicine/>

¹² ANS Naturalist Quarterly Autumn 2020. Available at: <https://anshome.org/wp-content/uploads/2020/09/NQ-Autumn-2020.pdf>

¹³ Introduction of proposed 'no net loss of forest' amendments to the Montgomery County Forest Conservation Law and Forest Conservation & Trees Regulations. 4/28/22 Planning Board Public Hearing. Available at: <https://montgomeryplanningboard.org/agenda-item/april-28-2022/#:~:text=Introduction%20of%20proposed%20%E2%80%98no%20net%20loss%20of%20forest%E2%80%99%20amendments%20to%20the%20Montgomery%20County%20Forest%20Conservation%20Law%20and%20Forest%20Conservation%20%26%20Trees%20Regulations.>

the county is truly committed to taking action on climate change, we simply need to do more for our forest ecosystems. Sustainable growth is possible, by focusing growth on the main transit corridors (as is a primary goal of Thrive 2050), but let's then protect the last remaining forest in the county and replant as many trees and create as many mini-urban forests, as possible at the same time. All county residents need and should have access to the best environmental quality in their neighborhood, and that means green, clean, climate resilient neighborhoods with ample housing options for all people.¹⁴ With careful land use planning we can have both, we don't need to keep the very urgent and pressing issues of climate change and housing separate from one another.

- **Forest ecosystems are not prioritized in Planning staff's FCL proposal.** This is a major difference from the MOCO Forest Coalition's proposal, which focuses on supporting and protecting whole forest ecosystems. Planning Staffs' recommendation doesn't specify this and only suggests protecting "forest ecosystems as an alternative." The MOCO Forest Coalition's proposal would establish *all* remaining forests as priority forest. Numerous studies show the importance of protecting whole forest ecosystems for their multiple ecological benefits both now and into the future.^{15,16,17} Council should not underestimate the power forests have to mitigate the worst impacts of climate change and need to act now by implementing the strongest FCL measure possible.
- **The MOCO Forest Coalition's replanting ratios are higher than those in the Planning staff's FCL proposal.** The MoCo Forest coalition compared the two proposals, ours and the Planning Staff's proposal and we found the following differences in terms of replanting ratios and preserving priority forest areas. See ratio comparison in the chart below (and longer FLC comparison chart attached). Even in the case where Planning staff is proposing a higher replanting ratio of 2.5:1 for replanting outside watershed, there is no mechanism in place to enforce that a developer would plant outside the watershed.

Highlights to Planning Staff's FCL recommendations.¹⁸

- **Reforestation and afforestation requirements are centered and prioritized in equity focused areas.** This is an excellent recommendation and one which lines up with the county's climate action plan. The additional recommendation here would be to incorporate more community-based decision-making processes to help community members be part of the decisions of how and where they can see more trees and forests in their communities too.
- **Increasing maintenance requirements.** This is a plus as young trees can be impacted by multiple barriers in their first 5 years of life which can impact their longer livelihood. Increasing provisions around tree maintenance will help expand their lifetime. The additional recommendation in this provision would be to ensure that the county promotes the establishment and protection of forest in the long run. The

¹⁴ ANS's Thrive 2050 comments. Available at: <https://conservationblog.anshome.org/tag/thrive-2050/>

¹⁵ IUCN. 2019. Restoring Forest ecosystems provides multiple benefits to society. Available at: <https://www.iucn.org/news/europe/201905/restoring-forest-ecosystems-provides-multiple-benefits-society>

¹⁶Earth Eclipse. 2022. Why are Forests Important? Available at: <https://earthecclipse.com/environment/importance-of-forests.html>

¹⁷ USDA. Forest Ecosystem Services. Available at: <https://www.fs.usda.gov/ccrc/topics/ecosystem-services>


¹⁸ Introduction of proposed 'no net loss of forest' amendments to the Montgomery County Forest Conservation Law and Forest Conservation & Trees Regulations. 4/28/22 Planning Board Public Hearing. Available at: <https://montgomeryplanningboard.org/agenda-item/april-28-2022/#:~:text=Introduction%20of%20proposed%20%E2%80%98no%20net%20loss%20of%20forest%E2%80%99%20amendments%20to%20the%20Montgomery%20County%20Forest%20Conservation%20Law%20and%20Forest%20Conservation%20%26%20Trees%20Regulations.>

Montgomery County Forest Coalition during Planning Staff's "No net Loss" meetings, proposed the idea of planning small urban forests using the Miyawaki method which is a method of increasing and incentivizing urban forest growth with a rich biodiversity that supports ecosystems.¹⁹ The Miyawaki urban forest method should be explored and incorporated in more ways as part of FCL updated recommendations.

On behalf of ANS and our 28,000 members and supporters, we recommend that the County Council supports and takes into consideration Montgomery County's Forest Coalitions stronger forests ecosystem recommendations. We urge the County Council to consider Montgomery County Forest Coalition's recommendations and pass the strongest possible amendments to the existing forest conservation law to protect our forests, our communities, and build a climate resilient future.

Sincerely,
Denise Guitarra
MD Conservation Advocate
Audubon Naturalist Society

¹⁹ Miyawaki method. Urban forests. Available at: <https://urban-forests.com/miyawaki-method/>



Montgomery County Forest Coalition Top Recommendations for Updates/Amendments to MoCo Forest Conservation Law (FCL) Updated August 2022

1. Protect existing Forest Ecosystems.*

All remaining pre-existing Forests in MoCo are to be designated & treated as priority forest in FCL. First priority is to protect existing forest ecosystems.

- All remaining forest cover is considered priority and may only be removed upon appropriate findings by the Planning Director or Planning Board.
- Certain types of forests may only be removed with a variance granted by the Planning Board or Planning Director. Types of forests and trees that would receive a stronger level of protection and require a variance to be removed include forested: Floodplains; Stream Buffers; Forested Stream Buffers along Ephemeral Streams; Steep Slopes; Critical Habitats; Contiguous Forests; Forest Connective Corridors; Rare, Threatened, & Endangered Species; Historic Site trees; Champion Trees and other exceptionally large trees; areas designated as “Priority Save Areas” in Master Plan or any Functional Plan.
- Forest removal subject to a variance must be replaced with forest ecosystem at a 2:1 ratio.

2. Strengthen replanting ratios to ensure no-net-loss.*

- Re-planting requirement strengthened from $\frac{1}{4}$ acre planted for every 1 acre removed to 2 acres forest ecosystem planted for every 1 acre removed; or
- Re-planting requirement strengthened from $\frac{1}{4}$ acre planted for every 1 acre removed to 1 acre forest ecosystem planted for every 1 acre removed, with no retention credit.
- Require that at least 75% of the re-planting requirement be satisfied by the newly re-planted forest ecosystem.

3. Strengthen Watershed Considerations.*

For meeting afforestation and reforestation requirements, areas obtained outside the County or outside the sub-watershed where forest was removed for development, the requirement shall be that existing forest retained through forest mitigation bank shall be at a 4:1 ratio, or replanting of forest ecosystem shall be done at a 2:1 ratio .

4. Strengthen Re-planting requirements to require the planting of Forest Ecosystem, not just trees.*

When what’s being removed is forest ecosystem, what’s being replaced should be forest ecosystem as well. Reforestation or afforestation of forest ecosystem includes consideration of, payment for, and maintenance to establish the following in the re-planting: healthy soil; drainage; healthy fungi in the soil; healthy micro-biotic communities in the soil; biomass; groundcover; shrub layer; tree understory layer; tree canopy layer; diversity of different types of trees and plants.

+ = MOCO FOREST COALITION RECOMMENDATION

^ = MOCO FOREST COALITION, PLANNING DEPARTMENT, AND PLANNING BOARD RECOMMENDATION

* = MOCO FOREST COALITION RECOMMENDS STRONGER REQUIREMENTS THAN PLANNING DEPARTMENT AND PLANNING BOARD

5. Forest stand delineation must be evaluated & submitted to Planning prior to submitting any application plan for development of a site.^

Adjust the timeline for approval of a Natural Resources Inventory/Forest Stand Delineation (NRI/FSD) so that an approved NRI/FSD must be submitted with certain development plans. This change will ensure that high quality forest is properly considered and preserved whenever possible.

6. Eliminate certain CR exemptions.^

Exclude activities located within the Commercial Residential (CR) zone classification from qualifying for the (s)(1) and (s)(2) FCP exemptions to require forest mitigation for activities in this zone that are currently receiving the highest density but providing the least forest mitigation.

7. Expanding mitigation requirements for “variance trees” to include mitigation for variance trees located within a forest.^

With the proposed amendment, removal of any variance tree, regardless of whether it is inside or outside of a forest, would require replanting at a minimum ratio of 1 caliper inch replaced for every 4 inches of trunk diameter removed (the Planning Department’s current standard for removal of “variance trees” outside of forest).

8. Tighten requirements around forest conservation easements so that they may not be so easily extinguished or relocated.+

- For all existing forest cover subject to an existing forest conservation easement, the area of forest removed must be reforested at a ratio of 5 acres of forest ecosystem for every 1 acre removed.
- This deterrent allows forest banks time to become mature forest ecosystems, and also keeps forest banks in the sub-watershed where they were originally intended to be planted.

9. Allow landscaping to meet requirements in limited circumstances.^

Allowing landscaping, including planting trees in rights-of-way, to meet both reforestation or afforestation requirements in equity focus areas, to encourage tree planting wherever possible in areas of the county characterized by high concentrations of lower-income households, people of color, and individuals who are not fluent in English. Outside of equity focus areas, landscaping on site could be used to meet afforestation requirements and could include landscaping in the rights-of-way.

Additional considerations:

• Increase resources for Forest Conservation Staff.^

We understand and support the need to expand the Planning Department’s forest conservation staff to increase capacity for the department to support applicants and enable conservation of existing forest by creating additional programs, such as connecting applicants seeking off-site mitigation opportunities with property owners willing to protect forest on their properties.

• Create tax incentives and/or subsidy programs to support forest conservation.^

There may be additional opportunities and resources to further support and encourage additional forest conservation.

+ = MOCO FOREST COALITION RECOMMENDATION

^ = MOCO FOREST COALITION, PLANNING DEPARTMENT, AND PLANNING BOARD RECOMMENDATION

* = MOCO FOREST COALITION RECOMMENDS STRONGER REQUIREMENTS THAN PLANNING DEPARTMENT AND PLANNING BOARD



October 3, 2022

Subject: Please Strengthen Bill 25-22

Dear Councilmembers,

Thank you very much for considering Bill 25-22 to strengthen laws in order to protect our County's forests and enhance our tree canopy.

However, it is crucial that you all recognize that the bill needs to be strengthened in order to meet these objectives. It is not enough to be aspirational about protecting forests and tree canopy. We must be smart about how to achieve these goals. It's time to rethink current practices in a fundamental way.

So, to protect our forests and enhance our tree canopy, I strongly urge you to amend the bill based on the reasonable and comprehensive recommendations of the experts of the Montgomery County Forest Coalition. I believe the Forest Coalition has submitted its recommendations for the hearing and will be testifying.

I'd like to draw your attention to some key points:

- **Protecting existing forest ecosystems should be the top priority.** It is impossible to replace a mature tree - let alone a mature existing forest ecosystem. We must recognize that removal of existing forest ecosystems will mean considerable carbon release, diminished or eliminated future carbon capture, poorer air quality, higher temperatures, and reduced storm water management capacity both on the ground's surface and in the ground.
- **Strengthen replanting ratios to ensure no net loss.** Replanting ratios now in place and currently under consideration fall far short of delivering a no net loss outcome. Strengthen replanting requirements so that the replanting of forest ecosystems is required – not just the replanting of trees. County laws, regulations and practice must start to recognize in a significant way that what we're addressing here is an entire ecosystem, not just a few trees.
- **Strengthen Watershed Considerations.** The MCFC recommends strengthening ratios connected to afforestation and reforestation requirements outside the watershed where a forest or forest ecosystem were removed.
- **I personally urge the Council also to add language that would maximize the possibility that replanting is done in the watershed or subwatershed directly affected.** We have experienced time after time the negative effects of not doing local mitigation. I think it is fair to say that local livability and walkability have become worse under current laws and regulations. You can see this in increased effects on our urban heat island, air quality, stormwater and ground water management (how many more mysterious wet basements have you been hearing about?) and more noise.
- **I urge the Council to strengthen requirements for removing trees and increase tree protections in our urban areas.** There are many compelling reasons for doing this, but one critical reason is to reduce urban heat island effects. Recently, volunteers for the Friends of Sligo Creek (FOSC) undertook an urban pedestrian heat mapping exercise. Large differences were seen between tree shaded surfaces and the same surfaces in full sun on a warm summer's day. Some differences were as

large as 40 degrees. The surfaces receiving full sun were very hot, well over 100 degrees. Tree shade makes a very big difference in livability and walkability.

- **In my view, the County should require reasonable calculations of the net negative effects of not protecting forest ecosystems, not enhancing tree canopy and not protecting smaller numbers of trees.** Through these calculations, there will be better understanding for policymakers and residents plus increased transparency about the true costs of removing forest ecosystems and diminishing tree canopy.

I am writing in my personal capacity, but am an active member of the Friends of Sligo Creek (co-founder of the Water WatchDog Program and member, Water Quality Committee) and SOECA (head of the Environment Committee).

Thank you for your consideration.

Sincerely,

Anne Vorce

Silver Spring

October 2, 2022

Hon. Gabe Albornoz
President, Montgomery County Council
Stella Werner Council Office Building
100 Maryland Avenue
Rockville, MD 20850

Re: Bill 25-22, proposed changes to Chapter 22A. Forest Conservation Law & Chapter 22A- Forest Conservation Trees Regulations of the Montgomery County Code

Dear President Albornoz and Councilmembers,

The Maryland Building Industry Association (MBIA) is submitting testimony in response to Bill 25-22, the proposed changes to Chapter 22A- Forest Conservation Law ("Forest Law") & Chapter 22A- Forest Conservation Trees Regulations ("Trees Regulations") of the Montgomery County Code. The MBIA appreciates the opportunity to offer the following comments on the proposed changes to the forest law.

MBIA understands the importance of maintaining healthy forest and tree canopy for future generations. MBIA also understands that this need must be carefully balanced with other policy objectives and is concerned that the proposed changes do not:

1. Acknowledge that over the last decade development in Montgomery County achieved no net loss of forest and that far less changes than proposed are necessary to continue to meet no net loss of forest in the future.
2. Consider the impacts that the proposed changes will have on redevelopment, which is needed to build resiliency in the face of climate change and address the housing shortage and affordability crisis.
3. Provide incentives for enhancing the quality of existing forest in addition to quantity since increased requirements will require conservation of forest regardless of quality.

Achieving No Net Loss

The goal of the initiative is to achieve No Net Loss of Forest in Montgomery County. Data that tracks the Forest Law presented by the planning department at a December 1st stakeholder meeting shows that over the last decade (2011-2021) Montgomery County lost 112 acres of forest over a ten-year period.

Data Presented by the Planning Department- December 1, 2021

From 2011-2021 projects subject to the Montgomery County Forest Conservation Law:

- Cleared **805 acres** of forest
- Planted (and protected) **693 acres** of forest
- Protected **2,685 acres** of pre-existing forest
- Planted and protected a total of **3,378 acres** of forest

The MBIA has identified several projects with master plan or SPA requirements, or projects related to forest banking that were too recent to have been included in the data. Specifically, two projects within the limited master plan amendment for 10-mile creek will plant approximately 97 acres of forest above what is required by Chapter 22A Forest Law (Creekside at Cabin Branch (820200160)- 82+/- acres & Ashford Woods (820210110)- 15+/- acres). Mt Prospect (82017016 B) in Darnestown MD, provides around 4+/- acres of planting required by the master plan that was not counted because it may be placed in a mitigation bank. In this case the applicant retained the right to pursue banking in the future but may not exercise that option. Similarly, 10+/- acres of planted mitigation banking credit in the MDR Phase II Forest Mitigation Bank (FB2013003) was not approved for sale until 2022. Forest banks are planted and exist as forest before the credit is debited. These are just four projects that taken together close the 112-acre gap.

Additionally, an analysis contained in the staff report for the April 28th planning board hearing analyzed the impacts of the proposed changes over 15 recent projects. The analysis showed of the 15 projects analyzed 50.22 acres of mitigation was provided for the removal of 15.52 acres of forest. That is 223% more mitigation than forest removed.

Table 2: Summary of 15 projects with Forest Conservation Plans, comparing current requirements with requirements resulting from proposed 'No Net Loss of Forest' Amendment to Montgomery County Forest Conservation Law

	Forest Conservation Law Effective 2/22/21	Proposed Amendment to the Forest Conservation Law as of 4/28/22
Total Forest Removed (from 7 of 15 projects)	15.52 acres	15.52 acres
Total Forest Mitigation Required for 7 Projects that Removed Forest	14.95 acres	Within same or priority watershed: 17.58 acres Outside same or priority watershed, within county: 25.24 acres
Total Forest Mitigation Required for all 15 Projects	50.22 acres	Within same or priority watershed: 58.79 acres Outside same or priority watershed, within county: 66.35 acres

Master plan and SPA requirements that require unforested stream valley buffers be planted in addition to the requirements of the Forest Law add significant amounts of forest. An amendment contained in the proposed regulations expands this to require all unforested stream valley buffers be planted regardless of master plan or SPA requirement (22A-12 (e) (1) (B)), which could achieve no net loss into the future.

Impacts of the Proposed Changes

The proposed changes are not necessary to achieve “No Net Loss of Forest”. However, the additional regulatory costs and hurdles the proposed changes will create will result in a net loss in housing and affordability.

In 2019, the county’s housing targets contained in its new economic development strategy were based on COG’s report, as well as research from the Urban Institute projecting Montgomery will need 23,100 low-cost units, 18,100 mid-cost units, and 6,300 high-cost units.” Roughly 43,000 units by 2030. This amount of housing is not being achieved for a variety of reasons including a lack of developable land, increased land development costs, supply chain issues, and regulatory hurdles.

The future of development in Montgomery County is different than other Maryland jurisdictions. Development is increasingly urban, infill, and redevelopment. Adjusting thresholds and planting ratios impacts these types of projects differently than greenfield projects on agricultural and forested sites prevalent in other counties. The handful of greenfield projects that remain already must comply with other master plan and special protection area (SPA) requirements of development that increase forest cover in addition to the requirements of the Forest Law.

Forest Conservation Law Framework

The forest law was developed in the mid to late 1990’s to balance forest conservation with development, particularly on the larger greenfield projects. To understand the implications of adjusting threshold percentages and planting mitigation ratios it helps to begin with a brief explanation of the laws components and how they work to determine mitigation requirements.

Beginning with a Natural Resources Inventory (NRI), a forest stand delineation characterizes the size, composition, and overall health of each forest stand and inventories other natural features on the site such as streams, wetlands and associated buffers, and floodplains to see how they relate. The NRI provides the base map that is used to avoid impacts to high priority forests and identify high priority areas to plant new forest.

After the NRI is a Forest Conservation Plan. To determine forest conservation requirements a worksheet provided by the planning department is completed. Components of the worksheet includes:

- Net Tract Area
 - The net tract area includes the overall site boundary and is increased to include disturbances outside of the site boundary.
 - Thresholds are based on the net tract area.
- Conservation Threshold
 - Development on sites that contain existing forest are subject to a conservation threshold. The conservation threshold is a percentage of the net tract area and varies based on Land Use Category.
 - The conservation threshold is a means to conserve forest on sites with existing forest.
- Planting Mitigation Ratios
 - Clearing forest below the conservation threshold requires 2 acres of mitigation for each acre cleared (2:1 ratio).
 - Clearing a certain amount above the conservation threshold requires ¼ acre of reforestation for each acre cleared (¼:1 ratio).
- Afforestation Threshold

Written testimony on behalf of MoCo Climate Action Plan Coalition
by Lucy McFadden

Thank you President Alborno for introducing [Bill 25-22](#) and for the opportunity to testify in support of Forest Conservation. I am a retired NASA-scientist, a volunteer Maryland Naturalist and testifying on behalf Montgomery County Climate Action Plan (CAP) Coalition. We examined the bill for its alignment with [Montgomery County Forest Coalition's priority recommendations](#) which CAP Coalition endorses.

Ours is a network of 15 local organizations and many individuals advocating to reduce greenhouse gas emissions 80% by 2027 and 100% by 2035, and to build resilience to impacts of climate change for County residents. Conservation of forests contributes to sequestration of carbon, and the presence of trees and contiguous greenways plays a vital role protecting our waterways, cooling rising air temperatures, enhancing our communities, and promoting the well-being of its residents.

As reported in [Bethesda Beat \(July 9, 2022\)](#) “Newly released data from the Chesapeake Conservancy and Chesapeake Bay Program show that Montgomery County has lost over 650 acres of forest to newly constructed roads, rooftops, and lawns, while adding only 100 acres of forest in recent years. Another 1800 acres has been fragmented or otherwise impacted by development, making it vulnerable to invasive vines, deer, and other threats” due to land use change between 2013 to 2018.

The CAP Coalition supports all the priority recommendations put forward by the Montgomery County Forest Conservation Coalition, referenced below. Our testimony focuses in particular on priority #2, [Strengthening replanting ratios to ensure no-net loss \[of forest ecosystem\]](#).

1. In the draft bill, the replanting ratio for areas below the forest conservation threshold (see table p.20 of [Bill 25-22](#)) is 2 acres replanted for every 1-acre removed. Bravo for this requirement. If forest on a tract above the conservation threshold is removed, the replanting ratio is 1/2-acre replanted for every 1-acre removed. While this is intended as an incentive for developers not to remove forest, it is likely to lead to fragmentation of forest cover and can still lead to net forest loss. **We ask the Council to consider a 1:1 replacement of forest when cleared above the conservation threshold and to address how the success of this approach will be monitored and evaluated.** If this approach doesn't work, and there is net loss of forest, as has been the case for every year for more than a decade, the damage is done, and it will take years to recover from forest loss that will not be replaced at the same or greater rate than it is cleared.
2. We understand that the planning board sees granting landscaping in existing high-density areas where there may not be room to reforest as contributing toward beneficial afforestation. However, landscaping alone does not sufficiently mitigate the deleterious effects of heat islands nor provide other benefits that come with neighborhood trees. **We ask that this provision be considered carefully and ensure that this landscaping provision doesn't defeat the goal of providing equitable benefits of trees in vulnerable communities where trees are most needed.** It is those communities that suffer the greatest from the urban heat island.
3. The concept of a *forest ecosystem* is critical to the sustainability of forests and the establishment of healthy future forests, yet the term “forest ecosystem” does not appear in the definitions, nor in the draft bill's amendments. The term appears only once, in the proposed revised regulations (p.92). **The concept of forest ecosystem merits incorporation throughout the bill.**

4. We understand there are discrepancies in measuring and reporting gains and losses of forest cover among organizations and the county's planning board's calculations. **We suggest that the Council ensures that in addition to calculations derived from permitting alone that measurements from geographic information systems (GIS) data, measured over time,** also be used. [The Chesapeake Bay Program's Land Use/Land Cover Project is one example of available GIS data](#), based on U.S. Geological Survey data, that provides high resolution data that when accompanied with knowledgeable analysis provides a more complete result compared to use of permit data alone.
5. Additionally, there are places in the proposed bill where vague language is used that effectively dilutes the law and makes some parts impossible to enforce. Examples include:
 1. line 189 "**make a reasonable effort** to minimize land disturbance..."
 2. lines 238-240 "**to the extent practicable**, entities providing public utilities...in a manner that avoids identified conservation areas and minimize tree loss."
 3. line 506 "**preferred sequence**" for afforestation and reforestation...

In summary, we recognize and applaud areas where the bill adds reforestation and afforestation requirements however net-loss of forest cover and fragmentation of green spaces will continue under this bill as currently written.

Our points noted above are intended to ensure that this bill has the intended positive outcomes that the County's government and its residents desire: to protect our forests and bring us toward a carbon-neutral county by 2035, and that provides equitable protections from the worst impacts of climate change, especially for our most vulnerable communities.

Respectfully submitted on behalf of MoCo Climate Action Plan Coalition,
Lucy McFadden
Oct. 3, 2022

References

1. Montgomery County Forest Coalition Top Recommendations for Updates/Amendments to MoCo Forest Conservation Law (FCL) August 2022. https://conservationblog.anshome.org/wp-content/uploads/2022/09/FCL-Handout_final.pdf
2. *Opinion: Montgomery County must update and strengthen its outdated forest protections Reforestation among best ways to mitigate climate change.* Bethesda Beat, July 9, 2022, at: <https://bethesdamagazine.com/2022/07/09/montgomery-county-must-update-and-strengthen-its-outdated-forest-protections/>
3. Montgomery County Climate Action Portal- <https://montgomerycountymd.gov/climate/> and its Climate Action Plan <https://montgomerycountymd.gov/climate/Resources/Files/climate/climate-action-plan.pdf>
4. Chesapeake Conservancy, Conservation Innovation Center's high resolution land cover data and tools. <https://www.chesapeakeconservancy.org/conservation-innovation-center/high-resolution-data/lulc-data-project-2022/>

- Sites with little or no existing forest must plant new forest up to an afforestation threshold.
- This threshold is currently 20% for lower density land use categories and 15% for higher density land use categories.
- Based on existing site conditions and/or the amount of clearing required, Forest conservation requirements must be met as prioritized:
 - Conserve forest on-site
 - Plant forest on-site
 - Plant forest off-site
 - Purchase credit from a forest mitigation bank
 - Pay in-lieu fee (\$1.30 per SF, adjusted bi-annually based on the CPI)

Proposed Changes

The proposed threshold changes (in blue) to the forest law are as follows:

- increases to conservation thresholds
- increases to afforestation thresholds (removed by Planning Board in red)

Forest Conservation Threshold and Requirement Afforestation as a Percentage of net Tract Area			
Land Use Category	Forest Conservation Threshold	Required Afforestation Net Tract Area > 5 acres	Required Afforestation Net Tract Area < 5 acres
Agricultural and resource areas	50% 55%	20%	20%
Cluster medium-density residential areas	45%	20%	20%
Medium-density residential areas	25% 35%	20%	20%
Institutional development areas	20% 25%	15% 20%	20%
High-density residential areas	20%	15%	20%
Mixed-use development areas	20%	15%	20%
Planned unit development areas	20%	15%	20%
Commercial and industrial use areas	15%	15%	20%

- an increase in the mitigation ratio for clearing above the conservation threshold
 - (¼:1 increased to ½:1)

In addition, changes to mitigation planting ratios that are additive to the requirements above include:

- a mitigation planting increase from 2:1 to 2 ½ :1 for clearing below the conservation threshold when mitigation cannot be provided in the same 8-digit watershed
- a mitigation planting increase from ½:1 to 1:1 for clearing above the conservation threshold when mitigation cannot be provided in the same 8-digit watershed
- the 77% market rate increase as of April 2022 in the cost mitigation banking, if available, due to the impacts of state bill HB 991

- In-lieu fee based on increased planting ratios because the Planning Department cannot guarantee that the county will be able to provide mitigation in the same watershed as the project.

In Practice

Conservation Threshold- Above the Threshold

The proposal to increase the conservation threshold on medium density residential areas and the addition of a new land use category for cluster medium density residential areas combined with a doubling of the mitigation planting ratio for clearing above the conservation threshold will increase mitigation quantities for these types of developments. These types of residential development are increasingly rare in Montgomery County. Instead, this revision will mostly impact institutional developments increasing mitigation requirements and costs to construct new public schools and religious institutions.

Conservation Threshold- Below the Threshold

The conservation threshold has an outsized impact on redevelopment sites. Using a recent Montgomery County redevelopment project as an example, this site contained existing forest in an amount at or below the conservation threshold. The forest was located along the edges of the site and directly in the middle and required clearing to redevelop the site as envisioned in the master plan, to provide master planned roadways, tie into existing utilities, and make connections to existing roads. When forest was cleared below the conservation threshold it required mitigation at a 2:1 ratio. Planting twice as much forest than what previously existed on an urban redevelopment site is unrealistic and typically results in mitigation requirements being met through the purchase of forest bank credit or payment of in-lieu fee.

Finding credit in a mitigation bank is much more difficult due to a 2021 change to the state forest conservation law eliminating the ability to bank preserved forest, severely limiting the amount of available forest banking in the county. Revisions to the forest conservation law should consider the need to redevelop sites and take into consideration the benefits of redevelopment in terms of water quality improvements and resiliency gained by storing stormwater and treating it to modern water quality standards and increases in tree canopy.

On the example project, as approved, 5.78 acres of forest clearing required 11.74 acres of mitigation. Under current regulations and prior to HB 991 the cost of mitigation was anticipated to be \$305,240. If the available banking in the same watershed, the proposed regulations would increase the mitigation required to 14.68 acres and could increase the cost to provide mitigation by around a half million dollars to over \$800,000. As time goes on there simply won't be enough land to meet the requirements of the law.

Afforestation Threshold

Prior to the Planning Board hearing the MBIA was very concerned with the proposal to increase the afforestation requirement on most dense land use categories on sites less than 5 acres. Increasing afforestation thresholds on small urban sites does not make sense environmentally. The requirement essentially mandates small, fragmented patches of forests in urban areas (ex. 1 acre of forest on a 5-acre

site). By requiring such a small amount of forest on a small site it encourages sprawl to meet market demand because 20% of the site is taken up by newly planted forest. In practice, mitigation would likely have been provided via in-lieu fee adding costs to development and placing the burden of planting forest on the county.

Increased Mitigation by Watershed

On top of the increases to thresholds and planting ratios as discussed above is a proposal to increase mitigation ratios based on whether planting or the purchase of mitigation banking credit is provided in the same 8- digit watershed. If mitigation cannot be provided in the same watershed, clearing below the conservation threshold increases from 2:1 to 2 ½:1. Clearing above the conservation threshold increases from ½:1 to 1:1. As of April 2022 only 10 acres of mitigation banking credit is currently available in the entire county.

Mitigation banks and opportunities to provide off-site forest within the same watershed have historically been limited to non-existent down county and mid-county. One of the outcomes of the stakeholder meetings was to acknowledge this and allow mitigation in a priority watershed to avoid increases in planting ratios. However, at this time it is our understanding that these priority watersheds have not been delineated or defined. Increasing the mitigation ratios for not being able to provide mitigation in the same 8-digit watershed will not increase forest in these watersheds. Instead, it will increase the amount of in-lieu fee payments and burden placed on the county to provide the mitigation.

The MBIA does not support additional increases for mitigation by watershed because forest banking credits and off-site planting opportunities have historically been limited to unavailable in the most urban areas where redevelopment needs to occur and is not necessary to achieve no net loss.

Forest Mitigation Banking

Forest mitigation banking has been a vital component of the Forest Law since its inception twenty years ago and historically consisted of the preservation of existing high priority forest, often large contiguous tracts protected in perpetuity in addition to newly planted forest. Forest credit based on preservation was purchased at a 2:1 ratio and forest credit based on planted forest at a 1:1 ratio. In 2021 the state of Maryland prohibited the creation of new forest banks based on preservation severely limiting forest banking as an option in Montgomery County. Before State Bill HB 991 banking credit could be purchased at a market rate of \$26,000 per acre in Montgomery County. Now what little mitigation is available costs around \$46,000 per acre as of April 2022.

In Lieu Fee

The last option to meet mitigation requirements after forest mitigation banking is in-lieu fee. In-lieu fee cost more than forest mitigation banking at \$1.30 per sf or \$56,628 per acre and typically increases every two years based on the consumer price index. Significantly, the proposal to increase mitigation planting ratios for reforestation provided outside of the same 8-digit watershed means that the in-lieu fee rate will be based on the worst-case scenario because the planning department cannot guarantee that the mitigation planted provided by the in-lieu fee can be provided in the same watershed as the project.

Conclusion

In summary, except for (22A-12 (e) (1) (B)) all the proposed revisions are not necessary to achieve No Net Loss of Forest, will make redevelopment more costly and difficult to implement. We appreciate the opportunity to provide comments and look forward to working with the county on solutions that achieve no net loss without creating unnecessary obstacles to the development of housing.

Comments on specific sections of the code proposed to be revised are as follows:

1- Forest Law 22A-11 (b) (1)- Application, review, and approval procedures., Project requiring development plan, floating zone plan, project plan, sketch plan, preliminary plan of subdivision, or site plan approval.

- a. The proposed requirement to obtain an approved forest stand delineation plan before the applicant can submit an application instead of with, as is the current regulation is problematic for the same reasons discussed and eventually agreed to in public comments provided to Park and Planning in the Spring of 2017.

“Per Section 7.3.3 Sketch Plan A (2), “A sketch plan describes a project at an early stage to provide the public and the Planning Board the chance to review a proposed development for general design, density, circulation, public benefits, and relationship to the master plan before a developer is required to expend significant resources on design and engineering.” Currently a Natural Resource Inventory/Forest Stand Delineation (NRI/FSD) is submitted concurrently with a Sketch Plan application and is required to be approved before the approval of the sketch plan. Requiring the NRI/FSD to be not only submitted but also approved prior to the submittal of a sketch plan adds additional costs and process at an even earlier stage in the process, which is inconsistent with the purpose of the sketch plan. Additionally, the time delay adds to the cost of doing business by delaying the start of the sketch plan review by several months and potentially adding to the carrying costs of the property.”

In practice, since NRI’s are required to be submitted with any application the field work needed to complete the NRI and compile the data used to create the base map that proposed improvements shown on any development plan, floating zone plan, project plan, sketch plan, preliminary plan of subdivision or site plan are based on occurs as intended with enough time to factor in the preservation of sensitive environmental areas and priority forests. Additionally, the requirement of a licensed forester, licensed landscaper architect, or Qualified Forest Conservation professional requires the plan preparer to abide by a code of ethics or risk losing the privilege to prepare these plans in addition to other penalties. Any differing interpretations or accidental omissions identified by an environmental reviewer during the review process that may impact the proposed improvements can be easily coordinated while all plans are being reviewed simultaneously. Requiring an

approved NRI prior to submittal simply delays the overall entitlement process adding unnecessary time and risk.

2- Forest Law 22A-12 (a)- Retention, afforestation, and reforestation requirements., Table.

- a. See previous comments provided above to understand the implications of changing conservation and afforestation thresholds on projects and why it is not necessary to achieve no net loss.

3- Forest Law 22A-12 (c) (1) & (2)- Retention, afforestation, and reforestation requirements., Reforestation

- a. See previous comments provided above to understand the implications of increasing planting ratios for clearing above the conservation threshold and for meeting mitigation requirements in other watersheds when mitigation options are not typically available in Areas 1 and 2.

4- Forest Law 22A-12 (d) (2)- Retention, afforestation, and reforestation requirements., Afforestation

- a. This proposed revision changes the requirement to provide afforestation, when required onsite, from should to must. As discussed above there are numerous instances, particularly for redevelopment projects, where it does not make sense environmentally to plant small, fragmented patches of forest on urban sites. Changing the standard from “should” to “must” opens these projects up to appeals and challenges that could otherwise be avoided by keeping the language the same.

5- Forest Law 22A-12 (e) (1) (B)- Retention, afforestation, and reforestation requirements., Standards for Afforestation and Reforestation

- a. As discussed at the beginning of this comment letter, the Master Plan and SPA requirements to afforest unforested stream valley buffer has resulted in no net loss due to development over the 10 years. This revision expands this requirement to all projects regardless of master plan or SPA requirement.

6- Forest Law 22A-12 (e) (4)- Retention, afforestation, and reforestation requirements., Standards for Afforestation and Reforestation

- a. Mitigation banks and opportunities to provide off-site forest within Areas 1 and 2 have historically been extremely limited to non-existent. Increasing the mitigation ratios for not being able to provide mitigation in the same 8-digit watershed will not increase forest in these watersheds. Instead, it will increase the amount of in-lieu fee payments and burden placed on the county to provide the mitigation.
- b. Adding a requirement to satisfy mitigation and afforestation requirements in the same 8-digit watershed in which a project is located, in addition to changing the standard from “may” to “must” opens these projects up to appeals and challenges that could otherwise be avoided by keeping the language the same. Furthermore, the pricing for mitigation banking is set by a market rate. Adding requirements that constrain the supply from which credits can be purchased increases the market rate based on availability.

7- Forest Law 22A-13 (g) (3)- Forest Mitigation Banks, Purchasing and selling forest mitigation bank credits.

- a. Mitigation banks and opportunities to provide off-site forest within Areas 1 and 2 have historically been extremely limited to non-existent. Increasing the mitigation ratios for not

being able to provide mitigation in the same 8-digit watershed will not increase forest in these watersheds. Instead, it will increase the amount of in-lieu fee payments and burden placed on the county to provide the mitigation.

- b. Adding a requirement to satisfy mitigation and afforestation requirements in the same 8-digit watershed in which a project is located, in addition to changing the standard from “may” to “must” opens these projects up to appeals and challenges that could otherwise be avoided by keeping the language the same. Furthermore, the pricing for mitigation banking is set by a market rate. Adding requirements that constrain the supply from which credits can be purchased increases the market rate based on availability.

8- Considerations for previously approved projects that require an amendment

- a. The MBIA recommends MNCPPC clarify how they plan to implement the proposed changes on projects or sites that were previously approved and designed based on the requirements of the current Forest Law if those projects or sites are required to be amended. For example, individual property owners with forest violations could be significantly impacted by the increased costs to provide mitigation to bring their property back into compliance. Amendments are done for a variety of reasons and a lack of grandfathering and/or clarifications to the applicability of how amendments will be treated could result in inconsistent application of the law or unintended consequences and costs associated with the amendment.

MBIA appreciates the opportunity to provide comments on the proposed changes and are available to answer any questions that you may have. We also appreciate the work done by planning and council staff in preparing these proposed changes.

Griffin Benton
Vice President, Government Affairs

Matthew Wessel, PLA, ISA Certified Arborist
Chair, MBIA Environmental Committee



TO: Montgomery County Council Chair Albornoz and Councilmembers
FROM: Friends of Sligo Creek, Kit Gage, Interim President and Advocacy Director
October 4 hearing, 2022

RE: Forest Conservation Bill 25-22

Friends of Sligo Creek or FOOSC, is a nonprofit community organization dedicated to protecting, improving, and appreciating the ecological health of Sligo Creek Park and its surrounding watershed. We support the Forest Conservation Bill 25-22, but in order for the County to get to No Net Loss of Forests, the bill must be strengthened. As an active member of the Montgomery County Forest Coalition, we fully support all of the Coalition's recommended improvements to the bill. Further, we as a Coalition worked cooperatively with the Planning Department and support their efforts, yet in key areas recommend strengthening amendments to get to a goal we all share.

Here are two specific recommendations:

- 1. The county should have specific strong requirements for forest preservation so developers know, in advance of developing site plans, what forested areas they must preserve and costs of planting on or offsite forests if they choose to develop that site.**

Too often owners, developers and architects will come to a project knowing what they want to do in a way that is site irrelevant. This could be called the Clean Slate Mode of development. Increasingly, it's clear that if we are to preserve forests, the requirements for forest preservation should be in place **before** plans are created. This will save time and money for developers, and will save trees and forests.

EXAMPLE:

Gough property disposition 10/7/2013 120140010.

FOOSC testified to maintain what was a small but climax forest, with 8 designated specimen trees, and a rate of tree canopy of 235 trees/acre. It was right across the street from Sligo Creek Park and the Creek, itself, and arguably at least partly in the flood plain. The 2012 Tree Canopy Conservation law, whose stated purpose was to save, maintain and establish tree canopy, didn't save this forest. We asked that the forest not be subdivided into 4 plots for single family houses. Planning compromised by creating 3 plots and requiring a very small patch be reserved from development. Two of the smaller plots were clearcut, dug deep, and covered virtually entirely impervious surface. The seller and potential developer of the plot weren't happy and neither were we.

Just weeks ago, the third and largest of three plots finally began construction. The first thing that was done was to entirely clearcut the lot. Large canopy trees, including one significant one only 2-3 feet from the side property line were cut down. Soil was churned up over the entire lot. Neighbors were aghast.

But under existing law, we had done what we could. No minimization of tree or forest removal was required. No forest was saved but the tiny patch which Planning reserved after our testimony. The developer's plans had to be redrawn to remove one lot from development, and as a result a small forest was destroyed right next to a floodplain. It should have been preserved undeveloped, one way or another.

2. Losing Trees – Why Require higher replacement percentages

Those who ask what the problem could be with tree loss, have not paid attention to Emerald Ash Borer killing almost all Ash trees, and other diseases afflicting trees in our county canopy. Folks have not paid attention to the severe storms which particularly take down isolated big old trees. While some in Planning claim that Montgomery is not suffering a net loss of trees, its data come from a very short study period. Longer term data show the opposite. We are in fact losing trees at a significant rate. As a county which holds itself out as a leader in environmental guidance and law, this tree loss must not continue. Anne Arundel, Howard, and even Frederick Counties have been able to take more serious steps; we must too.

Climate change demands it. Our comfort and safety demand it. Animals and plants that depend on functional forests demand true forest conservation. Do the right thing.

Here are the Montgomery Forest Coalition's recommendations, which we wholeheartedly support:

1. Protect existing forest Ecosystems – existing forests are much stronger protections against excess stormwater, flooding, and climate change in general. Implement stronger protections for them. [Stronger than Planning recommends]
2. Strengthen replating ratios to ensure no-net-loss – require replanting to 2 acres of a forest ecosystem for every 1 acre removed. [Stronger than Planning recommends]
3. Strengthen Watershed Considerations – prioritize afforestation and reforestation requirements to maximize planting within the watershed where forest is removed or development done. [Stronger than Planning recommends]
4. Strengthen replanting requirements to require planting a forest ecosystem, not trees alone. [Stronger than Planning recommends]
5. Forest stand delineation must be evaluated and submitted to Planning prior to an application plan for development of a site (NRI/FSD). [Agrees with Planning]
6. Eliminate certain Commercial/Residential zone classification from qualifying for the (s)(1) and (s)(2) FCP exemptions from requiring forest mitigation. [Agrees with Planning]
7. Expand mitigation requirements for 'variance trees' to include mitigation for those within a forest. [Agrees with Planning]
8. Tighten requirements around forest conservation easements so they may not be easily extinguished or relocated. [New recommendation by MoCo Forest Coalition]
9. Allow landscaping to meet requirement in limited circumstances – rights of way, equity focus areas. [Agrees with Planning]
10. Increase resources for Forest Conservation Staff. [Agrees with Planning]
11. Consider tax incentives and/or subsidy programs to facilitate forest conservation. [Agrees with Planning]

Kit Gage
Interim President
Friends of Sligo Creek
PO Box 11572
Takoma Park MD 20913
www.friendsofsligocreek.org
president@fosc.org

Dear Members of the Committee,

My name is Jill McKay. I live in East Bethesda and I represent the Chesapeake Earth Holders Community of Engaged Buddhism in the tradition of Zen Master Thich Nhat Hanh. We support systemic change that protects and preserves the Earth and all who depend on her for life and well-being. I am writing to you in regard to the Forest Conservation Law.

Our society, and the world in general, is facing multiple threats to our collective well-being. As a community, we will be asked to make important decisions about how to safeguard our communities and our way of life. I am aware that Montgomery County has three laws that pertain to our trees. It is my deep wish that in time, you will take action to ensure that all three laws ensure that our forests and tree canopy play a key role in maintaining a healthful and life-sustaining environment not just for us but for future generations as well.

Regarding the Importance of Healthy Forests & Tree Canopy in General:

In the Montgomery County Planning Department, Working Draft of the 2016 Subdivision Staging Policy, dated 05-12-2016, the following statement appears:

• **Forest and Urban Tree Canopy**

“In both local design and networked green spaces, forest and tree canopy are essential elements of quality of place and livability. Trees increase energy efficiency, reduce heat island effect, improve air quality, extend pavement life, enhance pedestrian-vehicular safety, boost real estate values, make retail areas more attractive, absorb water pollution and carbon emissions, and slow stormwater runoff and erosion.” **See Forest and Urban Tree Canopy - Page 22**

Here are some additional facts about the importance of a healthy tree canopy:

Air Quality:

- Trees absorb pollutants and store carbon, reducing the amount of carbon dioxide in the atmosphere.
- Casey Trees, a Washington D.C. based non-profit organization has determined that the trees of D.C. alone filter 540 tons of harmful, health-threatening pollutants from the air each year.
- One hundred trees remove 53 tons of carbon dioxide and 430 pounds of other air pollutants per year. (New York State Dept. of Environment.)

Drainage and Stormwater Mitigation

- Trees help rain soak into the ground rather than run off the surface. Overflows lead to sewer backups and flooding including in basements. Mature canopy trees absorb a significant amount of rain that falls onto a property. (Casey Trees.)
- One hundred mature trees catch about 139,000 gallons of rainwater per year. (New York State Dept. of Environment.)

Health and Quality of Life

- A study found that loss of trees to the emerald ash borer increased mortality related to cardiovascular and lower-respiratory-tract illness. Across the 15 states in the study area, the borer was associated with an additional 6113 deaths related to illness of the lower respiratory system, and 15,080 cardiovascular-related deaths. This finding adds to the growing evidence that the natural environment provides major public health benefits. (American Journal of Preventative Medicine, and PubMed.gov)

- Tree-filled neighborhoods lower levels of domestic violence and are safer and more sociable. (New York State Dept. of Environment)
- Using data from Toronto, a team of researchers has found that having 10 more trees on your block has self-reported health benefits akin to a \$10,000 salary raise or moving to a neighborhood with a \$10,000 higher median income or being seven years younger. (Nature Open Access Journal “Scientific Reports”)

With regard to the **Montgomery County Forest Conservation Law (FCL)**, I respectfully endorse these recommendations:

Protect Existing Forest Ecosystems.

- All remaining pre-existing Forests in MoCo to be designated & treated as priority forest in FCL.
- All remaining forest cover may only be removed upon appropriate findings by the Planning Director or Planning Board.
- Certain types of forests may only be removed with a variance granted by the Planning Board or Planning Director. Types of forests and trees that would receive a stronger level of protection and require a variance to be removed include forested: Floodplains; Stream Buffers; Forested Stream Buffers along Ephemeral Streams; Steep Slopes; Critical Habitats; Contiguous Forests; Forest Connective Corridors; Rare, Threatened, & Endangered Species; Historic Site trees; Champion Trees and other exceptionally large trees; areas designated as “Priority Save Areas” in Master Plan or any Functional Plan.
- Forest removal subject to a variance must be replaced with forest ecosystem at a 2:1 ratio.

Strengthen replanting ratios to ensure no-net-loss.

- Re-planting requirement strengthened from 1/4 acre planted for every 1 acre removed to 1 acre forest ecosystem planted for every 1 acre removed, with no retention credit.

Strengthen Watershed Considerations.

- For meeting afforestation and reforestation requirements, areas obtained outside the County or outside the sub-watershed where forest was removed for development, the requirement shall be that existing forest retained through forest mitigation bank shall be at a 4:1 ratio, or replanting of forest ecosystem shall be done at a 2:1 ratio.

Strengthen Re-planting requirements to require the planting of entire Forest Ecosystem.

- Reforestation or afforestation of forest ecosystem includes consideration of, payment for, and maintenance to establish the following in the re-planting: healthy soil; drainage; healthy fungi in the soil; healthy micro- biotic communities in the soil; biomass; ground cover; shrub layer; tree understory layer; tree canopy layer; diversity of different types of trees and plants.

Eliminate certain CR exemptions.

- Exclude activities located within the Commercial Residential (CR) zone classification from qualifying for the (s)(1) and (s)(2) FCP exemptions to require forest mitigation for activities in this zone that are currently receiving the highest density but providing the least forest mitigation.

Tighten requirements around forest conservation easements so that they may not be so easily extinguished or relocated.

- For all existing forest cover subject to an existing forest conservation easement, the area of forest removed must be reforested at a ratio of 5 acres of forest ecosystem for every 1 acre removed. This deterrent allows forest banks time to become mature forest ecosystems, and also keeps forest banks in the sub-watershed where they were originally intended to be planted.

Allow landscaping to meet requirements in limited circumstances.

- Allowing landscaping, including planting trees in rights-of-way, to meet both reforestation or afforestation requirements in equity focus areas, to encourage tree planting wherever possible in areas of the county characterized by high concentrations of lower-income households, people of color, and individuals who are not fluent in English. Outside of equity focus areas, landscaping on site could be used to meet afforestation requirements and could include landscaping in the rights-of-way.

Increase resources for Forest Conservation Staff.

- The Planning Department's forest conservation staff needs to increase capacity for the department to support applicants and enable conservation of existing forest.

Respectfully submitted,
Jill McKay
4401 Highland Avenue
Bethesda MD 20814

Testimony in favor of Bill 25-22

The reason I moved (into an old house) in Montgomery County is due, in large part, to the beautiful forests we have. I pay taxes and maintain my business here. But the forests are suffering due to neglect and climate change. The entire ecosystem is in danger - and with it -- much of the joy we have by living here. I strongly urge your passage of this bill.

Lucy Kiekebusch-Steinitz

Councilmembers,

We are members of *Friends of Native Trees in Takoma* (FONTT), a group of Takoma Park residents who advocate planting native trees and other native plants in order to protect biodiversity.

We advocate strengthening the pending *Bill 25-22 Forest Conservation* in line with the recommendations put forth by the Montgomery County Forest Coalition and the additional suggestions that we present below.

In our view, this forest conservation bill offers admirable changes to the Forest Conservation Law and the Forest Conservation Trees Regulations. We would like to thank the staff who prepared this bill and the council for taking it up.

At the same time, the Montgomery County Forest Coalition has suggested areas in which the bill could be strengthened and expanded ([see *Montgomery County Forest Coalition Top Recommendations for Updates/Amendments to MoCo Forest Conservation Law*](#)). We hope that you can persuade the council to incorporate these changes in the bill.

In addition, we strongly advocate that the bill be amended to require that only native species are specified or planted. Non-native species will not adequately protect forest ecosystems. Indeed, the history of non-native species becoming invasive reminds us how dangerous it can be to plant non-natives. Straight native species should be strongly preferred. Native species cultivars are acceptable for landscaping. Hybrids of native and non-native species should not be acceptable.

Our other recommendations are as follows:

- ***Stronger management of invasive plants:*** In particular, forest easements should be required to manage invasive plants. A tax incentive should be created to incentivize compliance.
- ***More attention to vertically layered planting:*** Protecting a forest ecosystem requires planting to create ecological niches at every level: canopy, understory, shrub, herbaceous, and ground.
- ***Shade trees for social justice:*** Equity focus areas need shade trees to mitigate hot temperatures in summer, when shade makes walking, biking, and using public transport more bearable, and lowers utility costs. The allowance to substitute landscaping for afforestation and reforestation does not justify failing to plant shade trees in these areas.

Please ensure that shade trees receive preferential credit or treatment in plans in these areas.

Sincerely,
Pablo Wolfe
Becca Williamson
James Shih Wang
Meg Vorhes
Vincent Verweij
Kelly Vaena
Sue Tripp
David Terry
Elizabeth Strickler
Bradley Simpson
Susan Schreiber
Tom Salyers
Alessandra Sagasti
James Miles
Geoff Maxson
Larry Lempert
Virginie Ladisch
Slater Knowles
Ellen Knowles
Lizz Kleemeier
Kopal Jha
Diane Ives
Larry Sarah Gubits
Danny Gubits
Seth Grimes
Stu Gagnon
Jim Douglas
Linda Carlson
Vincent Broderick
Sharon Broderick
Lori Bowes
Gene Blanton



CHESAPEAKE BAY FOUNDATION
Saving a National Treasure

October 4, 2022

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David A. Fogle
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William A. Agee
SECRETARY

The Honorable Gabe Alborno, President
Montgomery County Council
100 Maryland Avenue, 6th Floor
Rockville, MD 20850

REGARDING: Bill 25-22 – Forest Conservation – Trees
POSITION: Support with Amendment

TRUSTEES

Dara C. Bachman

R. Bruce Bradley

Joan P. Brock

George L. Bunting Jr.

D. Keith Campbell

Michael J. Chiaromonte

Thomas M. Davis III

Robert S. Evans

Margaret M. Freeman

Jennifer E. Green

Harry S. Gruner

Michael J. Hanley

Jeanne Trimble Hoffman

Ann D. Horner

Burks B. Lapham

Katie Z. Leavy

Pamela B. Murphy

Devan B. Ogburn

Mamie A. Parker, Ph.D.

Crystal Patterson

Anna R. Pauletta

Ann Pelham

J. Sedwick Sollers III

Sandra E. Taylor

Preston M. White

Stephen M. Wolf

Dear President Alborno and members of the County Council:

The Chesapeake Bay Foundation appreciates your timely consideration of proposed changes to the County's Forest Conservation Law. Better protecting tree cover is critical to a healthy economy, clean water, and resilient communities in Montgomery County.

Montgomery County continues to lose tree cover to land development and is no longer a leader in protecting forests. Data from the Chesapeake Bay Program show that the County is responsible for the largest loss of forest outside of Southern Maryland over the past decade, a trend which is likely to continue through at least 2025.

Neighboring counties have strengthened their local forest conservation laws beyond Montgomery County's requirements. In these jurisdictions, land development has continued successfully while net forest loss has lessened or ceased entirely.

As forwarded by the Planning Commission, Bill 25-22 approaches some of these protections. However, **CBF concurs with the Montgomery County Forest Coalition that further strengthening is needed to fully implement the Comprehensive Plan and restore the County's position as a leader on forests for climate and clean water.**

In particular, we urge the Council to add protections for the highest priority forest stands remaining on developable land in the County. Since 2013, remote sensing data from the Chesapeake Conservancy show the rate of fragmentation and encroachment of contiguous forest in Montgomery is the second highest in the state. This pressing matter was not addressed by the Planning Commission in any form. The Council could:

- Require a variance for clearing contiguous forest areas and other priority woodlands;
- Increase the mitigation ratio for clearing in priority forest areas to 2:1 or higher;
- Further increase the conservation thresholds in priority forest areas; and
- Compel written justification and written findings before clearing these valuable tracts.

HONORARY
TRUSTEES

Donald F. Boesch, Ph.D.

W. Russell G. Byers Jr.

Louisa C. Duemling

Richard L. Franyo

Alan R. Griffith

Carolyn Groobey

Ann Fritz Hackett

C.A. Porter Hopkins

T. Gaylon Layfield III

Harry T. Lester

Byron F. Marchant

M. Lee Marston

Wayne A. Mills

Arnold I. Richman

Marie W. Ridder

James E. Rogers

Truman T. Semans

Simon Sidamon-Eristoff

Jennifer Stanley

Thomas H. Stoner

Bishop Eugene Taylor Sutton

Alan L. Wurtzel

CBF and the Forest Coalition encourage further amendments to re-establish forest ecosystems, maintain the integrity of developing watersheds, and achieve no-net-loss or even net gain of forest, which are described in our letter to the Planning Commission of April 28, 2022. This letter is enclosed for your review and consideration as part of the Council's record on this bill.

We appreciate the hard work and accessibility of County staff throughout the drafting process. CBF supports many of the procedural improvements contained in the bill in pursuit of a clear review process along with reduced exemptions and planting of stream valleys.

We would welcome the opportunity to discuss Bill 25-22 in more detail with you at a work session. Please do not hesitate to contact us directly with any questions or to set up a meeting.

Sincerely,

A handwritten signature in black ink, appearing to read "Erik Fisher".

Erik Fisher, AICP
Maryland Assistant Director
Maryland Land Use Planner

443.482.2096
efisher@cbf.org

Enclosure:
CBF Comments to the Montgomery County Planning Commission, April 28, 2022



CHESAPEAKE BAY FOUNDATION
Saving a National Treasure

April 28, 2022

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Mr. Casey Anderson, Chair
Montgomery County Planning Board
2425 Reddie Drive, 14th Floor
Wheaton, MD 20902

RE: 'No net loss of forest' amendments to the Montgomery County Forest Conservation Law and Forest Conservation & Trees Regulations (Agenda Item #6)

TRUSTEES

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George L. Bunting Jr.

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Stephen M. Wolf

Dear Chair Anderson and members of the Board:

The Chesapeake Bay Foundation appreciates this opportunity to comment on proposed changes to Montgomery County's Forest Conservation Law. Protecting tree cover is critical to a healthy economy and ecology in Montgomery County. Forests filter pollutants, control flooding, prevent erosion, and cool streams. Mature, contiguous forests also provide essential human health and natural habitat benefits that cannot be replicated in developed areas. As such, we appreciate the County's interest in updating its forest protections and recognize the hard work of your staff that is evident throughout the bill and accompanying regulations. We support many of the procedural improvements proposed in pursuit of a clear review process along with reduced exemptions, enhanced requirements for afforestation of smaller sites, and planting of stream valleys.

We also concur with the Montgomery County Forest Coalition that the proposed ordinance must be further amended to achieve 'no net loss' of forest cover. Specifically, amendments are needed to:

- Minimize the loss of forests considered priority for protection;
- Clarify the standards for establishing forest ecosystems;
- Increase replanting ratios to offset deductions elsewhere in the formula;
- Ensure that most replanting requirements are satisfied by actual plantings and within the local watershed; and
- Better protect areas already set aside for forest conservation.

These amendments will stop the ongoing net reduction of forest in Montgomery County and more equitably protect clean water, climate, and communities in a manner consistent with adopted and pending County plans.

Statutory changes to ensure no-net-loss of forest are firmly rooted in county plans. Montgomery County's draft Comprehensive Plan, entitled *Thrive Montgomery 2050*,

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highlights forest protection as a key indicator and driver of progress toward environmental and social goals. *Thrive* identified forest conservation regulations as providing a “strong framework for the protection of natural resources,”¹ but noted that existing regulations will not be enough to address climate change and calls further action “critical” to develop “more creative strategies to build resilience and improve sustainability.”² Indeed, a key measure of whether *Thrive* succeeds or fails will be the “acres of farmland, natural habitats, forests and environmentally sensitive areas protected.”³

These forested acres are presently in decline. High-resolution land cover data and draft modeling from the Chesapeake Bay Program projects Montgomery County could total more than 5,000 acres of forest loss between 2013 and 2025.⁴ This would represent the fifth largest clearing in the state and the largest loss outside of southern Maryland. These reductions could also further entrench disparities in tree cover that raise equity concerns. On average, Montgomery County neighborhoods of color and those with low-income residents have fewer trees and forests – up to a 14-point disparity in canopy coverage.⁵

The County’s *Water Resources Functional Plan* identifies “the loss and degradation of forest, wetland, and other natural areas”⁶ as a primary threat to clean water. In response, the Plan places a priority on “enhancing stewardship of natural areas including resource protection, conservation, enhancement, and restoration...”⁷ This goal is expressed in two recommendations to strengthen forest protections:

4.1 Increase forest, wetland, meadow, stream buffer, and urban tree canopy area countywide, especially in watersheds with regulatory limits, water quality impairments, or Tier II designations.

4.3 Revise the Forest Conservation Laws and Regulations and Trees Technical Manual as needed to increase the speed and success of reforestation efforts.⁸

The Maryland State Data Center forecasts that 170,000 new residents could move into the County by 2045.⁹ Montgomery County must implement its master planning recommendations to strengthen forest conservation laws and prevent further loss in the face of such development

¹ *Thrive Montgomery 2050*, p. 14

² *Ibid.*, p. 136

³ *Ibid.*, p. 39

⁴ Chesapeake Bay Program. 2025 Land Use Forecast Scenarios. Accessed April 27, 2022 at

https://www.chesapeakebay.net/channel_files/25596/counties_v6_p6_2025wtrshd.csv

⁵ American Forests. *Tree Equity Score: Montgomery County*. Accessed April 26, 2022 at

<https://treeequityscore.org/reports/place/montgomery-county-md/#11.41/38.8938/-77.0146>

⁶ *Water Resources Functional Plan*, p. 12

⁷ *Ibid.*, p. 31

⁸ *Ibid.*, pp. 50-51

⁹ Maryland Department of Planning. *Projections to 2045: Populations and Households (12/20)*. Accessed April 27, 2022 at https://planning.maryland.gov/MSDC/Pages/S3_Projection.aspx

pressure. As part of the comprehensive planning process, these recommendations were subject to intensive analysis, public discussion, and legislative oversight. Furthermore, state law requires consistency between local plans and local ordinances.¹⁰

REQUESTED AMENDMENTS

As drafted, the proposed ordinance would make important positive changes to the procedural and substantive requirements that developers must abide by when building on forested land. CBF believes that additional provisions are necessary to achieve the stated goal of 'no-net-loss' of forest. Over the past few years, we have worked extensively with neighboring counties and other environmental organizations to strengthen forest conservation regulations in accordance with local goals. Many of the changes proposed by the Planning Department most closely align with updates adopted in Howard and Anne Arundel counties. While positive, neither of these counties aspired to or are expected to achieve no-net-loss. Howard County's increased replating ratios are primarily intended to prevent further transfer of forest cover out of their development envelope. Anne Arundel County, which like this proposal relies heavily on enhanced conservation thresholds, is expected to reduce forest loss by about 50%.

The Planning Department's added focus on reducing exemptions, increasing afforestation on smaller development sites and planting stream valleys will help and should be carried forward. However, CBF believes that provisions protecting priority forest, stronger replating ratios, and clear replating requirements that re-establish forest ecosystems are equally necessary to ensure a healthy and lasting forest footprint in Montgomery County. **As such, we urge the Planning Board to recommend the following amendments along with the draft ordinance to the County Council.** If so amended, this update to the Forest Conservation Law can be a key step to implement County plans and fulfill a critical opportunity to afford protection to the County's remaining forested lands.

Substantial amendments are described below. The full text of amendments recommended by CBF and the Montgomery County Forest Coalition is attached, and illustrated in the enclosed chart.

- Update the Technical Manual to ensure re-establishment of forest ecosystems.**
Forest clearing eliminates or degrades understory and soil health in addition to removing trees. Current replating practices do not directly replace these critical forest features, despite current law requiring establishment of a forested 'biological community.'
- Require a variance for clearing environmentally sensitive priority forests.**
Forest cover dramatically enhances the protection of wetlands, floodplains, steep slopes, certain wildlife habitats, and other sensitive environmental features. Direct impacts to these features generally require a variance, and removal of tree cover associated with these features should be no exception.

¹⁰ See MD Code, Land Use, § 1-303

Anne Arundel County requires a formal zoning modification to clear these areas.

- **Increase the base reforestation ratio to 2 acres planted for every 1 acre removed.**
As drafted, a developer must only replant ½ acre of forest for each acre cleared. Compounding this imbalance, replanting credit is granted on a straight 1:1 basis for each acre retained above the conservation threshold. On many development sites, this formula results in substantial net loss – and in some cases, zero replanting required despite clearing many acres of forest. The higher ratios of 1:1 and 2.5:1 currently proposed in the draft ordinance only apply when replanting outside a local or priority watershed. There is no guarantee that they would be applied widely enough to offset reductions elsewhere in the formula.

Carroll and Frederick counties have demonstrated no-net-loss of forest with a 1:1 ratio in place, with the retention credit removed. If the retention credit is retained, a higher ratio is likely needed.

- **Require that at least 75% of replanting obligations be satisfied by actual replanting.**
Current law permits the preservation of existing off-site forest to satisfy replanting obligations. While conservation of existing forest stands can be valuable, heavy reliance on this practice leads to substantial net loss of forest because cleared acres are not offset by new stands.

The draft ordinance includes a narrative obligation to plant before preserving. We believe a quantitative baseline is appropriate to maintain clarity and establish a reasonable floor.

- **Increase the replanting ratio to 4:1 when outside the local watershed.**
Replanting on or near the development site can protect steep slopes, streams, and wetlands from stormwater impacts and in some cases can re-connect priority forest areas. New plantings also help redress consequences of urbanization and low tree canopy such as flooding, heat islands, and poor air quality. When planting outside the local watershed, these environmental and community benefits are greatly reduced. Increased mitigation is necessary to help offset the loss of these benefits when trees are planted somewhere else.

Charles County has established ratios as high as 4:1 for replanting outside of local watersheds and development districts.

- **Increase the replanting ratio to 5:1 when cutting existing forest conservation easements.**
Forest conservation easements protect woodlands established or maintained to offset past clearing. In cases where this eased forest was newly planted, it takes decades to offset the ecosystem services that were lost to the original development project. Preserved mature woodlands were accepted in-lieu of replanting, so cutting these areas represents a second loss. In both cases, a high replanting ratio is critical to ensure clearing an easement is a last resort, and account for the resultant further delay in restoring the natural functions of forest.

Once again, CBF appreciates the hard work of the Planning Board, and especially that of your staff, in preparing and reviewing these updates to the County's Forest Conservation Law. We are encouraged by the improvements already reflected in the draft, and we urge you to recommend these further amendments to the County Council.

We would welcome the opportunity to discuss this matter in more detail with you at a work session. Please do not hesitate to contact us directly with any questions or to set up a meeting.

Sincerely,



Erik Fisher, AICP
Maryland Assistant Director
Maryland Land Use Planner

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Enclosures:

1. Montgomery County Forest Coalition Proposed Amendments
2. Comparison Chart

Bill 25-22, Forest Conservation – Trees

Montgomery County Council
October 4, 2022

Testimony of Sylvia S Tognetti, President, Friends of Ten Mile Creek & Little Seneca Reservoir

Good Afternoon President Albornoz and Members of the Council and thank you for the opportunity to testify on behalf of Friends of Ten Mile Creek & Little Seneca Reservoir in support of a stronger Forest Conservation Law (FCL). Friends of Ten Mile Creek is a member of the Montgomery County Forest Coalition and endorses the Coalition recommendations, while adding two additional ones.

These changes to the Forest Conservation Law are critical because forests provide a foundation for climate resilience, as they are the first line of defense against both extreme temperatures and rainfall events associated with climate change. In addition to reducing the urban heat island effect and mitigating floods, forests are also the first line of defense for protecting the quality of the water we drink because they reduce runoff of sediment and other pollutants, which increase the cost of water treatment. Therefore, they are also the first line of defense for critical lifeline water infrastructure systems and should be classified as critical natural infrastructure - and the lifeline of our lifeline critical infrastructure, which merits even higher priority and a greater level of protection than infrastructure that is merely critical. Lastly, they provide many other well-known co-benefits of green spaces for air quality, wildlife, physical and mental health and quality of life. And, of course, they sequester and remove carbon from the atmosphere which contributes to impacts of climate change.

The FCL amendments proposed by Planning Department staff represent a significant improvement over the current law but fall short of the recommendations of the Montgomery County Forest Coalition and it is not clear that these would fully achieve 'no net loss of forests' – as has already been done in Frederick County. We specifically ask the County Council to consider the Forest Coalition recommendations which include:

- 1. Protect existing forest ecosystems as the top priority.**
- 2. Strengthen replanting ratios to 2:1 in all scenarios and reduces the credit for onsite retention of existing forests.**
 - a. Additional FoTMC recommendation: when replanting is required, calculate tree replacement replanting at a 2:1 ratio based upon the DBH lost.
- 3. Strengthen watershed considerations**
- 4. Strengthen replanting requirements to require the planting (or regeneration) of forest ecosystems, not just trees.**
 - a. Additional FoTMC recommendation: offer the option of using a form of assisted natural regeneration practices where practicable
- 5. Require a forest stand delineation to be submitted to Planning and evaluated prior to submitting any application plan for development of a site.**

6. Tighten requirements around forest conservation easements so they cannot be easily extinguished or relocated.

More details, reasons for these recommendations, and differences from the proposed amendments are as follows:

1. Protect existing forest ecosystems as the top priority.

Forests should not be removed without approval of the Planning Director, based on strong justification. An even higher level of protection should be given to certain types of forest, which could only be removed if a Variance is granted and would need to be replaced at a ratio of 2:1. These types would include Floodplains; Stream Buffers; Forested Stream Buffers along Ephemeral Streams; Steep Slopes; Critical Habitats; Contiguous Forests; Forest Connective Corridors; Rare, Threatened, & Endangered Species habitat; Historic Site trees; Champion Trees and other exceptionally large trees; and areas designated as "Priority Save Areas" in Master Plan or any Functional Plan.

The proposed amendments maintain provisions in the existing law which only require approval of the Planning Director for removal of specific high priority forest types and only requires a variance for trees with historic value, RTE status, champion or very large trees.

We support the provision in the proposed amendments which would remove the exemption for small projects that impact forests defined as buffers.

2. Strengthen replanting ratios to 2:1 in all scenarios and reduce the credit for onsite retention of existing forests.

The proposed amendments would increase the replanting requirement above the conservation threshold from a ratio of $\frac{1}{4}$:1 to $\frac{1}{2}$:1. However, it maintains 2:1 below the threshold. Therefore, it appears that 'No Net Loss' may not be achieved in all projects, particularly on larger tracts. Since we don't know the mix of projects going forward, it is important to achieve no net loss in all projects.

Current law also gives 1:1 credit for on-site retention of existing forest, which also does not achieve 'No Net Loss'. The Coalition recommendation is to reduce the onsite retention credit and credit for preservation of offsite forests in priority areas to $\frac{1}{2}$: 1 and $\frac{1}{3}$: 1 in non-priority forests, and to require that at least 75% of planting requirements be met by planting. The proposed amendments would allow preservation of offsite forest when there are no opportunities for planting.

In addition to the Coalition recommendations, Friends of Ten Mile Creek recommends that, to ensure no-net-loss of forests after development when replanting is required, state and local entities should calculate tree replacement replanting at a 2:1 ratio based upon the DBH lost. For example, the loss of one 24" DBH tree would be replaced with sixteen 3" DBH trees or twelve 4" DBH.

Friends of Ten Mile Creek supports the PB recommended amendment to require replanting of riparian areas but would prefer use of assisted natural regeneration practices described above.

3. **Strengthen watershed considerations**

If sites for planting are not available within the same watershed, the proposed amendments would require planting in a priority watershed elsewhere in the county at a 1:1 ratio above the conservation threshold, and at a 2 ½:1 ratio below the conservation threshold. Given the importance of forests for water quality in specific watersheds, the Coalition recommends a 4:1 ratio for forests replanted outside the watershed in which they are removed.

4. **Strengthen replanting requirements to require the planting of forest ecosystems, not just trees.**

Although difficult if not impossible to fully replace a forest ecosystem, when this is what is being removed, community members need assurances that the whole forest ecosystem is also what will be replanted to the fullest extent possible by establishing standards and best practices for replanting in the technical manual. The proposed amendments only offer this as an optional alternative to the planting protocol.

In addition to the Coalition recommendations, Friends of Ten Mile Creek also recommends that the technical manual offer the option of using a form of assisted natural regeneration practices where practicable, with maintenance practices for 5 years to remove invasive species and protect small trees from deer, as would also need to be done if/when forests are replanted.

5. **Require forest stand delineation to be submitted to Planning and evaluated prior to submitting any application plan for development of a site.**

We support this requirement in the proposed amendments because it would enable projects to be designed to accommodate and maintain existing forests.

6. **Tighten requirements around forest conservation easements as a prevention so they cannot be easily extinguished or relocated.**

In order to protect existing forest conservation easements, the Coalition recommends a requirement that replacement of any forests cleared in an existing easement be replaced at a ratio of 5:1 and that this requirement could not be satisfied through preservation of existing forest. This matter is not addressed in existing law or in the proposed amendments.

Recently published high resolution (1m) data shows the loss of forests in Montgomery County from 2013 to 2018 was the second highest in the state of Maryland, amounting to over 650 acres, with an additional 1800 acres fragmented or impacted due to land use change.¹

Some of the highest rates of deforestation are found in up-County watersheds from which drainage enters the Potomac River nearby and upstream from our drinking water intake, carrying stormwater runoff and sediment from land erosion and scoured stream beds, thereby

¹ Based on a comparison of counties by CBF of the most recent high resolution Chesapeake Bay Program Land Use Land Cover high resolution (1m) data <https://www.chesapeakeconservancy.org/conservation-innovation-center/high-resolution-data/lulc-data-project-2022/>

increasing the cost of water treatment for everyone.² While most forests in the Ten Mile Creek watershed are designated for protection under the 2014 Ten Mile Creek Amended Master Plan, neighboring watersheds, which also drain to the Little Seneca Reservoir - our drought backup drinking water supply, are hotspots of deforestation in the County. As shown in the map/figure 1, the single highest rate of deforestation was in the Clarksburg sub-watershed - near 7% from 2009 to 2014, which is twice the rate found in other subwatersheds in the three up-county watersheds examined in this 2018 study.

The impacts of forest loss become most visible during heavy rainstorms when tributary streams load more sediment and nutrient pollution into this emergency backup Reservoir - as can be seen in the image below (Figure 2), which was posted by Montgomery Parks immediately following the July 2019 rain bomb. A 2015 study found the rate of sediment accumulation in Little Seneca is almost twice as high as in comparable drinking water reservoirs in Maryland (those found in 3rd and 5th order watersheds) - even after deducting the estimated amount that could be attributed to construction, which is when sediment loads are expected to be higher.³

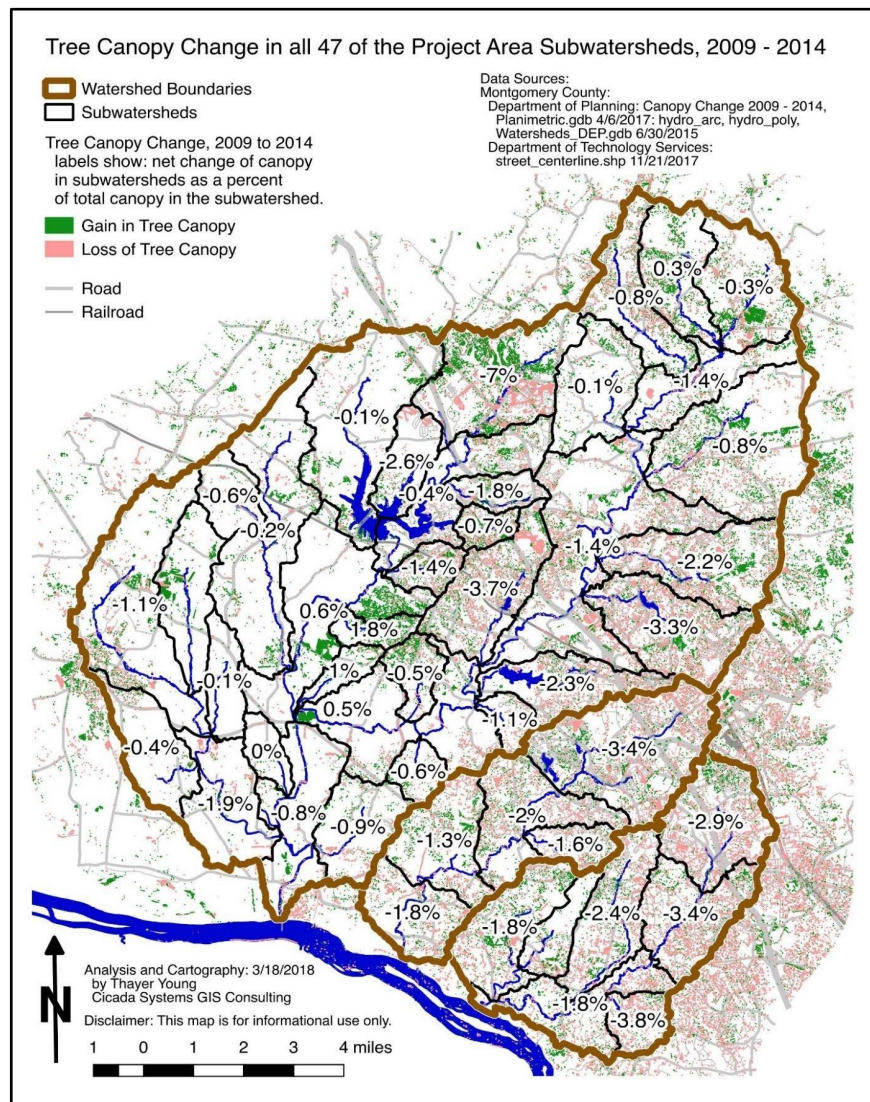


Figure 1: Deforestation rates by sub-watershed in three Upper Montgomery County watersheds, 2009-2014. Source: Cameron et al 2018.

This bill has been delayed far too long. As context, after Frederick unanimously adopted a no net loss of forests bill in 2020, and other nearby counties also strengthened their forest conservation laws, the Montgomery County Forest Coalition initiated an effort to strengthen our own Forest Conservation Law in Summer 2020 by

² Cameron, Diane, Sylvia S. Tognetti, and Thayer Young. "Protecting the Source and Maintaining Water Affordability." Prepared by The Ecologix Group for the Maryland Sierra Club, 2018.

³ Smith, S.M.C., and P.R. Wilcock. 2015. "Upland Sediment Supply and Its Relation to Watershed Sediment Delivery in the Contemporary Mid-Atlantic Piedmont (U.S.A.)." *Geomorphology* 232 (March): 33-46. <https://doi.org/10.1016/j.geomorph.2014.12.036>.

asking the County Council to add a "No Net Loss of Forests" provision to a related bill. Needing more time to consider the Coalitions recommendations, the Council indicated they would address these in 2021. In the meantime, the Coalition continued to meet with members of the Council, their staff, and Planning Department staff, provided specific recommendations and proposed bill language. In response to our advocacy, the Planning Department also developed a "No Net Loss of Forests" initiative in November 2021, which led to the amendments proposed by the Planning Board, which you have before you today.

Forest protection is one of the most reliable, viable, and cost-effective methods of combating climate change, and also contributes to healthy lands, waters, and communities. Therefore, we need the strongest possible protections for our forests. In closing, we ask you again to strengthen the bill to update the Forest Conservation Law (FCL), consistent with our recommendations, in addition to those of the MoCo Forest Coalition.



*Figure 2:
Sediment-laden
floodwaters
entering Little
Seneca Reservoir
following July 8
2019 rain bomb.
Source:
Montgomery
Parks*

TO: Gabe Albornoz, President, Montgomery County Council

CC: Council Members Evan Glass, Andrew Friedson, Tom Hucker, Will Jawando, Sidney Katz, Nancy Navarro, Craig Rice, Hans Riemer

Date: October 3, 2022

RE: 25-22, Forest Conservation – Trees

Please strengthen and pass the amendments to Bill 25-22, the Forest Conservation Law. If we don't preserve our forests, we cannot hope to protect the safety and well-being of Montgomery County residents.

It is well documented that temperatures are rising significantly. Forests are vital to cooling the heat island effect of large urban areas and providing refuge to people and animals from the scorching heat. Forests help to control flooding and prevent erosion of soils through root structure, retain water in soils that are drying out due to extreme heat, and filter pollutants that would otherwise runoff of drought stricken barren lands and impervious cover. Forests sequester carbon and play a role in the complex drive to reduce the County's greenhouse gas emissions.

It is your responsibility to do what needs to be done, and not conform to 'business as usual.' Please ENSURE that this bill will in fact result in no net loss, and even expand our forest cover. Despite the current policy of no net loss, between 2013 to 2018 the County has lost more than 650 acres of forest to newly constructed roads, rooftops, and lawns, while adding only 100 acres of forest in recent years. Another 1800 acres has been fragmented or otherwise impacted by development.

Doesn't it drive you crazy to see the massive migration to coastal areas that are being inundated by sea level rise, stronger hurricane, and higher storm surges? The parallel here is that we continue to allow widespread destruction of forests that are essential for sustainability of life and society. Let's not be hypocritical and bow to unnecessary pressure for uncontrolled growth. Montgomery County can grow sensibly while preserving our vital forests.

Please take this very seriously. It is not just an environmentalist's plea. It is a plea from people like me who have been trying to solve the climate change equation for decades. This is our last chance.

Respectfully, and with hope for our children's future,

Karen Metchis
4632 South Chelsea Lane
Bethesda, MD 20814

Testimony in support of Bill 25-22 – Forest Conservation -Trees

Dr. Douglas H. Boucher

October 4, 2022

Thank you very much for the opportunity to testify today. My name is Doug Boucher, and I have lived since 1997 with my wife Charlotte on the family farm in Dickerson, Maryland. In my testimony today, I want to do three main things:

- 1) Support the bill, which improves our current forest conservation programs in important ways
- 2) Support the amendments proposed by the Montgomery County Forest Coalition, which would further strengthen reforestation in the county
- 3) And most importantly, urge you to add a sentence or two to the bill, requesting that the Planning Department create an alternative pathway for reforestation based on natural regeneration. Naturally regenerated forests are much cheaper than tree planting and thus accessible not just to a few, but to many ordinary Montgomery County landowners. Creating such a pathway would make it possible to increase our county’s forest cover appreciably – not just to achieve “no net loss” – and thus would provide important climate benefits for all the county’s residents, at low cost to the taxpayers.

My background and experience

Let me briefly tell you who I am and describe the experience and knowledge that my testimony is based on. I have four roles that are relevant to this legislation:

- 1) **Landowner** – my wife and I own White Acres Farm in Dickerson, which covers 77 acres and was a dairy farm run by her grandfather, Max White, for several decades. It has been

in the family since the 1830s and is typical of the rolling countryside of rural Montgomery County.

- 2) **Scientist** – I retired a few years ago as Director of Climate Research and Analysis for the Union of Concerned Scientists. My decade of work there followed a long career as a college professor in biology, concentrating on forest and agricultural ecology. I have a Ph.D. from the University of Michigan, and taught at Hood College, the University of Québec and McGill University.
- 3) **Activist** – I am a Board Member and serve as Treasurer of Poolesville Green, one of the most active environmental groups in the county. Our work has included organizing the electric vehicle event at Poolesville Day each year, which has grown over the past decade to become the largest EV show in the Mid-Atlantic states.
- 4) **Reforester** – since 2003 I have been reforesting 4 acres of our farm through natural regeneration. Based on our success in this effort, I am now working with the Planning Department to create a larger reforestation project (10 acres) under the county’s Forest Conservation Bank program. Because this new project would combine 1 ½ acres of tree planting with 8 ½ acres based mostly on natural regeneration, I have had to make detailed estimates of the costs of reforestation by both methods. (Let me add in passing that I have very much appreciated the excellent cooperation of Kristin Taddei and her colleagues in the Planning Department as we have been developing this project.)

Our success with natural regeneration

The success of our 4-acre natural regeneration project over the past 19 years has been important to my proposal for an alternative pathway of reforestation, so it’s worth describing its results in brief. A few years ago I created an illustrated report on the first 15 years of the project, which

was done in cooperation with students from Hood College and the Global Ecology Program of Poolesville High School. I'll attach that description as an appendix to my testimony, and just briefly add a few points based on the results since then. Please look at that writeup –and in particular its pictures -- to get an idea of how well the forest has grown back naturally over those 4 acres.

Here are four important points to add to that description:

- 1) The reforestation has been done entirely by natural regeneration, without any tree planting at all. Indeed, within the 2 ½ acre plot in which we have been gathering detailed data, we have observed the rule of allowing no human manipulation at all – no cutting of any plants, no fencing to exclude deer or other wildlife, no application of any herbicides – nothing except tagging and measuring the trees as they grew up from seedlings.
- 2) The regenerated forest is more than 99.5% native tree species, and in a far greater abundance than is achieved in tree-planting-based reforestation. The tree density in year 19 was 3,240 trees per acre, with 366 of those trees being more than 4 inches in diameter. For comparison, the required number for tree-planting to be considered successful by the Planning Department's criteria, is to have 100 trees per acre, with at least 50 of them measuring 2 inches or more.
- 3) The growing forest has now begun to make a substantial contribution to combating climate change. The biomass of the trees is now 31.5 tons per acre, and each acre of trees takes 9.1 tons of carbon dioxide out of the atmosphere every year.
- 4) The forest and the landscape in which it has grown is very typical of rural Montgomery County. It grew back following the harvest of soybeans in fall 2003, on a field that had been used for farming for about 160 years. Scientists have long realized that over 95% of

the current forests in the eastern U.S. originated from natural regeneration, not from tree planting, and our success shows that this can be done just as well in Montgomery County as it has in the rest of the region.

The costs of natural regeneration and tree planting

Thus, there is no doubt that natural regeneration can successfully recreate forests in Montgomery County. Indeed, the fact that about 100,000 acres of our county is now forested (about 33% of our land area), is almost entirely due to natural regeneration over the past century and a half. But the value of natural regeneration is not simply that it re-creates native forests, but that it does this at an extremely low cost.

Indeed, most of the cost of our 4-acre reforestation has been for doing the research that generated the data I've summarized, which was not necessary for the forest to regenerate. Since we didn't plant any trees, protect them from deer, or apply any herbicides, we had no expenses associated with those kinds of activities. The major expenses were the costs of about 10,000 tree tags and the nails to attach them to trees, plus the poles to mark the coordinates of the 100 by 100 meter research plot. Even if we hadn't done this research, the forest would have grown back just as well.

Even if one wishes to include the opportunity cost of reforesting the land rather than continuing to rent it to neighboring farmers for soybean, corn and wheat production, the cost would be quite low. At our current rental rate of \$ 140/acre (based on competitive bids and quite typical of county agriculture), we have sacrificed a total of \$ 2,660 per acre over the past 19 years by reforesting. And of course, this doesn't take into account the environmental value of the forest ecosystem we have created.

In contrast, the per-acre cost of tree planting is very high. I'll give you estimates based on the quotes we have gotten in connection with the new 10-acre reforestation project that we plan to begin next spring. Since the size of the trees that must be planted is large (1" caliper, which means they are generally several feet high), they cost about \$ 45 each, on average. They are required to be protected from deer browsing, which adds \$ 6-8 each to the cost, and they are normally planted at a density of at least 200 trees per acre. Thus, one has already spent \$ 10,400 per acre, even before the trees are put in the ground – which entails an additional cost of about \$ 5,000 per acre. The cost of preparing and filing the required Forest Conservation Plan, including both detailed sketches of the planting methods and surveying of the area, adds about \$ 8,500. There are further expenses for preparing the soil, maintaining the plantation for the required period and other activities, which I have not included due to lack of data. These may also be substantial.

Altogether, this means that the 4 acre forest which we've created, would have cost us at least \$ 70,100 if we had done it by tree planting. By using natural regeneration, we have accomplished this at practically no cost. (Note that the opportunity cost of not renting the land for crops would have been the same by either method).

The high cost of tree planting puts reforestation financially out of reach for most landowners in Montgomery County. The median size of county farms is 26 acres, according the 2017 Census of Agriculture, which means that even if the entire land can be rented for crop production, it would bring in only \$ 3,640 annually. If one farms the land oneself rather than renting it, the situation is even worse – that same census showed that the average net revenue for county farms was approximately a negative \$ 6,000. That is, on average farms in the county lost several thousand dollars a year.

Therefore, the fact that one might profit by selling credits for considerably more than the cost of reforestation, is irrelevant for most landowners. They just can't afford the large up-front costs to undertake the project in the first place. Only businesses and the small minority of large landowners (30 farms out of 558 in the county have more than 500 acres, and together they own 58% of the county's farmland) can afford to reforest by tree-planting. For the rest of us, it's simply beyond our means.

Recommendation for an amendment to develop a natural regeneration pathway

The experience of successful natural regeneration of a native forest, at much lower cost than tree-planting, is the reason that I urge you to add a small but important amendment to the bill. The amendment would simply request that the Planning Department develop an alternative pathway for reforestation, based on natural regeneration, and report back to the County Council on any legislation that might be needed to implement it. (Note that the state law that established the Forest Conservation Bank program does allow natural regeneration, though it has seldom been used and provides no details.)

I am not a lawyer, and I suggest that you depend on the legal and scientific expertise of the staffs of the County Council and the Planning Department to work out the details of the alternative pathway. I would be happy to work with them on it and can help find other scientists to do so as well. At this point I would simply suggest a few principles that could serve as guidelines in developing the alternative pathway:

- 1) It should be complementary to the existing program, allowing tree-planting as part of natural regeneration projects but not requiring it.

- 2) It should be low-cost, particularly up front, and thus financially accessible to all landowners, whether large or small.
- 3) It should be based on the “pay-for-performance” principle. This means that reforesters would only receive credits after they have created a forest ecosystem that meets the same requirements as the main pathway – e.g. native species, few invasives, with a minimum size and density of trees, etc.
- 4) It should be flexible in terms of how reforesters achieve these requirements. They could depend entirely on natural dispersal of seeds from existing forests, or plant seeds, or plant small seedlings, or any combination of these. They could choose to protect seedlings from deer browsing, or not, and similarly for other management decisions. In other words, the pathway would specify what they need to achieve, but not tell them how they must achieve it. And they would only get paid when they achieve it.

I expect that as Planning Department staff and the public start discussing the alternative pathway, other ideas will emerge. I would simply encourage that they be evaluated as to whether they further these basic principles: natural regeneration, low cost, pay for performance, and flexibility.

In the longer-term

Finally, let me suggest a fundamental point about reforestation to consider in the longer term. These are not ideas to add to the current bill, but rather changes to consider in future years.

We need to move from a no-net-loss goal to an increased-forest-cover goal. The scientific literature, as summarized in last year’s Sixth Assessment Report of the Intergovernmental Panel on Climate Change (IPCC AR6), makes it clear that net zero is necessary but not sufficient to

prevent dangerous climate change. Getting to greenhouse gas emissions down to zero just isn't enough; in the second half of the 21st century, we need to be pulling more carbon out of the atmosphere than we put into it. Converting our global economy from fossil fuels to renewable energy is the basic solution to this need, but it will have to be accompanied by increasing carbon sequestration – and increasing forest cover is the best option to do that.

Many important environmental policies developed in the twentieth century were based on the principles of offsetting and no-net-loss – e.g. of wetlands, of air pollutants like sulfur dioxide, and in the case of our state law, of forests. Our county program follows the same logic – if developers want to deforest in some areas, they are required to pay for protection and re-creation of forests in other areas. This is basically an offsetting mechanism and it helps maintain the amount of forest in the county, but is too weak to increase it. And indeed, our forest cover has essentially been static over the past three decades.

The citizen working group on carbon sequestration established as part of the county's Climate Action Plan process recommended that the county increase its forest cover, currently about 33%, to 45% by 2035. Unfortunately this recommendation, which would be an increase of about 1% per year, was not adopted in the final climate plan.

Increasing the required reforestation ratios is a positive step, and I am glad to support the recommendations of both the Planning Department and the Montgomery County Forest Coalition to do so in the current bill. But by its very nature, this has limited ability to increase forest cover. That's because as reforestation ratios are increased, the cost of reforesting off-site will go up relative to the option of retaining forest in the developed area. That's a good result – it means that there'll be less forest cut down and more forest conserved, particularly in the areas

where most of our residents live. But it also means that the financial incentive to reforest off-site will decrease. So we'll get less new forest created.

Thus, over the long term we need to develop ways to encourage the creation of new forests, that aren't dependent on the destruction of old ones. Linking reforestation to deforestation has certainly been positive for government budgets, since it means that developers pay the costs of reforesting, not the taxpayers. But if we're serious about increasing forests in the county rather than just being content with no-net-loss, we need to put public money into the action. With its benefits for public health, climate adaptation, environmental conservation, and support of small landowners, this is more than justified as a use of public money. This has been recognized at both the state level, with last year's passage of the Tree Solutions Now Act, and at the federal level, with the provisions of the Inflation Reduction Act. Both these pieces of legislation can provide public funding, and the county should take advantage of them.

As I said, these are longer-term changes, not things that you need to do in the current bill. For now, I would simply encourage you to support the bill, support the Montgomery County Forest Coalition amendments to it, and add a simple amendment asking the Planning Department to develop a natural regeneration pathway for reforestation.

Thank you very much for your attention to these recommendations. I would like to conclude by inviting members and staff of the Council to visit our young naturally regenerated forest in Dickerson. We have already had both Planning Department staff and three members of the Maryland House of Delegates out to see it and would be happy to welcome you to come out and visit it as well. I think you'll find it both enjoyable and enlightening.

Appendix



A Natural Reforestation Experiment in Montgomery County, Maryland: Results from the First Fifteen Years

Doug Boucher

White Acres Farm
20507 Darnestown Road
Dickerson, MD 20842

douglas.h.boucher@gmail.com

Fall, 2019

Summary:

This brief report describes the process of natural reforestation, over 15 years, on a farm field left fallow in the fall of 2003. It shows the potential of areas in the Piedmont of Maryland to grow back to forest naturally with little human intervention.

The 4-acre field, which is roughly square with north-south and east-west edges, is part of White Acres Farm, in the northwest corner of Montgomery County, and prior to being fallowed, it had been farmed continuously for about 160 years. In terms of landscape, soil type, and history it is typical of the region. It is bounded on one side by a 75-year old secondary forest, and on another side by a fencerow with large trees of about the same age. These provided the seed sources for the field. No tree-planting or other human disturbance took place over the 15 years of regrowth, other than data collection on establishment of seedlings and their growth into saplings and trees.

Once left fallow, the field grew up in a meadow dominated by grasses, goldenrods and other perennials, but also with a high density of tree seedlings. The most common seedling species, by far, was tuliptree (*Liriodendron tulipifera*), followed by white ash and then box elder. Distance to seed source had a clear impact on seedling densities, which were higher on the north and west sides of the field, near large seed trees. Surprisingly, the seedlings along the west side of the field grew significantly faster than those further east, despite their high density and their being shaded part of each day.

Some seedlings began to reach sapling size after a few years and the beginnings of a new forest canopy – that is, trees with crowns that touched each other and shaded the ground below them -- began to close in Year 6. By Year 10 this canopy covered a fourth of the field, and it rapidly expanded in the next few years, covering 86% of the field by Year 15. The dominant species of this new forest continues to be tuliptree, with a few juniper (red cedar), black cherry and sycamore in the new canopy as well. White ash and box elder remain common but mostly in the understory. Non-native invasive species make up only about 0.2% of the forest in Year 15. Vines – mostly Japanese honeysuckle and bittersweet – are growing on about 10% of the trees.

Deer browsing has had an impact on tree growth, as shown by trees growing faster inside small fenced areas (“deer exclosures”) outside the main plot. This effect was especially evident between Years 5 and 10, when seedlings were reaching the sapling stage.

In several ways, the new forest that has grown up resembles the 75-year-old forest on its west side in which many of its parent trees are located. Both are dominated by tuliptree, along with black cherry and with white ash and box elder below, and both have only small numbers of non-native invasive tree species. Naturally, the new forest is still considerably shorter (its average tree height was about 24 feet in Year 15, versus 105 feet for the older forest) and despite substantial mortality it still has 20 times as many trees as in the older forest. Rough estimates indicate that the amount of carbon in the new forest is only about 10% of the amount in the 75-year-old forest, although it is now increasing fairly rapidly.

Thus, over 15 years and without any tree planting, a new native forest has been established and is growing up to resemble the older forest adjacent to it.

Introduction

In October of 2003, as part of my research and teaching work at Hood College, I began a study of forest succession on a field near my house in Montgomery County, Maryland. Together with Hood students and other friends and colleagues, I have been studying forest regrowth on this field over the past 15 years. This short report briefly describes in non-technical terms what we have found and shows the potential of natural reforestation on agricultural land in the Piedmont of Maryland.

The Setting

The field is at the north end of White Acres Farm, which is along Route 28 (Darnestown Road) in Dickerson, Maryland. It is located in the Piedmont region of Maryland at 39.21° N., 77.42° W., and is within Montgomery County's Agricultural Reserve. The setting, a rolling landscape of hills and valleys, is typical of the upper County. The field is on the Penn sandy loam soil type, over a sandstone bedrock,

and is similar in fertility to typical farm fields in the region.



Figure 1. Soybeans in the field just before the last harvest, 13 October 2003. The 75-year-old forest is in the background (to the west), and the tip of a smokestack of the Dickerson coal-fired power plant is barely visible in the center of the forest canopy.

White Acres Farm has been owned by members and descendants of the White family since the 1830s, and was a dairy farm run by Max White from 1916 till he died in 1972. From 1973 to 2003 the farmland was rented by two local farmers, Bob Raver and Dave Weitzer, who rotated crops of corn, soybeans and winter wheat on it, generally using no-till methods. The last crop before the field was left fallow in October 2003 was soybeans (Fig. 1).

To the west of the field are several acres of forest that slope down to the floodplain of the Little Monocacy River. By counting tree-rings in cores taken from the largest trees in this forest, we have found that it originated about 1943; this date is confirmed by aerial photos dating from 1951. Thus the

forest is now about 75 years old. It is typical of many secondary forests in eastern North America, with an average tree height around 32 m (105 feet) and about 150 trees per acre. (Figure 2).



Figure 2. The 75-year-old forest, looking eastwards from the floodplain of the Little Monocacy.

The canopy of the 75-year-old forest is dominated by tuliptree (*Liriodendron tulipifera*), with smaller numbers of black cherry (*Prunus serotina*). There are also various species of oak, hickory and maple as well as other species such as black gum and beech.



Figure 3. Looking north over the field in November 2004 (Year 1), showing the fencerow trees along the north edge of the field in the background

To the north of the field is a stone fencerow marking the north edge of the White Acres Farm property (Figure 3). Along both sides of the old fence trees have grown up, and based on their sizes, are probably similar in age to those in the 75-year-old forest. They include large tuliptrees, sycamores, red oaks, white ashes, black gums and several species of hickory. The 75-year-old forest on the west and the fencerow trees on north are the likely seed sources for almost all the seedlings that have grown up in the field.



Figure 4. The fallow field just after the soybean harvest, in October 2003, looking northwest.

After the soybean harvest in late October 2003, we let the field go fallow and marked out a 100 by 100 meter research plot (2.5 acres) in the middle of it (Figure 4). Since that time the only human disturbance to this research plot has been the collection of scientific data. No trees or any other plants have been planted in the research plot, and it has been left unfenced. However, in November of 2004 (Year 1), 12 small 2 x 2 m plots were established just outside of the main research plot, with six of them surrounded by fencing (Figure 5) and six of them left open. Comparisons among such “deer-exclosure” plots are a standard method used to evaluate the impact of deer browsing on seedling survival and growth rates.



Figure 5. Two of the fenced deer-exclosure plots along the southern edge of the fallow field on November 29, 2004, just after they were established. The 75-year-old forest is visible behind them on the left side of the photograph. Pink flags inside the exclosures mark seedling locations.

Since 2003 we have identified, counted and measured the seedlings in the field as they grew into saplings and then trees over 15 years. The next section summarizes our main findings about how the field has changed.

The Growth of the New Forest

By June of 2004, eight months after the field was left fallow, it had begun to be covered by meadow vegetation, with large numbers of seedlings, each just a few inches tall, beginning to appear. Their numbers continued to increase over the next few years, and by Year 3 they had reached a density of about 4.5 seedlings per square meter – i.e. 18,000 per acre. Three-fourths of the seedling community were tuliptrees, with substantial numbers of white ash (*Fraxinus americana*) and box elder (*Acer negundo*) as well (Figure 6).

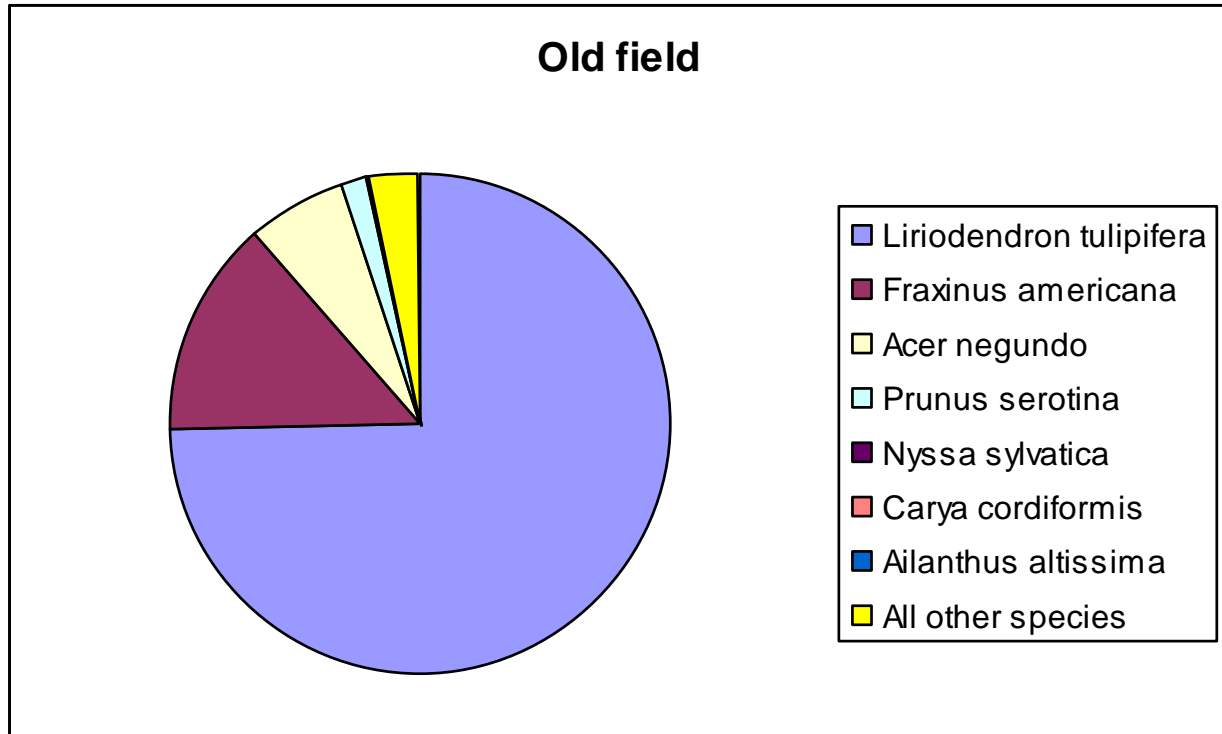


Figure 6. Percentages of tree seedlings in the field in Year 3. The most common species were tuliptree (*Liriodendron*), white ash (*Fraxinus*) and box elder (*Acer*), with lesser numbers of black cherry (*Prunus*), black gum (*Nyssa*), bitternut hickory (*Carya*) and tree-of-heaven (*Ailanthus*).

By this time the meadow vegetation was dominated by perennial herbaceous species such as grasses and goldenrods, and brambles (principally black raspberry and wineberry) had started to appear as well.

The seedling community showed clear differences across the field, with higher densities on the sides that were closer to the old forest (the west edge) or the fencerow trees (the north edge) (Figure 7). Surprisingly, despite their high density and the partial shade of the forest on them for part of the day, the seedlings closest to the forest actually grew faster than those in the middle of the field. By Year 3, already 40% of the seedlings near the old forest had reach 50 cm in height (i.e., knee-high), while only 1-2% of the seedlings elsewhere in the field were this tall.

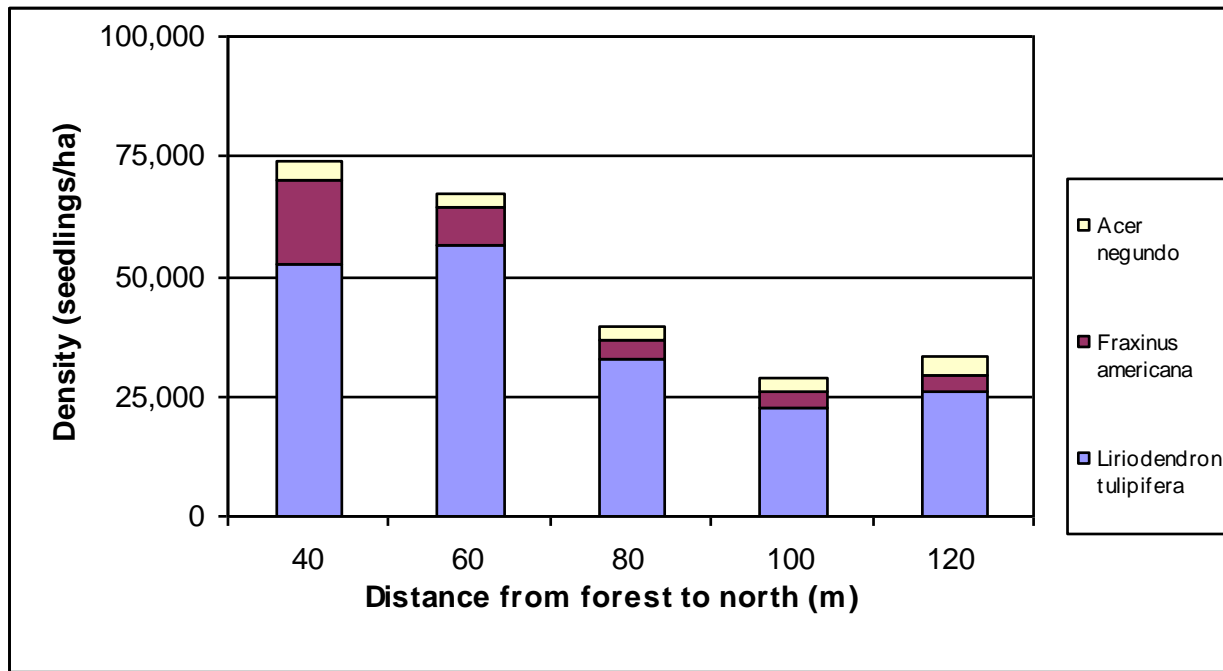
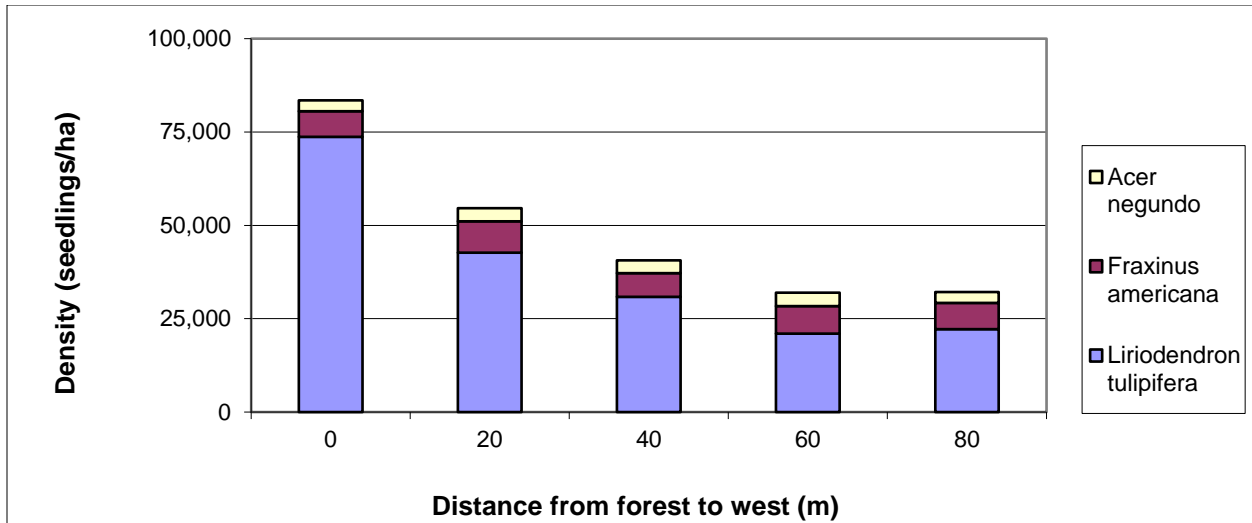


Figure 7. Seedling density versus distance to the 75-year-old forest to the west (top graph) and versus distance to the fencerow trees to the north (bottom graph)

Over the next several years seedlings throughout the field grew to sapling size, and by Year 6 a new low and dense canopy had formed along the western edge of the field. By Year 10 about 25% of the area of the field was covered by this forest canopy, and over the next five years its area expanded rapidly to cover 86% of the field by Year 15 (Figure 8).

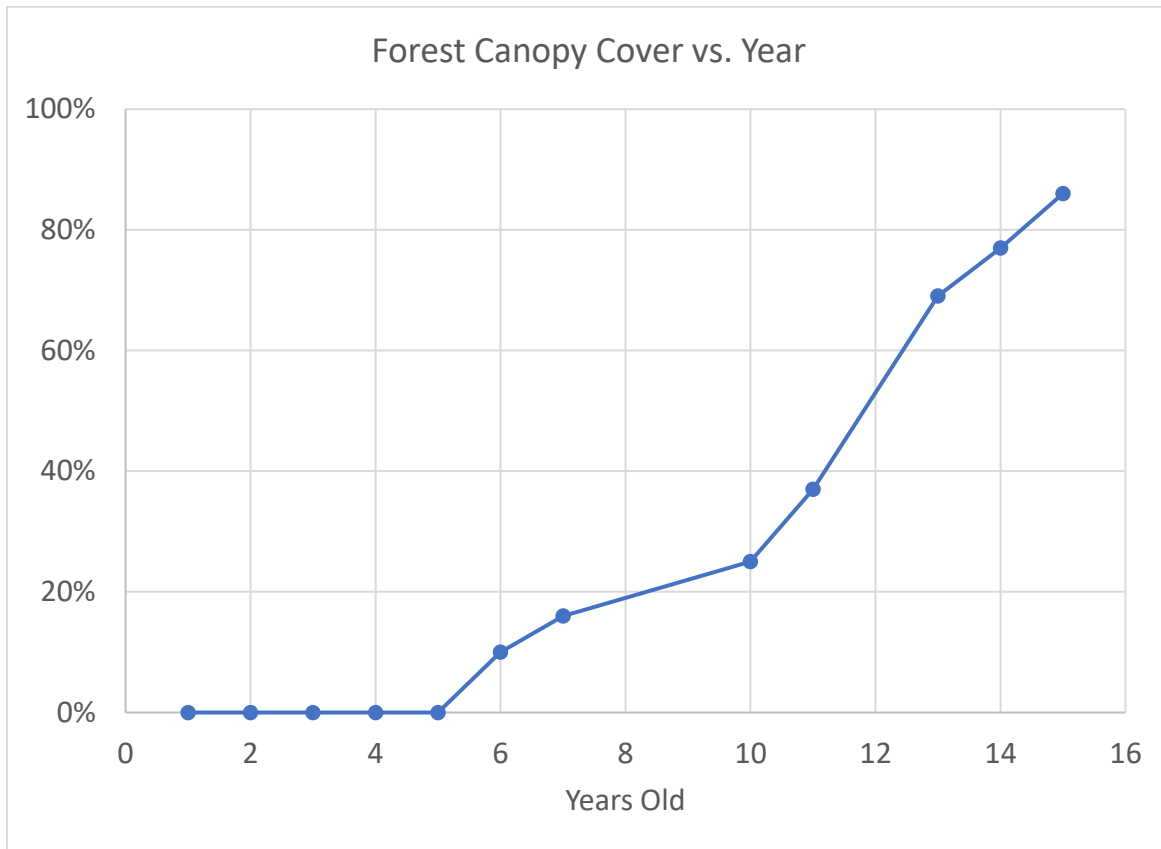


Figure 8. The percent of the field’s area covered by forest canopy, versus time since the field was left fallow. The canopy began to close along the western edge of the field in Year 6, and rapidly expanded to cover most of the field between Years 10 to 15.

As the canopy of the new forest grew, it slowly began to shade out the grasses, goldenrods and brambles below it. At the same time, herb species typical of forest understories began to appear, including buttercups and orchids (Figure 9).



Figure 9. A ladies-tresses orchid (*Spiranthes* sp.) in the understory of the new forest, Year 14.

During the growth of seedlings into trees, the relative abundance of different species changed due to differences in their survival and growth rates. Overall, about 50% of the seedlings found in the field in the first few years had died by Year 15. Tuliptree continues to dominate – actually, even more so than initially (93.3% in Year 15, versus about 74% in Year 3; Figure 6). White ash and box elder remain present in the 15-year-old forest, but almost all of them are in the understory rather than the canopy. On the other hand, sycamores, junipers (red cedar) and black cherry are now found in the canopy, each representing a few percent of the trees. Other native species present include bitternut hickory, black gum, black locust, American holly and red maple. Oaks and beech, however, are still absent.

Invasive non-native tree species are very rare in the new forest. Some were present initially but quickly died out; for example, seedlings of tree-of-heaven (*Ailanthus altissima*) had a mortality rate of 69% from Year 1 to Year 2, versus an average of 7.6% for the native species. In Years 7-15, other non-native invasives such as autumn olive and Callery pear have shown up, but not in large numbers. Currently, fewer than 0.2% of the trees in the new forest are non-native invasive species (autumn olive, Callery pear, tree-of-heaven, empress-tree, bush honeysuckle and mimosa).

Vines have grown up the trunks of some of the trees and now are found on about 10% of them. The most common vine species is Japanese honeysuckle, followed by oriental bittersweet. Native vine species (Virginia creeper, wild grape and poison ivy) colonized the field in the first few years but mostly have died out.

Comparison of the 2 x 2 m plots that were fenced to prevent deer-browsing, with those that were left open, showed that deer browsing has slowed growth. This was particularly the case up to Year 10 when most of the seedlings were still less than five feet high. Similarly, a lower rate of deer browsing may be responsible for the faster growth of the new forest along the west side. The hypothesis here is that the high density of seedlings close to the old forest (Figure 7, top graph) was so great that it overwhelmed the ability of the deer herd to browse them all, so that more of them were able to grow up to tree size.

The 15-year-old and the 75-year-old Forest

In broad terms, the new forest is similar to the old one to its west. Both have tuliptree, and to a much lesser extent black cherry, as the dominant trees in their canopies. White ash and box elder are common in both, but mostly below the canopy. They share other, less common species (e.g. bitternut hickory, sycamore), and both have very low abundances of non-native invasive trees.

On the other hand, the new forest's trees are obviously still much smaller than the old ones, averaging 24 feet versus 105 feet tall. Although 50.3% of the seedlings initially found in the field have died, the tree density of the new forest is still nearly 20 times greater than the old forest (Figure 10).



Figure 10. The interior of the 15-year-old forest, showing the high density and dominance of tuliptrees.

We can combine the size and density data to estimate the relative amounts of carbon in the two forests. The first step is to calculate what foresters call the basal area (BA) of the two forests -- a way to represent the proportion of the ground covered by tree trunks. One way to think of it is that if we cut down all the trees, hypothetically, the BA would be equal to the total area of their stumps. The BA of the

new forest is now about 57 square feet/acre; this is about a third of the old forest, which has 161 square feet/acre.

As a second step, combining the BA measurements with the limited data we have on tree heights, we estimate that the 15-year-old forest contains only about 10% as much carbon as the 75-year-old forest. However, the new forest trees have now reached a size at which they have begun to accumulate carbon rapidly.

In conclusion, the 15-year-old forest is different from the 75-year-old one, but in important respects – e.g. dominant species, tree diversity, understory composition, and amount of carbon – it is moving rapidly in the same direction.



Figure 11. Satellite photo of the study area in Year 12, showing the old forest (left), the new forest (upper right) and fields still being cropped (lower right). Source: Google Earth, 9 September 2015

Acknowledgements

Financial support for various stages of this study was provided by Hood College and by the U.S. Forest Service, and much of the field and intellectual work was done by students of Hood College and

Poolesville High School's Global Ecology Program. We are very grateful for all their contributions. Our special thanks go to Kerrie Kyde, Kai Caraher, John Snitzer, Joyce Bailey and Natasha the Research Dog.

Please contact Doug Boucher (douglas.h.boucher@gmail.com, (202) 492-7376 with any questions or if you would like to visit the study area.



Forest Preservation

For: October 4, 2022

To: Montgomery County Council

In re: Bill 25-22, Forest Conservation Law

The League of Women Voters of Montgomery County strongly supports the county's new efforts to protect our forests and hopes you will go beyond the original bill to make the bill stronger in accord with recommendations of several local organizations (e.g., the MoCo Forest Coalition). It has been 30 years since our previous forest legislation and it is time to do more to help ameliorate the problems being brought on by climate change.

Areas for additional emphasis include the following:

- All remaining pre-existing Forests in MoCo are to be designated & treated as priority forest ecosystems.
- Prioritize all remaining forest cover and remove only for valid reasons.
- Require a variance by the Planning Board or Planning Director for any removals.

Types of forests and trees that would receive a stronger level of protection and require a variance to be removed include forested: Floodplains; Stream Buffers; Forested Stream Buffers along Ephemeral Streams; Steep Slopes; Critical Habitats; Contiguous Forests; Forest Connective Corridors; Rare, Threatened, & Endangered Species; Historic Site trees; Champion Trees and other exceptionally large trees; areas designated as "Priority Save Areas" in Master Plan or any Functional Plan.

- Forest removal subject to a variance must be replaced with forest ecosystem at a 2:1 ratio.

This fits with strengthening replanting ratios to ensure no-net-loss, and strengthens the re-planting requirement from ¼ acre planted for every 1 acre removed to 2 acres forest ecosystem planted for every 1 acre removed (others have gone into more detail on this).

- Strengthen Watershed Considerations.* This includes requiring a higher ratio of acreage for afforestation and reforestation if dealing with areas outside the county or outside the specific sub-watershed bank shall be at a 4:1 ratio, or replanting of forest ecosystem shall be done at a 2:1 ratio.
- When what's being removed is forest ecosystem, what's being replaced should be forest ecosystem as well.

Nancy Bliss and Vicky Strella, co-presidents; Linda Silversmith, chair, environmental committee



TESTIMONY on FOREST CONSERVATION BILL 25-22

Presented to the Montgomery County Council

October 4, 2022

Hedrick Belin, President

This spring, when over 3 inches of rain fell in Montgomery County in just a few hours, streams turned into overflowing rivers. Roads, homes and businesses flooded, causing millions of dollars in property damage.

This destruction was much worse than it should have been. We have stripped away our community's natural defenses against extreme storms and flooding. The clear-cutting of this county's forests over the last several decades is harming our economy, our public health, and our livelihoods.

While our neighboring counties are prioritizing their forests, a recent study showed our County lost over 500 acres of forest and broke up an additional 1,800 forested acres in just four years.

I'm Hedrick Belin, President of Potomac Conservancy. We represent more than 5,000 supporters in this county. As your constituents, we want action and leadership from the County Council on forest protection.

We support the updated Forest Conservation Law, Bill 25-22, with some strengthening amendments. We want to move from a goal of no net loss of forests to a net gain of forests; a goal that rises to the challenges of our time.

We must not just aim to replace individual trees. We must prioritize protecting our existing forest ecosystems. And in special circumstances when those protections cannot be honored, we must require the creation of two acres of functioning forest for every one acre removed.

As we saw this spring, we frankly cannot afford anything less.

Forests play a critical role in our community. They clean and cool the air we breathe. They keep pollution out of our rivers and out of the water we drink. Forests reduce flooding from extreme storms which are becoming increasingly more severe due to the climate crisis.

We must protect our remaining forests by putting an end to irresponsible development and embracing common sense planning.

You must strengthen the Forest Conservation Law. Please enact legislation that saves existing forests first and then replace and restore additional forest acres.

Thank you!



Eyes of Paint Branch

Grassroots Conservation, Education, and Action for the Paint Branch and its Watershed

February 3, 2023

Mr. Evan Glass, President
Council Office Building
100 Maryland Avenue, 6th Floor
Rockville, MD 20850

Dear President Glass and Councilmembers,

We are writing to strongly urge Council to make sure the Montgomery County Forest Coalition's stronger forest recommendations are part of Bill 25-22, and that you approve the Bill now, without delay or weakening of the protective provisions.

The Paint Branch watershed is rich in biological diversity and an uncommon natural beauty. In addition the characteristics of high water quality, cool temperatures, sufficient and consistent water flow, coupled with abundant aquatic habitat, are all essential for supporting metropolitan Washington, D.C.'s last remaining self-sustaining brown trout population. This combination of characteristics would not be possible without the heavily forested areas throughout the Paint Branch watershed.

Forests are essential to the quality of life throughout Montgomery County for all of us, as well as our economic prosperity into the future. Consequently, we strongly urge Council to ensure that this Bill include provisions to protect all existing contiguous forests in the county and that forest protection includes all forest ecosystems.

A full forest ecosystem includes healthy soil, drainage, healthy fungi in the soil, healthy micro-biotic communities in the soil, biomass; groundcover; shrub layer, tree understory layer; tree canopy layer, diversity of different types of trees and plants. Since development inevitably impacts many of these critical ecosystem components, we strongly urge Council to:

- Require higher expectations for preserving forest on development sites
- Adopt the stronger replanting requirements to replace more of what is cleared
- Dedicate and establish a fund for controlling invasive plants and long-term tree maintenance (to be considered in a future legislation)

The recently released Hughes Center Report on Maryland's Forests found that Montgomery and Prince George's counties accounted for more than 44% of the state's total tree canopy loss. This is unacceptable, and must not continue!

Please distribute this letter to all Councilmembers.

Sincerely,
/Sig/
David Dunmire
EOPB Acting President



Montgomery County Council

Rockville, MD

Re: Bill 25-22, Forest Conversation – Trees

Good afternoon distinguished members of the Council,

I appreciate your attention to the reforestation and conservation of Montgomery County. It might seem comical to have an agenda item focused on “trees,” but ultimately as you know, it’s not really about the trees. It is about the health and wellbeing of our county and its citizens, and most importantly, our safety and security due to more severe changing climate.

The majority of Montgomery Council used to be heavily forested. Forested areas were cleared bit by bit for agriculture, timber use, and development, and more recently, the emerald ash borer took an additional toll on forests throughout our region.

Forests and forest ecosystems not only clean and filter our air and water, and they protect against severe storms and events such as flooding. Trees and forested areas act as buffers between major flood prone areas and homes and infrastructure. The county’s proactive investment in ensuring forestation and adequate drainage in commercial and urban areas will return year after year to the county and the citizens in cost savings from severe storms, emergency services, damaged infrastructure, and loss to life.

I hope the Council votes yes on Bill 25-22.

I believe several portions of this bill will directly contribute to ensuring and maintaining the safety and security of our county and mitigating climate change. Particularly, planting forest in all unforested stream valley buffers, and ensuring ongoing maintenance of these areas, will help protect against extreme weather events now and in the future, protect critical wildlife (I’m a particular fan of the birds of prey that keep down our mice and rat population!), and filter the air we breathe and the water we drink.

Reforestation is only one part of climate change mitigation. However, it’s a nice dose of preventative medicine.

Thank you for your time and attention,

Vanessa Lamers

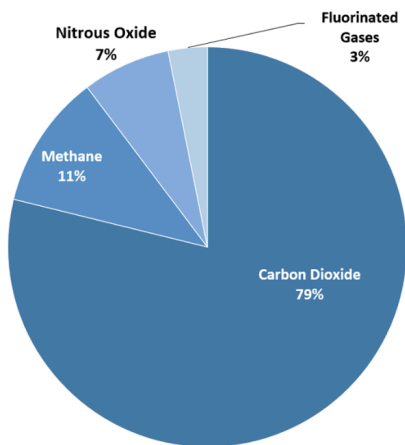
Silver Spring, MD

To Montgomery County Council Feb. 7, 2023
Re: In favor of passing Bill 25-22

Thank you, Council President Glass and Council Members for the opportunity to testify in support of Bill 25-22 Amendments to Forest Conservation Law and thank you CM Albornoz for sponsoring this bill.

I am a retired NASA-scientist, a volunteer Maryland Naturalist and am testifying on behalf of Montgomery County Climate Action Plan (CAP) Coalition. The CAP Coalition, is a network of 17 local organizations and many individuals advocating to reduce greenhouse gas emissions 80% by 2027 and 100% by 2035 and to build resilience to impacts of climate change for County residents. As you know, conservation of forests contributes effectively and positively to sequestration of carbon dioxide, the major greenhouse gas in our atmosphere. Additionally, the presence of trees and contiguous greenways plays a vital role protecting our waterways, reducing rising air temperatures, enhancing our communities, and promoting the well-being of its residents. This coalition supports passage of the proposed amendments put forward at the request of the planning board staff.

Overview of U.S. Greenhouse Gas Emissions in 2020



Total U.S. Emissions in 2020 = 5,981 Million Metric Tons of CO₂

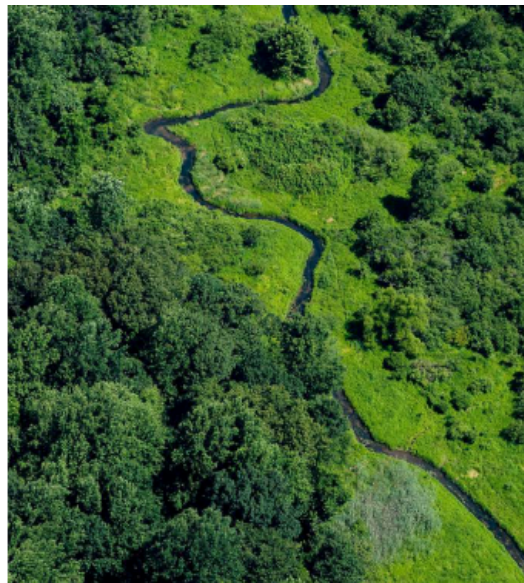
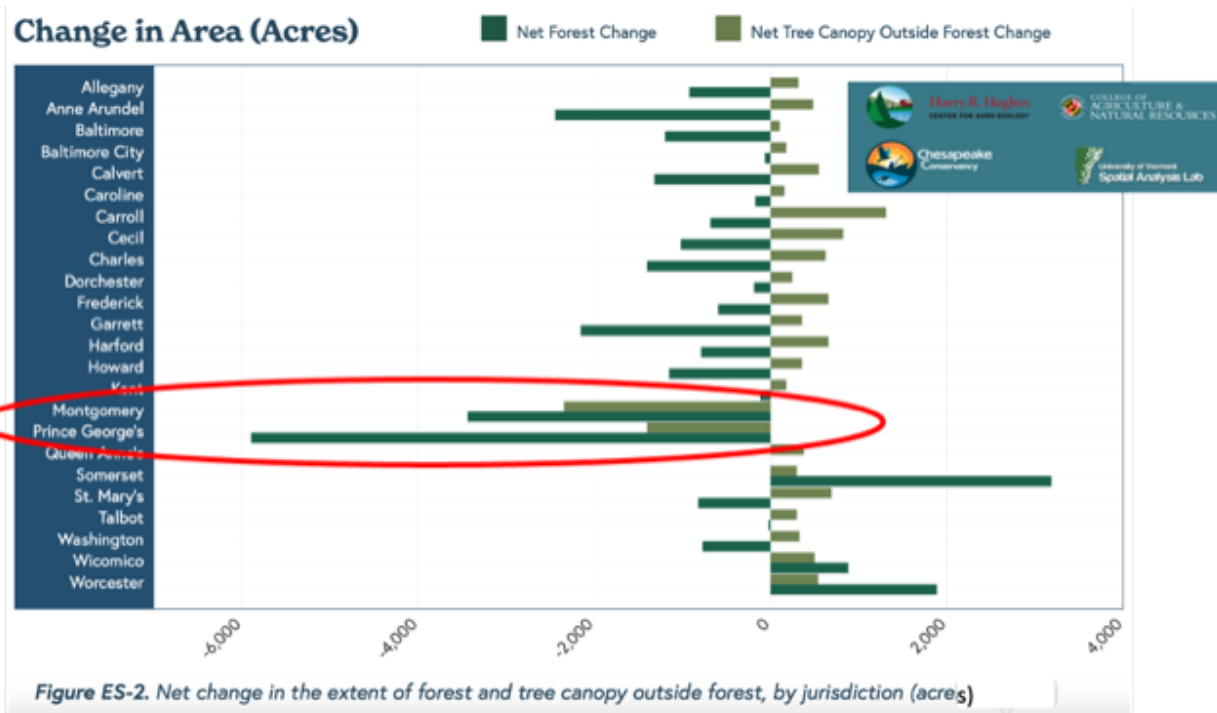


Fig. Left-from web site cited below

Fig. Right-from cover of Hughes report

We have reviewed the proposed amendments, and in collaboration with MoCo Forest Coalition, engaged in discussions with planning board staff members, Kristin Taddei and Christine Sorrento. We have also considered the proposed amendments in light of the release, in November 2022, of the Maryland Forest Technical Study on Changes in Forest Cover and Tree Canopy in Maryland (hereafter referred to as the Hughes report, the organization leading the study along with UMd College of Agriculture & Natural Resources, Chesapeake Conservancy, U. Vermont Spatial Analysis Lab).

Why should this bill be passed now? In the Hughes Report, Montgomery County stands out in its loss of contiguous forest and tree canopy outside of forest, second only to Prince George's County (see Fig. ES-2 from the report).



Furthermore, while the *rate* of forest and tree canopy loss state-wide has decreased in the past couple of decades (Hughes Report, p. 17), the existing canopy has become fragmented and stressed by non-native invasive species of plants with negative impacts on water quality, reduction of wildlife habitat and increased temperatures in urban areas with low tree canopy (heat island effects). This fact was highlighted in the State's study of forest and tree cover. The fragmentation of forest and tree canopy is shown to be due to development (Executive Summary pp.10-14, p. 53 and Conclusions pp.77-80).

Bill 25-22 provides incentives to clear *less* forest, protect watershed areas, plant trees in previously unforested areas (afforestation), requires planting and maintenance of forest and trees on institutional lands, among a list of additional items noted in the transmittal letter to the Council.

CAP Coalition supports MoCo Forest Coalition's position in:

- Asking that Council approves Bill 25-22 now, does not delay this bill any longer, and does not water it down any further.
- Asking that Council protects all existing contiguous forests in the county and that forest protection includes all forest ecosystems.
 - A full forest ecosystem includes healthy soil, drainage, healthy fungi in the soil, healthy micro-biotic communities in the soil, biomass; ground cover;

shrub layer, tree understory layer; tree canopy layer, diversity of different types of trees and plants.

- Requesting higher expectations for preserving forest on development sites.
- Adopting stronger replanting requirements to replace more of what is cleared.
- Dedicating and establishing a fund for controlling invasive plants and long-term tree maintenance.

Additionally, some comments from my Oct 3, 2022 testimony that I ask Council to consideration include:

- We understand that the planning board’s intent in seeking landscaping in existing high-density areas where there may not be room to reforest as contributing toward beneficial afforestation. However, landscaping alone does not sufficiently mitigate the deleterious effects of heat islands nor provide other benefits that come with neighborhood trees. We ask that this provision be considered carefully and ensure that this landscaping provision doesn’t defeat the goal of providing equitable benefits of trees in vulnerable communities where trees are most needed. It is those communities that suffer the greatest from urban heat island effects.
- There are places in the proposed bill where language is used that might effectively dilute the law and make some parts impossible to enforce. Examples include:
 1. line 189 “make a reasonable effort to minimize land disturbance...”
 2. lines 238-240 “to the extent practicable, entities providing public utilities...in a manner that avoids identified conservation areas and minimize tree loss.”
 3. line 506 “preferred sequence” for afforestation and reforestation...

We note that Bill 25-22 doesn’t address the need to *increase forest and tree canopy in the county for the sake of climate resilience. More work needs to be done both to achieve no net forest loss and, in light of the climate emergency that we live with every single today, to *increase forest and tree canopy in our County because trees are the most effective mechanism for sequestration of CO2.**

I ask for your vote in support of this bill without delay, so that we as citizens of Montgomery County and you as our leaders can make progress toward greenhouse gas reduction per the County’s Climate Action Plan. Thank you.

References:

Technical Study on Changes in Forest Cover and Tree Canopy in Maryland, Nov. 2022.
<https://www.chesapeakeconservancy.org/mdforeststudy2022>

Overview of Greenhouse Gases, US Environmental Protection Agency
<https://www.epa.gov/ghgemissions/overview-greenhouse-gases>

To: Montgomery County Council
Re: Bill 25-22, Forest Conservation – Trees
For: Hearing, February 7, 2023

We are writing to inform you that the League of Women Voters of Montgomery County enthusiastically endorses Bill 25-22 as a major step towards fighting climate change locally.

Given that the world is more than 40 years late in beginning to address climate change, these new extensive steps for increasing county forests will be an important contribution.

In the last decade, Montgomery County lost 4000 acres of forests. It is valuable that this bill identifies more situations in which trees should be planted or receive additional care – including in lower and higher density land use categories – and updates the allowable types of forest mitigation banks.

Nancy Bliss and Vicky Stella, co-presidents
Linda Silversmith, chair, environmental committee

Date: February 7, 2023
To: Montgomery County Council President, Evan Glass and Councilmembers
From: Roberta G Steinman,
Subject: Testimony on Bill 25-22, Forest Conservation - Trees

In this time of climate chaos, plunging biodiversity, and worldwide forest loss, retaining and increasing our natural forest ecosystems is the best technology and our best hope to mitigate the worst impacts of climate disruption and help bring back balance to our planet, our home.

According to the 2022 Maryland Forest Technical Study, Montgomery County had a **net loss of 3,444 acres of forest** and **2,340 acres of tree canopy outside of forests** between 2013 and 2018 – or, a total net loss of **5,457 acres of trees**.¹ The loss was due primarily to rapid development², which continues unabated to this day. This trend of forest loss and forest fragmentation in Montgomery County due to development is a red flag signal that we are headed in the wrong direction. When we lose forests, we also lose the complex ecological relationships and ecosystem services that are essential to the health of our world.

To protect our forests and ecosystems, **Bill 25-22 needs to be strengthened in 7 critical areas:**

1. Establish **Net Gain of Forests** as the goal. We need to move the goal from *no net loss of forests* to a **net gain of forests** to meet the immense global challenges of our time. The “No Net Loss” vision is not a viable strategy because it does not protect existing forest ecosystems.
2. **Protect all remaining forests and designate and treat them as priority forest ecosystems.**³ The November 2022 Maryland Forest Study suggests that the most effective reforestation measure is protecting more existing woodlands: “the state should prioritize forest protection as a mechanism for not only maintaining, but also increasing, forest area.”⁴
3. **Prohibit the removal of forest or tree cover** in the following areas:
Floodplains; Stream Buffers; Forested Stream Buffers along Ephemeral Streams; Steep Slopes; Critical Habitats; Contiguous Forests; Forest Connective Corridors; habitats of Rare, Threatened, & Endangered Species; sites with Historic Trees, Champion Trees and other exceptionally large trees; in “Priority Save Areas” in Master Plans or any Functional Plan.
4. **Prioritize natural riparian forest regeneration.** To improve the water quality in Montgomery County, allow for the reforestation of riparian areas that are currently without forest cover to regenerate naturally. This applies to watercourses of all sizes. If natural regeneration is not practical, replant only with locally native species. Upland forest regeneration is also very important but should not be prioritized ahead of the riparian forest restoration.
5. **Encourage natural regeneration as a pathway to reforestation.** “Forests of the eastern U.S. originated from natural regeneration, not tree planting.”⁵ Natural regeneration is a proven pathway to reforestation. It

¹ See table 12, p. 51 of [Technical Study on Changes in Forest Cover and Tree Canopy in Maryland](#)

² See Figure 22, *Forest and Tree Canopy Change Associated with Development*, p.53 of [Technical Study on Changes in Forest Cover and Tree Canopy in Maryland](#)

³ A full forest ecosystem includes healthy soil, drainage, healthy fungi in the soil, healthy micro-biotic communities in the soil, biomass; groundcover; shrub layer, tree understory layer; tree canopy layer, diversity of different types of trees and plants.

⁴ [Technical Study on Changes in Forest Cover and Tree Canopy in Maryland](#), p.14.

⁵ See Oct 4, 2022, for a full discussion of natural forest regeneration, see Boucher testimony, pp. 4-7,

https://www.montgomerycountymd.gov/COUNCIL/Resources/Files/agenda/col/2022/20221004/testimony/item4-Dr_DouglasH_Boucher.pdf

requires no tree planting, can be done at a fraction of the cost, and ensures that natives will repopulate the area. Areas with invasive plant species will require some follow-up maintenance to help ensure the growth of the young native saplings. Planted forests and planted forest mitigation banks, though well intended, do not replicate forest ecosystems and cannot provide the ecosystem functions of a naturally regenerated forest. Furthermore, “tree planting efforts can fail because of the significant time and long-term investment and maintenance required to develop newly planted trees into healthy, mature forests that provide the full suite of desired ecosystem services.”⁶

6. **End the practice of allowing existing forests to be used as mitigation banks.** Continuing to allow existing forests to be used as mitigation banks will result in the continued loss of forests. Current law permits the preservation of existing off-site forests to satisfy replanting obligations.⁷ Developers in Montgomery County rely on this practice. They can pay to protect existing off-site forests instead of replacing trees on-site that their construction has cleared, or planting trees elsewhere. While conservation of existing forest stands is valuable, **continued reliance on the practice of allowing existing forests to be used as mitigation banks leads to a net loss of mature or maturing forests.** The loss of these forests spells the loss of the complex ecological relationship that are the basis of our existence.
7. **Strengthen tree replacement requirements at a 2:1 ratio based on Diameter at Breast Height.** Per section 22A.00.01.08 General Forest Conservation Plan Provisions, section F – Tree Save Plans: if there is to be tree replacement, state and local entities should calculate tree replacement replanting at a 2 to 1 ratio based upon the diameter at breast height (dbh) lost. For example, the loss of one 24"dbh tree would be replaced with sixteen 3 inch dbh trees or twelve 4 inch dbh.

CONCLUSION

Forests are vitally important for sustaining life on Earth and play a major role in the fight against climate change. The window is quickly closing for effective climate action. If we are really serious about tackling climate change, halting the decline in biodiversity, and achieving a “Net Gain in Forests,” **we need to preserve all of our remaining forests**, and encourage the expansion of our forests through a **natural regeneration process**. These are the most proven and most cost-effective ways to prevent a worsening of the effects of climate change. Preserving and expanding our forested ecosystems is crucial for sustaining life on Earth!

⁶ [Technical Study on Changes in Forest Cover and Tree Canopy in Maryland](#), p.65.

⁷ In October 2020, Attorney General, Brian Frosh responded to a question from Steuart Pittman, Anne Arundel County Executive as to whether the Forest Conservation Act permitted existing forests to be used as mitigation banks rather than using created (afforestation) or restored (reforestation) forests as mitigation banks. Frosh concluded that the language of the Forest Conservation Act made a clear case that “the only forests in Maryland that are eligible for treatment as “forest mitigation banks” from which developers may buy credits for that offset method are forests that were “intentional[ly]” created or restored “expressly” for that purpose.” In other words, existing forests were not allowed to be used as mitigation banks under the Forest Conservation Act. I believe this interpretation offers the correct course of action for our time. <https://www.naiopmd.org/wp-content/uploads/Forest-Conservation-AG-Opinion.pdf>, p.28.

Dr. Douglas H. Boucher

Thank you very much for the opportunity to testify today. My name is Doug Boucher, and I have lived since 1997 with my wife Charlotte on the family farm in Dickerson, Maryland. I support the bill as well as the recommendations of the Montgomery County Forest Coalition, of which I'm a member (representing Poolesville Green).

What's distinctive about my testimony today is that I also want to urge you to add a sentence or two to the bill, requesting that the Planning Department create an alternative pathway for reforestation based on natural regeneration. Naturally regenerating forests is much cheaper than tree planting and thus accessible not just to a few, but to many ordinary Montgomery County landowners. Creating such a pathway would make it possible to increase our county's forest cover appreciably and thus would provide important climate benefits for all the county's residents, at very low cost.

My background and experience

Let me briefly tell you who I am and describe the experience on which my testimony is based. I have four roles that are relevant to this legislation:

- 1) **Landowner** – my wife and I own White Acres Farm in Dickerson, which covers 77 acres and was a dairy farm run by her grandfather, Max White, for several decades. It has been in the family since the 1830s and is typical of the rolling countryside of rural Montgomery County.
- 2) **Scientist** – I retired five years ago as Director of Climate Research and Analysis for the Union of Concerned Scientists. My decade of work there followed a long career as a

college professor in biology, concentrating on forest and agricultural ecology. I have a Ph.D. from the University of Michigan, and taught at Hood College, the University of Québec and McGill University.

- 3) **Activist** – I am a Board Member and serve as Treasurer of Poolesville Green, one of the most active environmental groups in the county. Our work has included organizing the electric vehicle event at Poolesville Day each year, which has grown over the past decade to become the largest EV show in the Mid-Atlantic states.
- 4) **Reforester** – since 2003 I have been reforesting 4 acres of our farm through natural regeneration. Based on our success in this effort, I am now working with the Planning Department to create a larger reforestation project (10 acres) under the county’s Forest Conservation Bank program. Because this new project would combine 1 ½ acres of tree planting with 8 ½ acres based mostly on natural regeneration, I have had to make detailed estimates of the costs of reforestation by both methods. (Let me add in passing that I have very much appreciated the excellent cooperation of Kristin Taddei and her colleagues in the Planning Department as we have been developing this project.)

Our success with natural regeneration

The success of our 4-acre natural regeneration project over the past 20 years has been important to my proposal for an alternative pathway of reforestation, so it’s worth describing some of its results. A few years ago, I wrote up an illustrated report on the first 15 years of the project, which was done in cooperation with students from Hood College and the Global Ecology Program of Poolesville High School. I’ll attach that report as an appendix to my testimony, and just briefly add a few points based on the results since then. Please look at that writeup – and in

particular its pictures -- to get an idea of how well the forest has grown back naturally over those 4 acres.

Here are four points to add to that description:

- 1) The reforestation has been done entirely by natural regeneration, without any tree planting at all. Indeed, within the 2 ½ acre plot in which we have been gathering detailed data, we have observed the rule of not allowing any kind of human manipulation— no cutting of any plants, no fencing to exclude deer or other wildlife, no application of any herbicides – nothing except tagging and measuring the trees as they grew up from seeds.
- 2) The regenerated forest is more than 99.5% native tree species, and in a far greater abundance than is achieved in tree-planting-based reforestation. The tree density is now 3,240 trees per acre, with 366 of those trees being more than 4 inches in diameter. For comparison, the required number for tree-planting to be considered successful by the Planning Department’s criteria, is to have 100 trees per acre, with at least 50 of them measuring 2 inches or more.
- 3) The growing forest has now begun to make a substantial contribution to combating climate change. The biomass of the trees is now 31.5 tons per acre, and each acre of trees takes 9.1 tons of carbon dioxide out of the atmosphere every year.
- 4) The forest and the landscape in which it has grown is very typical of rural Montgomery County. It grew back following the harvest of soybeans in fall 2003, on a field that had been used for farming for about 160 years. Scientists have long pointed out that over 95% of the current forests in the eastern U.S. originated from natural regeneration, not from tree planting, and our success shows that this can be done just as well in Montgomery County as it has in the rest of the region.

The costs of natural regeneration and tree planting

There is no doubt that natural regeneration can successfully recreate forests in Montgomery County. Indeed, the fact that about 100,000 acres of our county is now forested (about 33% of our land area), is almost entirely due to natural regeneration over the past century and a half. But the value of natural regeneration is not simply that it re-creates native forests, but that it does this at an extremely low cost.

Indeed, most of the cost of our 4-acre reforestation has been for doing the research that generated the data I've summarized, which was not necessary for the forest to regenerate. Since we didn't plant any trees, protect them from deer, or apply any herbicides, we had no expenses associated with those kinds of activities. The major expenses were the costs of about 10,000 tree tags and the nails to attach them to trees, plus the poles to mark the coordinates of the 100 by 100 meter research plot. Even if we hadn't been studying it, the forest would have grown back just as well.

Even if one wishes to include the opportunity cost of reforesting the land rather than continuing to rent it to neighboring farmers for soybean, corn and wheat production, the cost would be quite low. At our current rental rate of \$ 140/acre (based on competitive bids and quite typical of Montgomery County agriculture), we have sacrificed a total of \$ 2,800 per acre over the past 20 years by reforesting. And of course, this doesn't take into account the environmental value of the forest ecosystem we have created.

In contrast, the per-acre cost of tree planting is very high. I'll give you estimates based on the quotes we have gotten in connection with the new 10-acre reforestation project that we are beginning in the spring, as part of the county-administered Forest Mitigation Banking program. Since the size of the trees that must be planted is large (1" caliper, which means they are

generally several feet high), they cost about \$ 45 each, on average. They are required to be protected from deer browsing, which adds \$ 6-8 each to the cost, and they are planted at a density of at least 200 trees per acre. Thus, one has already spent \$ 10,400 per acre, even before the trees are put in the ground. The labor of planting will cost an additional \$ 5,000 per acre. The cost of preparing and filing the required Forest Conservation Plan, including both detailed sketches of the planting methods and surveying of the area, adds about \$ 9,000. There are further expenses for preparing the soil, maintaining the plantation for the required period and other activities. I have not included these due to lack of data, but they may also be substantial.

Altogether, this means that the 4-acre forest which we've created, would have cost us at least \$ 70,600 if we had done it by tree planting. By using natural regeneration, we have accomplished this at practically no cost. (Note that the opportunity cost of not renting the land for crops would have been the same by either method).

The high cost of tree planting puts reforestation financially out of reach for most landowners in Montgomery County. The median size of county farms is 26 acres, according the 2017 Census of Agriculture, which means that even if the entire land can be rented for crop production, it would bring in only \$ 3,640 annually. If one farms the land oneself rather than renting it, the situation is even worse – that same census showed that the average net revenue for county farms was approximately a negative \$ 6,000. That is, on average farms in the county lost several thousand dollars a year.

Therefore, the fact that one might profit by selling credits for considerably more than the cost of reforesting, is irrelevant for most landowners. They just can't afford the large up-front costs to undertake the project in the first place. Only businesses and the small minority of large landowners (30 farms out of 558 in the county have more than 500 acres, and together they own

58% of the county's farmland) can afford to reforest by tree-planting. For the rest of us, it's simply beyond our means.

Findings of the Hughes Center technical report

The Hughes Center report, published last November, shows that the problems we have come across in planning our reforestation efforts are typical of Maryland landowners doing tree-planting for forest mitigation banking. Indeed, the Hughes Center study reported that:

“Multiple county representatives stated that creating newly planted forest banks is not appealing to landowners. Although bank owners can set their own rates for selling credits, establishing a newly planted forest bank involves high upfront costs that are not recouped for multiple years, until after the forest is established and credits are sold...” (p. 67)

And further on:

“...many landowners are not interested in establishing banks, as they require a large investment of time and money that may not be recouped for several years.” (p. 68):

Even when landowners can come up with the capital to begin a forest mitigation banking project, it does not necessarily lead to a forest being created. As a county representative told the Hughes Center researchers,

“...well-intentioned tree planting efforts can fail because of the significant time and long-term investment and maintenance required to develop newly planted trees into healthy, mature forests that provide the full suite of desired ecosystem services.” (pp. 65-66)

Thus, the Hughes Center report found the same basic problem that we have faced in estimating the costs of reforesting on our land by tree-planting: that the up-front costs are a severe disincentive.

One other important finding of the Hughes Center report has to do with the forthcoming change in the legal situation of using forest retention – as opposed to forest creation – to generate credits that can be sold from a forest mitigation bank. Due to a legal opinion from the Attorney General of Maryland several years ago, forest retention – that is, protecting mature forests that already exist – will no longer be eligible for mitigation bank crediting after 2024. The Hughes Center pointed out that this kind of credit has made up the large majority of credits used in the state:

“Across all counties, existing forest banks comprise 81.1% of reported forest bank acreage with a total area of 13,997 acres, while planted forests only make up 18.9% of reported forest bank acreage, with an area of 3,261 acres. This suggests that steps may need to be taken at the county or state level to encourage the creation of planted forest banks, now that existing forest banks can no longer be created.” (p. 64)

This is the situation state-wide; the Hughes Center’s data also shows that it is very much the situation in Montgomery County as well. They found that of the area in the 31 forest mitigation banks credited in Montgomery County, credits for retention of existing forest constituted 1334 acres, while credits for newly created forests made up only 277 acres (Table 20, p. 69). Thus 83% of forest mitigation banking credits were given for retaining acres of existing forest which will be no longer be eligible after next year.

One might think that the reduction in the supply of mitigation banking credits that the phase-out will produce, will be self-correcting due to the normal effects of supply and demand on price – that is, with the supply of credits reduced by more than 80%, the price of credits will go up and

thus incentivize more planting of new forests for mitigation credits. But the flaw in this analysis is that the lack of planting is not due to low credit prices. Rather, it's the up-front cost of planting and the delay, of a few to several years, between when investment in the project is begun and when credits from it can be sold. Thus, normal supply-and-demand dynamics in the mitigation credit market can't be expected to solve the problem. What is necessary is an approach that minimizes the up-front costs. Assisted natural regeneration does this.

Recommendation for an amendment to develop an assisted natural regeneration pathway

These considerations, and my experience of successful natural regeneration of a native forest at much lower cost than tree-planting, are the reasons that I urge you to add a small but important amendment to the bill. The amendment would simply request that the Planning Department develop an alternative pathway for reforestation based on assisted natural regeneration, and report back to the County Council on legislation and/or regulations that are needed to implement it. (Note that the state law that established the Forest Conservation Bank program does allow natural regeneration, though it has seldom been used and provides no details of how it can be done.)

I am not a lawyer, and I suggest that you depend on the legal and scientific expertise of the staffs of the County Council and the Planning Department to work out the details of the alternative pathway. I would be happy to work with them on it and can help find other scientists to do so as well. At this point I would simply suggest a few principles that could serve as guidelines in developing the assisted natural regeneration pathway:

- 1) It should be complementary to the existing program, allowing tree-planting as part of natural regeneration projects but not requiring it.

- 2) It should have low up-front costs, making it financially accessible to all landowners, whether large or small.
- 3) It should be based on the “pay-for-performance” principle. This means that reforesters would only receive credits after they have created a forest ecosystem that meets the same requirements as the tree-planting pathway – e.g. native species, few invasives, with a minimum size and density of trees, etc.
- 4) It should be flexible in terms of how reforesters achieve these requirements. They could depend entirely on natural dispersal of seeds from existing forests, or plant seeds, or plant small seedlings, or any combination of these. They could choose to protect seedlings from deer browsing, or not, and similarly for other management decisions. In other words, the pathway would specify what they need to achieve, but not tell them how they must achieve it. And they would only get paid when they do achieve it.

I expect that as Planning Department staff and the public start discussing the alternative pathway, other ideas will emerge. I would simply encourage that they be evaluated as to whether they further these basic principles: natural regeneration, low cost, pay for performance, and flexibility.

Natural regeneration and affordable housing

Of course, forest mitigation banking is not just a way to reforest. It is also one of the costs that go into developing construction projects, and we all recognize that we have a severe shortage of affordable housing in Montgomery County. Although forest mitigation is not a large proportion of the cost of building housing units, it is a cost and its impact on the supply of affordable housing needs to be considered.

Seen in this light, having an alternative low-cost pathway for forest mitigation has double benefits. It both encourages the creation of new forest, and because it can be done inexpensively and by many more landowners, both large and small, it also reduces the cost of developing affordable housing.

This positive impact will come about through the interaction of supply and demand in the mitigation banking credit market, but you can make the link stronger and reinforce environmental justice by explicitly connecting assisted natural regeneration credits to building affordable housing. This can be done by making the credits from assisted natural regeneration projects available, either preferentially or exclusively, to development projects that build housing for low- and moderate-income families. I would urge you to ask the Planning Department to explore how this could be done as they develop their recommendations in response to the amendment I am suggesting.

In the longer-term

Finally, let me suggest a fundamental point about reforestation to consider in the longer term. These are not ideas to add to the current bill, but rather changes to consider in future years.

We need to move from a no-net-loss goal to an increased-forest-cover goal. The scientific literature, as summarized in last year's Sixth Assessment Report of the Intergovernmental Panel on Climate Change (IPCC AR6), makes it clear that net zero is necessary but not sufficient to prevent dangerous climate change. Getting greenhouse gas emissions down to zero just isn't enough; in the second half of the 21st century, we need to be pulling more carbon out of the atmosphere than we put into it. Converting our global economy from fossil fuels to renewable

energy is basic to getting to net zero, but it will have to be accompanied by increasing carbon sequestration – and increasing forest cover is the best option to do that.

Many important environmental policies developed in the twentieth century were based on the principles of offsetting and no-net-loss – e.g. of wetlands, of air pollutants like sulfur dioxide, and in the case of our state law, of forests. Our county program follows the same logic – if developers want to deforest in some areas, they are required to pay for protection and re-creation of forests in other areas. This offsetting mechanism helps maintain the amount of forest in the county, but is too weak to increase it. And indeed, our forest cover has essentially been static over the past three decades. In coming years, we need to be more ambitious.

For now, I would simply encourage you to support the bill and add a simple amendment asking the Planning Department to develop an assisted natural regeneration pathway for reforestation.

Thank you very much for your attention to my testimony. I would like to conclude by inviting members and staff of the Council to visit our 20-year-old naturally regenerated forest in Dickerson. We have already had Councilmember Marilyn Balcombe, our three District 15 members of the Maryland House of Delegates, and Planning Department staff out to see it, and would be happy to welcome the other Councilmembers and their staff to come out and visit it as well. I think you'll find it both enjoyable and enlightening.

Appendix



A Natural Reforestation Experiment in Montgomery County, Maryland: Results from the First Fifteen Years

Doug Boucher

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Fall, 2019

Summary:

This brief report describes the process of natural reforestation, over 15 years, on a farm field left fallow in the fall of 2003. It shows the potential of areas in the Piedmont of Maryland to grow back to forest naturally with little human intervention.

The 4-acre field, which is roughly square with north-south and east-west edges, is part of White Acres Farm, in the northwest corner of Montgomery County, and prior to being fallowed, it had been farmed continuously for about 160 years. In terms of landscape, soil type, and history it is typical of the region. It is bounded on one side by a 75-year old secondary forest, and on another side by a fencerow with large trees of about the same age. These provided the seed sources for the field. No tree-planting or other human disturbance took place over the 15 years of regrowth, other than data collection on establishment of seedlings and their growth into saplings and trees.

Once left fallow, the field grew up in a meadow dominated by grasses, goldenrods and other perennials, but also with a high density of tree seedlings. The most common seedling species, by far, was tuliptree (*Liriodendron tulipifera*), followed by white ash and then box elder. Distance to seed source had a clear impact on seedling densities, which were higher on the north and west sides of the field, near large seed trees. Surprisingly, the seedlings along the west side of the field grew significantly faster than those further east, despite their high density and their being shaded part of each day.

Some seedlings began to reach sapling size after a few years and the beginnings of a new forest canopy – that is, trees with crowns that touched each other and shaded the ground below them -- began to close in Year 6. By Year 10 this canopy covered a fourth of the field, and it rapidly expanded in the next few years, covering 86% of the field by Year 15. The dominant species of this new forest continues to be tuliptree, with a few juniper (red cedar), black cherry and sycamore in the new canopy as well. White ash and box elder remain common but mostly in the understory. Non-native invasive species make up only about 0.2% of the forest in Year 15. Vines – mostly Japanese honeysuckle and bittersweet – are growing on about 10% of the trees.

Deer browsing has had an impact on tree growth, as shown by trees growing faster inside small fenced areas (“deer exclosures”) outside the main plot. This effect was especially evident between Years 5 and 10, when seedlings were reaching the sapling stage.

In several ways, the new forest that has grown up resembles the 75-year-old forest on its west side in which many of its parent trees are located. Both are dominated by tuliptree, along with black cherry and with white ash and box elder below, and both have only small numbers of non-native invasive tree species. Naturally, the new forest is still considerably shorter (its average tree height was about 24 feet in Year 15, versus 105 feet for the older forest) and despite substantial mortality it still has 20 times as many trees as in the older forest. Rough estimates indicate that the amount of carbon in the new forest is only about 10% of the amount in the 75-year-old forest, although it is now increasing fairly rapidly.

Thus, over 15 years and without any tree planting, a new native forest has been established and is growing up to resemble the older forest adjacent to it.

Introduction

In October of 2003, as part of my research and teaching work at Hood College, I began a study of forest succession on a field near my house in Montgomery County, Maryland. Together with Hood students and other friends and colleagues, I have been studying forest regrowth on this field over the past 15 years. This short report briefly describes in non-technical terms what we have found and shows the potential of natural reforestation on agricultural land in the Piedmont of Maryland.

The Setting

The field is at the north end of White Acres Farm, which is along Route 28 (Darnestown Road) in Dickerson, Maryland. It is located in the Piedmont region of Maryland at 39.21° N., 77.42° W., and is within Montgomery County's Agricultural Reserve. The setting, a rolling landscape of hills and valleys, is typical of the upper County. The field is on the Penn sandy loam soil type, over a sandstone bedrock,

and is similar in fertility to typical farm fields in the region.



Figure 1. Soybeans in the field just before the last harvest, 13 October 2003. The 75-year-old forest is in the background (to the west), and the tip of a smokestack of the Dickerson coal-fired power plant is barely visible in the center of the forest canopy.

White Acres Farm has been owned by members and descendants of the White family since the 1830s, and was a dairy farm run by Max White from 1916 till he died in 1972. From 1973 to 2003 the farmland was rented by two local farmers, Bob Raver and Dave Weitzer, who rotated crops of corn, soybeans and winter wheat on it, generally using no-till methods. The last crop before the field was left fallow in October 2003 was soybeans (Fig. 1).

To the west of the field are several acres of forest that slope down to the floodplain of the Little Monocacy River. By counting tree-rings in cores taken from the largest trees in this forest, we have found that it originated about 1943; this date is confirmed by aerial photos dating from 1951. Thus the

forest is now about 75 years old. It is typical of many secondary forests in eastern North America, with an average tree height around 32 m (105 feet) and about 150 trees per acre. (Figure 2).



Figure 2. The 75-year-old forest, looking eastwards from the floodplain of the Little Monocacy.

The canopy of the 75-year-old forest is dominated by tuliptree (*Liriodendron tulipifera*), with smaller numbers of black cherry (*Prunus serotina*). There are also various species of oak, hickory and maple as well as other species such as black gum and beech.



Figure 3. Looking north over the field in November 2004 (Year 1), showing the fencerow trees along the north edge of the field in the background

To the north of the field is a stone fencerow marking the north edge of the White Acres Farm property (Figure 3). Along both sides of the old fence trees have grown up, and based on their sizes, are probably similar in age to those in the 75-year-old forest. They include large tuliptrees, sycamores, red oaks, white ashes, black gums and several species of hickory. The 75-year-old forest on the west and the fencerow trees on north are the likely seed sources for almost all the seedlings that have grown up in the field.



Figure 4. The fallow field just after the soybean harvest, in October 2003, looking northwest.

After the soybean harvest in late October 2003, we let the field go fallow and marked out a 100 by 100 meter research plot (2.5 acres) in the middle of it (Figure 4). Since that time the only human disturbance to this research plot has been the collection of scientific data. No trees or any other plants have been planted in the research plot, and it has been left unfenced. However, in November of 2004 (Year 1), 12 small 2 x 2 m plots were established just outside of the main research plot, with six of them surrounded by fencing (Figure 5) and six of them left open. Comparisons among such “deer-exclosure” plots are a standard method used to evaluate the impact of deer browsing on seedling survival and growth rates.



Figure 5. Two of the fenced deer-exclosure plots along the southern edge of the fallow field on November 29, 2004, just after they were established. The 75-year-old forest is visible behind them on the left side of the photograph. Pink flags inside the exclosures mark seedling locations.

Since 2003 we have identified, counted and measured the seedlings in the field as they grew into saplings and then trees over 15 years. The next section summarizes our main findings about how the field has changed.

The Growth of the New Forest

By June of 2004, eight months after the field was left fallow, it had begun to be covered by meadow vegetation, with large numbers of seedlings, each just a few inches tall, beginning to appear. Their numbers continued to increase over the next few years, and by Year 3 they had reached a density of about 4.5 seedlings per square meter – i.e. 18,000 per acre. Three-fourths of the seedling community were tuliptrees, with substantial numbers of white ash (*Fraxinus americana*) and box elder (*Acer negundo*) as well (Figure 6).

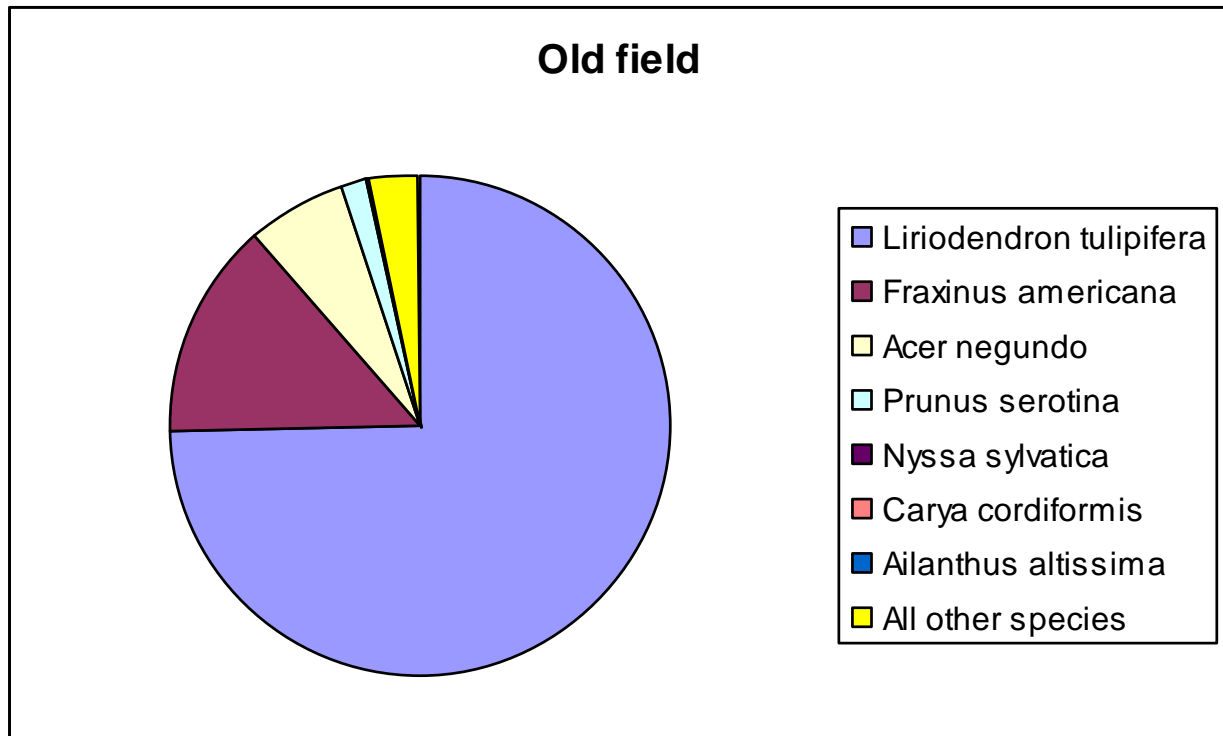


Figure 6. Percentages of tree seedlings in the field in Year 3. The most common species were tuliptree (*Liriodendron*), white ash (*Fraxinus*) and box elder (*Acer*), with lesser numbers of black cherry (*Prunus*), black gum (*Nyssa*), bitternut hickory (*Carya*) and tree-of-heaven (*Ailanthus*).

By this time the meadow vegetation was dominated by perennial herbaceous species such as grasses and goldenrods, and brambles (principally black raspberry and wineberry) had started to appear as well.

The seedling community showed clear differences across the field, with higher densities on the sides that were closer to the old forest (the west edge) or the fencerow trees (the north edge) (Figure 7). Surprisingly, despite their high density and the partial shade of the forest on them for part of the day, the seedlings closest to the forest actually grew faster than those in the middle of the field. By Year 3, already 40% of the seedlings near the old forest had reach 50 cm in height (i.e., knee-high), while only 1-2% of the seedlings elsewhere in the field were this tall.

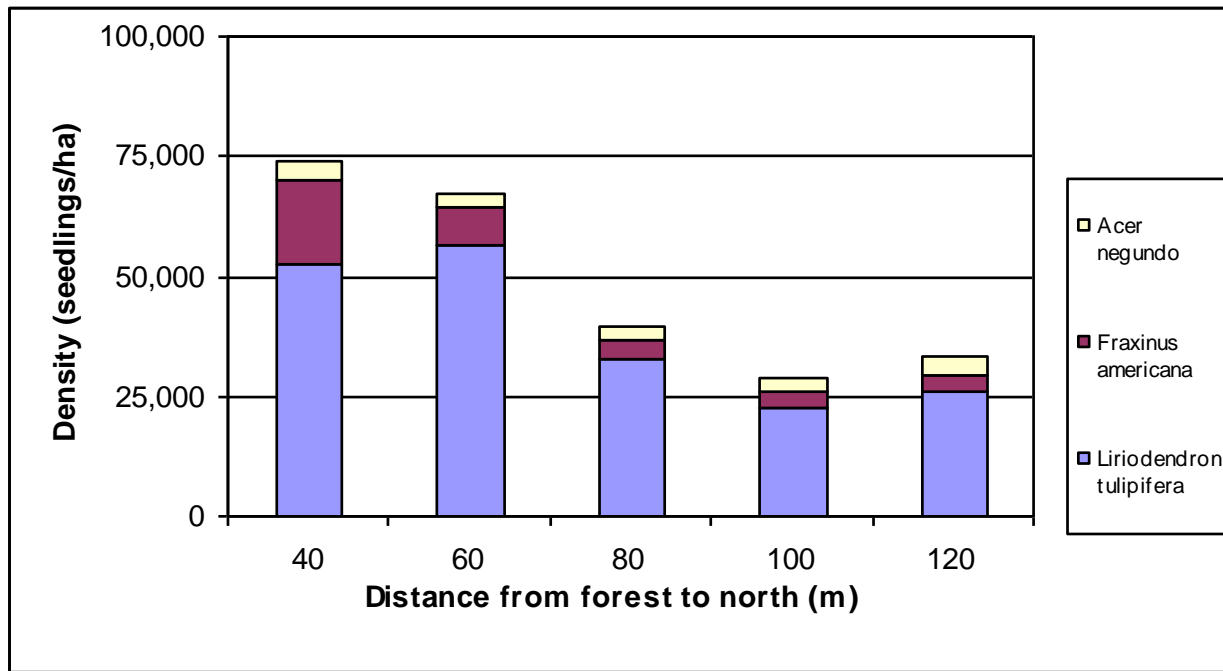
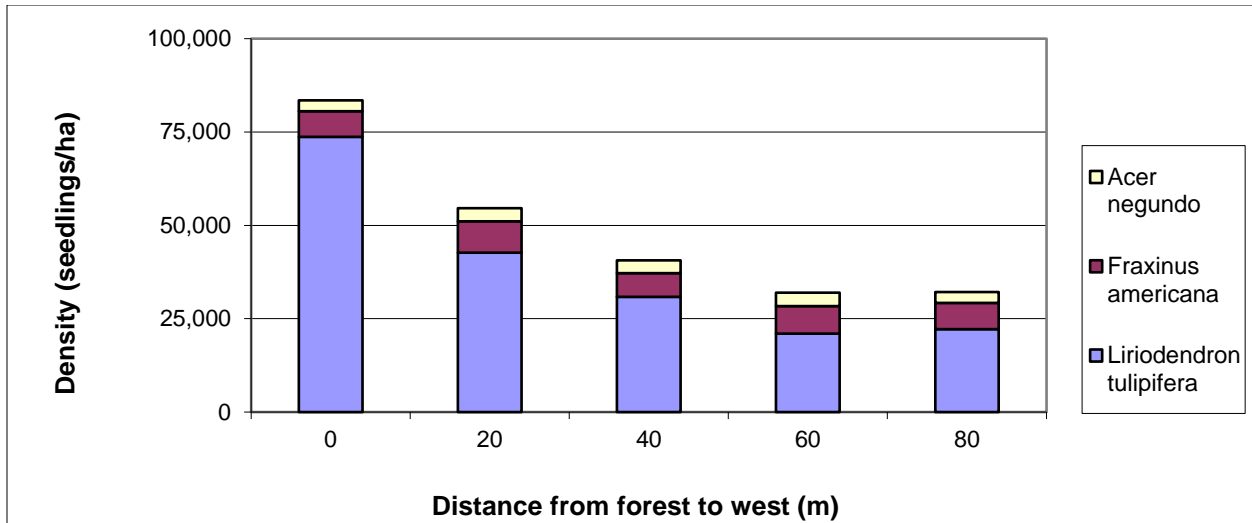


Figure 7. Seedling density versus distance to the 75-year-old forest to the west (top graph) and versus distance to the fencerow trees to the north (bottom graph)

Over the next several years seedlings throughout the field grew to sapling size, and by Year 6 a new low and dense canopy had formed along the western edge of the field. By Year 10 about 25% of the area of the field was covered by this forest canopy, and over the next five years its area expanded rapidly to cover 86% of the field by Year 15 (Figure 8).

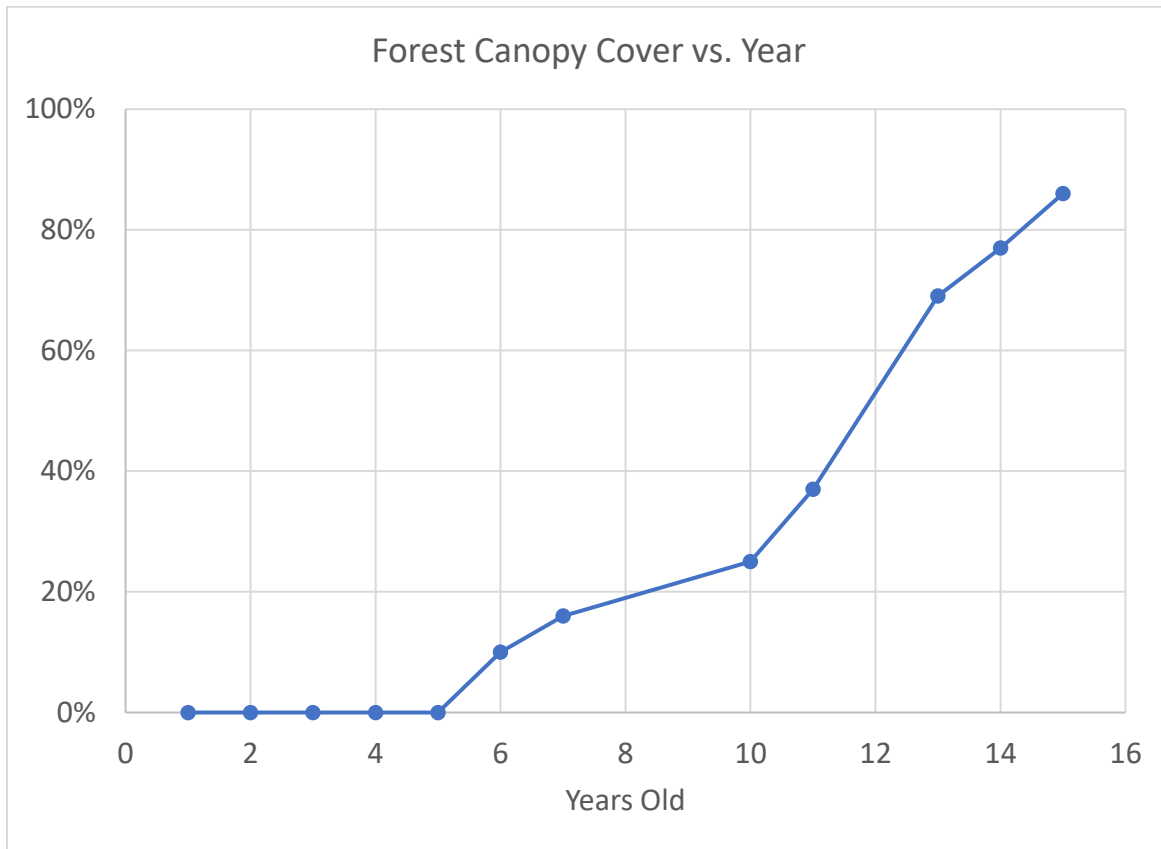


Figure 8. The percent of the field’s area covered by forest canopy, versus time since the field was left fallow. The canopy began to close along the western edge of the field in Year 6, and rapidly expanded to cover most of the field between Years 10 to 15.

As the canopy of the new forest grew, it slowly began to shade out the grasses, goldenrods and brambles below it. At the same time, herb species typical of forest understories began to appear, including buttercups and orchids (Figure 9).



Figure 9. A ladies-tresses orchid (*Spiranthes* sp.) in the understory of the new forest, Year 14.

During the growth of seedlings into trees, the relative abundance of different species changed due to differences in their survival and growth rates. Overall, about 50% of the seedlings found in the field in the first few years had died by Year 15. Tuliptree continues to dominate – actually, even more so than initially (93.3% in Year 15, versus about 74% in Year 3; Figure 6). White ash and box elder remain present in the 15-year-old forest, but almost all of them are in the understory rather than the canopy. On the other hand, sycamores, junipers (red cedar) and black cherry are now found in the canopy, each representing a few percent of the trees. Other native species present include bitternut hickory, black gum, black locust, American holly and red maple. Oaks and beech, however, are still absent.

Invasive non-native tree species are very rare in the new forest. Some were present initially but quickly died out; for example, seedlings of tree-of-heaven (*Ailanthus altissima*) had a mortality rate of 69% from Year 1 to Year 2, versus an average of 7.6% for the native species. In Years 7-15, other non-native invasives such as autumn olive and Callery pear have shown up, but not in large numbers. Currently, fewer than 0.2% of the trees in the new forest are non-native invasive species (autumn olive, Callery pear, tree-of-heaven, empress-tree, bush honeysuckle and mimosa).

Vines have grown up the trunks of some of the trees and now are found on about 10% of them. The most common vine species is Japanese honeysuckle, followed by oriental bittersweet. Native vine species (Virginia creeper, wild grape and poison ivy) colonized the field in the first few years but mostly have died out.

Comparison of the 2 x 2 m plots that were fenced to prevent deer-browsing, with those that were left open, showed that deer browsing has slowed growth. This was particularly the case up to Year 10 when most of the seedlings were still less than five feet high. Similarly, a lower rate of deer browsing may be responsible for the faster growth of the new forest along the west side. The hypothesis here is that the high density of seedlings close to the old forest (Figure 7, top graph) was so great that it overwhelmed the ability of the deer herd to browse them all, so that more of them were able to grow up to tree size.

The 15-year-old and the 75-year-old Forest

In broad terms, the new forest is similar to the old one to its west. Both have tuliptree, and to a much lesser extent black cherry, as the dominant trees in their canopies. White ash and box elder are common in both, but mostly below the canopy. They share other, less common species (e.g. bitternut hickory, sycamore), and both have very low abundances of non-native invasive trees.

On the other hand, the new forest's trees are obviously still much smaller than the old ones, averaging 24 feet versus 105 feet tall. Although 50.3% of the seedlings initially found in the field have died, the tree density of the new forest is still nearly 20 times greater than the old forest (Figure 10).



Figure 10. The interior of the 15-year-old forest, showing the high density and dominance of tuliptrees.

We can combine the size and density data to estimate the relative amounts of carbon in the two forests. The first step is to calculate what foresters call the basal area (BA) of the two forests -- a way to represent the proportion of the ground covered by tree trunks. One way to think of it is that if we cut down all the trees, hypothetically, the BA would be equal to the total area of their stumps. The BA of the

new forest is now about 57 square feet/acre; this is about a third of the old forest, which has 161 square feet/acre.

As a second step, combining the BA measurements with the limited data we have on tree heights, we estimate that the 15-year-old forest contains only about 10% as much carbon as the 75-year-old forest. However, the new forest trees have now reached a size at which they have begun to accumulate carbon rapidly.

In conclusion, the 15-year-old forest is different from the 75-year-old one, but in important respects – e.g. dominant species, tree diversity, understory composition, and amount of carbon – it is moving rapidly in the same direction.

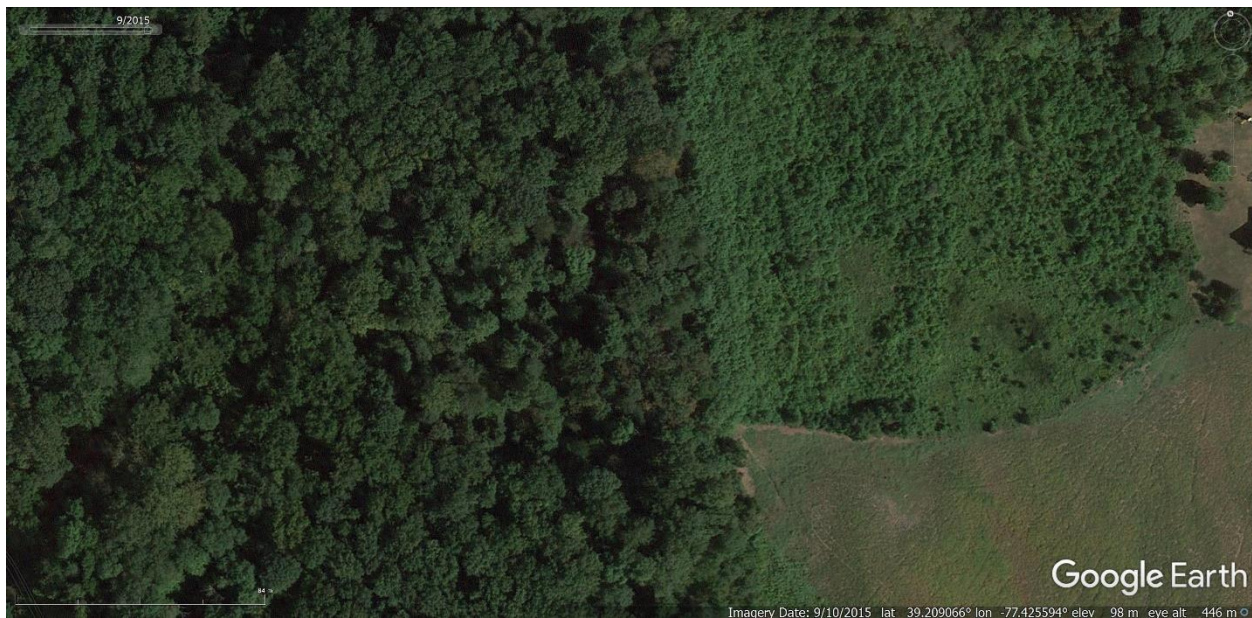


Figure 11. Satellite photo of the study area in Year 12, showing the old forest (left), the new forest (upper right) and fields still being cropped (lower right). Source: Google Earth, 9 September 2015

Acknowledgements

Financial support for various stages of this study was provided by Hood College and by the U.S. Forest Service, and much of the field and intellectual work was done by students of Hood College and

Poolesville High School's Global Ecology Program. We are very grateful for all their contributions. Our special thanks go to Kerrie Kyde, Kai Caraher, John Snitzer, Joyce Bailey and Natasha the Research Dog.

Please contact Doug Boucher (douglas.h.boucher@gmail.com, (202) 492-7376 with any questions or if you would like to visit the study area.





Feb 6, 2023

Dear Montgomery County Council,

Maryland League of Conservation Voters (MDLCV) works across our state to fight for clean water, clean air, and a resilient climate for everyone in Maryland. When Bill 25-22 was first introduced to the previous Council four months ago, more than 80 of our 3,000 Montgomery County members acted, writing to the Council in support of the legislation to update and improve forest conservation law in Montgomery County.

Healthy forests are pivotal to all three of the goals contained in MDLCV's mission. Forests serve as our most crucial natural resource for water quality, air quality, flood mitigation, urban cooling, and reducing greenhouse gas emissions. To achieve forest protections and support robust forest ecosystems, MDLCV has been participating with the Montgomery County Forest Coalition to develop recommendations to strengthen forest conservation in Montgomery County.

Reconsideration of forest protection in Montgomery County comes at a critical time as, in spite of current regulations, this county continued to lose forested acres, as demonstrated in data released this year by the Chesapeake Conservancy and Chesapeake Bay Program¹.

Bill 25-22: Forest Conservation - Trees provides many positive improvements to forest conservation law in Montgomery County. The Montgomery County Forest Coalition partners have worked closely with the Montgomery County Department of Planning to ensure the recommended law amendments will help to strengthen forest conservation in Montgomery County and support the goal of no net loss of forests for the County as a whole. Maryland League of Conservation Voters, is pleased to support the re-introduction of this legislation and encourages this Council to pass this amendment to current along with the Montgomery County Forest Coalition partners, supports this bill. These recommendations are as follows and are also outlined in in the attached document, "[Montgomery County Forest Coalition Top Recommendations for Updates/Amendments to MoCo Forest Conservation Law](#)."

We fully support and encourage adoption of the following recommendations, in line with those provided by the Montgomery County Planning Department:

1. Forest stand delineation must be submitted to the Planning Department prior to submission of any site development application. Requiring Natural Resource Inventory/Forest Stand Delineation approval with the submission of development plans will better ensure existing, high quality forests are considered and preserved whenever possible.

1

<https://www.chesapeakeconservancy.org/conservation-innovation-center/high-resolution-data/lulc-data-project-2022/>

2. Eliminate certain Commercial Residential (CR) zone exemptions. Exclude activities located within the CR zone classification from qualifying for the (s)(1) and (s)(2) Forest Conservation Plan exemptions to require forest mitigation for activities in this zone that are currently receiving the highest density but providing the least forest mitigation.
3. Increase mitigation requirements for “variance trees” located within a forest. This proposed amendment will require a minimum replanting ratio of 1 caliper inch replaced for every 4 inches of trunk diameter of variance tree removed, whether it is inside or outside a forest stand.
4. In limited circumstances, allow landscaping, such as the planting of trees in rights-of-way, to meet afforestation and reforestation requirements in equity focus areas. This provision will encourage tree planting in areas where there are high concentrations of low-income residents, people of color, or those who do not have fluency in English. Where appropriate, outside equity focus areas, landscaping on site could be used to meet afforestation requirements.

Furthermore, MDLCV encourages this Council to resist any weakening of the bill language or proposals that would move away from achieving no net loss of forest at a time when Montgomery County is in need of expanding its forests and tree canopy after decades of removal due to development pressure. Montgomery County has frequently led the state in laws demonstrating the value of and providing protection for the environment. This Council can continue that important legacy by adopting Bill 25-22.

Thank you for your consideration,

Marisa Olszewski

Environmental Policy Manager
Maryland League of Conservation Voters



Statement on Behalf of the Planning Department & Planning Board on Proposed ‘No Net Loss of Forest’ Amendments to the Montgomery County Forest Conservation Law (Chapter 22A)

February 7, 2023

Good afternoon Councilmembers, my name is Kristin Taddei. I am a Forest Conservation Planner with Montgomery Planning. I manage the department’s Reforest Montgomery program, which offers free trees and reforestation for County residents, and have been coordinating the ‘No Net Loss of Forest’ initiative since November of 2021.

‘No Net Loss of Forest’ is an effort by the Montgomery County Planning Department and Planning Board to review the impact of 3 decades of forest conservation efforts and identify opportunities to strengthen the Montgomery County Forest Conservation Law. The primary goal is to achieve an equal or greater area of forest planted compared to forest removed on a County-wide level, by projects subject to the law.

The county’s Forest Conservation Law is successful in many ways. For one, it has permanently protected over 15,000 acres of forest in the county since it took effect in 1992. The law ensures forests are protected, and in many cases planted, as part of the development approval process.

Planning Department data includes the amount of forest cleared, protected, and planted by projects that are required to comply with the law. In reviewing this data, the past 10 years show a trend towards less forest clearing and more forest protection by development projects. In fact, the recent statewide technical study released by the Hughes Center shows that only an estimated 21% of the forest lost in Montgomery County was cleared for development, while over 70% of forest lost was due to conversion to tree canopy or natural areas. We are close to achieving ‘no net loss of forest’ by projects subject to the law, but forests in the county are also facing competition from invasive species and a rapidly changing climate.

Bill 25-22 retains the requirements of the Forest Conservation Law that are working well for our county, and introduces changes that would achieve no net loss. The bill also presents an opportunity to address other causes of forest loss in the County and expand our forest conservation programs. Montgomery Planning collaborated with forest conservation experts and stakeholders to discuss ideas for modernizing the law, examine similar amendments introduced by nearby counties, test proposals on real projects, and consider financial obstacles to increasing planting requirements. After taking on these analyses, we are confident that this proposed legislation will achieve the goal of no net loss of forest county-wide while continuing to encourage much-needed developments like affordable housing and public transportation projects in Montgomery County.

The proposed amendment aligns well with the goals of the Climate Action Plan and has been thoroughly reviewed by the Maryland Department of Natural Resources for compliance with Maryland’s Forest Conservation Act.

We look forward to discussing the four additional amendments requested by stakeholders, which we largely support, during the upcoming work session, and working with you to finalize this significant amendment to the county’s Forest Conservation Law.

Thank you.

February 7, 2023

Hon. Evan Glass
President, Montgomery County Council
100 Maryland Avenue
Rockville, MD 20850

Re: Bill 25-22 - Forest Conservation Law & Chapter 22A- Forest Conservation Trees Regulations of the Montgomery County Code

Dear President Glass and Councilmembers:

On behalf of the Maryland Building Industry Association (MBIA), this letter is in response to proposed changes to Chapter 22A- Forest Conservation Law (“Forest Law”) & Chapter 22A- Forest Conservation Trees Regulations (“Trees Regulations”) of the Montgomery County Code. The MBIA appreciates the opportunity to offer the following comments on the proposed changes to the forest law.

MBIA understands the importance of maintaining healthy forest and tree canopy for future generations. However, we believe that the proposed changes to forest law are not necessary since the activities regulated by the forest law have already achieved not net loss of forest based on Montgomery Planning data. We are also concerned that the proposed changes create an unnecessary obstacle to supplying more homes.

Achieving No Net Loss

The goal of the initiative is to achieve No Net Loss of Forest in Montgomery County. Data that tracks the Forest Law provided by the planning department shows that over the last decade (2012-2022) Montgomery County lost net 92 acres of forest over a ten-year period.

Data Provided by the Planning Department

From **2012-2022** projects subject to the Montgomery County Forest Conservation Law:

- Cleared **762 acres** of forest
- Planted (and protected) **670 acres** of forest
- Protected **2,637 acres** of pre-existing forest
- Planted and protected a total of **3,307 acres** of forest

The MBIA has identified at least two projects that were not included in the data. Specifically, two projects within the limited master plan amendment for 10-mile creek will plant approximately 97 acres

of forest above what is required by Chapter 22A Forest Law (Creekside at Cabin Branch (820200160)- 82+/- acres & Ashford Woods (820210110)- 15+/- acres). These projects together exceed the 92-acre gap.

Additionally, an analysis contained in the staff report for the April 28, 2022, planning board hearing analyzed the impacts of the proposed changes over 15 recent projects. The analysis showed of the 15 projects analyzed 50.22 acres of mitigation was provided for the removal of 15.52 acres of forest. That is 223% more mitigation than forest removed.

Table 2: Summary of 15 projects with Forest Conservation Plans, comparing current requirements with requirements resulting from proposed 'No Net Loss of Forest' Amendment to Montgomery County Forest Conservation Law

	Forest Conservation Law Effective 2/22/21	Proposed Amendment to the Forest Conservation Law as of 4/28/22
Total Forest Removed (from 7 of 15 projects)	15.52 acres	15.52 acres
Total Forest Mitigation Required for 7 Projects that Removed Forest	14.95 acres	Within same or priority watershed: 17.58 acres Outside same or priority watershed, within county: 25.24 acres
Total Forest Mitigation Required for all 15 Projects	50.22 acres	Within same or priority watershed: 58.79 acres Outside same or priority watershed, within county: 66.35 acres

Master plan and SPA requirements that require unforested stream valley buffers be planted in addition to the requirements of the Forest Law add significant amounts of forest. An amendment contained in the proposed regulations expands this to require all unforested stream valley buffers be planted regardless of master plan or SPA requirement (22A-12 (e) (1) (B)).

Impacts of the Proposed Changes

In 2019, the county’s housing targets contained in its new economic development strategy were based on COG’s report, as well as research from the Urban Institute projecting Montgomery will need 23,100 low-cost units, 18,100 mid-cost units, and 6,300 high-cost units.” Roughly 43,000 units by 2030. This amount of housing is not being achieved for a variety of reasons including a lack of developable land.

The forest law was developed in the mid to late 1990’s to balance forest conservation with development, particularly on the larger greenfield projects. Large tracts of land generally have more opportunities to minimize forest clearing and meet mitigation requirements onsite. The future of development in Montgomery County is different than other Maryland jurisdictions. Development is

increasingly urban infill and redevelopment. The forest law affects these types of projects differently than greenfield projects prevalent in other counties.

Oversized Impact on Redevelopment and Infill Projects

Using a recent Montgomery County redevelopment project as an example, this site contained existing forest in an amount at or below the forest conservation threshold. The forest was located along the edges of the site and directly in the middle and required clearing to redevelop the site as envisioned in the master plan, to provide master planned roadways, tie into existing utilities, and make connections to existing roads. When forest was cleared below the conservation threshold it immediately triggered mitigation at a 2:1 ratio. Planting twice as much forest than what previously existed on an urban redevelopment site is unrealistic and typically results in mitigation requirements being met through the purchase of forest bank credit or payment of in-lieu fee which are the last two options available after other priorities (onsite retention and planting, offsite planting) have been exhausted.

Forest Mitigation Banking

The proposal increases mitigation ratios for using forest banks if forest banking credit is not purchased in the same 8- digit watershed. If mitigation cannot be provided in the same watershed, clearing below the conservation threshold increases from 2:1 to 2 ½:1. Clearing above the conservation threshold increases from ½:1 to 1:1. As of February 2023 there is no mitigation banking credit available in the entire county.

Mitigation banks and opportunities to supply off-site forest within the same watershed have historically been limited to non-existent down county and mid-county. One of the outcomes of the stakeholder meetings was to acknowledge this and allow mitigation in a priority watershed to avoid increases in planting ratios. However, at this time it is our understanding that these priority watersheds have not been delineated or defined. Increasing the mitigation ratios for not being able to provide mitigation in the same 8-digit watershed will not increase forest in these watersheds.

Additionally, finding credit in a mitigation bank is much more difficult due to a 2021 change to the state forest conservation law eliminating the ability to bank preserved forest, severely limiting the amount of available forest banking in the county. Revisions to the forest conservation law should consider the need to redevelop sites and take into consideration the benefits of redevelopment in terms of water quality improvements and resiliency gained by storing stormwater and treating it to modern water quality standards and increases in tree canopy.

On the example project, as approved, 5.78 acres of forest clearing required 11.74 acres of mitigation. The cost of mitigation under current regulations and prior to HB 991 was anticipated to be \$305,240. Under the proposed law if there is no banking credit available in the same watershed the mitigation

increases to 14.68 acres and could increase the cost to provide mitigation by around a half million dollars to over \$800,000. As time goes on there simply won't be enough land to physically meet the requirements of the law. Instead, it will increase the amount of in-lieu fee payments and burden placed on the county to provide the mitigation.

In Lieu Fee

The last option to meet mitigation requirements after forest mitigation banking is in-lieu fee. In-lieu fee cost more than forest mitigation banking at \$1.30 per sf or \$56,628 per acre and typically increases every two years based on the consumer price index. Significantly, the proposal to increase mitigation planting ratios for reforestation provided outside of the same 8-digit watershed means that the in-lieu fee rate will be based on the worst-case scenario because the planning department cannot guarantee that the mitigation planted provided by the in-lieu fee can be provided in the same watershed as the project.

Conclusion

In summary, the proposed revisions are not necessary to achieve no net loss of forest but will make development in Montgomery County more costly and difficult to implement. We appreciate the opportunity to provide comments and look forward to working with the county on solutions that achieve no net loss without creating unnecessary obstacles to the development of housing.

Comments on specific sections of the code proposed to be revised are as follows:

1- Forest Law 22A-11 (b) (1)- Application, review, and approval procedures., Project requiring development plan, floating zone plan, project plan, sketch plan, preliminary plan of subdivision, or site plan approval.

- a. The proposed requirement to obtain an approved forest stand delineation plan before the applicant can submit an application instead of with, as is the current regulation is problematic for the same reasons discussed and eventually agreed to in public comments provided to Park and Planning in the Spring of 2017.

“Per Section 7.3.3 Sketch Plan A (2), “A sketch plan describes a project at an early stage to provide the public and the Planning Board the chance to review a proposed development for general design, density, circulation, public benefits, and relationship to the master plan before a developer is required to expend significant resources on design and engineering.” Currently a Natural Resource Inventory/Forest Stand Delineation (NRI/FSD) is submitted concurrently with a Sketch Plan application and is required to be approved before the approval of the sketch plan. Requiring the NRI/FSD to be not only submitted but also

approved prior to the submittal of a sketch plan adds additional costs and process at an even earlier stage in the process, which is inconsistent with the purpose of the sketch plan. Additionally, the time delay adds to the cost of doing business by delaying the start of the sketch plan review by several months and potentially adding to the carrying costs of the property.”

In practice, since NRI’s are required to be submitted with any application the field work needed to complete the NRI and compile the data used to create the base map that proposed improvements shown on any development plan, floating zone plan, project plan, sketch plan, preliminary plan of subdivision or site plan are based on occurs as intended with enough time to factor in the preservation of sensitive environmental areas and priority forests. Additionally, the requirement of a licensed forester, licensed landscaper architect, or Qualified Forest Conservation professional requires the plan preparer to abide by a code of ethics or risk losing the privilege to prepare these plans in addition to other penalties. Any differing interpretations or accidental omissions identified by an environmental reviewer during the review process that may impact the proposed improvements can be easily coordinated while all plans are being reviewed simultaneously. Requiring an approved NRI prior to submittal simply delays the overall entitlement process adding unnecessary time and risk.

- 2- ***Forest Law 22A-12 (c) (1) & (2)- Retention, afforestation, and reforestation requirements., Reforestation***
 - a. See comments provided above to understand the implications of increasing planting ratios for clearing above the conservation threshold and for meeting mitigation requirements in other watersheds when mitigation options are not typically available in Areas 1 and 2.

- 3- ***Forest Law 22A-12 (d) (2)- Retention, afforestation, and reforestation requirements., Afforestation***
 - a. This proposed revision changes the requirement to provide afforestation, when required onsite, from should to must. As discussed above there are numerous instances, particularly for redevelopment projects, where it does not make sense environmentally to plant small, fragmented patches of forest on urban sites. Changing the standard from “should” to “must” opens these projects up to appeals and challenges that could otherwise be avoided by keeping the language the same.

- 4- ***Forest Law 22A-12 (e) (1) (B)- Retention, afforestation, and reforestation requirements., Standards for Afforestation and Reforestation***
 - a. As discussed at the beginning of this comment letter, the Master Plan and SPA requirements to afforest unforested stream valley buffer has resulted in no net loss due to development over the 10 years. This revision expands this requirement to all projects regardless of master plan or SPA requirement.

5- Forest Law 22A-12 (e) (4)- Retention, afforestation, and reforestation requirements., Standards for Afforestation and Reforestation

- a. Mitigation banks and opportunities to provide off-site forest within Areas 1 and 2 have historically been extremely limited to non-existent. Increasing the mitigation ratios for not being able to provide mitigation in the same 8-digit watershed will not increase forest in these watersheds. Instead, it will increase the amount of in-lieu fee payments and burden placed on the county to provide the mitigation.
- b. Adding a requirement to satisfy mitigation and afforestation requirements in the same 8-digit watershed in which a project is located, in addition to changing the standard from “may” to “must” opens these projects up to appeals and challenges that could otherwise be avoided by keeping the language the same. Furthermore, the pricing for mitigation banking is set by a market rate. Adding requirements that constrain the supply from which credits can be purchased increases the market rate based on availability.

6- Forest Law 22A-13 (g) (3)- Forest Mitigation Banks, Purchasing and selling forest mitigation bank credits.

- a. Mitigation banks and opportunities to provide off-site forest within Areas 1 and 2 have historically been extremely limited to non-existent. Increasing the mitigation ratios for not being able to provide mitigation in the same 8-digit watershed will not increase forest in these watersheds. Instead, it will increase the amount of in-lieu fee payments and burden placed on the county to provide the mitigation.
- b. Adding a requirement to satisfy mitigation and afforestation requirements in the same 8-digit watershed in which a project is located, in addition to changing the standard from “may” to “must” opens these projects up to appeals and challenges that could otherwise be avoided by keeping the language the same. Furthermore, the pricing for mitigation banking is set by a market rate. Adding requirements that constrain the supply from which credits can be purchased increases the market rate based on availability.

7- Considerations for previously approved projects that require an amendment

- a. Grandfathering- The MBIA recommends MNCPPC clarify how they plan to implement the proposed changes on projects or sites that were previously approved and designed based on the requirements of the current Forest Law if those projects or sites are required to be amended. For example, individual property owners with forest violations could be significantly impacted by the increased costs to provide mitigation to bring their property back into compliance. Amendments are done for a variety of reasons and a lack of grandfathering and/or clarifications to the applicability of how amendments will be treated could result in inconsistent application of the law or unintended consequences and costs associated with the amendment.

We appreciate the opportunity to provide comments on the proposed changes and are available to answer any questions that you may have.

Sincerely,



Matthew J Wessel, PLA, ISA Certified Arborist
Chair of the Environmental Committee, MBIA

Griffin Benton
VP, Government Affairs

February 7th, 2023

**Written testimony for Bill 25-22 - Forest Conservation Trees
Council hearing on February 7th, 2023. ¹**

Denisse Guitarra, MD Conservation Advocate
Nature Forward



Dear Montgomery County Council,

Nature Forward (formerly Audubon Naturalist Society) is the oldest independent environmental organization in the DC metro region. Our mission is to inspire residents of the greater Washington, DC, region to appreciate, understand, and protect their natural environment through outdoor experiences, education, and advocacy. We thank the County Council for the opportunity to provide testimony on Bill 25-22 which seeks to update the county's current forest conservation law.

The recently released Hughes Center Report on Maryland's Forests found that "Montgomery and Prince George's counties accounted for more than 44% of the state's total tree canopy loss."² We are rapidly losing our most precious natural land healers, our forests. Forests are critical natural infrastructure that has multiple co-benefits. Forests purify our air, water, reduce urban heat, serve as habitats for wildlife, reduce stormwater run-off, reduce stress levels, connect communities, and do so much more. The time to take action and save our forests is now.

After more than three years of conversations with Planning staff, environmental community, and community members, we, as a member of the Montgomery County Forest Coalition, are confident that the proposed legislation as we have reviewed it to date will improve the conditions of our county's forests. The current proposed amendments strengthen the existing Forest Conservation Law, and we are pleased to support them. For example, the new amendments set higher expectations for preserving forest on development sites by prioritizing replanting in the same watershed and increasing the replanting ratios.

The following are additional recommendations we would like Council to consider while reviewing and proceeding with Bill 25-22:

¹ Bill 25-22 Forest Conservation -Trees. Available at:
<https://www.montgomerycountymd.gov/council/calendar.html>

² Maryland Forest Technical Study. Nov 2022. Available at:
<https://www.chesapeakeconservancy.org/mdforeststudy2022>



- **Approve Bill 25-22 now, do not delay this bill any longer, and do not weaken it further. Schedule a Transportation and Environment committee session soon after the full Council hearing.**
- **In future legislation: dedicate and establish a fund for controlling invasive plants and long-term tree maintenance.**

We are very pleased with the results of our partnership with Planning staff to recommend this legislation and hope that Council passes it soon. However, on its own, it still will not do enough to protect our forests because the jurisdiction of the Forest Conservation Law is limited to certain circumstances. For example, it does not protect street trees (under the jurisdiction of the Tree Canopy Law and DEP) or right-of-way trees (under the jurisdiction of the Roadside Tree Protection Law and MCDOT) and does not guarantee investments to maintain and improve the health of existing forest on County- or M-NCPPC-owned land. Over the coming years there will be more work to do to build on these needed improvements to the Forest Conservation Law.

Ultimately, our goal and the goal for the County should be to protect not just trees and patches of trees, but full, contiguous forest ecosystems. A full forest ecosystem includes healthy soil, drainage, healthy fungi in the soil, healthy micro-biotic communities in the soil, biomass; groundcover; shrub layer, tree understory layer; tree canopy layer, diversity of different types of trees and plants.

On behalf of Nature Forward and our 28,000 members and supporters, we recommend that the County Council supports and takes into consideration Montgomery County's Forest Coalitions recommendations and moves forward now on Bill 25-22 and does not delay any more. Protecting our forests now will help to continue to build, healthy, resilient communities for Montgomery County into the future.

Sincerely,

Denisse Guitarra
MD Conservation Advocate
Nature Forward

The following is taken from the current AP Environment Science course currently taught to high schoolers. I'm copying it here for my testimony on the County's Forestry bill because I believe it's relevant to two things.

Firstly, I'm an assistant teacher and believe this is a simple, brief, breakdown of the science that is relevant to understanding the importance and relevance of this bill to many systemic county issues such as public health, traffic, flooding/erosion, and pedestrian safety and mortality rates.

Secondly, the topic of mental health of youth: "For teens everywhere, this is the reality as they come of age during a time of climate crisis. In a recent 10-country survey of 10,000 young people ages 16 to 25 published in *The Lancet*, 45% of respondents said their feelings about climate change had "negatively affected their daily life and functioning."¹

The relevant snippet is as follows:

Impacts of Urbanization

Today, more than 50% of the world's population lives in a city, and this percentage grows every year because of something called urbanization.

Urbanization is the creation and growth of cities, human settlements with higher population densities than rural areas. The high population density in cities has a lot of advantages. Because people are closer together, it's easier to coordinate community efforts like recycling, public education, and public transportation. Urban residents also tend to have better access to things like medical care and family planning.

However, the high population density of cities also can have a negative impact on the environment. You can imagine, with so many people living close together in one space, it can cause a strain on the natural resources of the area and generate more air and water pollution. Cities can use sustainable planning to counter these effects.

Urban planners often talk about the ratio between green space and gray space in a city, where the green spaces are vegetation and the gray spaces are things like buildings and

¹ Eco-anxiety among teenagers is growing. ABC News. April 22, 2022

paved surfaces, like roads and sidewalks and parking lots. These gray spaces may be necessary, but cities should be planned thoughtfully to add some green spaces too. When gray spaces dominate a cityscape too much, the paved surfaces prevent water from seeping into the ground, so when it rains, it creates large amounts of runoff. Having nowhere to go, the water travels across paved surfaces, picking up pollutants along the way. All this runoff can lead to flash flooding. Adding more green spaces can help prevent this from happening because plants soak up water.

There are many creative ways that urban planners can add green spaces to our environment. Some buildings in cities grow plants on their roofs. They're called green roofs. The plants soak up the rain and snow melt that hits the roof and prevents it from going into the street. Also, plants create shade and help cool things down, so buildings with green roofs wouldn't have to spend as much energy on air conditioning.

Green spaces can also help the environment by allowing for groundwater recharge, which is allowing more water to sink back into the ground and replenish the aquifer. Some cities do this by building rain gardens, which are gardens specifically designed to filter water back into the ground, the plants and the rain gardens help filter pollutants in the runoff and prevent the pollutants from contaminating water ecosystems.

Cities can also help with groundwater recharge by building permeable surfaces in their cities. Parking lots can be constructed with permeable paving to reduce runoff. Groundwater recharge can help prevent something that happens in coastal cities called saltwater intrusion. Let's say that this city right here is a city on the coast, so it's really close to the ocean. And let's say this city decides to build a pump right here to access the freshwater in the aquifer below it. But the city has a lot of people in it and it needs a lot of water. The city might end up taking more and more freshwater at a rate too fast for the freshwater in the aquifer to replenish itself. Pulling up so much fresh water can create a space for the saltwater in the nearby ocean to come and take its place. The saltwater from the ocean would contaminate the freshwater supply, making it unpotable.

But if this city decided to increase the amount of permeable surfaces and green spaces, then when it rains, the water will be able to seep back into the ground and it would refill the empty space the pump has created with freshwater. This would mean that freshwater would continually be replacing the water that was taken out by the pump, so saltwater intrusion couldn't happen. Adding more green spaces could also help with air pollution because plants absorb carbon dioxide and produce oxygen. Cities produce most of the

world's air pollution. Part of this is because of urban sprawl. As cities become more populated, they expand into suburban areas and even exurban areas, the areas past the suburbs. All of that expansion leads people to live farther away from their jobs. This causes people to spend a lot more time in their cars on their long commutes to work. And these long lines of cars of people traveling to work emit a lot of carbon dioxide.

Carbon dioxide is a greenhouse gas, which means it retains heat from the sun, and it contributes to climate change. But carbon dioxide isn't the only kind of air pollution that cities produce. Emissions from motor vehicles and industrial facilities in cities can create something called photochemical smog. This is the kind of hazy, smoky pollution that you can sometimes see in the horizon line of cities and it can be really harmful to eyes and lungs. So, how could urban planners solve this problem? Cities could cluster grocery stores, offices, and homes closer together, building up rather than out, making buildings taller rather than wider. This would mean that people wouldn't have to travel as far to get where they need, so people could rely on walking or biking rather than fossil-fuel-consuming vehicles.

Cities can reduce vehicle emissions by making public transportation more convenient and affordable. This would mean that fewer people would need to use their own cars to get around and it would cut down on traffic. Also, cities could build more paths, sidewalks, and bike lanes so people wouldn't have to rely on fossil-fuel-consuming vehicles to get around. Encouraging walking and biking could also improve the health of city residents. Cities can use clean forms of energy, like solar or wind power, to reduce air pollution. They could also use fossil fuels more effectively through energy co-generation, which is a way of using the heat given off by the burning of fossil fuels, not just the electricity. By creating goals and sustainable plans, cities can help reduce air and water pollution and increase the wellbeing of their residents.

The city of Espoo in Finland, for example, was recognized as a world leader in energy sustainability for its goal to become carbon neutral by the year 2030. Cities are centers for economic development, innovation, social and cultural diversity, and jobs. With some urban planning, cities can become centers for sustainability too.

End of snippet



Montgomery County, MD Tree and Forest Laws 101

There are 3 major laws which apply to trees and forests in Montgomery County depending on various factors including location, property, jurisdiction, and size (of individual trees or total forest area or land disturbance). Incorporated areas and municipalities in the County may have their own additional laws and regulations. In addition, the Maryland Department of Natural Resources (DNR) generally regulates trees in the right-of-way on most State Highway Administration (SHA) roads in the County through the Maryland Roadside Tree Law (although aspects of the County Roadside Tree Protection Law also apply to trees in the State right-of-way in certain situations) and DNR retains forest conservation authority for any state or cross-county projects.

Montgomery County Roadside Tree Protection Law (Effective 2014)

County lead agencies – Department of Transportation, Department of Permitting Services

- Requires a permit for any trimming, cutting, removal or injury of any tree, or stump removal in the right-of-way of a public County road. A permit is not required for public utility agencies.
- Requires a tree protection plan or replacement plan for trees in the right-of way (often referred to as street trees) impacted by disturbance.
- The law requires one tree be planted back into the right-of-way at or near the location of the tree being removed and a fee be paid for the planting of two additional trees, unless this requirement is waived (i.e. - site not feasible, tree is dead or danger). This fee, tied to a bond and collected at \$250 per tree since 2014, goes into the DOT Tree Planting Fund and may only be used to plant trees in the right-of-way of a public road in the County. In planting trees, DOT must give highest priority to those urban and suburban areas of the County that have relatively low tree canopy. Planted trees must be on the recommended County tree list.
- Any planting plan requires following specifications including species, spacing, and proximity to overhead wires required for planting in the right-of-way.

Montgomery County Tree Canopy Law (Effective 2014)

County lead agencies – Department of Environmental Protection, Department of Permitting Services

- Applies to any project on public or private land that requires a sediment control permit from Montgomery County. The law does not apply to the Parks Department or various other property owners with qualifying circumstances; does not apply to projects that do not require a sediment control permit from Montgomery County such as removing individual or small groups of trees or most agricultural activities;

and does not apply if mitigation for development activity is required under the Forest Conservation Law.

- Requires property owners to plant new canopy trees during development or pay into a tree planting fund used for large shade trees (as of 2014 the rate is \$250 per required tree). The number of trees required to be planted, or the fee-in-lieu amount, is based on the amount of land disturbance.
- Planting must conform to certain regulations including spacing. The money collected in the Tree Canopy Conservation Account fund is used by DEP's Tree Montgomery program to replant shade trees as requested by property owners so long as planting criteria is met.

Montgomery County Forest Conservation Law (Effective 1992; last amended February 2021)

County lead agency – Montgomery Planning, part of Maryland-National Capital Park & Planning Commission (M-NCPPC) (also referred to as “Park and Planning” or “the Commission”)

- Based on Maryland's Forest Conservation Act; the County Forest Conservation Law (FCL) must be at least as strict as the State Forest Conservation Act; Montgomery Planning does not implement the FCL in certain municipalities including Rockville, Gaithersburg, Poolesville, and some others, and any properties or projects managed by the State of Maryland.
- Generally, the FCL applies to properties 40,000 square feet or larger (or contiguous properties under certain circumstances), when a sediment control permit is required, or when subdivision occurs. The FCL applies to some property owners, government entities, and developers who need approval for a development plan, sediment control permit, or activity that could potentially remove more than 5,000 square feet of forest or harm a champion tree.
- The FCL does not apply to projects that do not require a sediment control permit from Montgomery County such as removing individual or small groups of trees or most agricultural activities, with the exception of impacts to or removal of champion trees.
- Certain projects may qualify for exemptions from the requirements of preparing, submitting and implementing a Forest Conservation Plan.
- Anyone subject to the FCL must either submit an application for an exemption from a Forest Conservation Plan, or submit a Forest Conservation Plan which will require a calculated forest retention or forest planting requirement. This requirement is met through planting or protecting forests, both of which must be protected with a Category I forest conservation easement held by the Commission, purchasing credits from one of the county's forest mitigation banks, or contributing to the county's Forest Conservation Fund.
- To meet the requirements of the Forest Conservation Plan, the preferred sequence for afforestation and reforestation in general includes on-site afforestation or reforestation; off-site afforestation or reforestation; enhancement of existing forest through on-site selective clearing, supplemental planting, or both; acquiring credits from an off-site forest mitigation bank; paying fee in-lieu; and

landscaping with an approved plan. The option(s) an applicant may use to meet their forest conservation requirement are noted on the approved Forest Conservation Plan.

- As of July 2021, the Forest Conservation Fund fee-in-lieu rate is \$1.30 per square foot. Funds are used to plant forest or maintain that planted forest through the Reforest Montgomery Program.
- Every project that is required to submit a Forest Conservation Plan for review will have a different forest mitigation requirement, depending on the total tract area, area of existing forest cover, area of forest to be cleared, and land use category.
- If mitigation is required under the Forest Conservation Law, then no mitigation is required under the Tree Canopy Law.

LAW	Date Effective /Amended	Lead County Agency	General Application
Roadside Tree Law	2014	DOT, DPS	County ROW (street) trees.
Tree Canopy Law	2014	DEP, DPS	Sediment control permit.
Forest Conservation Law	1992 / 2021	Montgomery Planning	40,000+ sq feet land disturbance with sediment control permit; subdivision; clearing over 5,000 square feet of forest, impacts to champion trees.

Note: A sediment control permit is required for projects that disturb more than 5,000 square feet of land or tree canopy, or any new primary residential or commercial building, or projects that include 100 cubic yards or more of earth movement on or off the property. All three laws specify requirements for sediment control permits issued by Montgomery County.

Additional Resources:

Maryland Roadside Tree Law:

https://dnr.maryland.gov/forests/Documents/RST_Brochure.pdf

<https://roads.maryland.gov/mdotsha/pages/Index.aspx?PageId=221>

Montgomery County Roadside Tree Law:

<https://www.montgomerycountymd.gov/DOT-Highway/Resources/Files/RoadsideTreeHandout.pdf>

https://www.montgomerycountymd.gov/DOT-Highway/Resources/Files/20130723_41-12A.pdf

https://www.montgomerycountymd.gov/DPS/Resources/Files/Land_Development/RoadsideTreeDesignGuidelines.pdf

https://www.montgomerycountymd.gov/DPS/Resources/Files/Land_Development/RoadsideTreeDesignGuidelines.pdf

<https://www.montgomerycountymd.gov/DOT-Highway/Tree/index.html>

<https://www.montgomerycountymd.gov/DPS/Process/ld/roadside-tree-plan.html>

Montgomery County Tree Canopy Law:

<https://www.montgomerycountymd.gov/green/trees/laws-and-programs.html>

<https://www.montgomerycountymd.gov/green/Resources/Files/trees/Tree-Canopy-Law-Final-2014.pdf>

Montgomery County Forest Conservation Law:

<https://montgomeryplanning.org/wp-content/uploads/2017/10/Montgomery-County-Forest-Conservation-Law-2-22-21.pdf>

<https://montgomeryplanning.org/wp-content/uploads/2017/10/Forest-Conservation-Tree-Regulations.pdf>

<https://montgomeryplanning.org/planning/environment/forest-conservation-and-trees/montgomery-county-forest-conservation-law/>

*Montgomery County, MD Tree and Forest Laws 101 fact sheet prepared by Conservation Montgomery in consultation with Montgomery County agency staff. Information reflects the laws in place as of April 2022. Additional information available at

www.conservationmontgomery.org



Public Hearing: February 7, 2023

Transportation and Environment Work Session Scheduled February 27, 2023

**Montgomery County Council President Glass
100 Maryland Avenue, 6th Floor, Rockville, MD 20850**

**BILL 25-22 – Forest Conservation – Trees
POSITION: Support**

Dear President Glass and members of the County Council:

Conservation Montgomery is an all-volunteer non-profit organization dedicated to sustaining Montgomery County's quality of life and natural resources for current and future generations through community awareness and sound decision-making. We understand there is a strong connection between the health of our natural landscape and our collective quality of life. Forests and trees are truly workhorses of the natural environment – cleaning our air, reducing urban heat islands, managing stormwater, capturing carbon, supporting biodiversity, and providing economic benefits.

As members of the Montgomery County Forest Coalition, we greatly appreciate the extensive years-long effort which has gone into proposed Bill 25-22 by Montgomery Planning staff, all the organizations which comprise the Coalition, Council staff, and members of the broader community, including during multiple stakeholder work groups where there was considerable collaboration and compromise.

It is important to note that there are three main laws which apply to tree canopy and forests in our County. The Roadside Tree Protection Law, the Tree Canopy Law, and the Forest Conservation Law. At this time, through this legislation, we are focused on ways we can improve our Forest Conservation Law – but our other tree laws desperately need strengthening too – and hopefully those can be addressed in the near future.

Since the previous public hearing on this bill in Fall 2022, the Hughes Center for Agro-Ecology completed their long-awaited study of the state of Maryland's forests titled the *Technical Study on Changes in Forest Cover and Tree Canopy in Maryland (November 2022)*. The first line of the report states, "Forests represent one of Maryland's most important natural resources, critical to its economy, sustainability, health, and identity."

The report highlights the fact that Montgomery County continues to lose valuable forest and tree canopy cover – described as “essential infrastructure” - and that forest fragmentation is a serious ongoing threat to the health of our forest ecosystems. We as people need healthy forests to thrive - and more must be done to protect and expand this resource.

Conservation Montgomery therefore supports the Planning Staff and Planning Board’s recommendations to improve the Forest Conservation Law (FCL). These recommendations represent a thoughtful, flexible approach and should be passed without being watered down. We also request that there be follow-up data gathering to further review and support ways to not just achieve a no-net loss of forest outcome, but ultimately a net gain of forest.

There is a famous proverb: The best time to plant a tree was 20 years ago, the second-best time is now. The same can be said for our forest and tree laws. The best time to further strengthen our forest conservation law was 20 years ago, the second-best time is now. We hope that is what you will help do today.

Sincerely,

A handwritten signature in black ink that reads "Amanda Farber". The script is cursive and fluid, with the first letters of each word being capitalized and prominent.

Amanda Farber

Of note: We are also attaching Montgomery County Tree and Forest Law 101 for your reference which was developed by Conservation Montgomery with input from several county agencies in order to provide additional information about the scope and differences regarding the three laws which apply to trees and forests in the County (the Forest Conservation Law, the Tree Canopy Law, and the Roadside Tree Protection Law).

Bill No. 25-22
Concerning: Forest Conservation – Trees
Revised: 12/22/2022 Draft No. 2
Introduced: September 13, 2022
Expires: _____
Enacted: _____
Executive: _____
Effective: _____
Sunset Date: _____
Ch. _____, Laws of Mont. Co. _____

COUNTY COUNCIL FOR MONTGOMERY COUNTY, MARYLAND

By: Then-Council President Albornoz at the Request of the Planning Board

AN ACT to:

- (1) exclude activities in the Commercial Residential (CR) zone from qualifying for certain Forest Conservation Plan (FCP) exemptions;
- (2) exclude any development that occurs within an environmental buffer from qualifying for a FCP exemption;
- (3) change the timeline for approval of a Natural Resources Inventory/Forest Stand Delineation (NRI/FSD);
- (4) increase the amount of forest required to be preserved in lower density land use categories;
- (5) increase forest planting requirements in higher density land use categories;
- (6) increase reforestation ratios;
- (7) require planting of forest in all unforested stream valley buffers;
- (8) amend the requirements where forest retention required by the Forest Conservation Law is not possible;
- (9) broaden the terms of maintenance and management agreements to include required maintenance for areas of existing forest retained to meet forest mitigation requirements;
- (10) expand mitigation requirements for variance trees to include mitigation for variance trees located within a forest;
- (11) allow landscaping to meet both reforestation or afforestation requirements in equity focus areas;
- (12) update the allowable types of forest mitigation banks allowed in the County per recent amendment to the State’s Forest Conservation Act; and
- (13) generally amend Chapter 22A.

By amending

Montgomery County Code
Chapter 22A, Forest Conservation – Trees
Sections 22A-3, 22A-4, 22A-5, 22A-6, 22A-9, 22A-10, 22A-11, 22A-12, 22A-13,

TECHNICAL AMENDMENTS IDENTIFIED BY COUNCIL STAFF
BILL 25-22

and 22A-21

Boldface	<i>Heading or defined term.</i>
<u>Underlining</u>	<i>Added to existing law by original bill.</i>
[Single boldface brackets]	<i>Deleted from existing law by original bill.</i>
<u>Double underlining</u>	<i>Added by amendment.</i>
[[Double boldface brackets]]	<i>Deleted from existing law or the bill by amendment.</i>
* * *	<i>Existing law unaffected by bill.</i>

The County Council for Montgomery County, Maryland approves the following Act:

26 Environmental guidelines mean the Guidelines for Environmental
27 Management of Development in Montgomery County, Maryland (M-
28 NCPPC), as amended.

29 Equestrian Facility: A] means any building, structure, or land area that
30 is primarily used for the care, breeding, boarding, rental, riding, sport
31 eventing, or training of horses or ponies, the teaching of equestrian skills,
32 or competitive equestrian events.

33 * * *

34 Forest conservation threshold means the percentage of the net tract area
35 at which the reforestation [requirement changes from a ratio of ¼ acre
36 planted for every one acre removed to a ratio of 2 acres planted for every
37 one acre removed] ratio increases as specified in Section 22A-12.

38 * * *

39 Forest mitigation banking means the intentional [preservation,]
40 restoration[,] or creation of forests undertaken expressly to provide
41 credits for afforestation or reforestation requirements.

42 * * *

43 Minor subdivision means a plan for a proposed subdivision [or
44 resubdivision] prepared and submitted for approval by the Planning
45 Director under Division 50.7 of Chapter 50.

46 * * *

47 Park development plan means an application submitted by the
48 Montgomery County Parks Department for the construction and
49 development of a specific park.

50 Patuxent Primary Management Area (PMA) means [[areas]] an area of
51 environmental importance within the Patuxent River watershed, as
52 further defined in the [[Environmental]] environmental guidelines.

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Preliminary plan of subdivision means a plan for a proposed subdivision [or resubdivision] prepared and submitted for approval by the Planning Board under Division 50.4 of Chapter 50 before preparation of a subdivision plat.

Project plan means [a plan or] an amendment to a project plan referred to in Section 7.7.1.B of Chapter 59 [or a sketch plan approved under Section 7.3.3 of Chapter 59].

* * *

Special Protection Area (SPA) means a geographic area designated by the County Council under Section 19-62(a).

Specimen tree means a tree that is a particularly impressive or unusual example of a species due to its size, shape, age, or any other trait that epitomizes the character of the species as further described in the most recent version of the Trees Technical Manual.

* * *

22A-4. Applicability.

Except as otherwise expressly provided in this Chapter, this Chapter applies to:

- (a) a person required by law to obtain an approval or amendment to a development plan, diagrammatic plan, project plan, floating zone plan, sketch plan, biohealth priority campus plan, preliminary plan of subdivision, administrative subdivision, minor subdivision, or site plan;

* * *

22A-5. Exemptions.

The requirements of Article II do not apply to:

79 (a) an activity conducted on an existing single lot of any size that is required
80 to construct a dwelling house or accessory structure (such as a pool, tennis
81 court, or shed) intended for the use of the owner, if the activity:

82 (1) does not require a special exception;

83 (2) does not occur within an environmental buffer, except for the
84 allowable uses stated in the environmental guidelines;

85 [(2)] (3) does not result in the cutting, clearing, or grading of:

86 * * *

87 (k) any lot covered by a preliminary plan of subdivision or site plan that did
88 not receive a sediment control permit before July 1, 1991, and for which
89 the preliminary plan of subdivision or site plan:

90 (1) was approved before July 1, 1984, and has less than 40,000 square
91 feet of forest cover; or

92 (2) was approved or extended between July 1, 1984 and July 1, 1991,
93 and

94 (3) the construction will not result in the cutting, clearing, or grading
95 of:

96 (A) any forest in a stream buffer, or

97 (B) any forest on property located in a special protection area
98 which must submit a water quality plan.

99 A preliminary plan of subdivision or site plan approved before July
100 1, 1991, that is revised after that date at the initiative of the
101 applicant and which results in the cutting of more than 5,000
102 additional square feet of forest is not exempt. Development or
103 redevelopment of a property which requires [re]subdivision is not
104 exempt. This subsection does not apply to a planned unit
105 development subject to subsection (l);

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- (n) any minor subdivision under Division 50.7 of Chapter 50 if:
 - (1) the only development located on the resulting lot is a single family dwelling unit or an accessory structure (such as a pool, tennis court, or shed); development does not occur within an environmental buffer, except for the allowable uses stated in the environmental guidelines; and development does not result in the cutting, clearing, or grading of:

* * *

- (s) (1) an activity occurring on a tract of land that is less than 1.5 acres and that [[meets all of the following criteria]]:
 - (A) is not located within the Commercial Residential (CR) zone classification;
 - (B) has [with] no existing forest, [[or]] existing specimen_s or champion tree[, and];
 - (C) would not result in an [the] afforestation [requirements would not] requirement that [exceed] exceeds 10,000 square feet; and
 - (D) would not result in development within an environmental buffer, except for the allowable uses stated in the environmental guidelines; or
- (2) an activity occurring on a tract of land that is less than 1 acre and that [[meets all of the following criteria]]:
 - (A) is not located within the Commercial Residential (CR) zone classification;

- 131 (B) [that will] would not result in the clearing of more than a
132 total of 20,000 square feet of existing forest, or any existing
133 specimen or champion tree; [, and]
- 134 (C) would not result in a reforestation [requirements]
135 requirement that [would not] exceeds 10,000 square feet;[.]
- 136 (D) would not result in development within an environmental
137 buffer, except for the allowable uses stated in the
138 environmental guidelines; and
- 139 (E) [Forest]preserves forest in any [priority area] on-site
140 floodplains, stream buffers, steep slopes, critical habitats,
141 and areas designated as priority save areas in a master plan
142 or functional plan [[must be preserved.]]]; and];
- 143 (t) a modification to a:
- 144 (1) non-residential developed property if:
- 145 (A) no more than 5,000 square feet of forest is ever cleared at
146 one time or cumulatively after an exemption is issued;
- 147 (B) the modification does not result in the cutting, clearing, or
148 grading of any forest in a stream buffer or forest located
149 on property in a special protection area which must submit
150 a water quality plan;
- 151 (C) the development does not occur within an environmental
152 buffer, with the exception of the allowable uses stated in
153 the environmental guidelines;
- 154 [(C)](D) the modification does not require approval of a
155 preliminary plan, administrative subdivision plan, or
156 conditional use/special exception;

183 land disturbance within 5 years from the date of approval of the
184 exemption is expired], unless the confirmed exemption pertains to a
185 subdivision with a validity period of more than 5 years, in which case].
186 If the subdivision has a validity period of more than 5 years,] the
187 confirmed exemption does not expire until the end of the subdivision
188 validity period. If site development activities have not been authorized
189 by the forest conservation inspector to commence before the expiration
190 date, including inspections detailed under 22A-15(c)(2)(A) and (B), the
191 approved exemption will expire at that time.

192 * * *

193 **22A-9. County and Municipal Highway Projects**

194 (a) *General.*

195 (1) This Section applies to construction of a highway or by the
196 County or a municipality as part of an approved Capital
197 Improvements Program project.

198 (2) The construction should minimize forest removal, land
199 disturbance, and loss of significant, specimen, or champion trees
200 to the extent possible while balancing other design, construction,
201 and environmental standards. The constructing agency must
202 make a reasonable effort to minimize land disturbance to avoid
203 the cutting or clearing of trees and other woody plants.

204 (b) If the forest to be cut or cleared for a County highway project equals or
205 exceeds 20,000 square feet, the constructing agency must reforest a
206 suitable area at the rate of one acre of protected reforestation for each
207 acre of forest cleared.

208 (c) Reforestation for County highway projects must meet the standards in
209 subsections 22A-12(e), (g) and (h).

210 (d) Any mitigation requirement for loss of significant, specimen, or
211 champion trees must be based on the size and character of the tree.

212 * * *

213 **22A-10. General**

214 * * *

215 (b) *Forest stand delineation.*

216 * * *

217 (4) An approved forest stand delineation is not valid after 2 years
218 unless:

219 (A) a forest conservation plan or a plan under Section 22A-9
220 has been accepted as complete; or

221 (B) the delineation has been recertified by the preparer, which
222 may occur within one year after the expiration date if the
223 requirements of Section 22A.00.01.06.F, as amended, of
224 the Forest Conservation – Trees Regulations are met.

225 (5) An approved forest stand delineation may not be amended. A
226 new forest stand delineation must be submitted for review in
227 order to make any changes.

228 * * *

229 **22A-11. Application, review, and approval procedures**

230 (a) [General] *General.*

231 (1) [[Application]] Application. The submission of a development
232 plan, floating zone plan, project plan, sketch plan, subdivision
233 plan, site plan, biohealth priority campus plan, special exception,

234 conditional use, mandatory referral, park development plan, or
235 sediment control permit under this Section must include an
236 approved forest stand delineation or a confirmed exemption from
237 submitting a forest conservation plan under Section 22A-5.

238 [(1)](2) [[Coordinated with project review]] Coordinated with project
239 review. The [forest stand delineation and] forest conservation
240 plan must be submitted and reviewed in conjunction with the
241 review process for a development plan, floating zone plan,
242 project plan, [sketch plan,] subdivision plan, site plan, biohealth
243 priority campus plan, special exception, conditional use,
244 mandatory referral, park development plan, or sediment control
245 permit under this Section. The Planning Director must coordinate
246 review of the forest conservation plan with the Director of
247 Environmental Protection, the Director of Permitting Services,
248 the Washington Suburban Sanitary Commission, other relevant
249 regulatory agencies, and entities that will provide public utilities
250 to the tract, to promote consistency between the objectives of this
251 Chapter and other development requirements. To the extent
252 practicable, entities providing public utilities should design
253 facilities that will serve a tract in a manner that avoids identified
254 conservation areas and minimizes tree loss.

255 [(2)](3) [[Modification to an approved plan]] Modification of an
256 approved plan. The Planning Director may approve
257 modifications to an approved forest conservation plan that are
258 consistent with this Chapter if:

259 (A) field inspections or other evaluation reveals minor
260 inadequacies of the plan; or

261 (B) each modification is a minor amendment, as defined in
262 Section 22A.00.01.13.A.1, as amended, of the Forest
263 Conservation – Trees Regulations, and does not impact
264 any forest in a priority area (such as substituting an on-site
265 conservation area for an equal or greater on-site area of
266 similar character, or substituting a marginal on-site
267 conservation area for equal or greater amount of off-site
268 priority area); or

269 (C) action is otherwise required in an emergency situation.

270 Any other modification, including major amendments, must be
271 approved by the agency that approved the forest conservation
272 plan.

273 ~~[(3)]~~(4) ~~[[Notice]]~~ Notice. Public posting and written notice of forest
274 conservation plan applications must be provided by applicants as
275 specified in ~~[regulation]~~ Section 50/59.10.01.04, as amended, of
276 the Administrative Procedures for Development Review.

277 (b) *Project requiring development plan, floating zone plan, project plan,*
278 *[sketch plan,] preliminary plan of subdivision, biohealth priority*
279 *campus plan, or site plan approval.*

280 (1) ~~[[Forest stand delineation]]~~ Forest stand delineation. The
281 applicant must submit to the Planning Director a forest stand
282 delineation ~~[with the]~~ and the forest stand delineation must be
283 approved before the applicant ~~[[can]]~~ may submit an application
284 for a development plan, floating zone plan, project plan, [sketch

285 plan,] preliminary plan of subdivision, biohealth priority campus
286 plan, or site plan[, whichever comes first]. Within 30 days of
287 receipt, the Planning Director must notify the applicant whether
288 the forest stand delineation is complete and correct. If the
289 Planning Director fails to notify the applicant within 30 days, the
290 delineation will be treated as complete and correct. The Planning
291 Director may require further information or provide for one
292 extension of this deadline for an additional 15 days for
293 extenuating circumstances. The applicant must submit revised
294 drawings to address comments within 90 days from the date the
295 Planning Director sends comments to the applicant. If the
296 applicant fails to submit revised drawings, the application is
297 deemed withdrawn. The Planning Director may provide for one
298 extension of this deadline for extenuating circumstances.

299 (2) [[Forest conservation plan]] Forest conservation plan.

300 (A) [[Application]] Application. After being notified that the
301 forest stand delineation is complete and correct, the
302 applicant must submit a forest conservation plan to the
303 Planning Director with the related application for a
304 development plan, floating zone plan, project plan,
305 preliminary plan of subdivision, biohealth priority campus
306 plan, or site plan. If the development proposal will require
307 more than one [of the] [approvals] approval subject to this
308 subsection, the applicant must submit a preliminary forest
309 conservation plan to the Planning Director in conjunction
310 with the first approval, and a final forest conservation plan

311 in conjunction with the last approval; however, if multiple
312 approvals subject to this subsection are submitted to the
313 Planning Director for simultaneous review, the applicant
314 need ~~[[only]]~~ submit only a final forest conservation plan
315 that will be considered for each relevant application. If
316 only one approval subject to this subsection is required, an
317 applicant must submit [a preliminary forest conservation
318 plan and] a final forest conservation plan at the time of the
319 development application.

320 (B) ~~[[Review]]~~ Review. Within 45 days from receipt of a final
321 forest conservation plan, including a plan that is not
322 reviewed in 2 stages, the Planning Director must notify the
323 applicant whether the forest conservation plan is complete
324 and approved for submission to the Planning Board as part
325 of the development application. If the applicant is not
326 notified within 45 days, the plan will be treated as
327 complete and approved for submission. The Planning
328 Director may require further information or provide for
329 one extension of this deadline for an additional 15 days for
330 extenuating circumstances. In addition, at the request of
331 the applicant, the Director may extend this deadline further
332 for extenuating circumstances.

333 (C) ~~[[Approval]]~~ Approval. The Planning Board must review
334 and act on the forest conservation plan concurrently with
335 the development plan, floating zone plan, project plan,
336 [sketch plan,] preliminary plan of subdivision, biohealth

337 priority campus plan, or site plan, as appropriate.
338 Compliance with the preliminary forest conservation plan,
339 when required and as amended by the Board, must be
340 made a condition of any approval of the first applicable
341 development application. Compliance with the final forest
342 conservation plan, as amended by the Board, must be
343 made a condition of any approval of the last development
344 application. For a development plan or a floating zone
345 plan, a Planning Board recommendation to the District
346 Council on the preliminary forest conservation plan must
347 be made under Section 59-7.2.1. A final forest
348 conservation plan must be approved by the Planning
349 Board or Planning Director, as appropriate, before the
350 Planning Board approves a record plat.

351 (c) *Project requiring special exception or conditional use approval.*

352 (1) ~~[[Forest stand delineation]]~~ Forest stand delineation. If a special
353 exception or conditional use proposal is subject to the
354 requirements of this Chapter, the applicant must submit a forest
355 stand delineation to the Planning Director before the Board of
356 Appeals may consider the application for the special exception.
357 The deadlines for reviewing a forest stand delineation are the
358 same as in [paragraph] paragraphs (a)(1) and (b)(1) of this
359 Section.

360 (2) ~~[[Forest conservation plan]]~~ Forest conservation plan. Upon
361 notification that the forest stand delineation is complete and
362 correct, the applicant must submit a preliminary forest

363 conservation plan to the Planning Director. The Board of
364 Appeals must consider the preliminary forest conservation plan
365 when approving the special exception or conditional use
366 application and must not approve a special exception or
367 conditional use application that conflicts with the preliminary
368 forest conservation plan. A final forest conservation plan must
369 be submitted before obtaining a sediment control permit, or at
370 the time of preliminary plan of subdivision or site plan
371 application, if required. The deadlines for reviewing a final forest
372 conservation plan are the same as in paragraph (d)(2) of this
373 Section.

374 (d) *Project requiring a sediment control permit only.*

375 (1) ~~[[Forest stand delineation]]~~ Forest stand delineation. If an
376 application for a sediment control permit ~~[[may]]~~ might be
377 subject to the requirements of this Chapter, the applicable
378 sediment control permit issuing authority must direct the
379 applicant to the Planning Director for a determination. If the
380 Planning Director finds the sediment control permit application
381 to be subject to this Chapter, the applicant must submit a forest
382 stand delineation to the Planning Director for review. The
383 deadlines for reviewing a forest stand delineation are the same as
384 in ~~[paragraph]~~ paragraphs (a)(1) and (b)(1) of this Section.

385 (2) ~~[[Forest conservation plan]]~~ Forest conservation plan. Upon
386 notification that the forest stand delineation is complete and
387 correct, the applicant must submit to the Planning Director a
388 forest conservation plan. Within 45 days from receipt of the

389 forest conservation plan, the Planning Director must notify the
390 applicant if the forest conservation plan is complete and
391 approved. If the applicant is not notified within 45 days, the plan
392 will be treated as complete and approved. The Director may
393 require further information or provide for an extension of this
394 deadline for an additional 15 days for extenuating circumstances.
395 In addition, at the request of the applicant, the Director may
396 extend this deadline further for extenuating circumstances.

397 (3) ~~[[Issuance of sediment control permit]]~~ Issuance of sediment
398 control permit. A sediment control permit must not be issued to
399 a person who must comply with this Article until a final forest
400 conservation plan, if required, is approved.

401 (e) *Project requiring mandatory referral or park development plan.*

402 (1) ~~[[Forest stand delineation]]~~ Forest stand delineation. A person
403 seeking mandatory referral or a park development plan for a
404 project that is subject to the requirements of this Chapter must
405 first submit a forest stand delineation to the Planning Director for
406 review. The deadlines for reviewing a forest stand delineation are
407 the same as in ~~[paragraph]~~ paragraphs (a)(1) and (b)(1) of this
408 Section.

409 (2) ~~[[Forest conservation plan]]~~ Forest conservation plan. Upon
410 notification that the forest stand delineation is complete and
411 correct, the applicant must submit to the Planning Director a final
412 forest conservation plan. The Planning Board must consider the
413 final forest conservation plan when reviewing the mandatory
414 referral application or the park development plan.

415 (3) ~~[[Issuance of a sediment control permit]]~~ Issuance of a sediment
416 control permit. Issuance of a sediment control permit is subject
417 to the conditions specified in paragraph (d)(3) of this Section.

418 (f) *Project requiring sketch plan approval.*

419 (1) ~~[[Forest stand delineation]]~~ Forest stand delineation. For any
420 sketch plan application filed on or after November 14, 2017, the
421 applicant must submit to the Planning Director, for approval, a
422 forest stand delineation [reviewed concurrently with] before the
423 sketch plan application. The deadlines for reviewing a forest
424 stand delineation are the same as in [paragraph] paragraphs (a)(1)
425 and (b)(1) of this Section. [The forest stand delineation must be
426 approved prior to Planning Board approval of the sketch plan.]

427 (2) ~~[[Forest conservation plan]]~~ Forest conservation plan. Upon
428 notification that the forest stand delineation is complete and
429 correct, the applicant must submit a preliminary forest
430 conservation plan to the Planning Director with the first
431 development application after approval of the sketch plan. The
432 deadlines for reviewing a preliminary and final forest
433 conservation plan are the same as in [paragraph] paragraphs
434 (b)(2)(B) and (b)(2)(C) of this Section.

435 (g) *Project requiring administrative subdivision approval.*

436 (1) ~~[[Forest stand delineation]]~~ Forest stand delineation. The
437 applicant must submit to the Planning Director a forest stand
438 delineation before the administrative subdivision application.
439 The deadlines for reviewing a forest stand delineation are the

440 same as in [paragraph] paragraphs (a)(1) and (b)(1) of this
441 Section.

442 (2) [[Forest conservation plan]] Forest conservation plan. Upon
443 notification that the forest stand delineation is complete and
444 correct, the applicant must submit a preliminary forest
445 conservation plan to the Planning Director. The Planning Director
446 must consider the preliminary forest conservation plan when
447 approving the administrative subdivision application and must not
448 approve an administrative subdivision application that conflicts
449 with the preliminary forest conservation plan. A final forest
450 conservation plan must be submitted and approved before
451 obtaining a sediment control permit[,] or record plat, whichever
452 comes first. The deadlines for reviewing a final forest conservation
453 plan are the same as in paragraph (d)(2) of this Section. If the
454 Director defers the approval of an administrative subdivision to the
455 Planning Board, the Planning Board must review and act on the
456 preliminary forest conservation plan with the administrative
457 subdivision plan. The deadlines for reviewing a final forest
458 conservation are the same as in paragraph (b)(2)(C) of this Section.

459 * * *

460 **22A-12. Retention, afforestation, and reforestation requirements.**

461 (a) *Table*.

462

<p style="text-align: center;"><i>Forest Conservation Threshold and Required Afforestation as a Percentage of Net Tract Area</i></p>
--

<i>Land Use Category</i>	<i>Forest Conservation Threshold</i>	<i>Required Afforestation</i>
Agricultural and resource areas	[50]55%	20%
<u>Cluster medium-density residential areas</u>	<u>45%</u>	<u>20%</u>
Medium-density residential areas	[25]35%	20%
Institutional development areas	[20]25%	[15]20%
High-density residential areas	20%	15%
Mixed-use development areas	20%	15%
Planned unit development areas	20%	15%
Commercial and industrial use areas	15%	15%

463

464

* * *

465

(b) *Retention.*

466

* * *

467

(3) The following trees, shrubs, plants, and specific areas are priority for retention and protection and must be left in an undisturbed condition unless the Planning Board or Planning Director, as appropriate, finds that the applicant qualifies for a variance under Section 22A-21:

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472

(A) Any tree, shrub, or plant that is rare, threatened, or endangered under:

473

474

(i) the Federal Endangered Species Act of 1973 in 16 U.S.C. Sections 1531 — 1544 and in 50 CFR 17;

475

476 (ii) the Maryland Nongame and Endangered Species
477 Conservation Act, Title 10, Subtitle 2A of the
478 Natural Resources Article of the Maryland Code; or

479 (iii) COMAR 08.03.08;

480 (B) Any tree that is:

481 (i) 1 inch in caliper or larger and part of a historic site
482 or located within an historic district,

483 (ii) associated with a historic structure, or

484 (iii) designated by the State or County as a national,
485 State, or County champion tree; or

486 * * *

487 (c) *Reforestation.* The forest conservation plan must provide for
488 reforestation as follows:

489 (1) For all existing forest cover measured to the nearest 1/10 acre
490 cleared on the net tract area below the applicable forest
491 conservation threshold, the area of forest removed must be
492 reforested at a ratio of 2 acres planted for every one acre removed
493 if reforestation is occurring within the same 8-digit watershed as
494 the project or a priority 8-digit watershed, special protection area,
495 or the Patuxent Primary Management Area (PMA); or 2 ½ acres
496 planted for every one acre removed if reforestation is occurring
497 within the County outside of the same 8-digit watershed and
498 outside of a priority 8-digit watershed, special protection area, or
499 the Patuxent Primary Management Area (PMA).

500 (2) For all existing forest cover measured to the nearest 1/10 acre
501 cleared on the net tract area above the applicable forest
502 conservation threshold, the area of forest removed must be
503 reforested at a ratio of [$\frac{1}{4}$] $\frac{1}{2}$ acre planted for every one acre
504 removed if reforestation is occurring within the same 8-digit
505 watershed as the project or a priority 8-digit watershed, special
506 protection area, or the Patuxent Primary Management Area
507 (PMA); or 1 acre planted for every one acre removed if
508 reforestation is occurring within the County outside of the same
509 8-digit watershed and outside of a priority 8-digit watershed,
510 special protection area, or the Patuxent Primary Management
511 Area (PMA).

512 * * *

513 (d) *Afforestation.*

514 (1) A site with less than 20 percent of the net tract area in forest cover
515 must be afforested in accordance with the required afforestation
516 percentages shown on the table in subsection (a) of this Section.

517 (2) Afforestation [should] must be accomplished by the planting of
518 forest cover[. However], unless the applicant demonstrates to the
519 satisfaction of the Planning Board or Planning Director, as the
520 case may be, that afforestation using forest cover is inappropriate
521 for a site because of its location in an urban setting,
522 redevelopment context, high-density residential, commercial,
523 industrial, planned unit development, or institutional area (as
524 defined in Section 22A-3), or similar reason, in which case
525 afforestation requirements may be satisfied by tree cover.

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* * *

(e) *Standards for reforestation and afforestation.*

(1) General requirements.

(A) *Preferred sequence.* Except as provided in the technical manual or otherwise in paragraph (1) of this subsection, the preferred sequence for afforestation and reforestation is, in general: on-site afforestation or reforestation; off-site afforestation or reforestation; enhancement of existing forest through on-site selective clearing, supplemental planting, or both; acquiring credit(s) from an off-site forest mitigation bank; paying a fee in-lieu; and landscaping with an approved plan.

(B) Stream valley buffers. All unforested stream valley buffers on site must be afforested or reforested, except if the applicant demonstrates to the satisfaction of the Planning Board or Planning Director that [[afforestation or reforestation in the stream valley buffer]]:

(i) afforestation or reforestation in the stream valley buffer would be in conflict with allowable uses as established in the latest version of the environmental guidelines;

(ii) the stream valley buffer is located on park property stewarded by the Department of Parks, and the afforestation or reforestation would ~~[[conflicts]]~~ conflict with the mission and established

551 stewardship practices of the Department of Parks;
552 or
553 (iii) the stream valley buffer is not suitable to establish
554 and retain required planting materials, ~~[[then]] in~~
555 which case a substitute environmental protective
556 measure must be implemented.

557 All unforested stream valley buffers in a special protection
558 area and stream valley buffers within the Patuxent Primary
559 Management Area must be afforested as established in the
560 latest version of the environmental guidelines.

561 ~~[(B)]~~(C) ~~[[Governmental considerations]]~~ *Governmental*
562 *considerations.* The sequence provided in subparagraph
563 (A) of this paragraph may be modified for a specific
564 project if the applicant demonstrates to the satisfaction of
565 the Planning Board or the Planning Director, as the case
566 may be, that a different sequence is necessary:

567 (i) to achieve the objectives of a master or sector plan
568 or other County land use policies or to take
569 advantage of opportunities to consolidate forest
570 conservation efforts;

571 (ii) for public sites acquired or required to be dedicated
572 before July 1, 1991, to ensure that the site can be
573 used for its intended purpose without major design
574 changes; or

575 (iii) for educational, recreational, and public safety
576 facilities, to ensure that public safety is not
577 compromised.

578 ~~[(C)]~~(D) ~~[[Public Utility Considerations]]~~ Public utility
579 considerations. The sequence provided in subparagraph
580 (A) of this paragraph for public utility projects may be
581 modified to reflect applicable electrical or other safety
582 codes, or right-of-way constraints.

583 (2) ~~[[Off-site afforestation and reforestation]]~~ Off-site afforestation
584 and reforestation. If no opportunities for planting forest exist
585 ~~[[per]]~~ under Section 22A-12(e)(1)(A)~~[[In addition to the use of~~
586 other sites proposed by an applicant and approved by the
587 County], off-site afforestation or reforestation may also include:

588 (A) ~~[[Forest]]~~ forest mitigation banks designated in advance
589 by the County~~[[.]]~~;

590 (B) ~~[[Protection of existing off-site forest. Acquisition]]~~
591 acquisition of an off-site protective easement for existing
592 forested areas not currently protected in perpetuity ~~[[is an~~
593 acceptable mitigation technique instead of off-site
594 afforestation or reforestation planting, but]], if the forest
595 cover protected ~~[[must be]]~~ is 2 times the afforestation and
596 reforestation requirements~~[[.]]~~; or

597 (C) ~~[[For]]~~ for sites located in existing population centers, use
598 of street trees which meet landscape or streetscape goals
599 identified in an applicable master plan.

- 600 (3) ~~[[Priority areas and plantings]]~~ *Priority areas and plantings.*
601 Afforestation and reforestation should be directed to stream
602 buffer areas, connections between and additions to forested
603 areas, critical habitat areas, topographically unstable areas, and
604 land use and road buffers. The use of native plant materials is
605 preferred.
- 606 (4) ~~[[Location requirements]]~~ *Location requirements.*
- 607 (A) ~~[[Required]]~~ Except as permitted under subparagraphs (B)
608 and (C) of this paragraph, required reforestation or
609 afforestation must occur in both the county and the 8-digit
610 watershed in which the project is located~~[[, except that if~~
611 it]].
- 612 (B) If the required reforestation or afforestation cannot be
613 reasonably accomplished in the same county and 8-digit
614 watershed in which the project is located, then the
615 reforestation or afforestation [may] must occur in a
616 priority 8-digit watershed, special protection area, or the
617 Patuxent Primary Management Area (PMA) in the same
618 county in which the project is located~~[[, except that if it]].~~
- 619 (C) If the required reforestation or afforestation cannot be
620 reasonably accomplished in a priority 8-digit watershed,
621 special protection area, or the Patuxent Primary
622 Management Area (PMA) in the same county in which the
623 project is located, then the reforestation or afforestation
624 may occur anywhere in [either] the county [or watershed]
625 in which the project is located.

626 (5) ~~[[Deadline for plant installation]]~~ Deadline for plant installation.
627 The afforestation and reforestation requirements under this
628 subsection must be accomplished within ~~[[one]]~~ 1 year or ~~[2]~~
629 ~~[[two]]~~ 2 growing seasons after a development project is
630 complete.

631 * * *

632 (f) *Special provisions for minimum retention, reforestation and*
633 *afforestation.*

634 * * *

635 (3) If the Planning Board or Planning Director, as appropriate, finds
636 that forest retention required in this subsection is not possible,
637 the applicant must provide the maximum possible on-site
638 retention and must meet the balance of the remaining
639 requirement through any [in] combination [with] of on-site or
640 off-site reforestation [and] or afforestation [not including
641 landscaping].

642 * * *

643 (g) *In lieu fee.* A person contributing money to the forest conservation fund
644 as an in lieu fee must do so at a rate specified by law or Council
645 resolution, but not less than the rate required under Section 5-1610, as
646 amended, of the Natural Resources Article of the Maryland Code. Any
647 in lieu fee payment must be made before any land disturbing activity,
648 as defined in Section 22A-3, occurs on a section of the tract subject to
649 the forest conservation plan. A person may make an in lieu fee payment
650 to the forest conservation fund only if the person satisfactorily
651 demonstrates that:

- 652 (1) (A) the requirements for reforestation or afforestation on-site
653 or off-site cannot reasonably be accomplished;
- 654 (B) appropriate credits generated by a forest mitigation bank
655 in the same watershed within the County are not available;
656 ~~[[and]]~~
- 657 (C) if appropriate credits generated by a forest mitigation bank
658 in the same 8-digit watershed within the County are not
659 available, appropriate credits generated by a forest
660 mitigation bank in a priority 8-digit watershed, special
661 protection area, or the Patuxent Primary Management
662 Area (PMA) are not available; and
- 663 ~~[(C)]~~(D) if appropriate credits generated by a forest
664 mitigation bank in the same 8-digit watershed, a priority
665 8-digit watershed, special protection area, or the Patuxent
666 Primary Management Area (PMA) within the County are
667 not available, appropriate credits generated by a forest
668 mitigation bank in the County are not available; or

669 * * *

670 (h) *Agreements.*

- 671 (1) ~~[[Maintenance agreement]]~~ Maintenance agreement. A forest
672 conservation plan must include a 5-year binding agreement for
673 maintenance of all planted forest conservation areas, including
674 areas of afforestation, reforestation, as well as any required
675 mitigation plantings. A forest conservation plan may require a 5-
676 year binding agreement for maintenance of existing forest to be
677 retained to ensure long-term health of forest stands. For park

678 property with an approved mission and established stewardship
679 practices including conservation and forest management plans, a
680 maintenance agreement for existing forest is not required. A
681 person subject to the binding agreement may request that the
682 binding agreement be reduced to 3 years if the forest conservation
683 inspector finds that the agreement has been fulfilled, unless the
684 forest conservation plan is within a special protection area. If the
685 forest conservation plan is within a special protection area, the
686 binding maintenance agreement must be for a minimum of 5 years
687 and may not be reduced. The binding maintenance agreement may
688 include watering (as practical), feeding, non-native invasive plant
689 control, and replanting of areas to be afforested or reforested. A
690 maintenance agreement may also be required for non-native
691 invasive plant control of forest edge or ~~[[to]]~~ for control of non-
692 native invasive species in adjacent areas that may impact forest
693 conservation. The binding agreement for maintenance starts upon
694 satisfactory inspection of the plantings or maintenance required
695 under the forest conservation plan. A staged project may have
696 more than one agreement.

697 * * *

698 **22A-13. Forest mitigation banks.**

699 * * *

- 700 (e) The forest mitigation bank plan must include:
- 701 (1) a maintenance agreement which meets the standards in
- 702 subsection 22A-12(h)(1);
- 703 (2) all information required by subsection 22A-10(c) for a forest
- 704 conservation plan; ~~[[and]]~~

- 705 (3) draft easements, covenants, or deed restrictions for the area
706 included in the forest mitigation bank; and
707 (4) the number of forest mitigation bank credits available for sale as
708 [either existing forest credits or] planted forest credits, where 1
709 acre of forest mitigation bank credit equals 1 acre of planted
710 forest[, or 2 acres of existing forest].

711 * * *

712 (g) *Purchasing and selling forest mitigation bank credits.*

713 * * *

714 (3) Forest mitigation bank credits must be acquired from a forest
715 mitigation bank within the same 8-digit watershed, as delineated
716 by the State of Maryland, [[as]] where the development activity
717 is located. If forest mitigation bank credits are not available
718 within the same 8-digit watershed within the County, applicants
719 [may] must acquire forest mitigation bank credits from a forest
720 mitigation bank within a priority 8-digit watershed, special
721 protection area, or the Patuxent Primary Management Area
722 (PMA). If forest mitigation bank credits are not available within
723 a priority 8-digit watershed, special protection area, or the
724 Patuxent Primary Management Area (PMA), applicants may
725 acquire forest mitigation bank credits from any approved forest
726 mitigation bank within the County.

727 * * *

728 **22A-21. Variance.**

729 * * *

730 (e) If the applicant is granted a variance to remove any of the subject trees
731 listed as priority for retention in Section 22A-12(b)(3), the applicant
732 must replant mitigation trees at a minimum ratio of 1 caliper inch
733 replaced for every 4 inches of trunk diameter removed, measured at 4.5
734 feet above the ground, regardless of whether those trees are within or
735 outside of forest area, in addition to any reforestation, afforestation, or
736 landscape credit requirements. Mitigation for trees that are part of an
737 historic site or associated with an historic structure is only required for
738 the removal of trees located outside of forest.

739 [(e)](f) [Approval procedures; Conditions] *Approval procedures;*
740 *[[Conditions]] conditions.* The Planning Board must find that the
741 applicant has met all requirements of this Section before granting a
742 variance. However, the Planning Director may grant a variance if the
743 Director is authorized to approve the forest conservation plan and the
744 applicant meets all requirements of this Section. The Board or Director
745 may impose appropriate conditions to promote the objectives of this
746 Chapter and protect the public interest.

747 [(f)](g) [Notice to State Department of Natural Resources; Right to initiate
748 or intervene in proceedings] *Notice to State Department of Natural*
749 *Resources; [[Right]] right to initiate or intervene in proceedings.*

750 * * *