

Creek ReLeaf

Frederick County Office of Sustainability and Environmental Resources

LGAC

December 4, 2019



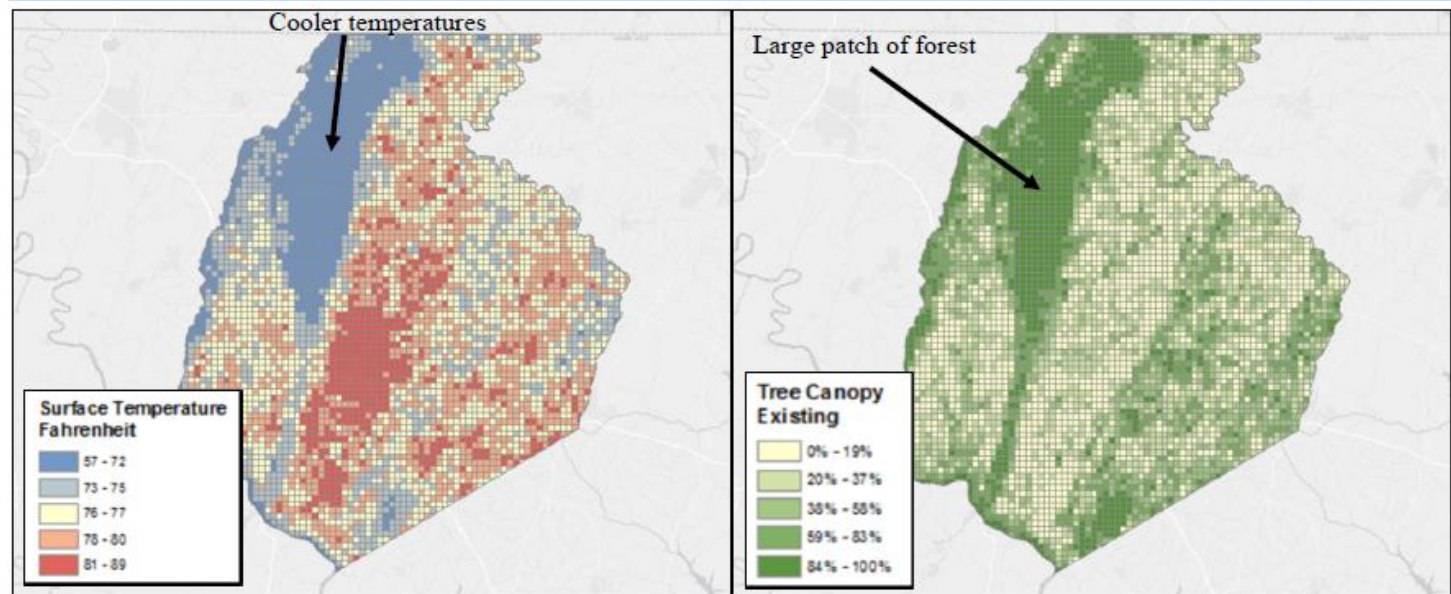
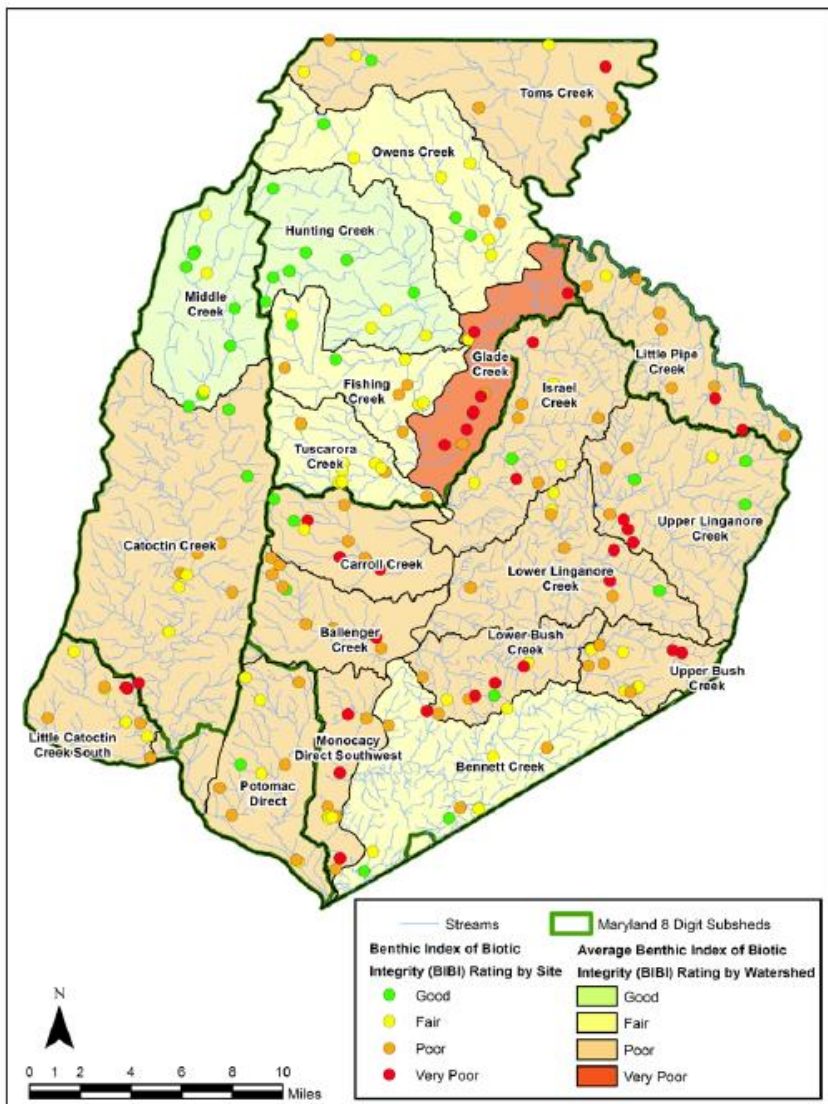
BEST URBAN BMP
in the Bay Award 

Second Place: Habitat



Frederick County, Maryland

- Has 180,968 acres of trees: 43% tree canopy
- Frederick County Stream Survey: #1 positive influence on biological health is acres of forest land use vs. urban/ag.
- 9°F difference forested/impervious in single day 9/2015
- 52% tree canopy in 300 foot riparian buffer area
- New protections in “Livable Frederick”, forest ordinance



Urban Areas and Trees



UMD Study Shows that Even Small Patches of Urban Forest in Baltimore Infiltrate Stormwater Comparably to Green Infrastructure Features Like Rain Gardens

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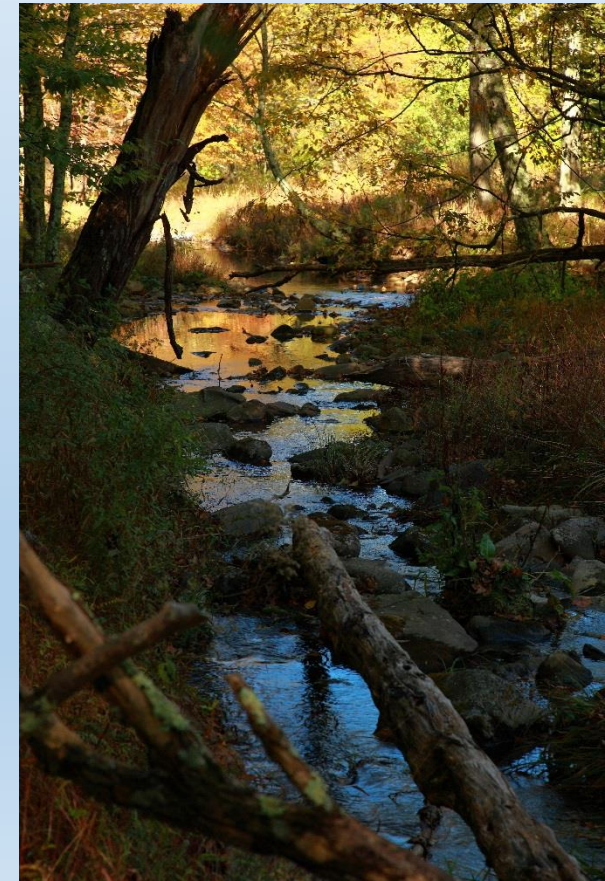
≡ SECTION MENU

Findings have implications for urban planning and the conservation of urban forest systems

Program Overview



- Large scale tree planting program on private and public lands with permanent protection;
- Multi-year program to provide stormwater control, reduce stream temperatures, and to provide credit towards the County's NPDES MS4 stormwater permit;
- The County pays private landowners for permanent easements on the reforested area, the trees, and first 5 years of maintenance;
- This is a voluntary program for landowners.



Program Overview



- Currently a 2 acre minimum requirement, but no shape requirements. Have gotten up to 100ac in single property;
- The easement is forever, conveys with inheritance or sale of property for protection of the forest and MS4 credit, 75% of FMV <\$9000/ac;
- 5 years maintenance followed by triennial inspections for easement compliance and retention of MS4 credit by the jurisdiction;
- The County will plant 350 trees per acre, owner must maintain the planting at 100 trees per acre and control invasive species;
- Restrictions include: hard trails, billboards, dumping, storage, construction, mining, etc. as detailed in the easement document;
- Forestry management, harvesting ok with approved plan.

Stand the Program Up



- Program materials are available for duplication
 - SOP, Easement, brochure, site selection matrix
- Contracts are available for bridging (MACo, MWCOG)
- Establish budget (we used general tax funds, bonds)
- Assign personnel (ours is 100% of FTE)
- Advertise
- Conduct follow-up inspections of contractor efforts and inspections every three years after first 5 years.

Stand the Program Up



- Yearly application period, Fall 2019 complete;
- Applicant properties are visited, the proposed reforestation area is delineated and the site is researched by program staff for ecological and programmatic metrics;
- Property appraisals are conducted on applicant properties that pass initial qualification criteria (min. acreage, accessibility, etc.);
- Properties are ranked per metrics and easement offers are sent to applicants;
- Owners accepting the offer will have a survey conducted for easement and recordation;
- Easement settlements are conducted followed by planting in appropriate season.

Applicant Scoring

- Applicant sites are evaluated on various ecological and programmatic criteria and total scores used for ranking.
- The final site ranking is weighted to account for varying land values and easement sizes.

Creek ReLeaf Program Ranking Criteria

	Ranking Factor	Details	Maximum Total Points	Score
1	Reforestation width	Width > 100 ft (3 pts); Width 50-100 (2 pts); Width 35-50 ft (1 pt)	3	
2	Reforestation length	Length > 300 ft (3 pts); Length 100-300 ft (2 pts); Length < 100 ft (1 pt)	3	
3	Connecting Forest "Islands"	Connecting forested islands (2pts)	2	
4	Stream order	First order (3 pts); second order (2 pts); third or greater order (1 pt); no stream (0 pt)	3	
5	Brook Trout Presence	Located in a watershed with brook trout (2 pt)	2	
6	Watershed Health	Located in the watershed good health (3 pts); very poor health (3 pts); poor health (2 pt); fair health (1 pts)	3	
7	Land ownership	Private land within MS4 boundary (2 pts); Private land not within MS4 boundary (1 pt); within Phase II Jurisdiction – Fatal flaw (drop)	2	
8	Site Access	Easily accessible for planting and maintenance equipment and long-term monitoring (1 pt)	1	
9	Within a CIP Drainage Area	Within a CIP Drainage Area (3 pts); outside of CIP Drainage Area (0 pt)	3	
10	Total Reforestation Area	> 5 acres (3 pts); 2-5 acres (2 pts); < 2 acres (1 pt)	3	
		Total points possible	25	

Summation of Total points possible In Ranking Criteria: _____

Property Ranking Priority (using score ranges below): _____

Ranking of Reforestation Projects

Total Points Score	Priority
≥ 20	High Priority
> 10 - 20	Medium Priority
< 10	Low Priority

Planting Plans

- Landscapers produce a planting plan for each successful property for the landowners review.
- The owner has input into what species of trees they want planted on their property, remaining within the goal of a sustainable forest system.
- No monocultures are allowed.
- Natives used

- Pitch Pine – *Pinus rigida*
- Virginia Pine – *Pinus virginiana*
- White Pine – *Pinus strobus*
- Spicebush – *Lindera benzoin*
- Black Locust – *Robinia pseudoacacia*
- Indigobush - *Amorpha fruticosa*
- American Plum – *Prunus americana*
- Bald Cypress – *Taxodium distichum*
- Black Cherry – *Prunus serotina*
- Black Chokecherry – *Aronia melanocarpa*
- Buttonbush – *Cephalanthus occidentalis*
- Elderberry – *Sambucus canadensis*
- Gray Dogwood – *Cornus racemosa*
- Northern Bayberry – *Myrica pensylvanica*
- Persimmon – *Diospyros virginiana*
- Red Maple – *Acer rubrum*
- Red Osier Dogwood – *Cornus stolonifera*
- Redbud – *Cercis canadensis*
- Silky Dogwood – *Cornus amomum*
- Sweet Gum – *Liquidambar styraciflua*
- Sycamore – *Plantanus occidentalis*
- Black Oak – *Quercus velutina*
- Chestnut Oak – *Quercus prinus*
- Northern Red Oak – *Quercus rubra*
- Hazelnut – *Corylus americana*
- Pin Oak – *Quercus palustris*
- White Oak – *Quercus alba*
- Willow Oak – *Quercus phellos*
- Swamp White Oak – *Quercus bicolor*
- Paw Paw – *Asimina triloba*
- White Dogwood – *Cornus florida*
- Serviceberry – *Amelanchier arborea*
- Hackberry – *Celtis occidentalis*
- Eastern Red Cedar – *Juniperus virginiana*
- Sweetbay Magnolia – *Magnolia virginiana*
- Fringetree – *Chionanthus virginicus*
- Black Walnut – *Juglans nigra*
- Tulip (Yellow) Poplar – *Liriodendron tulipifera*
- Birch - *Betula sp. (nigra/lenta)*
- Inkberry – *Ilex glabra*
- Hickory – *Carya sp. (glabra/alba/etc.)*
- Winterberry – *Ilex verticillata*
- Witch Hazel – *Hamamelis virginiana*
- Crabapple – *Malus coronaria*
- Sugar Maple – *Acer saccharum*
- Pecan – *Carya illinoensis*
- Black Gum – *Nyssa sylvatica*
- Viburnum – *Viburnum sp. (acerifolium/prunifolium)*

Creek ReLeaf Tree Species List

Benefits to Jurisdiction



- Cost effective restoration. Approximately \$15,000/ ac planted for all programmatic operations including max \$9,000 paid per ac;
- Long term maintenance after 5 years is landowners responsibility, decreasing jurisdiction's costs;
- Public is generally accepting of tree plantings;
- Each jurisdiction can decide their own easement restrictions;
- Can be a relatively quick implementation process.
- MANY environmental benefits

Benefits to Landowner



- Receives compensation for an easement placed on the reforestation area;
- Receives free trees and free pre-planting maintenance as needed;
- Receives first 5 years of maintenance at no cost;
- Owner has input of tree species planted;
- Retains ownership of the land to use within the terms of the easement (recreation, selective logging, etc.);
- Ecological benefits for the property of the environmentally minded applicants.

Before



- Perform pre-planting maintenance
- Use native trees
- Create forest edge, plant both canopy and understory

After



- Trees spaced for single direction mowing.
- Tree tubes protect from deer and vole damage
- Use 5 foot shelters

What We're Proud Of

- Planted 26.8 ac of public land fall 2017
- Planted 120 ac of private land and 17 ac of public land fall 2018.
- Scheduled to plant 200 ac private land and 30 ac public land in spring 2020.
- 200 ac of applications under evaluation from Fall 2019 application
- The program is very popular with the public and great public relations for the County.
- Builds on strong multiyear reforestation program and partnerships
- County Executive Jan Gardner wins 2019 Forest Champion Award



Lessons Learned



- Make sure your internal processes are set (easement doc, landscaping contracts, etc.) and approving authorities are aware of the program and timelines;
- Make applicants aware at the beginning of all program aspects, especially the potential tax implications, settlement aspects and planting timeframes;
- Stake out the easement areas early with the property owner, it helps everyone visualize and makes appraisals/surveying much easier and cheaper;
- Build flexibility into the easement when you can (i.e. force majeure, and planting plans);
- Be prepared for dropouts due to lienholders, tax issues, trustees
- Partner with other organizations and learn from them

Questions?



<https://www.frederickcountymd.gov/reforest>

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