

**Baltimore County, Maryland**  
**Department of Environmental Protection & Sustainability**

**Sustainability & Forest Management (SFM) Section Accomplishments – 2014**

**Reforestation and Tree Planting:**

2014 was another successful year for reforestation and tree planting. Using our in-house mitigation-based reforestation program (staff, equipment, and nursery), several volunteer and grant programs, and stormwater remediation fees, we were able to add to the County's tree canopy through a number of planting projects, described below.

**Forest Mitigation** – Our reforestation crew continued to plant, monitor, and maintain reforestation projects using fees-in-lieu-of mitigation collected under the Forest Conservation Act and Chesapeake Bay Critical Area Act. With the addition of AmeriCorps-National Community Conservation Corps (NCCC) Volunteers, a full-year Chesapeake Bay Trust Chesapeake Conservation Corps (CCC) Volunteer, and a full-year Stream Restoration Challenge Grant position, the crew was able to provide assistance for other non-mitigation tree planting projects that support the County's Tree Canopy goals and the Phase II Chesapeake Bay Watershed Implementation Plan (WIP).

**AmeriCorps-NCCC** – In 2014, three of our four reforestation program applications were approved by the federal AmeriCorps-NCCC program. We applied for assistance with reforestation and maintenance for our increasing inventory of mitigation project sites, while providing community service opportunities and training for college-age volunteers.

- We hosted 3 full teams of 8 Corps members, one team for 8 weeks in early spring, one for 8 weeks in late spring, and one for 3 weeks in mid-summer.
- Overall, the AmeriCorps-NCCC teams helped us plant 698 infill trees at 11 existing reforestation sites, as well as monitor 4 reforestation sites and control exotic invasive vines and woody brush on 167 acres at 6 reforestation sites.

**Stream Restoration Challenge Grant** – In 2013 the MD Dept. of Natural Resources invited EPS to participate in the Governor's Stream Restoration Challenge Grant program, which focuses on planting riparian buffers on school grounds and providing Service Learning opportunities for students. We secured a grant for \$97,442 for the planting of about 18 acres at as many schools during 2014-2015. The grant provides funds for trees and supplies as well as one additional reforestation crew member for each of the two years.

- The first phase of the SRCG was started in the fall. It included planting 405 trees (2-3 gallon seedlings) on 6 public school properties (Loch Raven HS, Pine Grove MS, Pine Grove ES, Seven Oaks ES, Victory Villa ES, and Villa Cresta ES)
- A total of 1,498 students were involved in the school planting projects.
- The remaining 12 acres will be planted in 2015.

**BCPS CLIPs** – We continued to partner with the Baltimore County Public Schools (BCPS) for our Comprehensive Landscape Improvement Projects (CLIPs), which focus on helping to reduce long-term mowing costs while converting un-needed school lawns to treed areas (riparian buffers, single tree planting, and tree islands).

- Our reforestation crew planted 45 trees (1.5" caliper) at Gunpowder ES, Joppa View ES, Logan ES, and Riderwood ES in fall.
- 352 elementary school students participated in the plantings.

**BigTrees Sales** – Sales of native trees (3’-6’ potted saplings) to homeowners for planting in residential yards continued successfully:

- 881 trees were sold in 2014 (423 in spring and 458 in fall). More than 2,800 trees have been sold through our 10 sales to date.
- High-function oak species continue to dominate BigTrees sales, comprising half of all trees sold. Some of the 8 species of oaks we offer are difficult or impossible to find at retail centers.
- The benefit of BigTrees sales reaches beyond Baltimore County; however, the sales to County residents continues to grow, with 89% of citizens who purchased BigTrees this year living in Baltimore County. With convenient online ordering, three early tree pick-up days at our nursery, and great customer service by our staff, we continue to offer low-cost, high-function, native forest species trees to homeowners. Some residents purchasing trees for larger projects have returned to buy trees through more than 7 sales.
- We continued to offer Tree Shelter Kits to help protect BigTrees saplings from deer damage, selling 313 in 2014. Added to the 191 shelters first offered in fall 2013, a total of 504 deer shelters have been purchased by citizens.
- Tree sales through BigTrees are geo-located by major watershed and reported as tree planting progress for the Bay WIP. Saplings are mostly \$20-30 each, and proceeds are placed in the Forest Fund and used for future wholesale purchases of seedlings and saplings. In addition to growing out and pruning purchased trees, our crew continues to grow native oaks from acorns for both tree sales and reforestation projects.

**Policy & Guidelines for Community Tree Planting Projects** – During 2014 we continued to review citizen-initiated requests to plant trees on County-owned land. These projects will be tracked and counted toward the Phase II WIP program for Baltimore County.

- A total of 21 plans were reviewed with 8 plans currently under review. A total of 323 trees were approved, with 250 trees (77%) planted. We anticipate that an additional 136 trees will be approved through the 8 plans under review. Reminder notices were sent to organizations regarding their annual maintenance reports, which were also reviewed.
- The total number of planting projects reviewed since the Guidelines were adopted in fall 2012 is 74, with a total approval of 1,646 trees, 1,437 (87%) of which have been planted to date.
- We continue to revise the Guidelines to improve the quality of projects and the approval process for planting plans. A revised document is expected in 2015 that includes revisions to street tree planting guidelines, based on the recommendations of the inter-agency committee.

**CBT 3G Grant** – We were awarded \$15,000 from the Chesapeake Bay Trust's Green Streets-Green Jobs-Green Towns Grant program to plant 26 trees (2-inch caliper landscape-grade) along a 1,150-foot stretch of Delvale Avenue in Dundalk. We used stormwater remediation fees to plant an additional 44 trees for the project, located in front of Holabird MS and Norwood ES. The 70 Red, Pin, and Willow oak trees were planted in December by one of our WIP contractors, and the project includes a full year of maintenance and a replacement warranty. Site monitoring support and signage will be provided by our grant project partner, the Dundalk Renaissance Corporation (DRC). The project will be credited exclusively toward the County's Chesapeake Bay Watershed Implementation Plan.

**Phase II Chesapeake Bay Watershed Implementation Plan (WIP)** – Staff worked to increase significantly our reforestation and tree planting progress toward the Bay WIP. Staff identified planting sites, conducted site assessments, prepared planting plans, coordinated with landowners, and managed contracts for 18 new urban and rural projects on more than 72 acres this year. Grant and citizen projects for the WIP were mostly presented above, and contractor projects for the WIP are

described in this section. Our WIP target remains at 1,500 acres of new trees and forests by 2025, including both County-initiated projects and tracking of citizen-initiated projects. Urban trees are credited at 100 trees/acre.

- Our on-call contract for professional Forestry services with Mar-Len Environmental Inc. was renewed, which includes reforestation. Mar-Len planted 12.8 acres for the WIP program in fall 2013. Contracts were bid for additional reforestation services for the WIP program, and in fall we finalized three additional contracts with Environmental Quality Resources LLC, Wright Environmental and Land Services LLC, and Patriot Land and Wildlife Management Services Inc. for both urban tree planting and rural reforestation projects. Urban tree projects include a one year survival warranty and maintenance, and rural projects include a three year warranty and maintenance. The warranty period is extended for trees replaced. Site preparation is included in projects as needed, including control of invasive species such as Bradford pear, autumn olive, sweetgum, and multi-flora rose.
- In 2014, a total of 18 projects were bid for 59.65 acres of reforestation and the planting of 211 (2.11 acres) large-caliper urban trees. Project costs for site preparation, planting, and maintenance using stormwater remediation fees totaled more than \$600,000. As described above, additional projects using grant funds, and citizen efforts, contributed to WIP progress.
- **Rural residential “Turf-to-Trees” projects** – our contractors reforested 30.35 acres on 14 private properties in north-central Baltimore County, including 3.5 contiguous acres across 4 rural residential properties within a Prettyboy Watershed subdivision. These projects target rural conservation and other land where owners want to permanently return areas to forest. The Prettyboy project was featured in an article by the Country Chronicle, a north-county newspaper, resulting in a number of calls from citizens interested in hearing more about the program. Staff began working with those citizens and we expect some spring projects to go forward.
- **County-owned lands** – four contractor reforestation projects were completed on County-owned land for 29.3 acres, including 20.9 acres at Cloverland Park, 3.4 acres at County Home Park, 2.6 acres along Perry Hall Blvd., and 2.4 acres at Eastern Sanitary landfill. In addition, 474 large-caliper trees were planted on County facilities by contractors (16 trees at the BCPS headquarters at Greenwood) and by our reforestation crew, including the 405 SRCG and 45 CLIP trees described above and 8 trees (1.5” caliper) at the County’s Almshouse as part of the County’s Arbor Day declaration.
- **Private “Managed Grounds”** – 125 large-caliper trees (1.25 acres) were planted on “managed grounds” by contractors, including 66 trees in the Deer Fox Community and 43 trees in the Oakhampton Community in Lutherville. An additional 12 trees as part of a neighborhood pilot in Rodgers Forge were approved and will be planted in spring.
- We also donated several trees and staff time for a planting with the Parks and People Foundation at Woodmoor ES, and for a planting with the Catonsville Rail to Trail volunteers along the trail at Western Technical HS.

### Cool Trees

The 2-year warranty and maintenance period drew to a close for the 958 trees planted in 2012 at 75 County facilities using federal Department of Energy block grant funds for Energy Efficiency. Bi-annual inspections were conducted and the contractor for the project completed planting of replacement trees as required under the contract. The Cool Trees project received an Achievement Award for 2014 from the National Association of Counties.

**Community Tree Issues** – EPS continued to respond to inquiries from community organizations, individual citizens, and the County Council regarding issues about the planting of street trees and the health of trees in communities. Staff attended several community meetings and conducted site assessments as part of work to develop some recommendations regarding planting when requested. Communities with whom we worked in 2014 included Rodgers Forge, the West Towson Neighborhood Association, Anneslie, Southland Hills, the Ballard Gardens Community, and the Dulaney Valley Improvement Association. EPS also coordinates with the DPW Arborist.

### **Integrated Forestland Management:**

Staff continued to implement integrated forestland management for forest health on County-owned forested properties in support of water quality and forest habitat objectives. IFM includes forest health assessments and management plans, deer herd management, suppression of Gypsy moths, and forest canopy thinning to restore natural oak regeneration. Staff also continue to work with County and State agencies on sustainable use of wood waste from operations, preparation for anticipated impacts from the Emerald Ash Borer, and other forest health issues.

**Forest Health Assessments and Forest Management Plans** – Progress continued to finalize habitat analyses, maps, and final reports for Forest Health Assessments and Management Plans that cover more than 2,600 acres at seven County parks and easement properties. Staff began the process of evaluating core forest health and condition data from the NED-based assessments across all stands in order to prioritize implementation of management recommendations. These plans serve as the basis for assuring healthy forests for ecosystem benefits and recreational use of parks. Our on-call contract for Licensed Forester Services with Mar-Len Environmental Inc. was renewed, which provides us with technical services for integrated forestland management.

**Deer Herd Management** – EPS continued to work with the Wildlife Division of the US Department of Agriculture’s (USDA) Animal and Plant Health Inspection Service (APHIS) to monitor and control populations of white tailed deer at Oregon Ridge and Cromwell Valley Parks as part of our forest health program.

- Follow-up surveys to the deer hunts in 2012 and 2013 (in which 110 deer were culled at Oregon Ridge and 185 at Cromwell Valley Parks) were again conducted in winter, resulting in a recommendation for a small hunt at both parks. These hunts were not conducted, however, as processing was underway for a renewed 5-year contract with USDA for the program.
- In December 2014, a proposal was approved for additional surveys at the two parks for early 2015. The surveys use ground-level Forward-Looking Infrared Radar (FLIR) to count deer observed, which is compared to a management objective for forest health of 15 deer per square mile.
- Venison from any deer harvested in winter of 2015 will be donated to the Maryland Food Bank for Baltimore County families, as in the past. This helps support the “food insecure” population of the County, which is estimated at one in eight of the >820,000 citizens, as revealed during an interview in 2014 between the County Executive and administrators of the Maryland Food Bank.

**Gypsy Moth Suppression** – Cost-share funds continued to be provided for the cooperative Gypsy Moth Suppression program administered by the MDA Forest Pest Management program. For a third consecutive year, the fall 2014 survey did not find egg mass densities at levels that warranted treatment next spring.

**Forest Habitat Restoration** – Using the recommendations from the Forest Health Assessment and Management Plan for the Lower Back River Peninsula, Baltimore County properties, we applied for and received a permit to allow our on-call Forest Product Operator, Glatfelter Wood Division, to selectively manage three forest stands totaling 110 acres. This area is a designated Habitat Protection Area within the Chesapeake Bay Critical Area. The forest has become dominated by sweetgum, maple, tuliptree and other species that have increasingly out-competed desirable high-function oak species that once covered the peninsula. The NED assessment data revealed that the quality of these stands is poor, and an analysis of data from the MD Breeding Bird Atlas revealed a decline in the presence of Forest Interior-dwelling Birds. Canopy thinning for the 110 acre area began in mid-October and Glatfelter was able to complete about 2/3 of the project before poor weather and wet soil conditions developed. In thinned areas, the canopy composition is now 40% oak and less than 25% sweetgum and maple, compared to 60-70% sweetgum and maple prior to the thinning. The work will resume in spring 2015 if favorable site conditions permit or after the habitat closure period ends on July 31. During the harvest in November, three site tours were conducted to showcase the project, including the low-impact harvester and forwarder used by Glatfelter. The tours were attended by staff from other sections of EPS as well as staff from the Chesapeake Bay Trust, the Alliance for the Chesapeake Bay, and members of the County's CEQ.

**Wood Waste Reduction and Utilization** – The potential for cost savings to the County through a reduction in transport and processing of trees as waste, as well as utilization of trees for higher economic value, are still of great interest to us as well as federal and state forest agencies.

- The USDA Forest Service's Forest Products Laboratory grant began this year, providing \$300,000 to the MD DNR Forest Service to conduct a detailed study of the potential to reduce costs and to develop recommendations for utilization of urban wood waste in the County. The intent of the federal grant is for the project to serve as a national model for sustainable wood waste management. Staff attended an introductory meeting in late March at the FPL headquarters in Madison, WI with a representative of MD DNR and the County's DPW, and we hosted a briefing and site tour for the FPL staff in August.
- In March, four staff members attended a wood energy tour at several sites across southern Pennsylvania with the University of Maryland Extension and DNR Forest Service. This two-day tour provided the opportunity for staff to see wood biomass facilities in operation and talk with managers of facilities and the manufacturers. The tour was sponsored by the Maryland Wood Energy Coalition, Pennsylvania Biomass Energy Association, and West Penn Power Sustainable Energy Fund.
- EPS also met with representatives of BGE in July regarding their interest in exploring wood energy as an alternative to increasing power production to meet demand.

**Emerald Ash Borer** – With EAB detected within a mile of the County in northwest Baltimore City, discussions continued with representatives of DPW about communication with the public about EAB. Staff also met with foresters at MD DNR regarding several street tree assessments being conducted by them in the County to identify the presence of ash trees and to provide recommendations for trees that might benefit from treatment.

#### **Program Coordination and Other Work:**

**Landscape Stewardship: The Prettyboy Resource Collaborative** – In April, staff presented a proposal for a collaborative approach to the management of watershed resources to the Prettyboy Watershed Alliance. The PWA Board of Directors approved the proposal for the project, which is called the Prettyboy Resource Collaborative (PRC). The premise of the PRC is that landowners can

better manage their lands for watershed benefits such as clean water, healthy forests, and quality habitat by working together in a manner that compensates for fragmented parcels that are often too small for cost effective management. The objective is to incentivize landowners to manage their lands through projects that save them time or money, that generate income, or that provide technical assistance or services not otherwise available. Projects such as EPS's "turf-to-trees" reforestation are underway to demonstrate the benefits and cost-efficiencies of collaboration. The PRC achieved a number of accomplishments within the past 9 months:

- **Steering Committee** – A Steering Committee was formed, comprised of 20+ representatives from 14 agency, business, citizen, and other organizations, including Baltimore, Carroll, and York Counties; the City of Baltimore; the Prettyboy Watershed Alliance; the Alliance for the Chesapeake Bay; the Maryland Departments of Agriculture, Natural Resources, and the Environment; Glatfelter Wood Division; Mar-Len Environmental, Inc.; Find Your Niche LLC; Hogan Lovell's US LLP; and the Johns Hopkins Carey Business School.
- **Research Grant** – Staff presented the PRC concept and followed with a grant application to the Harry R. Hughes Center for Agro-Ecology, Inc., a 501(c)(3)-affiliated foundation with the University of Maryland Foundation College Park. The Hughes Center subsequently awarded a \$73,500 grant to Baltimore County in support of the PRC project. The grant will be used by EPS to solicit research consultant proposals that will characterize the watershed's resources, property parcelization, landowner patterns, and resource aggregation potentials, as well as provide simple cost analyses of different potential management practices. The analyses and mapping from the research will be used by partner organizations to develop and implement ecosystem-serving projects with landowners in the Prettyboy watershed.
- **Collaborator Match** – In support of the PRC and the Hughes Center grant, funds were committed from several organizations, including \$25,000 from the MD DNR Forest Service to conduct multi-owner forest health assessments in the Prettyboy, \$20,000 from the Alliance for the Chesapeake Bay to work with landowners to provide assistance and organize projects, and \$20,000 from the MD Department of Agriculture to pilot an assessment of the potential for cross-sector nutrient trading for farms in the watershed in support of compliance with Total Maximum Daily Load reductions. In addition, the PRC was included in a grant application by the Alliance for the Chesapeake Bay to the USDA Natural Resources Conservation Service for set-aside cost-share funding to assist landowners with implementation of best management practices in the Mason-Dixon area.
- **Business Planning** – Through cooperative efforts with Hogan Lovells and the PWA, the PRC began work with the Johns Hopkins Carey Business School to develop business plans for the PRC. Several detailed working meetings were held to provide background for the Carey School faculty and MBA students participating in the project.
- Staff networked with other relevant watershed management initiatives. In June, staff introduced the PRC project to Maryland's National Resource Conservation Service (NRCS) Forestry Subcommittee. Staff were also invited to attend a meeting in December of the new **Upper Gunpowder Watershed Brook Trout Conservation Partnership** sponsored by Trout Unlimited in cooperation with MD DNR and the National Aquarium at Baltimore. Staff also initiated discussion about approaches to community-level quality deer herd management recommended by Patriot Land and Wildlife Management Services, Inc.
- Staff were invited to present the PRC project at the **2014 Chesapeake Watershed Forum** at the National Conservation Training Center in Shepherdstown, WV, in September.

**Watershed Planning** – Staff participated on the steering committee that is assisting with the development of the Small Watershed Action Plan (SWAP) for the Loch Raven North area for meeting water quality mandates. Staff reviewed forest management objectives and recommended actions for reforestation.

**Maryland Tree Farm** – Starting this year, staff served on the Maryland Tree Farm committee as the Baltimore County Liaison. The Committee has committed to proceeding with full certification of Maryland's Tree Farms and staff participated in a two day Strategic Planning Retreat as part of the Certification Pathway.

**Tree City USA** – Baltimore County was recertified as a Tree City USA for the tenth year, 2013, by the National Arbor Day Foundation. Most Tree City USA communities are municipalities, but Baltimore County meets the four requirements for the program, including having a tree related agency (EPS and its Forest Sustainability section), a tree ordinance (Forest Conservation Act), an annual Arbor Day proclamation and observance, and an annual expenditure of at least \$2per capita on trees.

**Promoting Forest Sustainability** – Staff continued to participate in State and national efforts to promote sustainable forests.

- Staff continued to serve on the **Governor's Sustainable Forestry Council (SFC)**, which focused on legislative and fiscal incentives for landowners to retain and manage forests.
- Staff contributed to discussions of the Core Group and Communication and Outreach Work Group for the "re-branded" national **Sustainable Forests Roundtable**. Baltimore County's forest sustainability program was covered in a blog article in association with a Roundtable feature on the 2014 Chesapeake Tree Canopy Summit held in fall.
- Staff participated in the planning committee and follow-up discussions for the **Governor's Urban Tree Canopy (UTC) Roundtable** in April. Recommendations from that are being carried forward through other work at the state and Bay level.
- Staff participated in meetings and conference calls for the **Chesapeake Bay Urban Tree Canopy Management Strategy**, which will be drafted in spring. Staff presented the County's use of stormwater remediation fees for reforestation in support of canopy goals and water quality mandates at the **Chesapeake UTC Summit** in October. An article about the County's use of stormwater fees for reforestation was included in the fall newsletter of the Chesapeake Bay Foundation.
- Staff met in June with representatives of the City of Baltimore's Department of Recreation and Parks regarding our deer herd management program. Staff also met with representatives of the Baltimore Green Space program in August regarding forest health management, including a field tour of our 2013 forest thinning project at Oregon Ridge Park.
- Our forest management programs were presented as in the past few years at a UMCP class on Green Infrastructure.

### **Sustainability Program:**

Staff continued to work on a variety of sustainability initiatives for internal operations and coordinated with outside agencies.

**Energy Conservation** - Staff worked closely with the Department of Budget and Finance to track energy use patterns in major County-owned buildings to identify opportunities to conserve energy. Staff

also met with Baltimore Gas and Electric (BGE) to review financial incentives available through their Smart Energy Savers Program for building retrofits.

**Maryland Green Registry** – In September 2014, staff successfully submitted an application for Baltimore County to become a member of Maryland Department of the Environment’s (MDE) Green Registry. The Green Registry is a free, voluntary program managed by MDE that showcases sustainability efforts by local governments, businesses, and organizations. The application is publicly available through the EPS Sustainability webpage:  
[www.baltimorecountymd.gov/Agencies/environment/sustainability/countyactions.html](http://www.baltimorecountymd.gov/Agencies/environment/sustainability/countyactions.html).

**Baltimore Metropolitan Council** – Staff participated in the BMC’s “*How Far Can We Get? Study Oversight Committee*” to help develop scenarios for transportation policies and programs to improve air quality in Maryland.

**CEQ** – Staff continued to represent EPS at monthly meetings of the County’s Advisory Commission on Environmental Quality (CEQ). The CEQ reviewed and commented on the Council’s proposed Agricultural Tourism Bill (65-14) and recommended that the Council not approve it due to environmental and other concerns. The Council did not approve the bill. The CEQ also began to review and revise previously-developed sustainability recommendations for the County. Updated recommendations will be offered to agencies and the Council for consideration in 2015.

### **Staff Changes and Training:**

Highlights of staff changes in 2014 include:

- Our section moved at the end of February from the County Office Building in Towson to the historic Almshouse in Cockeysville, as part of the effort to accommodate new staff added at EPS for the Phase II Chesapeake Bay Watershed Implementation Plan.
- Ayla Haig completed her Master’s degree in Environmental Science at Towson University.
- For the fourth time out of five years, we competed successfully as a Host Organization for another year-long Chesapeake Bay Trust Chesapeake Conservation Corps Volunteer. Our 2013-2014 CCC Volunteer, Elliot Weidow, completed his term in August. Our new CCC Volunteer for 2014-2015, Patrice Matthews, is a 2014 graduate of UMBC who earned her B.S. in Environmental Science.
- We were able to retain Elliot for an additional year as the staff position for the DNR Stream Restoration Challenge Grant. Elliot will work for a year with our reforestation crew, and he worked to coordinate the first group of fall school planting projects.
- Katie Coolahan completed the University of Maryland Extension’s Master Naturalist program, and she and Carrie Oberholtzer completed the Maryland Roadside Tree Care Expert Certification from the MD DNR Forest Service. Staff also attended the 2014 Biological Control Workshop through the Mid-Atlantic Invasive Plant Council.
- Staff reviewed several webinars, including those sponsored by the United States Forest Service, Urban Forestry Today Online Learning Forum, and the Pinchot Institute for Conservation.

### **EPS Sustainability & Forest Management Staff:**

- Don Outen, Manager
- Cockeysville office: Patricia Cornman, Carrie Oberholtzer, Ayla Haig, Katie Coolahan
- Reforestation Crew: Jon Moore (Supervisor), Al Herrmann, John Loller, Rich Lefebure, Elliot Weidow, Patrice Matthews