



Why pursue the sustainable route? – Inspired design born out of necessity...

- “The Case for Sustainable Landscapes,” The Sustainable SITES Initiative™, 2009
PDF: www.sustainablesites.org/report/The_Case_for_Sustainable_Landscapes_2009.pdf
- “The Effect of Landscape Plants on Perceived Home Value”
VA Cooperative Extension Pub. 426-087, Alex X. Niemiera, Extension Horticulturalist, May 1, 2009:
<http://pubs.ext.vt.edu/426/426-087/426-087.html> (PDF available in right hand column)
- Executive Order 13508: “Chesapeake Bay Protection and Restoration,” May 12, 2009:
www.whitehouse.gov/the_press_office/Executive-Order-Chesapeake-Bay-Protection-and-Restoration
- Chesapeake Bay TDML Virginia Phase II Watershed Implementation Plan (WIP) – established local Total Maximum Daily Load (TDML) of sediment, nitrogen, and phosphorus. Appendix A, p. 43: “Phase II WIP BMP Summary” (BMP = Best Management Practices) is the goal sheet for 2025.
The Commonwealth has committed to be 60% of the way toward its goals by 2017: in 4 short years.
PDF: www.dcr.virginia.gov/vabaytmdl/documents/baytmdlp2wip.pdf

What tools are available? – Online tools, apps, directories, and more for site assessment...

Soils and Hydrology

- Soil Tests: Virginia Tech Soil Testing Lab – www.soiltest.vt.edu/ **Finally...VT now emails results.**
Asides from Tech, some private labs are also approved by VA for Nutrient Management Plans.
- Consult a planner from the Virginia Nutrient Management Certified Planner Directory.
PDF: www.dcr.virginia.gov/stormwater_management/documents/nmdir.pdf
- Association of Professional Landscape Designers’ (APLD) *Guide to Sustainable Soils* – PDF:
<http://apld.org/media/Sustainability/Sustainable%20Soils%20Brochure%20-%205-1-12.pdf>
- SoilWeb App: <http://soils.usda.gov/> – Updated; now works on all tablets, smartphones, and computers. Fast geo-locator in field. Note: can’t account for urban soils being moved around.
- Determine your Hydrologic Unit Code (HUC): Interactive Map of Virginia hydrologic units:
<http://dswcapps.dcr.virginia.gov/htdocs/maps/HUExplorer.htm>

Plants

- Habitat assessment drawing on Douglas Tallamy’s book *Bringing Nature Home: How You Can Sustain Wildlife with Native Plants* (Tallamy was a speaker at the 2012 CVNLA Winter Symposium): Comprehensive D.W. Tallamy & K.J. Shropshire spreadsheet [Ranking Lepidopteran use of native versus introduced plants](http://udel.edu/~dtallamy/host/) available at <http://udel.edu/~dtallamy/host/>
- Native Plants for the Chesapeake Bay Watershed – Online portal with geo-locator feature:
www.nativeplantcenter.net/ – U.S. Fish and Wildlife Service + The Alliance for the Chesapeake Bay Portal based on *Native Plants for Wildlife Habitat and Conservation Landscaping*, a USFWS Publication, PDF: www.nps.gov/plants/pubs/chesapeake/pdf/chesapeake natives.pdf
- “Invasive Alien Plant Species of Virginia” – VA Department of Conservation and Recreation (DCR) + Virginia Native Plant Society – PDF: www.dcr.virginia.gov/natural_heritage/documents/invlist.pdf
- i-Tree Design app., USDA Forest Service – benefit of individual trees: www.itreetools.org/design.php
- “Tree Canopy Spread & Coverage in Urban Landscapes,” VNLA + Urban Forestry at Virginia Tech:
<http://urbanforestry.frec.vt.edu/predictions/canopy.cfm>



How to design to fit your client’s site and budget? – Devise a palette using the above, then choose your methods...

Prerequisites/Level I: Weed out the Bad Guys. Apply Brains First, Fertilizer only as Needed. Trees are Free.

- “Invasive Alien Plant Species of Virginia” – DCR + Virginia Native Plant Society
PDF: www.dcr.virginia.gov/natural_heritage/documents/invlist.pdf - Document invasives control plan.
- Nutrient Management Plans, DCR: www.dcr.virginia.gov/stormwater_management/nutmgt.shtml
Virginia Nutrient Management Certified Planner Directory: use link above, then click on PDF link in right sidebar. A plan written by a Certified Planner guides you and the client for 3 years, and gains the watershed credit in its Watershed Implementation Plan (WIP) for a reduction of approximately -17% nitrogen and -22% phosphorus. Years of experience and research indicate that this is the reduction in fertilizer runoff to be expected.
- National Wildlife Federation (NWF) Certified Wildlife Habitat®
www.nwf.org/how-to-help/garden-for-wildlife/create-a-habitat.aspx
Cedar sign and online map ‘pin’ available for your certified garden. School yard cert. also available.
- By applying Tallamy’s native Lepidoptera support numbers to your palette, you can calculate the benefit in added food for native bird populations while they are fledging, thus quantifying the ecosystem services benefit.
- By applying i-Tree Design to your woody plant palette, the Virginia Runoff Reduction Method coefficients for your site’s soils can be used to calculate the benefit of reduced N and P runoff due to the action of the trees and shrubs in taking up precipitation and thus nutrients. **Currently, plants do not figure into any reduction credits in runoff, N or P in WIP TMDL. i-Tree could help do so.**

Level II: Commonwealth of Virginia Best (Man-Made) Practices for keeping precipitation on site: Slow it down, Spread it out, Sink it In. If you are moving ANY dirt, follow these:

Virginia Stormwater BMP Clearinghouse, DCR + Virginia Water Resources Research Center – non-point source, post-construction, non-proprietary BMPs: <http://vwrrc.vt.edu/swc/NonProprietaryBMPs.html>

Level III: Above and Beyond Bay Friendly – Sustainable SITES benefit People, Communities and the Environment. These landscapes use elements from the two levels above, should earn co\$-share and fee credits available (via documentation), and should earn their watersheds credits in from WIP.

- The Sustainable SITES Initiative™: www.sustainablesites.org
“Guidelines and Performance Benchmarks 2009” – PDF:
www.sustainablesites.org/report/Guidelines%20and%20Performance%20Benchmarks_2009.pdf
*from the SITES website: “The complete 2013 Rating System and Reference Guide will be finalized and released mid-2013.” The two year pilot program is completed and informing revisions to the system of prerequisites and credits. **Credentials for SITES professionals will be SEPARATE FROM LEED and roll out in 2014, but examination and credentials will likely be administered by the Green Building Certification Institute (GBCI), which handles LEED credentials.**
- WaterSense®, U.S. Environmental Protection Agency (EPA): www.epa.gov/watersense/
WaterSense Water Budget tool designed to be used on any projects to be certified WaterSense, LEED or SITES: www.epa.gov/watersense/water_budget/application.html