Soils for Salmon Resources

updated 12/2012

www.soilsforsalmon.org

Soil Best Management Practices

New Construction

- Retain and protect native topsoil & vegetation (esp. trees!)
- Minimize construction footprint
- Store and reuse topsoil from site
- Retain "buffer" vegetation along waterways
- Restore disturbed soils by tilling 2-4" of compost into upper 8-12" of soil.
- Rip to loosen compacted layers.

Existing Landscapes

- Retrofit soils with tilled-in compost when re-landscaping
- Mulch beds with organic mulches, and topdress turf with compost
- Avoid overuse of chemicals, which may damage soil life

Background Science

University of Washington Center for Water and Watershed Studies http://water.washington.edu/
Search publications database for:

- *Proceedings of 1998 Salmon in the City conference* – reports on a number of studies by University of WA and other scientists, includes source references for stormwater & water quality data presented in this Guide
- *The Relationship Between Soil and Water: How Soil Amendments and Compost Can Aid in Salmon Recovery*, a 1999 report by King and Snohomish Counties, City of Seattle, Washington Dept. of Ecology, and Washington State University
- *Guidelines for Landscaping with Compost-Amended Soils*, a 1998 report prepared for the City of Redmond which details trials, stormwater benefits, and 3-7 paybacks on compost amendment based on landscape water savings

This site also includes research on the effects of urbanization, stream restoration techniques, permeable paving , etc.

Soil Biology and Soil Functions: Why Soil Life Matters, and How it Works

US Dept. of Agriculture, NRCS Soil Quality Institute http://soils.usda.gov/sqi/
Download the excellent *Soil Biology Primer* at http://soils.usda.gov/sqi/concepts/soil_biology/biology.html and other soil quality and erosion prevention resources, or order print copies from 1-800-THE SOIL

Washington State University's Soil Management research site http://www.puyallup.wsu.edu/soilmgmt/
Of particular interest are the sections on Compost, Current Research, and Soils and Soil Testing

Soil Restoration, Compost Quality and Compost Use

Washington Organic Recycling Council www.compostwashington.org and Soils for Salmon www.SoilsforSalmon.org
Background and up to date information on Soils for Salmon initiative, this *Building Soil* guide online including calculations spreadsheet, and useful links on compost use and soil restoration. A new (2008) partner site, www.BuildingSoil.org carries this *Building Soil* guide too, along with factsheets on construction sequencing, erosion control, and customer information.

Washington State Department of Ecology's Solid Waste/Compost Program www.ecy.wa.gov/programs/swfa/organics/soil.html
includes links to Washington State's Compost Facility Standards – WAC 173-350 section 220 – referred to in this Guide, as well as a current list of Permitted Composting Facilities, and other useful compost resources

U.S. Composting Council http://compostingcouncil.org/ The most authoritative source for information on compost specifications. Particularly useful to landscape professionals is the recently updated *Field Guide to Compost Use*.

USCC's "Seal of Testing Assurance" (STA) program is the state-of-the-art for verifying compost quality and specifications for a variety of uses. See http://compostingcouncil.org/tmecc/ and follow the "STA" link for complete information.

Penn State Turfgrass Extension http://plantscience.psu.edu/research/centers/turf/extension/factsheets/composts
Download Dr. Peter Landschoot's practical guide, *Using Composts to Improve Turfgrass Performance*

Ecologically Sound Lawn Care for the Pacific Northwest Seattle Public Utilities
http://www.seattle.gov/util/groups/public/@spu/@foodyard/documents/webcontent/ecological_200312021255394.pdf – see sections on soil preparation for turf, and compost use in turf topdressing.

Soils for Salmon Resources

updated 12/2012 **www.soilsforsalmon.org**

Stormwater Management with Soil and Low Impact Development BMPs

Washington State Department of Ecology *Stormwater Management Manual for Western Washington*, (2001, revised 2005) used by local jurisdictions for stormwater design, contains soil improvement as a Best Management Practice (Volume V, Chapter 5, BMP T5.13) at www.ecy.wa.gov/programs/wq/stormwater/manual.html, and see the Soils for Salmon website below for the online version of this Guide to implementing that BMP.

Puget Sound Partnership http://www.psp.wa.gov/stormwater.php has an array of Low Impact Development stormwater and site planning resources, incorporating soil BMPs, especially the *Low Impact Development Technical Guidance Manual for Puget Sound*

or see the *Low Impact Development Technical Guidance Manual* and the *Rain Garden Handbook* at Washington State University's Low Impact Development site at http://www.wastormwatercenter.org/

Master Builders Association's "Built Green" sustainable building program, developed with King and Snohomish Counties, includes soil strategies for home building. www.builtgreen.net

Stormwater Design Seminars, for design professionals at http://depts.washington.edu/urbhort/html/education/stormwater.htm

Soil and Compost Use Specifications and Design Guidelines

WA Dept. of Transportation soil bio-engineering page and *Roadside Manual* http://www.wsdot.wa.gov/Design/Roadside/ and WsDOT's compost specifications in their *Standard Specifications*

Seattle Public Utilities, Green Stormwater Infrastructure codes, specs & projects http://www.seattle.gov/util/GreenInfrastructure and best landscape practices (including soil) information at http://www.seattle.gov/util/services/yard/

Puget Sound Action Team, *Low Impact Development Technical Guidance Manual for Puget Sound* (see above)

Texas DOT specs http://www.txdot.gov/ (search under "compost")

Iowa State University research & Iowa DNR specs www.eng.iastate.edu/compost/

A national version of the Washington soil BMP is now included in *The Sustainable Sites Initiative: Guidelines and Performance Benchmarks*, a LEED-like green building standard for sites, see www.sustainablesites.org

and see Specifications in APWA and CSI format on at www.soilsforsalmon.org

Compost Berms and Blankets for Erosion Control

Compost Berm, Blanket and Sock specifications, approved BMPs for erosion control, on US EPA NPDES menu (look down this page) http://cfpub.epa.gov/npdes/stormwater/menuofbmps/index.cfm?action=min_measure&min_measure_id=4
For an introduction, see the "Erosion Control with Compost" factsheet on www.buildingsoil.org

Search the internet for "compost berms" and "compost blankets" for current information. Good online articles include:

- *BioCycle* Journal www.biocycle.net/ Search the index for various articles, especially "Compost Filter Berms and Blankets Take on the Silt Fence" by Rod Tyler, Biocycle: Vol. 42; No. 1, January 2001
- "Erosion Control and Environmental Uses for Compost" by Rod Tyler et al http://www.p2pays.org/ref/11/10295.pdf
- Various articles in *Erosion Control* Journal (search under "compost") http://www.erosioncontrol.com/
- "Restoring Soil Health To Urbanized Lands" Oregon DEQ, esp. pp14-19 on compost berm and blanket trials, and p. 26 for specifications http://www.deq.state.or.us/lq/pubs/docs/sw/compost/RestoringSoilHealth.pdf

For More Information Contact:

Washington Organic Recycling Council *info@compostwashington.org* www.compostwashington.org/
and see more resources at **www.soilsforsalmon.org** and **www.buildingsoil.org**