The WSU Extension GSI Outreach Experience

Bob Simmons
Associate Professor
WSU Extension
2014, the 12 Puget Sound coastal shoreline counties accounted for 68% of the Washington State population, 4,779,172 out of 7,061,530.
Local Rain Garden Rebates

2014, the 12 Puget Sound coastal shoreline counties accounted for 68% of the Washington State population, 4,779,172 out of 7,061,530
LOW IMPACT DEVELOPMENT PROGRAM

Welcome To The WSU Puyallup Low Impact Development Research Program

WSU’s Puyallup LID Research Program is one of the largest installations in the nation. The program focuses on the rapidly expanding field of low impact development or green stormwater infrastructure. WSU offers the unique capability to conduct long-term research on full-scale, replicated bioretention and permeable pavement facilities.

The mission of the WSU Puyallup Low Impact Development (LID) Research Program is to reduce the impacts of stormwater on streams, lakes, wetlands, coastal areas and food through effective, research-based application of LID principles. These approaches are part of a larger suite of land and water management tools. We also provide education and outreach to the community on sustainable stormwater practices.

The mission of the program is accomplished through demonstration sites, research and collaboration with partners. This includes:

- A living laboratory with full-scale, replicated LID management practices.
- Ongoing long-term research examining:
  - Flow control and water quality
  - Sediment and nutrient control
  - Energy efficiency
  - Biodiversity
  - Economics
  - Public education and outreach
The Hybrid LID Certificate Program is HERE!

We are pleased to be offering a new year of the Hybrid Low Impact Development (LID) Certificate Program - formerly known as the LID Training Program! Beginning in 2018, the training program has transitioned from a solely in-person training system to a hybrid (online and in-person) system. The online, self-paced courses include the theoretical basis for designing and maintaining LID systems. The in-person trainings will provide critical practical skills and real-world examples taught by the foremost practicing experts in the field.

REGISTRATION FOR THE IN-PERSON TRAINING IS NOW OPEN!

Dates for the spring offerings of the in-person trainings are all scheduled to take place in Everett, WA. There will be another round of in-person trainings offered in the fall, with locations and dates to be determined.
Why Real Estate Professionals?

We want to change how development occurs.

Real estate brokers can be or often work with small and large scale developers – and could influence development.

Sale/transfer of land is often at the nexus of re-development and thus represents an educational moment.

“Captive” audience in need of clock hours for license.
Real Estate Professional Training

Low Impact Development
A workshop for Real Estate Professionals

Monday December 17th, 8:30am-5pm
Mason County Public Works
100 W Public Works Drive, Shelton, WA 98584

Real Estate Professionals
EARN 7.5 CLOCK HOURS
$100
To Register and for more info:
mary.dimatteo@wsu.edu or
360-427-9670 x 682
Eight full-day workshops were presented across Washington State in 2013.

Provided 7.5 clock hours of continuing education credit for licensed real estate brokers and appraisers.
Course Locations

Bellingham
Everett
Puyallup
Olympia
Bremerton
Vancouver
Ellensburg
Spokane

239 Total Participants
My understanding of how LID techniques help filter pollutants increased:

**Improved Understanding**

- Significantly: 60%
- Greatly: 20%
- Moderately: 10%
- Slightly: 5%
- Not at all: 5%
LID Factsheets

CATCHING RAIN: Low Impact Development — Protecting Our Waters

What's the problem with stormwater?

Stormwater is created by precipitation (rain or snowmelt) that doesn't soak into the earth but instead creates puddles and runs off. This stormwater can pick up pollution and carry it directly into storm drain systems, streams, rivers, lakes, inlets, and bays.

Some consequences of stormwater pollution and increased surface runoff include:

- Pollutants such as oil, yard chemicals, and pet wastes contaminate local waterways, threatening human and wildlife health and well-being.
- Numerous beaches are too polluted to harvest shellfish.

Look for the other helpful fact sheets in this series:

- Low Impact Development
- LID Stormwater Regulations
- LID Development Process
- Pavement Maintenance
- Rain Garden Maintenance
- Rain Garden Construction Checklist
- 7. Rain Garden Construction Sequencing

CATCHING RAIN: Understanding Stormwater Management & the Development Process — Guidance for Real Estate Professionals

The land development process is often long and challenging. Real estate professionals often serve an important role explaining the requirements involved and helping their clients through this process. This fact sheet provides an overview of how low impact development (LID) stormwater management techniques fit into the development process in Washington.

Read through all seven fact sheets and share appropriate ones with your clients, property managers and, maintenance personnel.

Plan LID

The first step of any development process is creating the initial concept. Advising your clients to incorporate LID Best Management Practices (BMPs) — such as retaining native vegetation and reducing impervious surfaces — during this first step can often prevent unnecessary expenses, save money, and increase profit margins.

Beginning in 2015, many local jurisdictions, covered by a Municipal Stormwater Permit, will require LID to be considered in commonly used approaches to site development.

CATCHING RAIN: Construction Sequencing for Rain Gardens

Identifying the best order for installing a rain garden — and where it fits into the schedule of a larger construction project — will ultimately determine cost, time, and construction logistics. It will also ensure that other impacts to the site area are minimized. Rain garden plans have the best chance of success if constructed with the right sequence of planting, storage and installation techniques. The LID manual for Washington State, and other materials at http://wastormwatercenter.org/lid helps you navigate through this process.

Before You Build

- Meet with all concerned parties to be sure you and your team understand the entire construction process.
- Develop controls and communication strategies, such as tours, site access, composting, and compost bins.
- Obtain what other on-site stormwater management practices are planned, such as pervious pavements or pavers.
- If you are planning concrete or other impervious surfaces, you must ensure that your stormwater management practices are combined, such as concrete and concrete management strategies with the contractor or site manager.
- Keep other contractor equipment off the future site of the rain garden by using temporary fencing or covering.
- Avoid impacting other parts of the site — keep equipment off of existing and most sensitive areas of nature vegetation.
- Identify and mark existing garden areas for material and equipment, and locations for storing or removing excess soils.
- Keep construction materials off existing areas.
- Review plant list and plans with your whole project team.

Timing is Everything

- The best time for installation and rain garden soil is during the dry months.
- For the rain garden to be constructed adjacent to a paved area, final soil work and planting must be done after paved to prevent damage to the driveway and soil from fumigation.
- Maintaining rain garden area with other vegetation activities such as using a mulch layer on the project reduces impact and vegetation. In these cases, apply the mulch weeks to one months after planting. Before installing, the soil by hand can be covered later.
- Material in other parts of the construction site may be moved onto the garden.

http://www.wastormwatercenter.org/
• Brought $300,000 to assist us in building our capacity also do outreach as part of the 12,000 Rain Gardens Campaign over 3 years (2012-2015)

• Enabled us to:
  - Provide training for Master Gardeners
  - Provide seed funds for demonstration rain gardens in each county
  - Provide a series of trainings for landscape professionals
Join your neighbors cleaning up Puget Sound!

Click the map to see what’s happening in your community

Upcoming Events

February 24, 2018
KCD Native Plant Sale - Renton
Starts: February 24, 2018 - 9:00 am
Ends: February 24, 2018 - 3:00 pm
Location: King Conservation District, 1107 SW Grady Way Suite 100, Renton, WA 98057, USA

February 26, 2018
2nd Biennial Green-Duwamish Watershed Symposium - Auburn
Time: All Day
Dates: February 26, 2018
Location: Green River College, 12401 SE 320th St, Auburn, WA 98002, USA
This is a Rain Garden . . . .

...it reduces flooding and filters polluted rain runoff from the street.

Rainwater running off hard surfaces contains pollutants such as oil, pet waste, heavy metals, and fertilizer. Without this rain garden, water would carry these contaminants into storm drains that discharge to nearby waterways.

1. Rain runoff is directed to the rain garden from roof-tops, roads, and driveways.

2. Water collects in the garden, then slowly seeps through a special soil mix that absorbs and filters out pollutants.

3. Clean water filters into the ground and eventually reaches Puget Sound.

12000raingardens.org
Over 300 Local Workshops and Presentations reaching over 6000 people

Rain Garden Workshop & Work Party

Workshop: May 11, 6-8:30 p.m.
Marina Room, Point Hudson

Work Party: Wed May 13, 10 a.m.-1 p.m. & 1-4 p.m.
Point Hudson

Register for free by calling 360.379.5610 ext 200

Rain Gardens
A rain garden is a beautiful landscape feature that allows you to control your drainage safely while also protecting local waterways and Puget Sound from polluted runoff!

* Each participant will receive detailed information about installing a rain garden, as well as a free full color handbook and beautiful poster.

Learn how to
• Help protect local waterways & Puget Sound
• Prevent storm drainage from harming your home
• Design and build a “rain garden” in your yard
• Choose the right plants for your landscape & lifestyle
• Determine how you’ll need to excavate and how much compost you’ll need to order
• How to reduce your costs
• How to maintain your garden for function, long-term beauty, & attracting birds!

Primary Instructor
The workshop will be led by Erica Gutfman of WSU Extension, who has been researching, designing, and installing rain gardens for over 12 years, and has been a hands-on environmental educator for over 30 years.
Rain Garden Mentors

- Rain Garden Mentor Volunteers meet with homeowners at their site:
  - Provide guidance to help in the decision-making and planning processes. Also help to determine the necessity of a rain garden and siting issues.
  - Explain how rain gardens work and how the combination of proper soil amendments and plant selection improve rain garden function, aesthetic and health.
  - Assist with measurements and explain how to route water from impervious surfaces like roof tops and driveways into a rain garden.
  - Rain Garden Mentors are available to help answer questions throughout the rain garden planning and installation process.
  - Table at home shows and other public events.
## Training for Landscape Professionals

### Kitsap County

**2011-2017 Professional Rain Garden Workshop Attendees**

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<tr>
<th>First Name</th>
<th>Last Name</th>
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<td>Bremerton</td>
<td>360-613-5516</td>
<td><a href="mailto:windypoint@integrity.com">windypoint@integrity.com</a></td>
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<tr>
<td>Peggy</td>
<td>Bakalaroski</td>
<td>Kitsap County DCD</td>
<td>Port Orchard</td>
<td>360-337-3076</td>
<td><a href="mailto:tdilling@co.kitsap.wa.us">tdilling@co.kitsap.wa.us</a></td>
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<tr>
<td>Colby</td>
<td>Bayley</td>
<td>GroundWorks Landscaping</td>
<td>Everett</td>
<td>425-347-6556</td>
<td><a href="mailto:colbybayley@hopewrks.org">colbybayley@hopewrks.org</a></td>
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<td><a href="http://www.housingham.org">www.housingham.org</a></td>
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<tr>
<td>Matthew</td>
<td>Berberich</td>
<td>MB Horticulture</td>
<td>Pt. Townsend</td>
<td>856-745-5363</td>
<td><a href="mailto:matberb@yahoo.com">matberb@yahoo.com</a></td>
<td>day 1 &amp; 2</td>
<td><a href="mailto:matt@progardening.com">matt@progardening.com</a></td>
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<tr>
<td>Margaret</td>
<td>Betteley</td>
<td>Olympic Organics</td>
<td>Kingston</td>
<td>360-638-0117</td>
<td><a href="mailto:Margaret@olympicorganics.net">Margaret@olympicorganics.net</a></td>
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<td>Kitsap County Parks</td>
<td>Silverdale</td>
<td>360-613-9560</td>
<td><a href="mailto:ipeterson@co.kitsap.wa.us">ipeterson@co.kitsap.wa.us</a></td>
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<tr>
<td>Colby</td>
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<td>Northwest Construction &amp; Landscape LLC</td>
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<td>360-897-3215</td>
<td><a href="mailto:info@northwestcl.com">info@northwestcl.com</a></td>
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<td>Peter</td>
<td>Broderick</td>
<td>Kaleidoscope Inc</td>
<td>Seattle</td>
<td>206-533-1122</td>
<td><a href="mailto:zibby@kaleidoscopeinc.net">zibby@kaleidoscopeinc.net</a></td>
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<td>Burke</td>
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<td>Tacoma</td>
<td>253-343-8169</td>
<td><a href="mailto:jburke@corllisresources.com">jburke@corllisresources.com</a></td>
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<td>Total Lawn Care of Olympia</td>
<td>Olympia</td>
<td>360-628-2794</td>
<td><a href="mailto:joshburns@totallawncoolympia.com">joshburns@totallawncoolympia.com</a></td>
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<td>Busch</td>
<td>GB Underground</td>
<td>Bremerton</td>
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<td>Abba Excavating, LLC</td>
<td>Wauna</td>
<td>253-851-4087</td>
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<td>Aaron</td>
<td>Clark</td>
<td>Stewardship Partners</td>
<td>Seattle</td>
<td>206-282-9875</td>
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<td>Silverdale</td>
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<td>Lee</td>
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<td>Valley Nursery Inc.</td>
<td>Poulsbo</td>
<td>360-908-7315</td>
<td><a href="mailto:lderror2@yahoo.com">lderror2@yahoo.com</a></td>
<td>day 1 &amp; 2</td>
<td><a href="http://www.valleynurseryinc.com">www.valleynurseryinc.com</a></td>
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**84 Total Participants 2011-2017 in Kitsap County**
Stormwater Stewards

**SESSION 1**
Green Stormwater Infrastructure Background | Water Resources Overview | Environmental Health | Introduction to Sustainable Landscaping | Program Overview
Thursday, May 8th 6-9pm

**SESSION 2**
Healthy Lawns Class
Thursday, May 15th 6-9pm

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**SESSION 3**
Rain Gardens & Bioretention—rain garden siting sizing, and volume calculations | Site Assessment | Alternatives to Rain Gardens | Challenges of Marine Shorelines
Thursday, May 22nd 6-9pm

**SESSION 4**
Plants Part I: Native & Water-wise Plants for Rain Gardens, Green Roofs & Sustainable PNW Landscapes
Thursday, May 29th 6-9pm

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**SESSION 5**
Plants Part II: Working with Water-wise Plants: Design Your Practice Installation
Thursday, June 5th 6-9pm

**SESSION 6**
Rooftops, Pervious Pavements, & Foundations
Thursday, June 12th 6-9pm

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**SESSION 7**
Communications With Clients
Thursday, June 19th 6-9pm

**SESSION 8**
Putting it All Together: Site Assessment Practice & Program Logistics
Thursday, June 26th 6-9pm
Stormwater Stewards

Collaborative Learning
Level of agreement with statement:
“Receiving a SWS site assessment increased my knowledge of my landscape and its impact on water resources in my region.”

- Strongly agree = 69%
- Agree = 31%
- Neither agree nor disagree = 0%
- Disagree = 0%
- Strongly disagree = 0%
Local Collaborations

Addressing Stormwater Issues Through Partnerships
Local Collaborations
Local Collaborations

This is a Rain Garden...

- It reduces flooding and filters polluted rain runoff from the street.
- Rainwater running off hard surfaces contains pollutants such as oil, pet waste, heavy metals, and fertilizer. Without this rain garden, water would carry these contaminants into storm drains that discharge to nearby waterways.

raingarden.wsu.edu

Supported by the Port Townsend Partnership, Northwest Straits Initiative, and the EPA.

- Rain garden.
- Clean, water filter into the gravel and eventually reaches Puget Sound.
Outreach Display Materials

Rain Gardens
Beautiful & Functional

When rain hurricanes storms like downpours and rains, it pools up on all other pollutants andsummits the flow into the light house.

Path to Treatment
Rain gardens contain special soils and plants designed to help catch and store water.

Right Plant, Right Place
Plants are located in three zones to help control for water flooding and summer drought.

Magic of Soils
Rain gardens contain special soils and plants designed to help catch and store water.

Overflows - Just in Case
Large storms may bring more water than can be absorbed. Overflows direct excess water to storm drains or onto the landscape before entering fresh or marine waters.
Bioretention and Rain Garden Protocol Development

Joy Rodriguez, EIT – City of Puyallup
Bob Simmons, Chrys Bertolotto – WSU Extension
Philomena Kedziorski
Erica Guttman – WSU Extension

Aaron Clark – Stewardship Partners
Ani Jayakaran, PhD PE – WSU, Washington Center
Project Purpose

Develop a rain garden and bioretention assessment protocol to evaluate basic functions of rain gardens and bioretention facilities.

• Assess factors influencing their success and failure.
• Protocol is being developed to allow for:
  • Ease of implementation
  • Repeatability across large geographic scales
  • Consistent data from multiple implementers
  • Provide data of scientific and adaptive management value.