



Western Washington University  
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Salish Sea Ecosystem Conference

2018 Salish Sea Ecosystem Conference  
(Seattle, Wash.)

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Apr 6th, 8:45 AM - 9:00 AM

## **Sound impacts: building an impact metrics portal for tracking collective positive impacts of restoration and green infrastructure across the Puget Sound**

Aaron Clark

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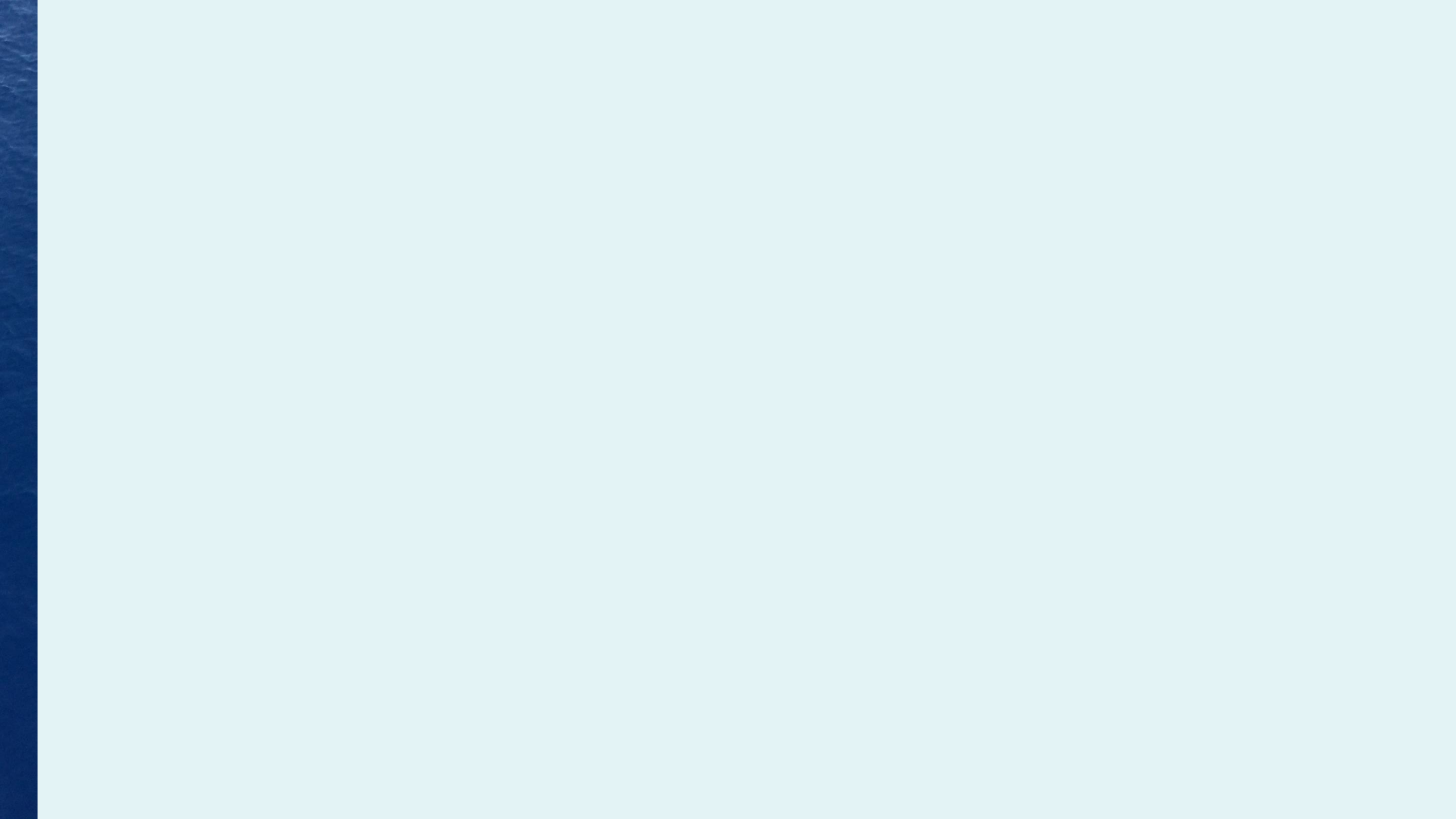
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Clark, Aaron, "Sound impacts: building an impact metrics portal for tracking collective positive impacts of restoration and green infrastructure across the Puget Sound" (2018). *Salish Sea Ecosystem Conference*. 447.

<https://cedar.wvu.edu/ssec/2018ssec/allsessions/447>

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# SOUND IMPACTS



## A Green Infrastructure Impact Metrics Portal

Aaron D. Clark Ph.D.  
Director of Strategic Partnerships



# The problem

- The Salish Sea is in need of restoration and recovery.
- There are a lot of us working very hard for that goal.
- We all use science-based strategies to restore habitat, improve water quality, air quality, quality of life...
- Is it working?
- The vital signs aren't exactly improving.
- We need to work smarter.



# The problem

- Environmental impacts are tracked by many different entities in different ways.
- Water quality, Salmon populations, Orca populations, Puget Sound Vital Signs, are tracked
- But effort and investments are not.





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# The problem

- If we don't track our efforts, how will we know if they are working?
- How will we make them better?



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# The Solution

- The Survey:
  - Why aren't we all collecting the same data?
  - Why aren't we all reporting and sharing our efforts?
  - What's the incentive to use an external reporting tool?
  - How can self-reported data be used/ trusted for regional analysis.
- Collective ownership of the tool
- Clear and effective visualization tools (Tableau software)
- Transparency



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# How it works

- “Retail Users”
  - Orgs and agencies that engage in physical green infrastructure, and restoration activities.
  - Web-based and Bulk upload spreadsheet options
  - Create your own dashboard to track stormwater, carbon, habitat, and human impacts of your works: over time, over space
  - See your “fingerprints” and your “footprints”
- “Wholesale Users”
  - Looking regionally to see where efforts are, where they are working, and connect the effort to the end of pipe impacts (is it working? What is working and where? → adaptive management)





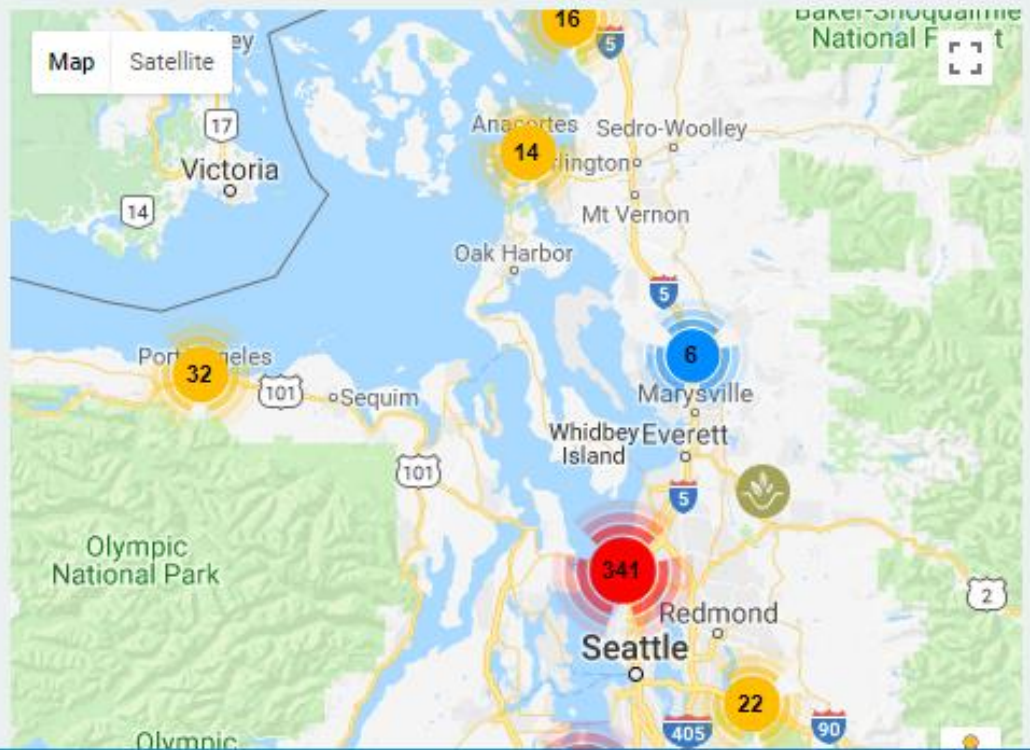
# Introduction

Sound Impacts is an online portal for all of the region's practitioners and implementers of Green Infrastructure as well as for anyone curious to see what efforts and investments are being made to protect and improve this region's natural assets.

## Legend

- Rain Garden, Bioretention, and Bioswale
- Invasive Plant Removal
- Tree Planting
- Green Roof
- Permeable Pavement
- Depaving

Reset Map




### 3,986


Rain Garden Projects

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Total Square Feet  
**2,737,286**

Earliest Project Date  
**Jan, 2000**

Latest Project Date  
**Mar, 2018**



### 64,748,163

Gallons Of Runoff Managed

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Annual estimate based on the simple calculation:  
**square footage x annual rainfall x gallons conversion**

For more detailed impact calculations, please visit the [dashboard page](#).



### 17

Tree Planting Projects

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Total Square Feet  
**381,935**

Earliest Project Date  
**Apr, 1990**

Latest Project Date  
**Dec, 2017**



### 11,198

Total Trees Planted

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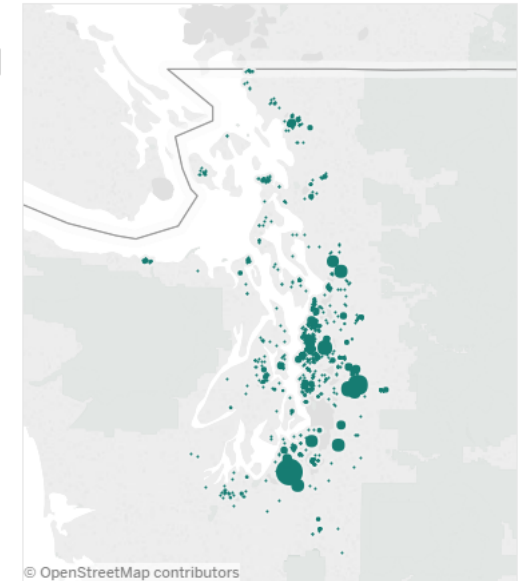
Total number of trees planted

Contributor Name  Designer

Installer  Owner Name

### Rain Gardens

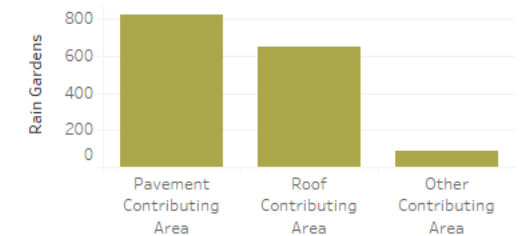
Sized by Gallons of Runoff Managed



### Rain Garden Summary by Contributor

Contributor Name	Rain Gardens	Contributing Area (Sqft)	Rain Garden Size (Sqft)	Runoff Managed (Gal)
12,000 Rain Gardens	2,471	19,634,126	1,131,548	26,766,757
City of Shoreline	237	147,639	16,432	388,699
Lyn Morgan-Hill	86	161,685	16,764	396,541
Not Given	82	245,010	15,223	360,100
Matthew Baerwalde	34	163,948	14,994	354,683
Derek Hann, P.E.	21	42,962	5,015	118,630
City of Monroe	13	23,400	2,340	55,353
David Burger	8	1,506	525	12,419
Freeman Anthony	8	52,920	1,489	35,222
Bob Simmons	7	490,000	4,760	112,598
Cari Simson	6	58,800	8,250	195,154
Kelly Stroh	6	62,500	6,250	147,844
Shannon Good	5	109,196	8,821	208,661
mathew goad	4	55,824	2,600	61,503
Colette Berna	3	40,890	9,270	219,282
Dave Steiner	3	5,700	1,100	26,021
John Abenroth	3	109,411	3,250	76,879
Margaret Lunnum	3	3,000	600	14,193
RainWise	3	1,500	150	3,548
Amy Waterman/Terri Butler	2	1,084	135	3,193
Angie Bradbury	2	1,506	43	1,017
Chad Port	2	1,800	174	4,116
Chris Hoerner	2	8,190	819	19,373
Chris Webb	2	13,100	425	10,053
Christine Williams	2	32,000	234	5,535
Eric Rhodes	2	9,000	4,500	106,448
Jamie Montague	2	836	336	7,948

### Contributing Area



# Adding Projects

## BULK IMPORT

### Step 1: Get Template

Download the excel sheet template for each project type you wish to enter:

- Rain Garden
- Invasive Plant Removal
- Depave
- Permeable Pavement
- Green Roof
- Tree Planting

### Step 2: Fill in Data

Fill in project data, using one row per project.

### Step 3: Upload Data

Use the form below to upload the templates you filled in.

File:

No file chosen

## RAIN GARDEN

A rain garden is a bowl-shaped garden designed to capture and filter stormwater runoff from roofs, driveways and other hard surfaces, keeping it from becoming harmful water pollution. Rain gardens are relatively simple to install and feature well-draining soil and easy-to-maintain plants that allow for stormwater infiltration. For simplicity we define "rain gardens" as an inclusive catch-all for simple as well as engineered, small as well as large versions of this concept, including bioretention facilities, stormwater planters, bioswales etc.

Project Name\*

What is the name of the project?

Project Description

Date

mm/dd/yyyy

When did you do the work?

Owner

Partners

Who participated in the project? Enter the name of the partners then press comma or enter to add another name.

Contributor

Contributor Email

Size\*

Size of project area in square feet

Site Type\*

- Forest
- Riparian
- Aquatic (freshwater)
- Marine
- Marine shoreline
- Agricultural (farm)
- Commercial
- Residential (single family)
- Residential (multi-family)

# Viewing Impact

ABOUT
DASHBOARD
ADD A PROJECT ▾

DANIEL ▾

Contributor Name:

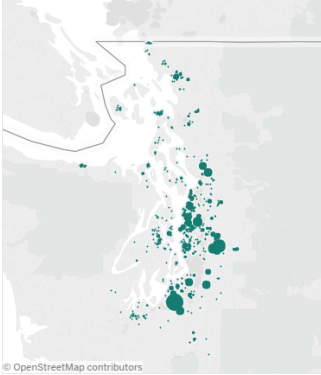
Designer:

Installer:

Owner Name:

### Rain Gardens

Sized by Gallons of Runoff Managed




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#### Rain Garden Summary by Contributor

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Jamie Montague	2	836	336	7,918

#### Contributing Area



Contributing Area Type	Count
Pavement Contributing Area	800
Roof Contributing Area	600
Other Contributing Area	200

Undo Redo Reset

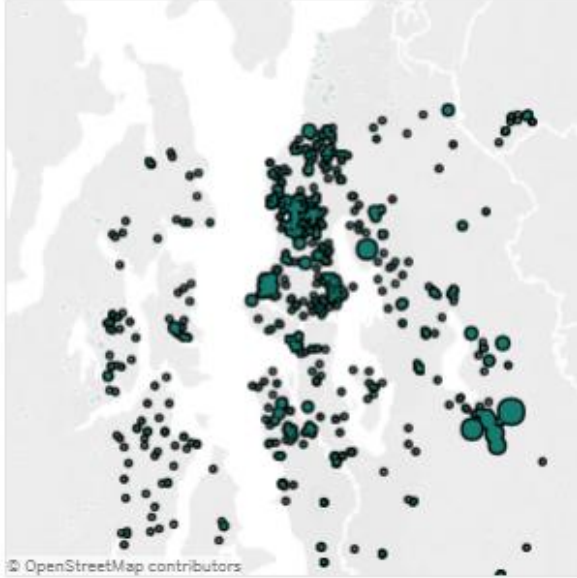
+ a b l e a u

Share Download Full Screen

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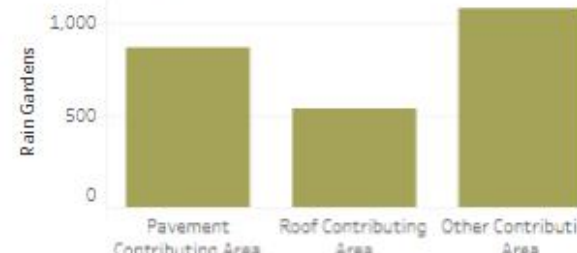
### Rain Gardens

Sized by Gallons of Runoff Managed



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#### Types of Contributing Area



Contributing Area Type	Count
Pavement Contributing Area	900
Roof Contributing Area	500
Other Contributing Area	1000

## 3,986

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# Current work 2018

- Currently scheduling data import parties with partners
- Coming soon: travelling workshops
- 2019: Develop funding proposal and project team for a full Sound Impacts 2.0 build out and launch



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# The Future of Sound Impacts

- Beta version live now.
- For version 2.0:
  - More metrics (beta is focused on stormwater) add carbon capture, heat island effects, quality of life, air quality, human health...
  - Data transparency, public database (i.e. tableau public)
  - Make sure other tools can easily use Sound Impacts as a data layer
    - E.g. decision making tools like Trust for Public Land's OSAT tool or TNC's stormwater heatmap tool...



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# Sound Impacts Invites You to Discover Your Impact

Visit

[www.SoundImpacts.org](http://www.SoundImpacts.org)

To get started today

Contact me:

[AC@StewardshipPartners.org](mailto:AC@StewardshipPartners.org)

