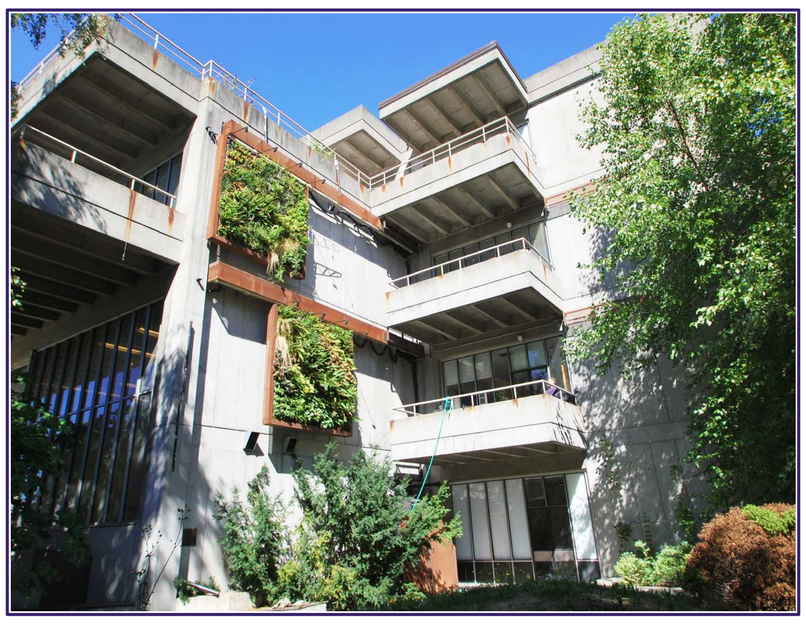
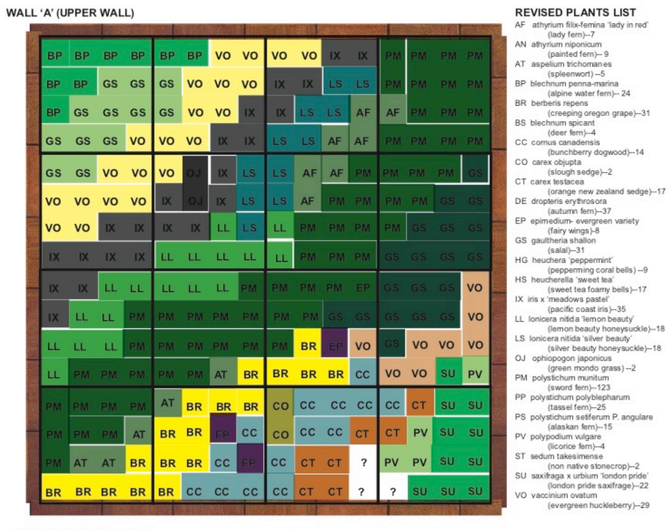
Monitoring the Impacts of the UW Green Wall + Water Harvesting System

ABSTRACT

The UW Green Wall and Water Harvesting System was installed on Gould Hall in the spring of 2012 as part of a student-led UW Campus Sustainability Fund Grant to help reduce building energy needs, conserve potable water, reduce stormwater pollution, and increase biodiversity. Now the project is being researched through the Green Seed Fund to document Flora (plant growth, death, maintenance), Fauna (bird and insect use, habitat), Water (water use and recycling, irrigation performance), and Temperature (urban heat island effect, building performance). Preliminary findings are below.



1. Flora



The wall contains over 500 plants of 23 different species, with ~70% native. Plants have been documented over 3 years to discover the most robust and best contributors of habitat to help future designers of green walls.

3. Water

Two 1,000 cisterns recycle roof water for irrigation. Average daily water use (~5 gal) as well as amount of potable back up water (0 gal since Sept 2014) are being documented.

2. Fauna

There are over 750 bird and insect sightings on the green wall so far of 17 different bird species and 10 different pollinators. Dark-eyed juncos laid an egg in the wall May 2014, and are currently building a nest.

4. Temperature

Temperature sensors measure how the green wall is affecting the urban heat island effect (~3° C) and building performance (~0.5° C).

DESCRIPTION

Over 40 students from 6 different disciplines have been documenting Flora, Fauna, Water and Temperature since spring 2014 and will be continuing until the fall of 2015.

CREDITS

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