



Anchorage Rain Garden Program: Final Report

Grant Agreement: Municipality of Anchorage & US Fish and Wildlife Service

Reporting Period: August 2007 – December 2011

Program Overview: The Anchorage Rain Garden Program improves environmental stewardship in the Municipality of Anchorage (MOA) through education and cost-sharing incentives for rain gardens. The program is run by the MOA and financially supported by the U.S. Fish and Wildlife Service (FWS). Four years ago, the MOA partnered with FWS to design and construct the first full-sized rain garden in the municipality. Since then, the Rain Garden Program has supported the construction of over 50 rain gardens in the municipality on property ranging from schools to commercial, residential, and public properties.

Rain gardens are a form of Low-Impact Development (LID), which refers to stormwater management techniques that seek to mimic the natural water cycle in the vicinity of our built environment. By collecting stormwater runoff and allowing it to soak into the ground and be taken up by plants, rain gardens provide cleaner stormwater, healthier streams, decrease flooding, and lower the necessary maintenance on municipal storm drains. Other benefits come from the plants on the surface, including wildlife habitat, cleaner air, lower landscape maintenance, and improved aesthetics. A final benefit of installing a rain garden through the Anchorage Rain Garden Program is the cost-sharing incentive. The MOA reimburses construction costs for rain gardens at a rate of 50%, up to \$750 for residential rain gardens and up to \$5,000 for commercial and large-sized rain gardens.



Background: The need to manage stormwater in a built environment is driven not only by negative impacts from runoff in the community, like flooding and pollution, but also by regulations on stormwater standards designed to protect the environment. Typical stormwater infrastructure, like pipes and storm drains, are costly to install and maintain. All of these factors combine to make money spent on rain garden installation and education extremely cost-effective for cleaning and managing the stormwater. Developing the natural environment, clearing forests for houses and lawns or filling wetlands for parking lots, inadvertently changes the water cycle. Rain gardens and LID manage the additional stormwater burden from development in a cost-effective and environmentally beneficial manner.

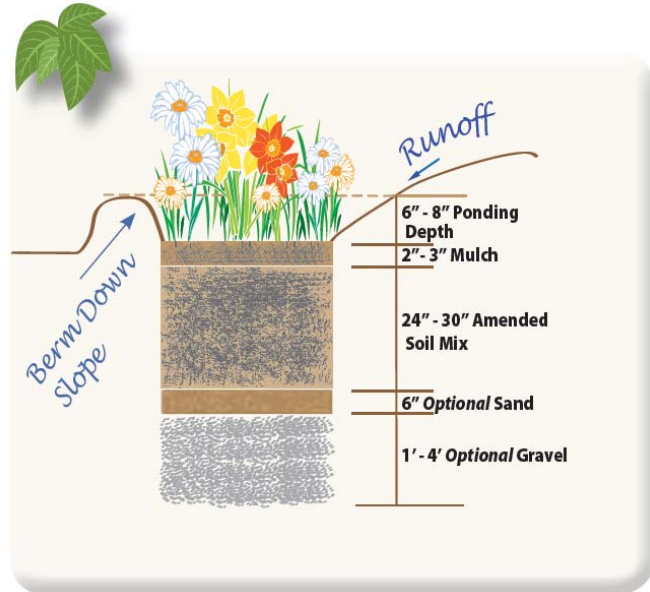
In order for stormwater to be clean, it has to be filtered, and nothing does this better than simply letting runoff filter through soil and be taken up by plants. Rain gardens are a man-made way to mimic this natural filtering process. The partnership between the MOA and FWS jointly recognizes the value of clean stormwater and community environmental stewardship. Through education and cost-sharing incentives, the Anchorage Rain Garden Program supports cleaner community stormwater, healthier creeks, and cheaper development.

Rain Garden Cross-Section:

A rain garden has four elements that make it different from a typical landscape garden:

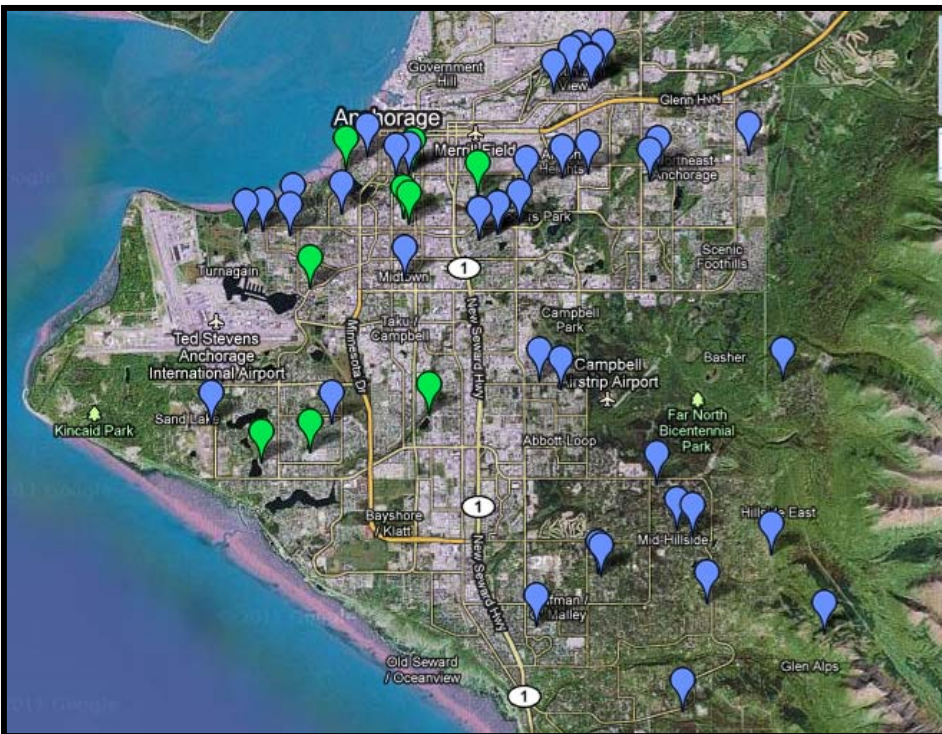
1. Location
2. Surface Contour
3. Soil Drainage
4. Native Plants

Stormwater runoff collects and ponds on the surface of a rain garden during a rainstorm. Over the following 24 hours, the water filters into the ground avoiding running off directly into the storm drain system, local stream, or lake.



Rain Garden Distribution:

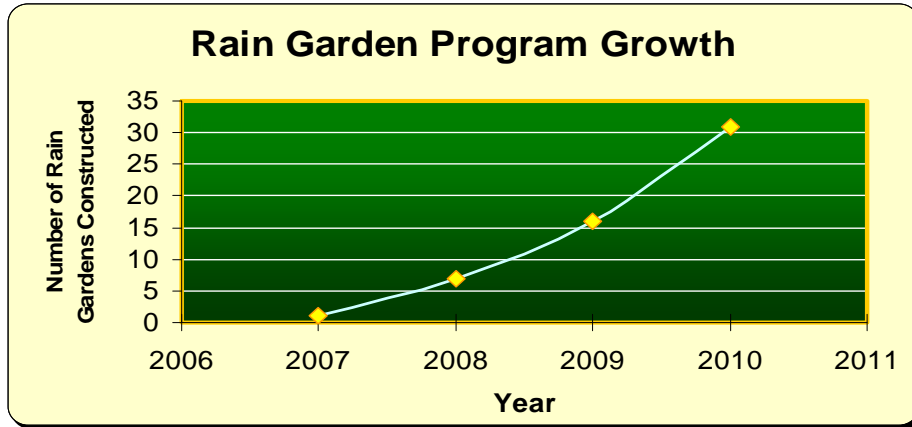
Rain gardens have been installed across the MOA, including a handful of gardens in Eagle River and Chugiak, not shown. Because rain gardens are appropriate for any development, there is no limit to their distribution. Some things that may make a location less favorable for a rain garden are high water tables, poorly draining soils, or steep grades. Even with these limitations the program has been able to reach residents across the municipality.



Legend:
 A **blue** marker indicates a private residential rain garden; a **green** marker indicates a public or demonstration rain garden – see list on final page.

Program Development:

The Anchorage Rain Garden Program has doubled in size each year since it began offering incentives in 2008. There have been 55 rain gardens constructed and supported by the program, including 11 demonstration rain gardens on school or public grounds, and 44 residential rain gardens on private property. In total, approximately 8,000 square feet of rain gardens have been installed, with the capacity to detain over 5,200 cubic feet of stormwater runoff during a single rain event. In addition to distributing reimbursements, the program has been training contractors and residents through a variety of presentations, school activities, and one-on-one consultations throughout the year.



Website:

The program website, www.AnchorageRainGardens.com, teaches people about LID and how to build a rain garden. On the site there are grant applications available for residential and commercial reimbursements, a How-To Manual for Homeowners on rain garden construction, and a link to the LID Design Guidance Manual for engineers. The site also provides a list of contractors trained in rain garden construction and several pictures showing how to construct your own rain garden. Finally, there are maps for driving tours of demonstration rain gardens and LID sites in Anchorage.

Exemplary Rain Garden:

The Commerical Fishing and Agriculture Bank rain garden in Spenard treats parking lot runoff and enhances the urban environment. Through good site deisgn and LID, this rain



garden transforms a traditional parking lot and required landscape element into a beneficial stormwater treatment device. The rain garden was designed by DOWL HKM and constructed by Green Earth Landworks in the fall of 2009. The owner was reimbursed to the maximum extent of \$5,000 for the commercial rain garden installation. After one full winter and growing season the garden remains in excellent condition.

Rain Gardens in the Municipality of Anchorage

Blueberry Road, pedestrian improvement project



Residential rain garden filled with stormwater



Residential rain garden under construction



Anchorage Senior Center rain garden



Taku Lake Park, pilot demonstration rain garden



Jewel Lake Park, improvement project



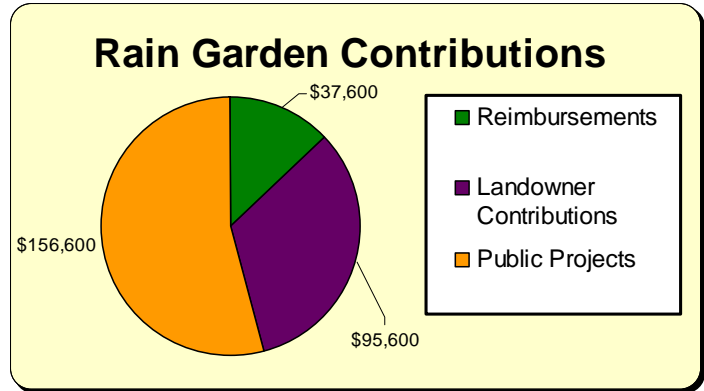
Residential rain garden in bloom



Steller Secondary



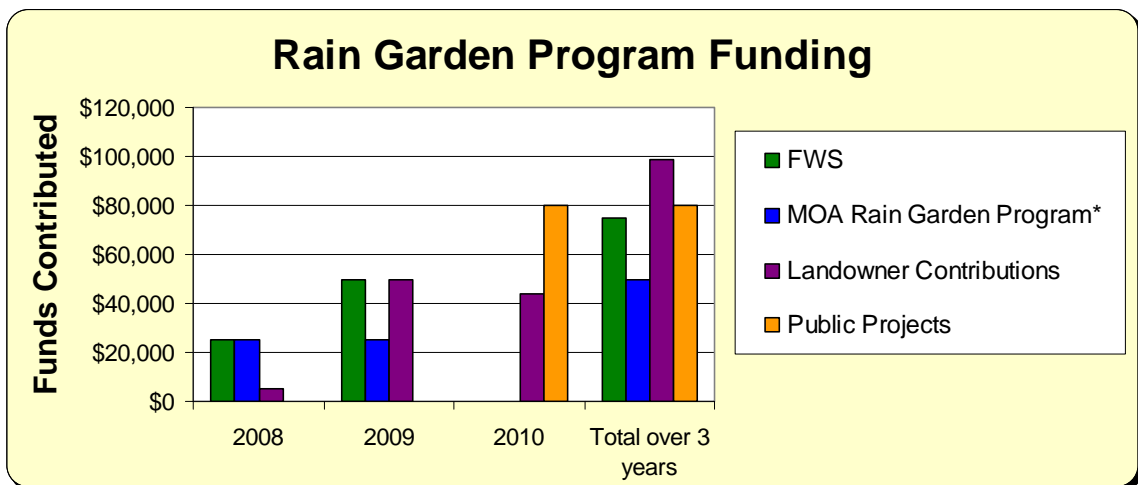
Incentives: The Anchorage Rain Garden Program has distributed approximately \$37,600 in incentives to residents and private businesses in the MOA. Incentives are offered in the form of a reimbursement to supplement the costs of a rain garden. As shown in the pie chart, landowners have matched the reimbursements from their own funds three times over. The generous landowner contribution portion of the pie indicates enthusiasm on the part of landowners and general success of the incentive program.



- School Projects:**
- Central Middle School
 - Dimond High School
 - Gruening Middle School
 - Mears Middle School
 - Steller Secondary

- Public Projects:**
- Taku Lake Park Pilot Rain Garden, Stormwater demonstration project
 - Blueberry Road, Pedestrian improvement project
 - Jewel Lake Park, Improvement project
 - Westchester Lagoon, Youth Employment in Parks project
 - Eagle River Commons Park, Stormwater improvement project
 - Anchorage Senior Center, Stormwater improvement and garden enhancement project

Grant Funding: This program is made possible by the MOA and grant funding from the FWS Partners for Fish and Wildlife Program. The graph below demonstrates program funding contributions; the MOA and FWS contributed in 2008 and 2009 for program development, new contributions for Public Projects began in 2010, and the Landowners contributed all three years. We are currently in the active period of a new 2010 LID agreement with FWS which will support the Rain Garden Program and the distribution of LID incentives through November 2012.



*MOA Rain Garden Program, in-kind contributions for program management are *not* incorporated.