

# Rain Garden and LID Senior Culminating Projects

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## **OVERVIEW DESCRIPTION OF PROJECT**

Fourteen students from Capital High School (CHS), Black Hills High School (BHHS) and North Thurston High School (NTHS) worked to complete their Culminating Project and/or IB Biology Project requirements through the Rain Garden and Low Impact Development Project provided by the Washington Department of Fish and Wildlife, the Pacific Education Institute, and the Puget Sound Action Team. Funding for the project was provided in part through EPA Grant No. C9-00044904-0 to the Department of Ecology from the United States Environmental Protection Agency. The Department of Ecology allocated and administered funding for this project. The contents of this document do not necessarily reflect the views and policies of either the United States Environmental Protection Agency or the Department of Ecology, nor does the mention of trade names or commercial products constitute endorsement or recommendation for their use.

These students have worked with faculty advisors, field experts and fellow students to develop plans to reduce pollution and habitat damage created by stormwater run-off. As a result, eight students researched, designed, and installed two native plant rain gardens on Capital High School (CHS) grounds. The Black Lake Ditch and Percival Creek (the drainage areas for CHS) are contaminated with fecal coliform and have high temperatures. These rain gardens, 954 sq ft and 800 sq ft in size, were specifically designed to capture and filter stormwater run-off from a student parking lot and a section of rooftop and lawn on the school grounds, thus reducing the amount of contaminants reaching Budd Inlet, via the Black Lake Ditch and Percival Creek.

In addition, two students worked on a rooftop prairie rain garden at The Evergreen State College, which was completed in October 2007. The rooftop garden is specifically designed to capture rainwater and to allow it to return to the water cycle via transpiration or evaporation. This reduces runoff from non-pervious surfaces in the area.

Two other individuals created and presented Low-Impact Development (LID) plans, focusing on retrofitting Tumwater Middle School and on the future bus loop construction at CHS. These plans included a variety of ways to reduce or eliminate stormwater runoff and contamination of watersheds, such as pervious pavement and rain gardens.

## EVALUATION

Throughout the process, students participated in field trips and worked with experts to learn how the state and local communities are managing stormwater through the use of innovative low impact development technologies such as rain gardens. This project provided students with real-world opportunities to make a difference in their communities and the Puget Sound watershed.

The Rain Garden and LID Projects were successful and significant in a number of ways:

1. Thirteen high school students from Olympia, Tumwater, and North Thurston School Districts have completed their rain garden or low-impact development projects. Numerous school staff, students, parents and administrators have visited the rain gardens. The two LID plans were presented to the Capital Projects Departments in the Tumwater and Olympia School Districts. The Evergreen State College rooftop prairie garden was completed on October 16, 2007.



2. This project was one of the first to involve a significant number of agencies and organizations. Students worked with experts from the City of Olympia, Washington Conservation Corps, WSU Thurston County Extension – Native Plant Salvage Project, City of Lacey, A Garden Story Landscape Design, and a private stormwater engineer to gain a more in-depth understanding about the significance and construction of rain gardens and low-impact development (LID). These experts also worked with the students to help them design and create their rain gardens or LID plans.



3. The two CHS rain gardens began capturing and filtering stormwater run-off in the fall of 2007, thus reducing the amount of contaminants reaching Budd Inlet, via the Black Lake Ditch and Percival Creek.