

Graduate Internship Opportunity Summer 2025

PROJECT TITLE

Creating 1000 Rain Gardens - supporting and promoting the creation and maintenance of rain gardens in the Bowker Creek watershed

HOST ORGANIZATION

Friends of Bowker Creek (FOBC)

Project Overview

A rain garden is a type of landscaping designed to absorb and filter stormwater runoff from impervious surfaces like roofs, driveways, parking lots, and streets. By capturing water that would otherwise flow into storm drains and nearby creeks or shorelines, rain gardens prevent toxic pollutants from entering our waterways and help replenish groundwater. This natural filtration process mimics nature's "timed-release" system, ensuring clean, cool water flows into creeks even during dry summer months.

The 1000 Rain Gardens Project promotes rain garden development on public and private properties as a key strategy for restoring the Bowker Creek watershed. Widespread implementation of rain gardens reduces runoff intensity, filters toxins, and supports efforts to restore salmonid populations that once thrived in the creek before urban development altered its flow.

To further this work, there is a need for clear and accessible guidelines to help private landowners create rain gardens on their properties while meeting municipal requirements. Friends of Bowker Creek Society aims to provide this information on their website, specifically tailored for the Bowker Creek watershed, to empower residents to contribute to rain garden development.

Key partners for this project are:

- Friends of Bowker Creek Society (FOBC): Focused on rain gardens within the Bowker Creek watershed.
- Peninsula Streams and Shorelines (PSS): Leads the *Rain Gardens in Headwaters Program* across Greater Victoria.
- Resilient Urban Systems & Habitat (RUSH): Coordinates regional rain garden mapping ([story map link](#)).
- School District 61 (SD61): Supports rain garden establishment on school properties in collaboration with principals and teachers.
- British Columbia Conservation Foundation (BCCF): Leads the *Tire Wear Toxin Monitoring Program* ([project link](#)).

Project Description

This project aims to identify key factors that contribute to the success of rain gardens within the Bowker Creek Watershed. Specifically, the project will evaluate site preparation, native plant selection, maintenance, and functional performance of established rain gardens to inform and guide future design and implementation.

The Sustainability Scholar will:

- Conduct field research, including plant ecology assessments, maintenance coordination, and water quality monitoring.
- Evaluate existing rain gardens, including those from the 1000 Rain Garden Project and UVic campus installations, to identify species persistence, challenges (e.g., herbivory), and areas for improvement.
- Perform a literature review to identify best practices for rain garden design and management.
- Collaborate with the PSS Sustainability Scholar in areas of common focus such as the development of best practices and guidelines for municipal and private rain gardens
- Collaborate with municipal staff, volunteers, and other partner organizations such as the RUSH Initiative to develop a common approach for the promotion of rain gardens

Project Outcomes:

1. A set of guidelines for rain garden design and plant species selection, focusing on persistence and resilience to local conditions.

2. Evaluation of Water Quality Benefits, with particular emphasis on filtering roadway runoff toxins (e.g., 6-PPDQ, linked to coho salmon mortality). The scholar will participate in sampling, data collection, and analysis.
3. Recommendations for expanding and improving rain garden programs across private and public lands within the watershed.

Key Resources and Collaborators:

- Local municipal requirements (e.g., CRD Green Stormwater Infrastructure guidelines).
- Past case studies, including the Cougar Creek Streamkeepers rain garden map.
- UVic's Office of Campus Planning and Sustainability as a resource for rain garden maintenance and research.

This project provides the scholar with a unique opportunity to contribute to sustainable urban ecosystems, bridging hands-on field research with practical applications to enhance water quality, biodiversity, and community education.

Scope of Work

The 1000 Rain Gardens Sustainability Scholar (RGSS) will focus on developing guidelines for the support, evaluation, and maintenance of rain gardens established under the 1000 Rain Garden Program.

Key responsibilities include:

- Conduct a literature review and evaluate existing rain gardens within the Bowker Creek watershed to identify local best practices. This includes monitoring native plant survival after 3 years and applying findings to inform the design of new gardens planned for 2025.
- Collaborate with our BCCF program partner to assess the impact of rain gardens on water quality, supporting data collection and analysis. These studies provide critical evidence for promoting the value of rain gardens.
- Work with FOBC and PSS volunteers to coordinate the maintenance of established rain gardens and assist with the establishment of new gardens.
- Serve as an ambassador for the rain garden program by attending a minimum of five community events over the summer. The RGSS will support the FOBC booth to raise public awareness and promote the rain garden initiative. This position offers valuable hands-on experience working with diverse partner organizations, including FOBC, PSS, CRD, RUSH, BCCF, and SD61.

Key Deliverables

A final report including:

- A literature review of best practices for rain garden design and maintenance.
- The outcomes of interviews and evaluations of existing rain gardens.
- Draft guidelines for creating and maintaining urban rain gardens, with specific recommendations for native plant selection and ongoing maintenance requirements.

Water quality findings:

- Preliminary results from water quality testing, contributing to the value proposition for when rain garden proposals are presented. presenting proposals.

In addition to the report, there will be a summary for posting online and an outline for presentations to schools and other audiences. These deliverables will provide actionable guidance for the planning and establishment of urban rain gardens while engaging the community and supporting future program development.

Time Commitment

- **May 1 – May 15:** Outline of literature review, touring rain garden sites and meeting with partner organizations
- **May15-June 30:** Development of literature review, interviews with key contacts and partners. Engaging with school groups at the rain garden sites to support maintenance and evaluation of current plant species' success.
 - Monitoring water quality measurements at rain gardens with installation of sampling tubes.
 - Planning exercises with school groups at new rain garden sites.
 - Developing evaluation criteria for rain garden success including site visits as required.
 - Attending community events with the FOBC display booth to promote rain garden establishment.
- **July 1 – July 31:** In collaboration with partner organizations, coordinating volunteers in the preparation of new rain garden sites for fall planting.
 - Supervision of rain garden maintenance sessions as required with the engagement of community volunteers.
 - Drafting report for circulation to partner organizations for comment.

- ☐ **August 1- 15:** Completion and submission of report.

Preferred Skills & Background

Required:

- ☐ Excellent research and writing skills
- ☐ Demonstrated interest in sustainability
- ☐ Familiarity with research methodologies and survey techniques
- ☐ Statistical analysis
- ☐ Background in biology, preferably plant biology
- ☐ Deadline oriented
- ☐ Ability to work independently and as a team with the Sustainability Scholars in areas of common focus
- ☐ Comfortable interacting with strangers to conduct public/in person surveys
- ☐ Criminal Record Check required *[expenses reimbursed by partner]*

Preferred:

- ☐ Experience working with volunteers and community organizations
- ☐ Excellent public speaking and presentation skills
- ☐ Project management and organizational skills
- ☐ Experience and comfortable working outside
- ☐ GIS training or experience
- ☐ Familiarity with benchmarking methods and tools

Additional Information

Friends of Bowker Creek does not have an office so the student will be working from their home base and will need to have a means of transport to the rain gardens within the Bowker Creek watershed. Access to a phone will be needed for communication with volunteers and to record photos of the gardens for reports.

Some of the work will be conducted outside so the student should be equipped with suitable clothing for sometimes wet, cool and muddy conditions. Tools and gloves for garden maintenance will be provided.

Program Information

- **Program Dates:** May 1—August 15, 2025

- **Compensation:** \$31.80/hr for 250 hours of work (aligned with UVic Research Assistant pay rates)
- **2nd Intake Deadline:** March 7, 2025
- **Application Instructions:** Visit www.uvic.ca/sustainability-scholars
- **Cover Letter:** Customize your letter for this organization and address it to Friends of Bowker Creek
- **Questions?** Contact Laurel Currie (sustainability-scholars@uvic.ca)