

Summer 2023 Sustainability Scholars Program Internship Opportunity

The UBC Sustainability Initiative (USI) is pleased to offer current UBC graduate students the opportunity to work on funded sustainability internship projects. Successful candidates work under the mentorship of a partner organization, and are immersed in real world learning where they can apply their research skills and contribute to advancing sustainability across the region.

- Visit the [Sustainability Scholars Program website](#) to learn [how the program works](#) and to [apply](#).
- Be sure to review the application guide on the Apply page to confirm your eligibility before applying.

Applications close at midnight on Sunday January 29, 2023.

Project title: Classifying and Mapping Urban Green Interventions to support Biodiversity and Connectivity in Vancouver

Project Background & Overview:

The Vancouver Park Board is committed to preserving biodiversity and urban habitats for both people and nature. The City's adopted ecological vision and goals are reflected in the [Biodiversity Strategy](#) (2016), [VanPlay: Parks and Recreation Services Masterplan](#) (2020), [Rain City Strategy](#) (2019), [Vancouver Plan](#) (2022), [Climate Emergency Action Plan](#) (2020) and others. Each of these strategies recognize that restoring urban ecosystems and creating a variety of new habitat areas (herein referred to by the umbrella terms "greening" or "green interventions") is necessary to support human wellbeing, adapt to climate change, prevent further species extinctions, and ensure Vancouver remains a liveable city for years to come.

To achieve this, multiple parallel efforts are being advanced, including acting on existing policy goals and actions, identifying natural assets and ecosystem values, and investing in infrastructure that will adapt to a changing climate.

The City, Park Board and broader Vancouver community have many tools at our disposal to achieve these goals, including:

- Green stormwater infrastructure (such as constructed wetlands, rain gardens) to capture and filter urban rainwater runoff;
- Nature-based solutions to enhance coastal resilience to climate change impacts such as storm surge and sea level rise;
- Gardening and stewardship of street right-of-ways;
- Transitioning aesthetic water features into naturally-managed seasonal wetlands;
- Food forests and permaculture gardens that weave traditional food ways with environmental stewardship;
- Creating naturally managed areas that emulate local native habitats, like converting turf into pollinator meadows; and
- Creating a city-wide ecological network through transforming road space, parkland acquisition, and naturalization of parks and other City-owned public property.

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Currently, these various efforts are approached opportunistically, and greening is integrated into site and area plans on a case-by-case basis. However, to improve ecological connectivity on a city-wide scale, we also need to attend to how these various projects fit together spatially to achieve our larger ecological vision.

Project description

The purpose of the project will be to compile and identify existing and potential greening opportunities (listed above) in the City by classifying types of spaces available with corresponding greening interventions. It will also explore how to support the creation of a connected ecological network in the city.

The project will help to identify opportunities and priorities to create co-benefits and deliver on a variety of intersecting policy goals. It will support climate adaptation and community resilience across Vancouver while addressing the following strategic goals:

- Increase the amount and restore quality and functioning of Vancouver's ecosystems. (Biodiversity Strategy, VanPlay, Vancouver Plan)
- Increase Vancouver's resilience through sustainable water management. (Rain City Strategy)
- Adapt parks and recreation amenities to a changing climate. (VanPlay)
- Create a green network that will connect parks, waterfront, and recreation areas, and support ecological connectivity city-wide. (VanPlay, Vancouver Plan)
- Enhance Vancouver's livability and support access to nature by enhancing natural and urban ecosystems. (Biodiversity Strategy, VanPlay, Vancouver Plan, Rain City Strategy)
- Use land and aquatic-based projects to leverage natural biological systems and processes that sequester carbon. (Climate Emergency Action Plan)
- Support the health of Vancouver's ecosystems as an integral part of planning, urban design, and city building. (Vancouver Plan)

Project scope

Step 1: Understanding and classifying green interventions

As a first step, the student will synthesize and classify existing land uses and potential greening opportunities in the City. This will begin by:

- collecting and interpreting a variety of existing resources available through the Park Board and City including strategic plans, asset inventories, spatial data layers, previous student reports;
- exploratory research on common and novel greening interventions used globally (e.g. from sources such as IUCN, IPBES, Biophilic Cities, etc.)
- having informational meetings with staff
- Reviewing various asset inventories and spatial data layers

Based on this initial learning phase, the student will draft two classification systems for:

1. The various urban spaces where greening can occur (e.g., rooftops, laneways, right-of-ways, golf courses) and
2. The variety of greening interventions that could enhance biodiversity in those spaces (e.g. green roofs, pollinator meadows, rain gardens)

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Step 2: Inventory and Analysis

Next, the student will seek to understand how these classifications can work together spatially to support ecological connectivity. This will include:

- identifying where there are both literal (spatially, in our urban habitat networks) and policy gaps (i.e., What approaches and tools could we leverage better? The student will analyze existing spatial data layers available to the Park Board (e.g., street trees, naturally managed areas) and identify gaps where there are insufficient spatial data.
- Optionally, and if time permits, the student may compile new data layers to address those gaps.

The product of this phase will be a map depicting the various greening projects that currently exist in the city, using the classification systems they develop in Step 1.

Step 3: Evaluation and Recommendations

Lastly, the student will evaluate how (and where) each of these interventions may be the most impactful for Vancouver to achieve win-wins and co-benefits across multiple policy goals. For example, VanPlay presents three bold moves (equity, connectivity and asset targets) to support better decision making by helping to prioritize projects, operations, and funding across multiple subjects including recreation, arts and culture, and ecology. The Vancouver Plan plays a role integrating ecology into citywide land use policies and planning, and identifies potential ecological corridors to form an ecological network. The Biodiversity Strategy focuses on naturally managed areas and highlights biodiversity hotspots across the city, providing a foundation for protecting and restoring natural areas, species, and ecological processes, and for improving access to nature. Each of these strategic plans can leverage green interventions to achieve their varied goals.

With support from the mentor, the student's analysis in this phase might include identifying priority areas for green rainwater infrastructure, for pollinator corridors, etc. and providing guidance about which urban land uses (e.g., parks, right-of-ways, laneways) are compatible with which greening interventions (e.g., rain gardens, pollinator meadows).

Deliverables

- A final report (and/or executive summary) for the online public-facing Scholars Project Library
- A final presentation to relevant City and Park Board staff
- A final report, containing:
 - A summary of completed work and methods used
 - Two classifications for 1. Areas of opportunity / "canvases" for urban greening (e.g. right-of-ways, rooftops, parks) and 2. Types of green interventions (e.g. rain gardens, native street trees, riparian enhancements, pollinator meadows)
 - A map that conveys current green interventions in the city and accompanying analysis identifying areas of further greening opportunity
 - Key recommendations about priority approaches and areas for greening the city

Time Commitment

- This project will take 250 hours to complete
- This project must be completed between May 1 to August 15, 2023
- The Scholar is to complete hours between 9 am and 5 pm, Monday to Friday, approximately 17 to 20 hours per week.

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Required/preferred Skills and Background

- Excellent research and writing skills
- Demonstrated interest in sustainability
- Familiarity with research methodologies and survey techniques
- Strong analytical skills
- Ability to work independently
- Deadline oriented
- Project management and organizational skills
- Strong technical and drafting skills
- Demonstrated experience in graphic design and public communication
- GIS training or experience (**Required**)
- Experience with ecological modeling and mapping, or sufficient experience conducting other spatial analysis.
- Strong understanding of urban ecology and/or ecological restoration
- Strong understanding of nature-based solutions, green infrastructure, biophilic cities, and/or other greening frameworks and approaches
- Design and layout skills
- Experience using ArcGIS and Adobe Illustrator
- Interest in urban ecological network connectivity, an asset
- Previous experience with habitat classification systems, mapping systems or ranking methodologies, an asset
- Experience in environmental management, urban ecology, an asset

Applications close **midnight Sunday January 29, 2023**

Apply here: [Click here to apply](#)

Contact Karen Taylor at sustainability.scholars@ubc.ca if you have questions

Useful Resources

We are holding a special **resume preparation workshop for prospective Scholars** on January 23, 2023. [Click here for details and to register.](#)

Below are some links to useful resources to help you with your resume and cover letter (there are many more online). Some of these resources also provide information on preparing for your interview.

<https://students.ubc.ca/career/career-resources/resumes-cover-letters-curricula-vitae>

<https://www.grad.ubc.ca/current-students/graduate-pathways-success>

<https://www.grad.ubc.ca/cover-letter-cv-resume-templates-ubc-career-services>