

## Summer 2024 Sustainability Scholars Program Internship Opportunity

The UBC Sustainability Hub is pleased to offer current UBC graduate students the opportunity to work on sustainability internship projects. Successful candidates work under the guidance of a mentor from the partner organization, and are immersed in real world learning where they can apply their research skills and contribute to advancing sustainability across the region. These opportunities are paid. The pay rate for the summer 2024 program is \$27.50/hour or \$6,875 for a 250-hour project.

- 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 28, 2024.**

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### **Project title: Evaluation of current and projected agricultural water demands within the Metro Vancouver Region**

#### **Project Background & Overview:**

Metro Vancouver's Water Services (WS) Department delivers high quality drinking water through 20 member jurisdictions to over 2.8 million people. Providing this drinking water will become more challenging as we are continuing to meet the demands of a growing region and the uncertainty of climate change.

Based on the information provided by Metro Vancouver's member jurisdictions, the agricultural sector's use of Metro Vancouver's high quality drinking water is only about 1.4 per cent of the total drinking water demand in the region.

It is understood that currently, the agricultural sector relies predominantly on other sources of water such as the Pitt, Alouette and Fraser Rivers and private wells. However, the water quality from these sources is expected to decline, forcing the agricultural sector to look for new sources, such as Metro Vancouver's drinking water supply. One impact of climate change that has already been observed is the seasonal increase in salinity of the Fraser River, resulting in water that is not suitable for agriculture during certain times of the year.

The study will investigate

- the total volume of water, from all sources, used by the agricultural sector within two select jurisdictions,
- the potential impacts to water demand in this sector, by factors such as climate change and changes to land zoning,
- any anticipated Provincial and Federal regulation changes related to the agricultural sector

This work is important to Metro Vancouver to enable accurate forecasting of potential demands on the treated drinking water supply by all sectors into the future. In turn, this informs planning and policy decisions to continue to provide high quality drinking water to the region.

## **Project description**

The volume of Metro Vancouver's water that is used in the agricultural sector is fairly well-known. However, a sizable portion of the water used in this sector comes from other sources, such as the Fraser, Alouette and Pitt Rivers, or private wells, and these volumes are largely unknown. Climate change is expected to impact the quality of water from these other sources as summers become hotter and drier with an increased risk of droughts, causing impacts to local water sources and increased salinity of the Fraser River; with the changes in water quality, it is expected that the agricultural sector may look to Metro Vancouver's supply for water.

The purpose of the project is to provide Metro Vancouver with valuable information regarding the current water sources, other than the Metro Vancouver treated drinking water, used for agricultural purposes and how climate change may impact agricultural water use in the region.

## **Project scope**

This project will focus on desktop work, utilizing existing information to determine an estimate of water use within the agricultural sector for two jurisdictions. Project work will include the following:

Environmental scan to develop a foundational understanding of total agricultural water use within the region (from drinking water and non drinking water sources):

- Brief review and summary of available information relevant to the agricultural sector, including:
  - Metro Vancouver's Water Use By-Sector report
  - Available GIS maps of regional agricultural land use
  - Consultant studies that have investigated agricultural water supply
  - Demand projection assumptions from Metro Vancouver's Water Supply Outlook
- Develop a database of water licences and approvals for the two jurisdictions with the largest quantity of land zoned for agricultural water use.
- Identify predominant crop types for two jurisdictions using publically available GIS maps.
- Conduct 4 to 5 interviews to collect additional information to complement the desk research

Examine different drivers of agricultural water demand to develop a general understanding of how the demand may change in the near future:

- Impacts of climate change on sources of water used within the agricultural sector aside from the drinking water supply (i.e., groundwater and the local rivers), including an estimate of the timing of these changes.
- Review Official Community Plans (OCPs) for the two jurisdictions identified above and summarizing proposed changes in agricultural land and water sources

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- Summarise Provincial and Federal government water quality guideline changes anticipated to impact water used for agricultural purposes

## Summary of the research:

- How groundwater and river sources may be impacted by climate change,
- How agricultural land may change/be developed in the future for two jurisdictions,
- Regulations that may be imposed on the agricultural sector that would either limit the quantity of water available to them from groundwater or surface water sources or impact their use of these sources due to changes in water quality requirements.

## Deliverables

- A final report that will be available to Metro Vancouver staff and potentially to jurisdiction staff. This report may be used by the Sustainability Scholars online project library, although redactions may be required for those pieces of information not available to the public (eg. specific jurisdiction information collected through the interview process).
- Presentation to key stakeholders on the findings of the project.

## Time Commitment

- This project will take 250 hours to complete
- This project must be completed between May 1 to August 15, 2024
- The Scholars are to complete their hours between 9 am and 5 pm, Monday to Friday, approximately 15 to 20 hours per week.
- Weekly or bi-weekly (every other week) meetings (approximately 30 min in length) via Zoom to discuss project updates and work through any issues or questions that may arise.

## Required/preferred Skills and Background

- Excellent research and writing skills
- Demonstrated interest in sustainability
- Familiarity with research methodologies and survey techniques
- Statistical analysis
- Strong analytical skills
- Ability to work independently
- Deadline oriented
- Project management and organizational skills
- GIS training or experience, an asset
- Interest or background in topics such as watershed management; water conservation; water protection; hydrology; environmental impacts of climate variability and land-use alteration on groundwater (and surfacewater) resources, would be an asset

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Applications close **midnight Sunday January 28, 2024**

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

Contact Karen Taylor at [sustainability.scholars@ubc.ca](mailto:sustainability.scholars@ubc.ca) if you have questions

## Useful Resources

We are holding a special **resume preparation workshop for prospective Scholars** on January 23, 2024.  
[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>