

UBC Department of Earth, Ocean, and Atmospheric Sciences

Indigenous Strategic Plan

Preface

The Department of Earth, Ocean, and Atmospheric Sciences (EOAS) is an academic department within the Faculty of Science at the University of British Columbia (UBC). We note:

(1) UBC released an Indigenous Strategic Plan in 2020 with eight overriding goals and 43 specific actions the university will collectively take to advance its vision of UBC as a leading university globally in the implementation of Indigenous Peoples' human rights (<https://isp.ubc.ca>).

(2) UBC Faculty of Science's 2021-2026 Strategic Plan includes Engagement and Educational strategies related to Indigeneity (<https://science.ubc.ca/about/plan>).

(3) UBC Faculty of Applied Science's 2021 Strategic Plan includes the need to develop professional with a deep understanding of Indigenous perspectives and ethical training (<https://strategicplan.apsc.ubc.ca/files/2021/03/UBC-APSC-Strategic-Plan.pdf>)

(4) As part of our 2021 Self-Study and External Review, EOAS crafted a Strategic Plan (to be hosted on internal EOAS web site), which highlighted our desire to improve Indigenous student engagement.

Our goal in crafting an EOAS Indigenous Strategic Plan was to identify specific areas where EOAS can help advance UBC's and the Faculty of Science's Indigenous strategic goals. In particular, EOAS has extensive *field-based* research and educational programs, which are conducted on Indigenous lands in British Columbia and around the world and it is therefore incumbent upon us to develop approaches to Earth-science teaching, learning, and research at field sites that fully respect Indigenous Peoples, rights and title, and lands. We also have a strong outreach (community engagement) program through our Pacific Museum of the Earth that might be leveraged to help achieve our Indigenous strategic goals.

As reported at our December 2022 mini-retreat (presentation appended to the end of this report), EOAS faculty, students, and staff are engaged in a number of important Indigenous initiatives, including:

- (1) EaSEIL = Earth Science Experiential and Indigenous Learning project (funded by TLEF)
(*Laura Lukes, Shandin Pete, Brett Gilley, Bean Sherman, Silvia Mazabel*)
- (2) Three Nations – UBC project (UBC President's office initiative, Sheryl Lightfoot)
(*Lee Groat, Philippe Tortell*)
- (3) Future Minerals Working Group (UBC VPRI Research Cluster)

(Philippe Tortell, Roger Beckie, Shandin Pete, Shaun Barker, Lindsey Heagy, Erik Eberhardt, and other UBC scholars, working in partnership with leaders of the Tahltan and Kaska Nations)

Two UBC Science Innovation Fund Projects:

(4) Developing relationships and partnerships with Indigenous undergraduate and graduate students in UBC Science – *Shandin Pete (lead)*

(5) Developing a toolkit for assessing student understanding of how Indigenous issues intersect with their field of study – *Laura Lukes (Lead), Shandin Pete*

Three UBC Indigenous Strategic Initiative Fund projects:

(6) “Inaugural First Salmon Ceremony at UBC: Sustaining Inter-Cultural Relationships for Our Shared Future” - *Shandin Pete (co-lead)*

(7) “Yeendoo Diinehdoo Ji’heezrit Nits’oo Ts’o’ Nan He’aa (After Our Time, How Will the World Be)”- *Shandin Pete (co-lead)*

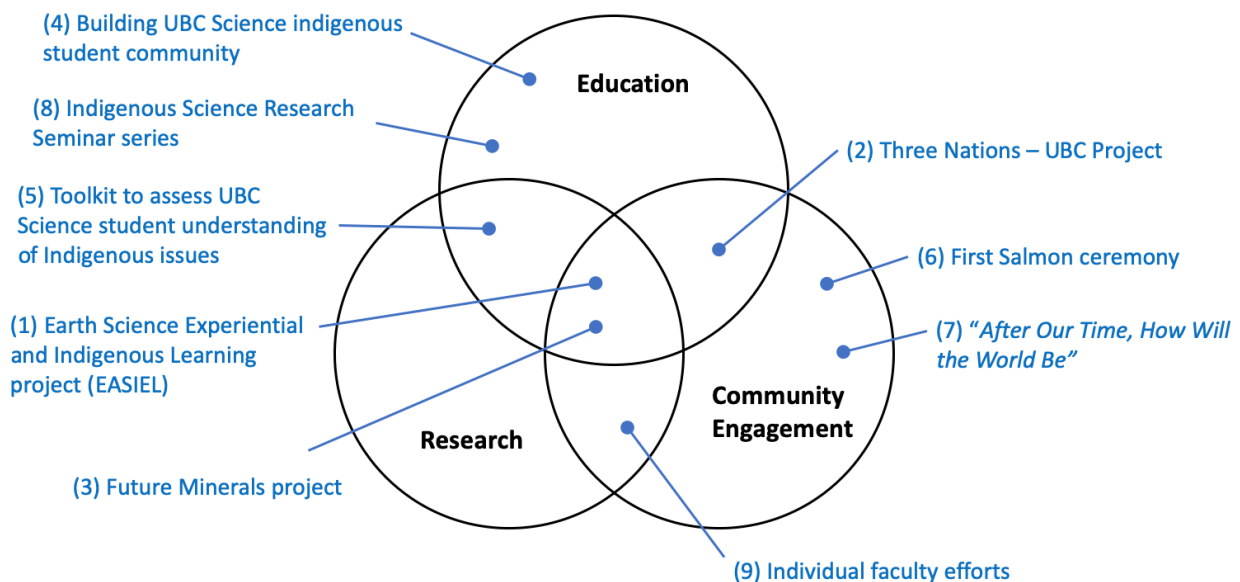
(8) “Toward the Development of an Indigenous Science Research Seminar/Course Series” - *Shandin Pete (lead)*

Finally, (9) many EOAS individuals are partnering with BC First Nations communities, aligning their expertise with community priorities. Such efforts include:

- Reform of BC’s Mineral Tenure Act (staking of mining claims on Indigenous lands)
- Independent review boards of mines – environmental expertise
- First Nations health authority
- Fisheries

The diagram below depicts how these initiatives may be viewed as rooted in our Department’s commitments to academic excellence in research, teaching, and community engagement.

Current EOAS Indigenous Initiatives – Venn Diagram



We propose below a *short, simple, high-level* EOAS Indigenous Strategic Plan that (A) supports our current and future Indigenous initiatives in education, research, and community engagement and (B) identifies areas that merit additional effort. With respect to (B), we propose that our Department develop an approach to earth science field work (both research and teaching) that respects Indigenous Peoples and lands.

Proposed EOAS Indigenous Strategic Plan

(April 14, 2023)

Five High-level Goals:

(1) EOAS will support *continuous learning* by faculty, staff, and students about Indigenous Peoples, rights and title, and lands with the goal of incorporating *Indigenous ways of knowing*, culture, histories, experiences and worldviews into our undergraduate and graduate courses, and our community outreach programs.

(2) EOAS will develop programming or course curriculum to support students in learning ethical, community-engaged and culturally responsive *professional practises*.

(3) EOAS will develop approaches to Earth-science teaching, learning, and conducting research at *field sites* that respects Indigenous Peoples, rights and title, and lands.

(4) EOAS will create an environment that supports the *recruitment and retention of Indigenous students, faculty, and staff* to increase the accessibility of our programs to all.

(5) EOAS will support *faculty and student initiatives* that are reciprocal, community-based, respect Indigenous approaches, and promote Indigenous Peoples' self-determination, rights and title.

Broadly speaking goal (1) recognizes that we need to learn more about Indigenous issues before we can credibly modify our educational programs, goals (2) and (3) focus on our educational mission, and goals (4) and (5) focus on our individual and collective learning. There is considerable synergy among the different goals. On the following two pages, we include some initial thinking on the five goals, particularly with regard to goal (3).

Notes/thoughts on the proposed goals:

Goal (1) – We need to support EOAS individuals, from novices to experts, who have variable understandings of and experiences with Indigenous issues. The SIF project “Developing a toolkit for assessing student understanding of how Indigenous issues intersect with their field of study” and the EaSEIL project both inform this. These projects can be used to further explore possible objectives.

Goal (2) Exploration geoscientists are often the first “boots on the ground”, adding to the importance of achieving this professional goal (along with goal 1). Possible ways of achieving this goal include requiring a course on Indigenous history and building relationships, to creating one or more modules for courses such as EOSC 331 (Introduction to Mineral Deposits) and the EOAS grad student orientation program.

Goal (3) – Developing geological field skills is an important part of our undergraduate educational programs and our graduate and faculty research programs. The EaSEIL project helps inform and support this goal.

At the undergraduate level, we deliver field-skills training through required field courses:

- EOSC 223 – Field Techniques
- EOSC 328 – Field School
- EOSC 428 – Field Techniques in Groundwater Hydrogeology, and
- EOSC 473 – Methods in Oceanography

EOSC 328 and EOSC 473 are delivered, in large part, at dedicated facilities. EOSC 328 is an intensive three-week course taught at the UBC-Teck Geological Field Station located in Oliver, BC, on the traditional territory of the Syilx Okanagan Nation. Building respectful relationships with the Syilx Okanagan Nation is particularly important given our desire to expand the use of UBC-Teck Geological Field Station to include other EOAS and UBC groups. We note that our Geological Engineering faculty, led by Jason Young, are in the process of developing a new dedicated GEOE field school, which may be run partly out of the UBC-Teck Geological Field Station.

One week of EOSC 473 is taught at the Bamfield Marine Sciences Centre (BMSC) on the west coast of Vancouver Island on the traditional territory of the Huu-ay-aht Nation. Work is already underway to incorporate Indigenous content into this course, and explore opportunities for partnerships with the Huu-ay-aht Nation through BMSC.

EOSC 223 and EOSC 473 are currently taught at various localities in the southwest BC mainland on the traditional territories of the Musqueam, Tseil-Waututh, and Squamish First Nations (possibly others).

As part of the EaSEIL project, an Indigenous based field school is being developed and this can be used to further inform the goal.

In addition to our dedicated field courses, several undergraduate EOSC courses have field trips to nearby localities. Some of these trips may involve sample collecting whereas others are “observe-only” trips.

Many EOAS faculty and graduate students conduct field-based research at locations throughout British Columbia, the Yukon, and around the world. These field projects range in complexity from sample collecting over a few days to detailed field mapping involving many weeks over multiple summers.

Developing a one-size-fits-all set of EOAS guidelines is unlikely to succeed given the range of our field activities and intensity. We note there are more than 200 distinct First Nations in British Columbia. Building a meaningful, reciprocal, respectful relationship with an individual Indigenous community takes considerable time which may, or may not, align well with the time scale of a proposed field activity. In informal discussions with colleagues, we have found a range of opinions of how best to go about this, with views varying depending on the intensity of the proposed field work (e.g., from non-destructive observing of geological features to intensive geological sampling with or without a potential economic benefit).

Possible implementation plans include:

- Developing an Indigenous engagement checklist as part of EOAS' Field Safety form which must be approved prior to conducting field work. Note that this approach arguably mixes two quite different topics – health/safety (including requirements mandated by WorkSafe BC) and our developing Indigenous goals.
- Developing a separate, simple form for Indigenous engagement that would be submitted together with the EOAS Field Safety form, in order to emphasize the importance of both in the field planning process.
- Developing a knowledge database regarding how and who to approach about proposed EOAS activities on Indigenous lands, what to do if there is no response, ... (Note, Aurora College handles this for the Northwest Territories). Our Pacific Museum of the Earth might be willing to help us in this regard, although it is a bit of stretch for their mission. Alternatively, we might hire someone part-time or on a limited term to help us work through this issue

Some of our thinking on this topic has been shaped by a recent paper by Ryan-David, J. and D. Scalice (2022) Co-creating ethical practices and approaches for field work. *AGU Advances*, v. 3, doi: 10.1029/2022AV000762. This paper covers geo-ethics (e.g., protecting important geological sites, sharing samples) in addition to building relationships with Indigenous communities. Among the recommendations discussed in this paper is the need to build “relationships based on trust and reciprocity with Indigenous Peoples *before* engaging in fieldwork and *beyond* the permitting process”.

Goal (4) - The SIF project “Toward the Development of an Indigenous Science Research Seminar/Course Series” can help to inform this goal. We might also consider developing a high-school engagement program to help support this goal.

Goal (5) – Shandin Pete is working with a graduate student to test a method of engagement for her PhD work that spans many different First Nations territories.