



# KOH-LEARNING IN OUR WATERSHEDS

Transforming education by connecting students, communities, and waterways



Above: Nechako river (photo by Barry Booth)

Top Left: Koh-Learning Logo (credit to SD91 students Niki MacKinley and Ronan Blattner; designed in collaboration with other SD91 students and Koh-Learning team members)

## Dear Koh-Learning Community,

In this update, we are pleased to share projects, opportunities, and events that the Koh-Learning project has been involved in throughout the Shin / Dangan / Shen / C'en / Cen\* (Summer), Dak'et / T'äk'et / Tak'et\* (Fall), and Khit / Khui / Khït\* (Winter) of 2021, as well as activities coming up in 2022.

As we travel through our seasonal rounds each year, we are also guided by the SD91 Seasonal Rounds Diagram for Education (developed by Leona Prince), which can be viewed [here](#).

\*In conjunction with the Aboriginal Education Council of SD91, we are pleased to profile Dakelh, Nedut'en and Wet'suwet'en language that is integral to the Koh-learning in our Watershed project. For example, Koh (waterways) and Khit/Khui/Khït (winter).

### WHAT'S INSIDE:

- Shin / Dangan / Shen / C'en / Cen (Summer)
- Dak'et / T'äk'et / Tak'et (Fall)
- Khit / Khui / Khït (Winter)



vancouver  
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## Shin / Danghan / Shen / C'en / Cen (Summer) 2021

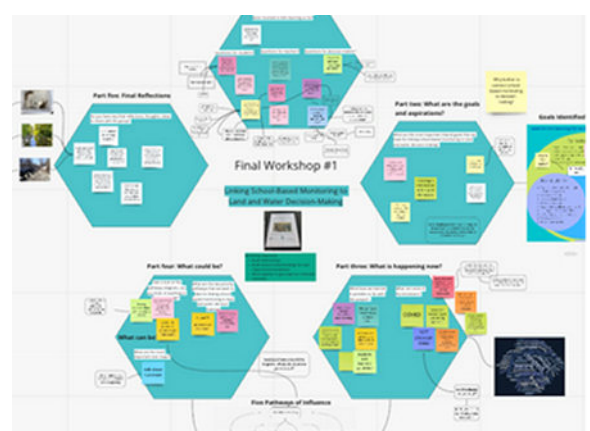
### Research Update: Linking School-Based Monitoring to Land & Water Decision-Making

Ella Parker would like to thank all the learners and teachers from NVSS who took part in Koh-learning activities that supported her Masters research project during the 2020-2021 school year. Her research was focused on understanding how school-based water monitoring can be connected to decision-making. Research took place through two rounds of water monitoring with NVSS learners (fall 2020 & spring 2021) and through interviews with learners, teachers, and decision-makers.

The final stage of the research included workshops in June 2021 to bring youth, teachers, and decision-makers together to discuss next steps. There were some great conversations held at the workshops with NVSS students asking some great questions of decision-makers and vice-versa! If you are interested in learning more, summary reports are available for both the interviews and the workshops (please email Ella). Over the course of the fall and winter, Ella has been focusing on writing up her thesis results and is excited about soon being ready to share the results back to the Koh-learning community. Please stay tuned! To learn more, email: [parkere@unbc.ca](mailto:parkere@unbc.ca).

### Portal Workshop in Fort St James

On July 16th, 2021, we gathered with youth involved in Healthy Watershed Initiative summer work (see page 5), SD91 educators and other Koh-Learning team members in Fort St James to learn how to use the [Nechako Watershed Portal](#). Workshop participants practiced using the geospatial SMASH and GeoPaparazzi apps and learned how to input data collected into the portal.



Top: Ella Parker with NVSS students doing water monitoring (photo by Trista Teichroeb)

Above: June workshop whiteboard (photo by Ella Parker)

Below: Participants trying out geospatial apps at the Portal Workshop in Fort St James (photo by Tavia McKinnon)





## Shin / Danghan / Shen / C'en / Cen (Summer) 2021

### Youth Canoe Trip

This summer, *Koh-Learning in our Watersheds* partnered with the [Rivershed Society of B.C.](#) and the [Nechako Watershed Roundtable](#) to plan and facilitate a canoe day trip on the Nechako! Twelve youth attended for a day of canoeing, participating in ecological monitoring for [NEWSS](#) by counting beaver lodges and cottonwood saplings, and engaging in discussions around the role and health of waterways and the Nechako watershed. Plans are in the works for another canoe trip in 2022 - stay tuned for more information! Youth interested in getting involved in planning or attending a canoe trip in 2022 are invited to email Jordan Cranmer at [NWR@unbc.ca](mailto:NWR@unbc.ca).



### Shen (Summer) Gathering

On August 23, we hosted our third annual Koh-Learning summer gathering to bring together teachers, principals, and other community members in preparation for the 2021-2022 school year. This year, as in 2019, we were fortunate to hold our gathering at Nadleh Whut'en First Nation by the beautiful Nautley river. Highlights of our 2021 Shen (Summer) Gathering included stories and presentations from Leona Prince and Dustin Louie, a trail camera presentation by Vanessa Uschenko of the CNC Research Forest, traditional food prepared by Nancy Louie's Catering, and stories and teachings from Nadleh Whut'en Elders Margaret Luggi and Roy Nooski. For more details and photos from this event, please visit our [Shen \(Summer\) Gathering Report](#).



*Top: Participants in the youth canoe trip paddle the Nechako (photos by Ella Parker)*

*Bottom: Vanessa Uschenko (left) shares an outdoor presentation of trail cam set-up and usage during the Shen (Summer) Gathering of 2021 (photo by Ella Parker)*

## Shin / Danghan / Shen / C'en / Cen (Summer) 2021

### Healthy Watersheds Initiative (HWI) Summer Work

This summer, SD91 students participated in field work related to ecosystem health in the Nechako watershed.

NVSS students Cale Haines , Orin Albertson and Nathan Kozak worked with Dr. Brent Murray and Barry Booth on ongoing research using environmental DNA (eDNA) to examine the use of small streams by juvenile salmon. This work, which included minnow trapping and collecting and filtering water samples, took students to creeks in the upper reaches of the Nechako, in and around Fort Fraser, and in the Vanderhoof area. This project received valuable support from NVSS staff members David Peterson and especially Casey Litton. The NVSS crew also assisted Casey Litton with ongoing work at the Redmond Wetland by planting trees, clearing selected areas, and mapping out routes for future trails.



In Fort St. James, FSJSS students Reanne Duncan and Theo Turzanski worked with crew leader and FSJSS teacher Mitchell Johnston. In association with Dr. Brent Murray's eDNA project, the FSJSS crew collected water samples and helped with minnow trapping in creeks in the Ft St James area. The crew also travelled to a whitebark pine plantation on Murray Ridge with local biologist Joanne Vinneage, assisted with the establishment of two long-term ecosystem monitoring programs (LTEMs) in conjunction with BC Parks, and volunteered at the Mugaha Marsh Bird Banding Station in Mackenzie.



This summer jobs program was part of the [Healthy Watersheds Initiative](#), a program funded by the Provincial Government and administered by the Real Estate Foundation of BC.

*Top: NVSS students Nathan and Orin weighing juvenile Chinook salmon (photo by Barry Booth)*

*Bottom: FSJSS teacher Mitchell Johnston with Fort St James Summer Students Theo and Reanne, and UNBC Koh-Learning team member Barry Booth on the Necoslie River (photo by Margot Parkes)*



## Dak'et / T'äk'et / Tak'et (Fall) 2021

### Welcome, Alexis!

We are pleased to introduce Alexis, an SD91 alumni who joined our team as a research assistant this fall:

Hello! My name is Alexis Seely and I am in my second year of studies at UNBC in the biology program. I was introduced to Koh-Learning as a high school student and am privileged to have remained connected to this group of researchers and educators through the years. I have a deep appreciation for the work done by the members of Koh-Learning and hope that I can use my love of biology to help educate those around me.

### Youth Engagement: *Narratives of the Nechako*

In partnership with the Nechako Watershed Roundtable (NWR), Koh-Learning hosted two information sessions in October for youth interested in leadership opportunities in their watershed. Attended by Waterways Mentors from NVSS and Youth Voice students from all four high schools, this event has been a catalyst for further student engagement in activities such as the NWR Annual Meeting and the ECHO & YOU(th) event (see page 6).

### Open Door Sessions

This fall, we hosted three virtual "Open Door" sessions to connect with educators and community members. These sessions were a great opportunity to connect about past events, learn about current interests and initiatives in the watershed, and brainstorm ways of continuing to support connections between students, communities, and waterways throughout SD91.



### NARRATIVES OF THE NECHAKO

Learn how You(th) can get involved in the watershed

- Find opportunities for watershed restoration/advocacy within your school district
- Explore and create youth leadership roles with the Nechako Watershed Roundtable and Koh Learning in our Watersheds



Top: Alexis at work on the Nechako River, Summer 2021. (Photo by Jordan Cranmer)

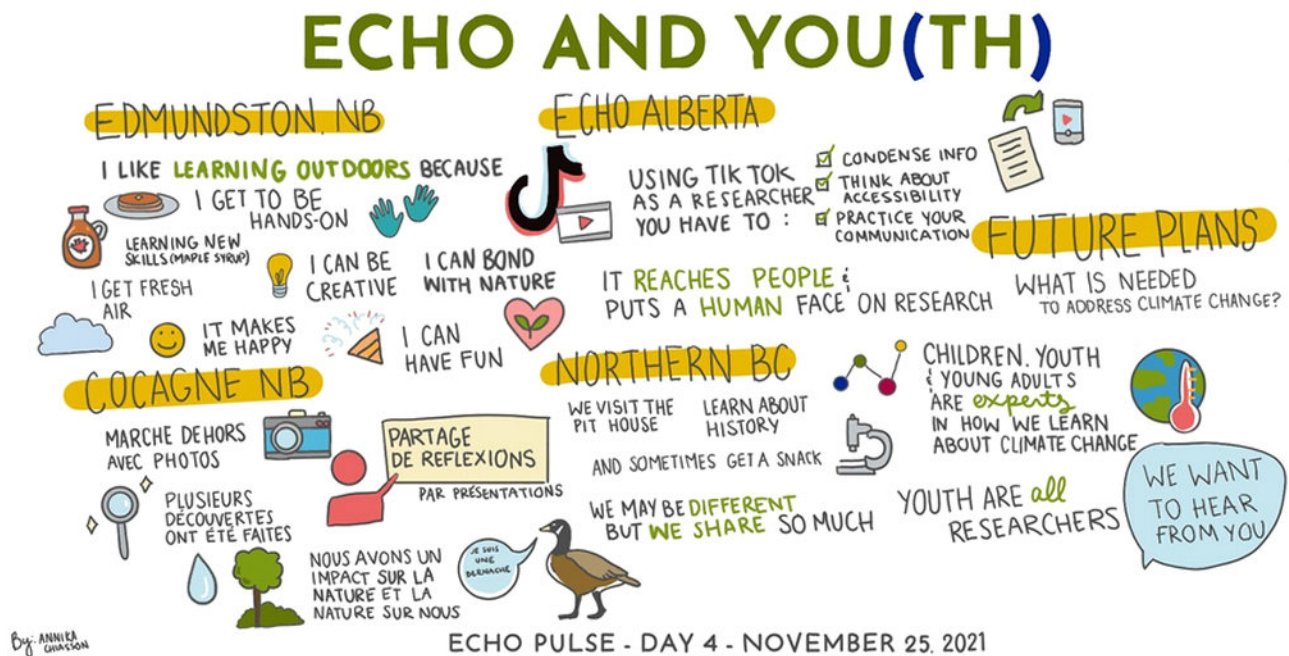
Centre: Snapshot of invitation to the "Narratives of the Nechako" event

Bottom: Snapshot of invitation to Koh-Learning "Open Door Sessions"

## Khit / Khui / Khit (Winter) 2021

### ECHO & YOU(th) Event

In November and December, students from Fort St James and Vanderhoof took part in a event with the [ECHO Network](#) that connected youth and educators involved in outdoor learning across Canada. Five students from David Hoy Elementary and two students from NVSS presented about their experiences outdoors, along with Koh-Learning team members Jordan Cranmer and Alexis Seely.



### Best Wishes to Koh-Learning Team Member Diana Kutzner!

Dr. Diana Kutzner has been co-research manager for Koh-Learning since its inception, alongside Barry Booth. Since the creation of the very first PromoScience funding application that got Koh-Learning off the ground, Diana's contributions have been invaluable (and innumerable!), not only keeping our team organized and on track, but also providing important mentorship and support to many team members over the years. Although her presence and work within Koh-Learning will be missed, we wish her all the best in her new endeavours and look forward to the potential of future connections in her role with the FNHA.



Top: Graphic Recording of the ECHO & YOU(th) event (created by Annika Chiasson)

Above: Diana Kutzner at the Koh-Learning Summer Gathering, August 2019 (photo by Manu Madhok)



## Khit / Khui / Khït (Winter) 2022

### **Koh-Learning Book Project**

In keeping with our seasonal rhythms, we are looking ahead to developing a book project in the coming months that will bring together stories, drawings, and photos from students, educators, and storytellers across the district on the theme of Healthy Waters Healthy Communities. Stay tuned for more information this winter!

*Background: Winter Scene (photo by Diana Kutzner)*



This update was put together by the Koh-Learning team at UNBC.  
Thank you so much for your interest!

To learn more about the Koh-Learning project, please check out our website:

<https://www.unbc.ca/integrated-watershed-research-group/koh-learning-our-watersheds>

If you have any further questions about the Koh-Learning project, please feel free to contact us:

[koh-learning@unbc.ca](mailto:koh-learning@unbc.ca)