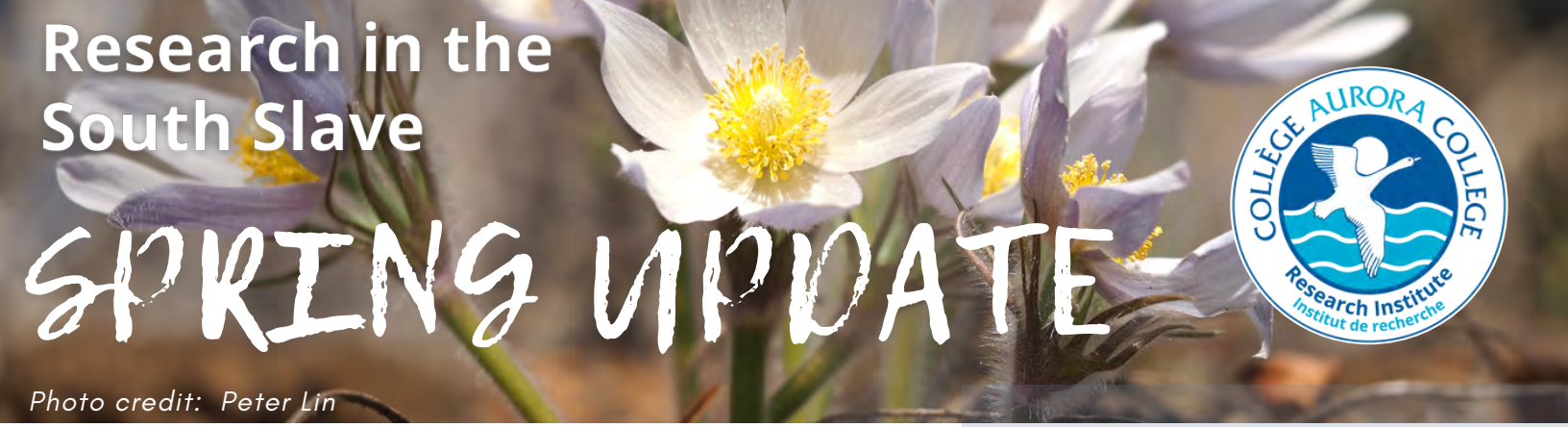


Research in the South Slave

SPRING UPDATE

Photo credit: Peter Lin

Full STEAM Ahead!

Sarah Rosolen, Manager, South Slave Research Centre

Current mood: Proud! In February, ARI's STEM (Science, Technology, Engineering and Math) Outreach team was recognized nationally for their great work! Their program is the result of an amazing collaboration with two national science outreach providers, Actua and Let's Talk Science. Working together, they offer hands-on science experiences, teacher training, and teacher support in three regions across the territory. Hilary Turko, our outreach coordinator for the South Slave, continues to grow the program here, including recently hiring Jarod Tuckey as an intern. See pages 2-3 for her update and to meet Jarod.

Also happening: On May 5, we are collaborating with an amazing group of people (too numerous to list here) to share stories and information about using wildlife cameras and audio recording units to monitor "with the land" (you will have to tune in to learn what this means, if you don't already know! page 14). The Centre for Indigenous Environmental Resources (CIER) will be in Fort Smith May 9-11 to host a second Collaborative Leadership Meeting between Indigenous and municipal leaders (page 11). May 13th is Science Rendezvous, a Science Open House at Thebacha Campus (page 4), as well as the Grand Opening of the mini Makerspace at Thebacha Campus (pages 9-10). At the end of May we are hosting our colleagues from Inuvik to deliver drone training (page 15). We are also in the planning stages of the first annual Northern Whooping Crane Festival in August (page 11).

So much more to read about in this issue, including two community profiles: NWT Metis Nation (pages 5-6) and JBT Elementary School winter camp (pages 7-8), as well as three research recaps and intros to two new research projects in the region (pages 16 - 21). Enjoy!

IN THIS ISSUE

ARI STEM Team Recognized Nationally with ACTUA Award

Hilary Turko, STEM Outreach Coordinator

The Aurora Research Institute STEM Outreach Program, was delighted to be recognized as a co-winner of the 2022 Actua Experience - Teacher Training Award! Our team was presented with this national award during their annual conference in Ottawa in February.

The ARI STEM Outreach program was recognized for our 'Train the Teacher, Loan the Gear' program, developed through the pandemic which allows for experiential STEM programming to happen in communities our team can't regularly reach or travel to. Our biggest achievement of 2022 was the invitation to present at the Northwest Territories Teachers Association (NWTTA) Conference where we delivered five interactive on hands-on science and digital literacy, reaching 125 educators from across the NWT.

With continued support from our regional schools, school boards, and community organizations, we are able to continue to offer free STEM programming to northern youth and educators.

Jr. Coders Camp

Youth in Fort Smith participated in our Jr. Coders Club over Spring Break! Jarod and Hilary ran two weeks for youth from grades 1-3 and 4-6, focusing on coding and robotics. We had so much fun and can't wait to offer this club again in the summer!

Add STEM to your event!

We love to share our STEM! Let us know what you have going on and we will try to be there in person. If we aren't able to be there, we can set you up with cool activities and equipment!

Contact Hilary:
hturko@auroracollege.nt.ca

Welcome Jarod!

ARI is excited to add Fort Smither and Aurora College grad to our Outreach Team as Outreach Coordinator Intern!

Tell us about yourself.
I am born and raised in Fort Smith. I love going to the bush, camping, hunting, and fishing. Specifically, I like boating, skidooing, and getting far into the bush where there is no one around. My hobbies lead me to take the Environment, and Natural Resources Technology Program at Aurora College. I have a diploma in Environmental Science. I am Aurora Research Institute's Outreach Coordinator-Intern.

What do you love about science?
What I've always liked about science is finding a deeper understanding of how things work in the environment, and learning how certain things can affect my community, the environment around it, and how I can protect it.

Why is it important to get northern youth excited about science?
It's important to get northern youth involved in science because we need local people who care for the Northwest Territories to stay in the Northwest Territories. Northern youth have a deeper connection with the environment, and it's important to pique their interest so we have future northerners who return home and take the jobs of the future.

What are you most looking forward to learning while interning at ARI?
I want to work with youth because when I was younger I had a couple of role models at summer camps, and I enjoyed the challenges I faced that I wouldn't have had without the summer camps. So I am looking forward to being someone who can help or inspire youth to pursue science either as a hobby or a career in the future.

What advice do you have for youth who are starting to think about future careers?
Advice I would give to youth would be look at what you enjoy for hobbies, pursue something similar for a career, and then go to school for that career. That's what I did, and I am happy with my decision. That way work doesn't feel like work. Another thing I would've done differently is take high school a little more seriously because I didn't work hard in high school, and I had to work hard in post-secondary school to catch up.

Join us!

AURORA COLLEGE
THEBACHA CAMPUS

SATURDAY, MAY 13
11 AM - 2 PM

Trades Openhouse
Tour our Trades rooms with our instructors!

Science Rendezvous
Hand-on science activities for young and young at heart!

Makerspace
Take a look at Aurora College's new Makerspace room!

Spring Art Fair
Check out and buy work from our community's best creators!

COLLÈGE AURORA COLLEGE | Research Institute Institut de recherche

Union of Northern Workers A Component of the PSAC

SCIENCE ODYSSEY

NLMCC

SCIENCE RENDEZVOUS

COMMUNITY PROFILE:

Lorne Napier, Northwest Territory Métis Nation

Mr. Lorne Napier was born and raised in the North and is an Indigenous Métis of the Northwest Territory Métis Nation (NWTMN). Last year, he was hired as the Land and Resources Manager for the NWTMN, replacing Mr. Tim Heron, who had worked in the position for the past 20 -25 years. These were big shoes to fill and Lorne says it has been, "an interesting learning curve with the wide range of activities that we [NWTMN Land and Resources Department] are involved with". I have known Lorne for more than a few years now and am really excited to see him in this new position. I asked him to share a little bit about this job and the great work that the NWTMN is doing.

What is your day-to-day?

I manage new and current land use applications and water licences, tourism applications, cabin leases and research applications through the NWTMN Interim Measures Agreement (IMA) Area with direction from NWTMN IMA Committee and Leadership. I sit on several territorial boards and committees on behalf of the NWTMN [as he spoke, I realized they would take a quarter of a page to list them all!], and I work with the Hay River Métis Government Council, Fort Resolution Métis Government, and Fort Smith Métis Council on larger projects of interest to our Nation. We are working on projects related to contaminants, climate change, water stewardship, Caribou Guardians, as well as development - Pine Point mine, Gahcho Kue mine, Diavik Diamond mine, and environmental remediation of Bell Rock (Uranium Legacy Project). So lots on the go.

What projects are you most excited about?

One of my favourite projects currently is our *NWTMN Elders and Youth: Learning from the Land and Waters*. For the last 5 years, we have been bringing Elders and youth from the three communities together to document impacts of climate change. We do a week of training and team building with everyone from the three communities, then we head out onto the Slave River between Fort Smith and Fort Resolution for a week. Elders and youth work together to document general health of the ecosystem, land, and water. We look at different indicators: benthic macroinvertebrates, riverbank erosion, impact of flooding, and vegetation changes, as well as documenting traditional knowledge with our Elders. This is a great opportunity for our youth to learn from Elders and from the land and waters. Thanks to CIRNAC (Crown Indigenous Relations and Northern Affairs Canada) Indigenous Community Based Climate Monitoring Program for funding this!

I am also excited about our new Indigenous Métis Guardian program. I am looking forward to working with the three Métis community governments, assisting them to build capacity to deal with environmental issues within their traditional territory.

Lorne Napier, Northwest Territory Métis Nation (con't)

What are your biggest challenges?
Time, capacity, and our ability to be able to respond to all the land and resource issues under our department. We are building programs and capacity. We are growing, our programs are growing – it is a good challenge to have, and with support from the NWTMN Leadership those challenges are being addressed.

What keeps you going?
I love my job, representing my Nation, being able to work for my people. It is the most rewarding career.

Learn more about NWTMN programs at their website nwtmetisnation.ca. They have a fantastic newsletter, Wings, you can subscribe to to stay up to date. Feel free to reach out to Lorne by email at lands@nwtmetis.ca.

Thanks to Lorne for sitting down with me. It was clear to see how passionate he is about his work and I'm sure we all look forward to learning more in the months and years to come.

Lorne with Elder Sonny Collins at Learning from the Land and Waters camp

COMMUNITY PROFILE: JBT ELEMENTARY SCHOOL

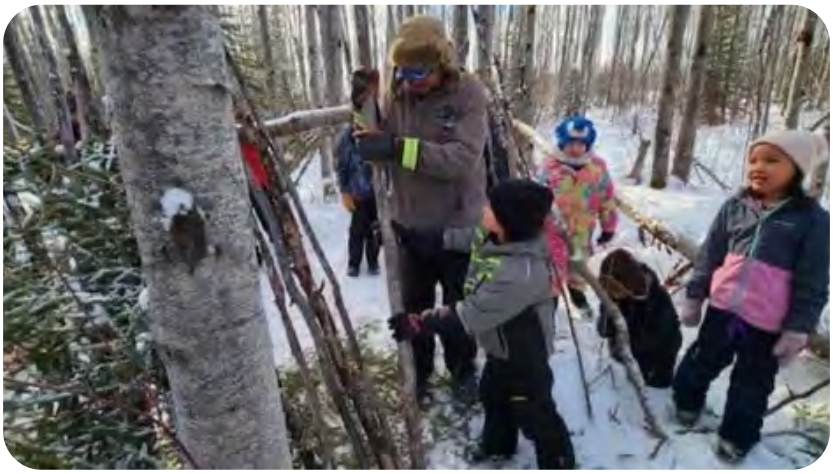
Lora Sinclair, Vice Principal

Winter Camp!

JBT students participated in a Winter Camp at Thebacha in March. This was our first winter camp since 2019 for our students, due to Covid. JBT ran a week-long camp to ensure all students and staff were able to participate. Classes and staff participated in 5 different stations.

The first station was traps and snares done by an ENR worker, Amber Powder. At this station, students were taught about the different traps used for different types of animals. Students had the opportunity to touch the furs.

At the next station, students learned how to make a lean-to shelter by Leonard Cardinal. Students placed logs together to create the shelter and learned how to place spruce boughs on the ground for warmth.



Louie Beaulieu taught the students about fish and also talked to them about making fires in the bush. The students enjoyed learning about the fish. Louie has some creative ways to make fires.

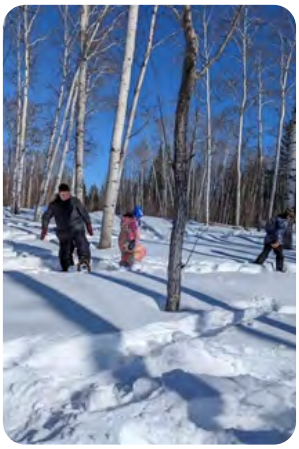
JBT Winter Camp (con't)!

Students were taught how to set up wall tents with Dillan Cardinal. He demonstrated how to put up and take down wall tents.



The last activity was being able to put on a pair of snowshoes and go on a little walk in the snow. Some groups even had some snowshoe races!





We had the best cooks and even squeezed in some time to make Bannock on a stick!


It was so nice to get our little JBT cubs back out on the land. We are looking forward to our next on the land experience.

COMMUNITY COLLABORATIONS: South Slave MakerSpace Project

Whitney Locken, South Slave MakerSpace Coordinator

Hello! Thanks to funding from CanNor and GNWT, Aurora Research Institute is supporting MakerSpace development in communities across the territory. A regional coordinator at the Thebacha Campus will support MakerSpace activities across the South Slave region.

The Northern Life Museum, Town of Fort Smith, Thebacha Business Development Services and Thebacha & Wood Buffalo Astronomical Society, and Aurora College have been working together to start up a Thebacha MakerSpace.

In February, they carried out a survey to hear what Fort Smith community members would like from a Thebacha MakerSpace. The feedback was excellent and the results are being used to provide direction on equipment purchasing and workshop offerings. Some insights are presented here.

There will be an open meeting for anyone interested in helping create a MakerSpace in Fort Smith on Thursday May 4th at 7:30 pm in the foyer of Aurora College. Everyone is encouraged to attend.

MAKERSPACES IN OTHER SOUTH SLAVE COMMUNITIES?

Are you interested in creating a MakerSpace or having MakerSpace workshops? I want to hear from you! You can reach me at wlocken@auroracollege.nt.ca or 867-872-7548.

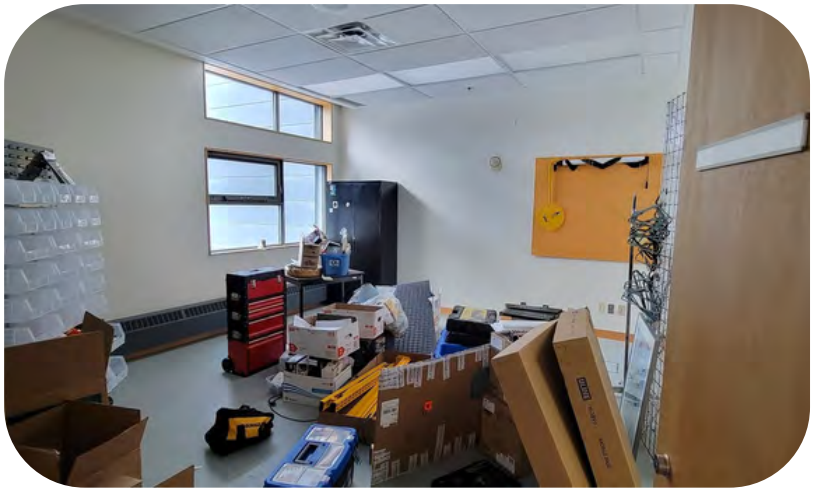
South Slave MakerSpace Project (con't)

We are also working with the Thebacha Campus Student Association to develop a mini-makerspace on campus. This will be the home of the Thebacha Makerspace until they are able to find a more appropriate space.

We were able to purchase some equipment based on the survey feedback - some hand and power tools, sewing equipment, storage, and work stations have already come in and we are expecting some pottery and stained glass items in the near future! We also got some equipment loaned to us from the Innovate in Inuvik - including a Glowforge, sublimation kit, and heat press. As well, our outreach team already had two Cricuts, and a 3D printer, which will also be housed in the mini-makerspace. The space is already filling up!

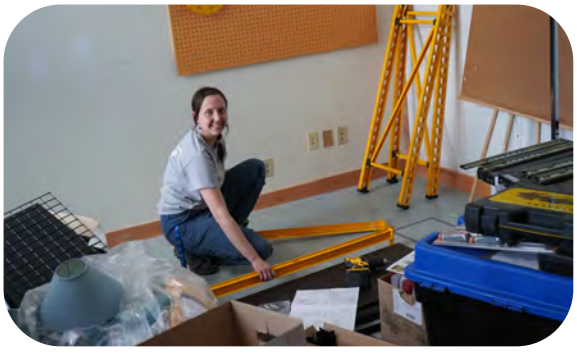
It is still a work in progress, but we are aiming for a grand opening on May 13th, as a part of Science Rendezvous. Please come by to check out the space and try some Maker activities. There will be activities for all ages!

We will have a schedule for drop-ins out shortly after the opening and are starting to plan lots of workshops.



MakerSpace transformation - arrival of new tools and equipment!

Mini MakerSpace setup progress



Setting up shop!

Feeling out of the loop?
"Like" the South Slave Research Centre Facebook page for updates and information on upcoming events!

@SouthSlaveResearch

COMMUNITY COLLABORATIONS:
Community Leadership Initiative

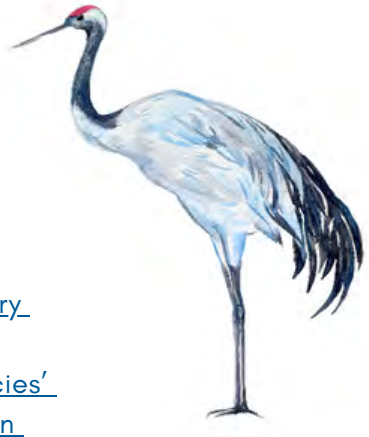
Center for Indigenous Environmental Resources

The Center for Indigenous Environmental Resources (CIER) is working with leaders in Fort Smith on the Collaborative Leadership Initiative (CLI), a national project that supports reconciliation by building trust and strengthening relationships between Indigenous and municipal leaders. CLI helps leaders collaborate on tough issues of common concern through new approaches to decision-making, governance, and planning. Initiatives are chosen by the participating leaders with the underlying intention that they will be of benefit to all.

The CLI in Fort Smith includes Smith's Landing First Nation, Salt River First Nation, Fort Smith Métis Council, and the Town of Fort Smith. The group first met in February to identify opportunities for working together. Discussion topics included such ambitious ideas as affordable housing, local economic development and good jobs, better alignment with Aurora College, the need for service agreements between the Town and Indigenous governments, protecting shared waters, building an all-season road to Fort Chip, and the high cost of power. From this meeting, a plan for electrification of the community has already been developed and presented to Northwest Territories Power Corp. The group meets again in Fort Smith from May 9-10 to advance shared priorities and develop a long-term plan for working together.

1st Northern Whooping Crane Festival

Sarah Rosolen, Manager South Slave Research Centre



The idea of a Whooping Crane Festival in Fort Smith is not new – the concept has been bantered around for years. Last summer, talk turned into action as fans of the Whooper started organizing what we hope will become the 1st annual Northern Whooping Crane Festival.

The goal of the Festival is to raise awareness and celebrate the only wild migratory population of whooping cranes. We hope to bring local experts together with researchers and conservation project leaders to share information about the species' remarkable recovery, on-going conservation efforts, as well as challenges faced in protecting it. The gathering will also be a chance to look at other Species at Risk in the region, and generally raise awareness as well as provide opportunities to experience and connect with the awesome and unique ecosystem here.

We have had organizers in Aransas, Texas, the overwintering site of the whoopers reach out to us to share ideas and lessons learned. According to Rockport-Fulton Area Chamber of Commerce, whooping cranes attract between 75,000 and 100,000 tourists each year, resulting in at least a $5 million boost to the local economy. Imagine that!

The Festival is planned for August 11-13, 2023 and work is underway. It is being organized with volunteer and in-kind support from a number of different people and organizations. If you are interested in getting involved, please let us know (srosolen@auroracollege.nt.ca).

ISSUES & INNOVATION

can hydrogen power the north?

Extracts from an exploratory workshop hosted by the GNWT

In Canada and around the world, hydrogen is seen as an exciting technology to advance towards a zero-carbon economy. The Government of the Northwest Territories (GNWT) has made a commitment to increase the use of alternative and renewable energy in the territory and it is interested in what role - if any - hydrogen might play in the NWT's energy future.

Hydrogen Energy

Hydrogen is considered a versatile energy carrier, one that is emissions-free and produces only water and heat when used. Hydrogen can be combusted in an engine or a turbine, used in a fuel cell to produce electricity, or blended with natural gas or diesel. This makes hydrogen a candidate to displace diesel, heating oil, or natural gas in sectors such as heavy-duty transportation, space heating in buildings, heavy industry, as well as power generation.

Hydrogen has been used in Canada for more than a century to produce fertilizers for agriculture, refine hydrocarbons, and make a range of chemicals and materials. Currently, Canada produces 8,200 tonnes of hydrogen per day—equivalent to 34 million litres of gasoline. However, most of this is produced from fossil fuels, specifically natural gas, therefor is not contributing to greenhouse gas reductions. If produced from renewable or low-carbon emission sources, hydrogen can be a viable replacement for fossil fuels.

The Workshop

In January 2022, the GNWT hosted an online workshop to bring energy stakeholders together to explore whether hydrogen could contribute to the NWT's energy mix and economy in the future by discussing potential end-uses, as well as challenges, and possible solutions. The goal of this workshop was not necessarily to find immediate answers, but rather to formulate and articulate questions that could move the territory forward. A workshop report is now available. This article summarizes some key points around the most promising hydrogen applications for the NWT.

Extracts from an exploratory workshop hosted by the GNWT (cont)

POTENTIAL ROLES of HYDROGEN in the NWT ENERGY SYSTEM:

What participants had to say:
Participants from the workshop identified four sectors where hydrogen could potentially make a positive impact on the territory's energy systems in the short term:

- Replace diesel in heavy-duty transportation, given the high emissions in this sector
- Remote industry (mining), which currently relies primarily on diesel generators
- Store energy from hydroelectricity facilities and generate power on demand
- Space-heating, displacing heating oil and propane.

Participants were invited to complete the sentence "What I find most exciting/interesting about hydrogen technologies is . . ."

What the expert said:
David Layzell, a professor and director of the Canadian Energy Systems Analysis Research (CESAR) initiative at the University of Calgary, was invited to provide guidance to the workshop discussions. Dr. Layzell suggested three areas in the NWT with potential to leverage local resources to produce and integrate hydrogen into their energy systems:

- The hydropower in the North Slave and South Slave regions could be used to generate zero-carbon hydrogen. The concentrated demand, with 69% of the NWT's population living here, could support some initial trials. The proximity to Alberta could support the opportunity of delivering hydrogen or ammonia to Edmonton.
- The Mackenzie Valley and Beaufort-Delta Region benefit from oil and gas resources, which could be combined with CCS technologies to produce low-carbon hydrogen.
- Hydrogen could offer a local, versatile source of energy able to displace imported refined petroleum products in remote communities (including industrial sites).

This is just a brief overview of the potential end uses - the workshop report covers the full discussion including questions and concerns. You can access the report here: https://www.inf.gov.nt.ca/en/services/energy/hydrogen-workshop-report

Building on the workshop's findings, the GNWT recently indicated its intention to commission a feasibility study to better understand hydrogen's potential in the NWT: https://www.cbc.ca/news/canada/north/hydrogen-a-serious-contender-as-the-n-w-t-considers-greener-energy-1.6795497

WILDLIFE CAMERAS & AUDIO RECORDERS

WITH THE LAND MONITORING IN THE NWT

FRIDAY MAY 5, 10:00 AM (MT)

https://us02web.zoom.us/j/85842687777

- Learn how these tools are used to monitor with the land
- Hear from Indigenous communities about their projects
- Find out about resources available
- Bring your questions & share your experiences

FEATURING:

"The eyes and ears of the people who walk and work with the cycles of the land to document, build, and protect when we can't."

"Trying to bridge the gap between traditional knowledge and western science for a better understanding of wildlife and habitat."

ABMI ALBERTA BIODIVERSITY MONITORING INSTITUTE

COLLÈGE AURORA COLLEGE Research Institute Institut de recherche

FORT SMITH METIS COUNCIL

SAMBAA K'E FIRST NATION

Government of Northwest Territories

WILD LAB

LAURIER Inspiring Lives.

UBC

Environment and Climate Change Canada | Environnement et Changement climatique Canada

WildCo

COLLÈGE AURORA COLLEGE

Aurora College Continuing Education with ARI
is pleased to offer the following course:

DRONE TRAINING

ONLY 2 SPOTS LEFT

May 29th – June 1st

9:00 AM – 4:30 PM

Monday - Thursday

Aurora College in Fort Smith

Registration fee: $950.00

A Credit Card will be needed for the $10.00 fee for writing the exam

Registration deadline: Friday, May 19, 2023

This is a basic level course designed to provide participants with the required knowledge to sit and pass the Transport Canada's Certification in Remotely Piloted Aircraft Systems Basic Operations. The course is divided into 2 modules: Knowledge areas, and Practicum (actual flying of the RPAS).

For further information and/or to register, please contact:
Cherie Stewart, Coordinator
Continuing Education, Thebacha Campus
Aurora College
Phone: (867) 872-7586
Email: cstewart@auroracollege.nt.ca

RESEARCH RECAP

Fate of Boreal Trees in the Face of Rapid Climate Changes

Raquel Alfaro Sánchez

Indigenous and Scientific Knowledge in Species Assessments AND Indigenous knowledge of berries

Claire Singer

Wilfrid Laurier WILD Lab

Frances Stewart, Claudia Haas, Eric Jolin

Pine Point Project Environmental Wildlife Baseline Studies

Andrew Williams

NEW! PERSPECTIVES PAPER –

Equal Use of Indigenous and Scientific Knowledge in Species Assessments: A Case Study from the Northwest Territories, Canada

By: Claire Singer and Michele Grabke (Species at Risk Implementation Supervisors, NWT Species at Risk Secretariat, former and current)

Members of the Northwest Territories (NWT) Species at Risk Committee (SARC) and Species at Risk Secretariat are pleased to announce that their perspectives paper, entitled Equal Use of Indigenous and Scientific Knowledge in Species Assessments: A Case Study from the Northwest Territories, Canada, has been published in the international journal, Biological Conservation.

This paper describes our path to adopting a new species at risk assessment process in the NWT. This new process reflects SARC's responsibility to base its assessments on Indigenous, community, and scientific knowledge. Around the world, accepted standards for species at risk assessments are based strongly in western science. However, there is increasing acceptance that Indigenous knowledges are systems of knowing in their own right that do not need to fit within a model of, or be verified by, western science.

SARC's process provides for two sets of assessment criteria, one based in Indigenous knowledge and the other in science, with the criteria built to suit each knowledge system. The final assessment is then supported by information from both, or either, knowledge system, depending on available information. This process also allows for the assessment of a species as at risk if changes to the species or its habitat are impacting Indigenous cultures or ways of life (for example, a species has declined so much that traditional harvesting activities are affected or no longer possible). This new process represents a unique development in species at risk assessments globally.

Our aim in making these changes was to build a structure that facilitated the equitable and meaningful consideration of both Indigenous knowledge and science in assessment decisions, and to make sure that both can be considered against their own standards and practices (i.e., moving away from 'integrating' Indigenous knowledge into a predominantly western structure).

To read about the new assessment process, visit the NWT Species at Risk website (www.nwtpseciesatrisk.ca) and download a copy of our open access perspectives paper from Biological Conservation (https://www.sciencedirect.com/science/article/pii/S0006320723000952)!

Indigenous Knowledge of Berries in the Northwest Territories

Claire Singer, PhD candidate, Saint Mary's University

In the NWT, berries have been important for many generations of people, being used for food, medicines, and household products. Berries are also important for many animals, particularly birds, small mammals, grizzly bears, and pollinators. However, we've heard about berries changing in the NWT – the number of berries being less than they used to be, the size of berries being smaller, and berries being drier and 'mealier' than they used to be.

Our group is trying to look into this. We call ourselves the 'Berry Happy Pickers'. We are Indigenous knowledge holders, university researchers, and support staff. Our names are Claire Singer, Alestine Andre, Gila Somers, Michele Grabke, Sarah Dennis, Lauren King, 'Dëneze Nakehk'o, Lila Erasmus, Margaret McDonald, Annie Buckle, Bea Lepine, Celine Proctor, Anne Thrasher, Margaret Leishman, Elaine Lamalice, Dr. Erin Cameron, and Dr. Noémie Boulanger-Lapointe. We're interested in learning about berries in the NWT – how you use berries, where they grow, if they're changing, and what you think is causing any of these changes. Berry pickers like you are the best people in the NWT to talk to about this. If your community is interested in participating in this research, please contact us at the email address below.

Members of the working group and advisory committee (aka Berry Happy Pickers). Back row, left to right: Michele Grabke, Elaine Lamalice, Madison Menacho-Melnyk, Lila Erasmus, Claire Singer, 'Dëneze Nahkehk'o. Front row, left to right: Anne Thrasher, Margaret Leishman, Margaret McDonald, Celine Proctor, Alestine Andre, Annie Buckle.

Special thanks to the Wildlife Management Advisory Council (NWT), Gwich'in Tribal Council, Gwich'in Renewable Resources Board, Sahtú Renewable Resources Board, Tłı̨chǫ Government, Wek'èezhìı Renewable Resources Board, North Slave Métis Alliance, Species at Risk Committee, Conference of Management Authorities, Social Sciences and Humanities Research Council, ArcticNet, GNWT, Wildlife Conservation Society Canada, and Saint Mary's University for their support of the project.

Contact us: Claire Singer, Project Manager : NWTBerries@outlook.com

Hello from the WILDLab!

Dr. Frances Stewart, Claudia Haas, Eric Jolin - Wilfrid Laurier University

We wanted to introduce ourselves to many of you! The Wildlife Integration for Land Use Decisions Lab (WILDLab) is a newly formed lab at Wilfrid Laurier University focusing on documenting wildlife in northern regions. Right now, our work is focusing on the Northwest Territories and northern Ontario. As a team, we ask questions to better understand how northern wildlife will respond to the rapid change they are experiencing due to climate, human land use, and changing species interactions. We integrate information through field work, statistics, and ecological forecasts to ensure there is sound science behind biodiversity management decisions made today, and tomorrow.

Lead by Assistant Professor Dr. Frances Stewart, the Canada Research Chair in Northern Wildlife Biology, the WILDLab has students currently working in the South Slave. Eric Jolin (MSc student) is hard at work coordinating efforts to identify wildlife species in the nearly 1.8 million photos (yes, you read that right) collected from 300 remote cameras that were deployed throughout the Thaidene Nëné Indigenous Protected Area, an area that encompasses 26,295 square kilometres of ecologically intact landscapes ranging from the boreal forest on the East Arm of Great Slave Lake to the tundra of the southern Arctic. Eric will be using this data to investigate how mammals within the protected area respond to their environment and to each other. Also in the lab is PhD student Claudia Haas who is supporting projects throughout the South Slave including in Thaidene Nëné and in and around Fort Smith with the Fort Smith Métis Council. Claudia is interested in combining many projects involving cameras and audio recorders to look at how activity patterns of wildlife changes from the south to the north of the territory.

These projects wouldn't be possible without the many partners that the WILDLab works with including in the South Slave Thaidene Nëné Xá Dá Yáłti, Łutsël K'é Dene First Nation, Fort Smith Métis Council, Salt River First Nation, Smith's Landing First Nation, Northwest Territory Métis Nation, Katlodeeche First Nation, Canada Wildlife Service, Parks Canada Agency, and the Government of the Northwest Territories' under the umbrella of the NWT Biodiversity Monitoring Program. The NWT Biodiversity Monitoring Program is a collaboration between many agencies to collect multi-species ecological information using cameras and audio recorders deployed for extended periods of time throughout the territory. To learn more and see how you can help visit the website.

WILDLab (con't)

You can find out more about the WILDLab on our website at http://www.stewartresearch.ca. Don't hesitate to reach out to Frances at fstewart@wlu.ca if you'd like to learn more or have any questions about our work. Representatives from the WILDLab will be in attendance and available to answer questions at the webinar "Wildlife Cameras and Audio Recorders: With the Land Monitoring in the NWT" on May 5th at 10 am (see advert on page 14). All are welcome to attend this webinar and we'd love to see you there!

For more information on the Thaidene Nëné Indigenous Protected Area and highlights from wildlife monitoring, visit the Land of our Ancestors at www.landoftheancestors.ca.

Pine Point Project Environmental Wildlife Baseline Studies

Andrew Williams, Pine Point Mining Limited

Pine Point Mining Limited is undertaking an Environmental Assessment of the proposed redevelopment of the former Cominco mine at the site. Baseline studies are an integral part the information being collected to support the EA.

A member of the K'atl'odeeche First Nation participated in the deployment of wildlife cameras and acoustic recording devices (for songbirds and frogs) for the Pine Point Mine Project in July and September 2022. Members from the K'atl'odeeche First Nation are also expected to participate in aerial surveys to find moose and whooping crane nests in 2023. Participants gained experience in completing ground-based and aerial wildlife surveys and provided information on use of the Pine Point area by wildlife and K'atl'odeeche First Nation members.

Tree-rings to unravel the fate of boreal trees to rapid climate changes

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The Forest Ecology Research group, lead by Dr. Jennifer Baltzer, examines the impacts of global change on forest ecosystems and their functions. Part of our research is focused in studying how boreal trees are responding to rapid climate changes.

Recording tree variables in a circular plot in the Sahtu lands, NWT.

During the past years we have been analyzing changes in tree growth trajectories across the middle and southern latitudes of the Northwest Territories. Preliminary results showed an unprecedented increase in growth since the 1980s. Next summer we will travel to Inuvik to collect samples at northern latitudes, in the boreal forest tree line, in the subarctic boreal-tundra transition. We will be collecting Picea Mariana (black spruce trees) samples in a set of permafrost monitoring sites established between 1984 and 2011 by Dr. Sharon Smith, from the Geological Survey of Canada, as part of a monitoring program investigating the impact of the pipeline construction and operation on permafrost and terrain conditions along a 650 km pipeline corridor in the Mackenzie River valley.

Trees capture a record of their environmental conditions and growth responses in their annual rings. By collecting tree samples from those permafrost monitoring sites, we will be able to combine long time series (>15 years) of (i) black spruce annual tree-ring growth (ii) climate data and (iii) active (seasonally thawed) layer thickness measurements that will allow us to determine how the combined effects of warming temperatures and permafrost thaw are affecting the growth of dominant boreal trees at the northern edge of the boreal forest. The proposed project will ultimately help us understand the capacity of acclimation of boreal forests to ongoing and future changes in climate.

As part of a collaborative effort between Laurier and Aurora College - Thebacha Campus, students from the Environment and Natural Resources Technology Program (ENRTP) will participate in different steps of the proposed project, by learning through experience. Engagement activities will include involvement of ENRTP students in the research, dissemination of the results of the project through meetings, presentations and on-the-land knowledge exchange, and knowledge sharing with Aurora College instructors and students, Indigenous communities, and the GNWT to promote the establishment of a local network of long-term monitoring forest plots that will allow students from the ENRTP to be part of the monitoring program.

Please contact Raquel Alfaro Sánchez (r.alfarosanchez@gmail.com) with any questions.