Research in the South Slave
SUMMER UPDATE
Summer 2025

home grown research

Sarah Rosolen, Manager, South Slave Research Centre

The South Slave Research Centre (SSRC), located at the Thebacha Campus of Aurora College in Fort Smith, was established in 1991 to support research and community engagement in the South Slave region. The research landscape has changed significantly since then. When I first started in this role some 15 years ago, I struggled to even find out who was doing research in the community. There was very little consultation or reporting back, let alone talk about data sharing. Today, researchers are reaching out and seem to truly value the benefits of partnering with communities to develop meaningful projects. It feels like we are heading in the right direction!

The SSRC is a small but passionate team who believes we can increase the NWT's collective capacity through collaborative research. We are working with both local Indigenous governments to create opportunities that will support their priorities, as well as fellow researchers from southern Canada who share our commitment to making a difference. The **Boreal Berry Patch Collective** (page 2) and our exciting new collaboration with the **Future Harvest Partnership** are two great examples of this approach in action (continued on page 3).

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boreal berry patch collective

SUMMER 2025

Sarah Rosolen, Manager, South Slave Research Centre

The Boreal Berry Patch Collective, funded through the Indigenous Services Canada Climate Change Health Adaptation Program, began two years ago to spark conversations around the importance of food security and food sovereignty in a changing climate. It came about from community conversations in Fort Smith, where people were worried about how food from the land was changing: berries were becoming scarce, forest habitat was being impacted by fire, and low water levels were affecting fish. Other food security issues raised included the high cost and low quality of produce, as well as our fragile dependence on one road.

In the months leading up to the fires of 2023, we met with Fort Smith Metis Council, Tthebatthie Denesuline Nation (formerly Smiths Landing First Nation), Salt River First Nation, JBT elementary school, PWK high school, the Town of Fort Smith, Fort Smith Region Health and Social Services, Fort Smith Correctional Complex, and Aurora College Student Services to talk about how we could work together to improve food security. Many ideas for projects were discussed - some big (orchards, food forests, greenhouses, bison ranching) and some small - and we set about working on the partnerships and plans needed to bring these projects to reality.

In the summer of 2024, 16 groups planted 242 berry and fruit trees at 21 sites in Thebacha. The berries are thriving and are also helping us to keepthe conversation going. Public outreach is also an important part of the project - last year we carried out 27 workshops to build interest and capacity around growing, harvesting, and processing; hosted events such as the Local Foods Open House and Harvest Festival; and started the Thebacha Growers and Native Plant Harvesters Facebook page to help develop a local network of growers and harvesters.

More events and workshops are planned for this year to keep the momentum going. We are continuing to work with our local partners to understand their food security goals and needs and starting to plan for those bigger projects. The **Future Harvest Partnership** (pages 3 and 13) will be returning to Smith in the fall to lead visioning sessions with the Thebacha Leadership Council and has already been helping with some proposal development. We are also connecting with other communities in the NWT and across the country who are grappling with similar issues around food security to find opportunities to work together on solutions.

collaboration is key (continued from P1)

Research can help us to discover solutions for the challenges of our rapidly changing world. It can reveal new ways of doing and help strengthen opportunities to apply and celebrate Indigenous knowledge. It can fuel innovation and drive regenerative economic development – development that strengthens culture and community – through authentic relationships, job creation, youth engagement, business development, and environmental protection. Interest in doing research in the north is high and expected to continue to grow. As northerners, we have a unique opportunity to leverage this interest to ensure maximum benefit for our communities.

The **Boreal Berry Patch** project (page 2) has been a success due to its priority on collaboration. We agree that we are better together. We continue to invest time in developing the network, including partners outside of the community who can help us build larger-scale food projects. As we move forward, we are very excited to be working with the **Future Harvest Partnership** (FHP) to develop initiatives that are meaningful to communities in the South Slave and across the territory.

The FHP is a multi-year collaboration between Wilfrid Laurier University, the Territorial Agrifood Association and the Government of the NWT Department of Industry, Tourism, and Investment funded through Social Sciences and Humanities Research Council (SSHRC) to carry out research that will help build climate-resilient local food systems in the NWT.

The partnership is supporting our program with decades of combined experience in research and program development as well as grad students and post docs who are eager to get their hands dirty up north! They are actively involved in planning a number of events for the fall – stay tuned for updates!

We hosted a meeting with the Thebacha Leadership Council and the Future Harvest Partnership research team in May to discuss opportunities for research around building the NWT food system.

a space to grow

Greenhouses can be used to extend the growing season in the north and open up opportunities to grow more food locally, but they can be energy-intensive and expensive to operate. With advances in alternative energy and energy efficiency technologies, we believe an 'energy positive' greenhouse is possible. We are working with **Stand Alone Energy** in Fort Smith on design considerations for a greenhouse that is both appropriate and feasible for remote communities and can help the NWT move towards energy-efficient local food production. If you have ideas or models you think we should be considering - please reach out to us: srosolen@auroracollege.ca

Trent, Lisa, and Sarah (SSRC) with Leah Mercredi (Northwest Territories Metis Nation/Fort Smith Metis Council) at Northern Alberta Institute of Technology (NAIT)'s greenhouse facility at their Centre for Boreal Research in Peace RIver, AB (with Ryan O'Neill, NAIT).

uncle gabe's high school internship program

We are thrilled to have Tony Roberts, Storm Cabell, and Vaughn Fraser working with us this summer through a work experience program with **Uncle Gabe's Friendship Centre**!

These amazing teens are getting a 'taste' of all that we do - helping out with our food projects, getting youth engaged with our STEM (Science Technology Engineering and Math) outreach, assisting with the **Whooping Crane Festival** (see page 16), helping with campus facilities, and will get some experience with Trades and environmental monitoring as well!

Storm and Tony testing out recipes using local products (rhubarb) for fruit rolls ups for the Healthy Futures program

Vaughn helping out at the community garden

boreal revegetation training

Sarah Rosolen, Manager, South Slave Research Centre

Revegetation is the process of trying to restore plant life in an area that has been disturbed. There are hundreds of sites across the territory that have been damaged by industrial development or severe fires that could benefit from revegetation. We have recently licensed curriculum from Northern Alberta Institute of Technology (NAIT) that will allow us provide training for communities on how to revegetate with native plants. The program includes collecting and preparing seeds, growing the seedlings, planting, and monitoring success.

We recently piloted the program in Behchoko, where the **Tlicho Government** is working on a significant project to reforest a huge area that was damaged by fire. We will be adapting the program for the NWT this fall and winter, and hope to have our program running next summer. If you are potentially interested in the training or have any questions, please reach out: srosolen@auroracollege.ca

Peter Lin, Instructor ENRTP, Karine Gignac (Net Composting Solutions), and Sarah Rosolen, Manager SSRC with NAIT in Behchoko piloting a new microcredential on revegetation.

Lisa Smith (she/her)
New Local Foods Program Coordinator

My name is Lisa Smith, and I recently joined the South Slave Research team as the Local Food Outreach Coordinator. In this role, I provide logistical support for collaborative community food projects. I'm a proud mother of five and grandmother of one, and I love spending time outdoors—whether it's hiking, walking my dog, or just soaking up nature. While I'm still new to gardening, I'm an enthusiastic learner and excited to grow alongside my team & community.

fort smith COMMUNITY GARDEN SUMMER 2025

Trent Stokes, Agriculture Technician (in-training)

I am back for my second year working for the South Slave Research Centre to manage the Fort Smith Community Garden. This year we have expanded gardening opportunities for the community by splitting up some of the plots into half-plots, and adding 10 raised garden beds. We have 27 gardeners this year, up from 22 last year. The garden welcomes everyone - we have veteran community gardeners, people who are new to gardening, and those who are new to our climate. Gardeners are giving back to the community this year by donating part of their crop to the Food Bank, helping out with our Food Bank plot, or hosting a workshop.

As the resident gardener and caretaker, I am on-site and available to help weekday mornings and every second Saturday morning. Even if you aren't active in the community garden this year, feel free to drop in and say hi or lend a hand with the Food Bank Plot. Keep an eye out for other opportunities to get involved on the Thebacha Growers Facebook page!

ThebachaGrowersandWildPlantHarvesters

A local network for beginners and experts who enjoy growing food and harvesting local plants to connect with each other. It is a place to ask questions, exchange ideas, share successes and challenges and above all, support and encourage each others' participation in sustainable growing and harvesting practices.

STEM outreach update

SUMMER 2025

Hilary Turko, SSRC STEM Outreach Coordinator

PWK students take snow surveys at Piers Lake during their annual Winter Camp, March 2025.

STEM (Science Technology Engineering and Math) Outreach in the South Slave continues to thrive with engaging, hands-on programming across our communities. In Hay River, students have been exploring robotics through in-class and STEM club workshops that introduce them to programming and deepen problem solving skills through our gear loan program. Schools and community groups can borrow our STEM gear for FREE! Contact Hilary for more information: hturko@auroracollege.ca.

JBT French Immersion students in Fort Smith took their geometry learning to the next level by experimenting with 3-D designing and 3-D printing their own houses. We also attended PWK High School's annual Winter Camp at Piers Lake in March. Students discussed climate science and learned about field data collection by conducting snow surveys, sharing their citizen science data with GNWT - Environment and Climate Change.

Every Friday afternoon that JBT students are off school, we run STEM programming in the STEMspace room at Thebacha campus. This free program for youth aged 8 and up includes activities like coding, chess, Lego, and engineering projects. These weekly TinkerLabs help build foundational skills in a playful environment. Over spring break, several youth got creative with technology and art by designing and assembling their own pixel art wall hanging. They were displayed during Science Rendezvous!

SSRC STEM also supports the Trades Awareness Program every year to give youth from across the NWT an opportunity to explore STEM career paths through fun, real-world applications. This year, youth built fire detection robots and then coded them to identify and move around fires,

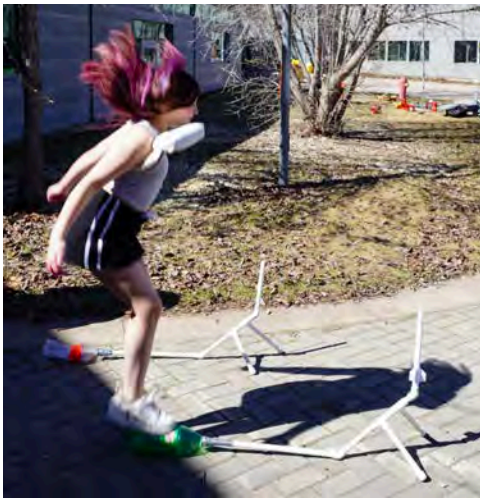
The STEM Outreach Team is also proud to share that we have been awarded the 2024 Natural Sciences and Engineering Research Council of Canada (NSERC) Award for Science Promotion in the Group Category. The $25,000 award will be used to further promote STEM across the NWT, through more trips to more communities and adding new STEM gear to our collection! We are super grateful for the opportunities to work with and learn from NWT youth and re excited about all the STEM events and workshops planned for the summer!

Youth participate in fun, hands-on STEM activities at TinkerLab, held most Friday afternoons during the school year.

SCIENCE RENDEZVOUS recap

Anaïs Aubrey-Smith, STEM Summer Student

Science Rendezvous was back in Fort Smith for the third year! Over 160 community members and 35 volunteers participated in the event, hosted at Aurora College's Thebacha campus on Saturday May 10. Both indoor and outdoor spaces were filled with interactive science activities, experiments, and demonstrations. Event highlights included drones with the Thebacha FPV League, agriculture activities with ARI and the Future Harvest Partnership, and virtual reality experiences with Blyth & Bathe Inc.



Participants also enjoyed operating the excavator brought by TDC, using the Lego track with NSixty, solving puzzles in the escape room hosted by ARI, interacting with the Fort Smith Emergency Response crews, and so much more!

Thank you to everyone who came out to enjoy Science Rendezvous and to all the incredible volunteers who made the event possible. We look forward to seeing you all again next year for another day of science, discovery and fun!

summer STUDENTS

Jane Mariotti (she/her)**, Research Assistant**

Hello! I'm Jane, you might recognize me from last summer when I was collecting soil samples with my field technician, Nava. I am a master's student with the University of Guelph (Ontario), and my project looks at soil fertility and wildfire in southern NWT. My previous work focused on Manomin, a culturally important food plant within Treaty #3 territory in northern Ontario. This summer, I will be working part-time with the South Slave Research Centre as a research coordinator to help support ongoing programs and develop new research projects.

Amelie Aubrey-Smith (she/her)**, Research Assistant**

Hello everyone! I'm Amelie and this will be my third summer at Aurora College! This year I will be working on community research and outreach projects, including strawberry research trials and community garden engagement, among many others. I'm currently completing my Bachelor of Science degree in the biology program at Trent University. This summer I am planning on reading through this year's Canada Reads finalists, so if you have any strong opinions or additional longlist reads to suggest, feel free to reach out and share.

Anaïs Aubrey-Smith (she/her)**, Research Assistant**

Hi everyone! I'm a chemical engineering student at McGill University and this is my second year working as a summer student for the SSRC. This summer I am working in STEM outreach with the aim to make STEM accessible, engaging, and most importantly fun for everyone. I love working with others to build skills and creativity, as well as having the opportunity to inspire confidence and promote awareness in STEM in a rapidly changing world. I look forward to seeing you all around the college, community, and at STEM activities and events this summer!

Ben Mitchell (he/him)**, Research Assistant**

Hi, I'm Ben! I'm from Fort Smith and I'm studying architecture at McGill University. This is my first year working at the research centre. I'm exploring greenhouse design for northern climates to examine how more food can be grown locally at reasonable costs, perhaps even year-round. I'm also helping develop climate adaptation training resources tailored to the North. I'm excited to contribute to the effort to help the North become more prepared to act in the face of our changing climate, support local growing and harvesting, and foster a community around local agriculture!

Evan Cottrell, (he/him) Research Assistant

Hello everyone! My name is Evan, and I have just graduated from the Environment and Natural Resource Technology Program (ENRTP) this Spring at Aurora College. This summer I am working for ENRTP as a research assistant and technician, helping with wildlife and water research in the South Slave region. In between field work for ENRTP I am working for SSRC, making agriculture maps around Thebacha campus and helping out in the community garden.

Student Testimonial

"I am immensely grateful to have had the opportunity to sit on the REC as the student representative at Aurora College. My time on the committee was filled with spirited discussions and thoughtful reflection on proposed research projects in the NWT. I would encourage any student with passion for their community and an interest in research to apply to join the REC.

Not only will you have the opportunity to learn how committees function, you will also receive valuable training in the areas of ethically conducting human research in the NWT and Indigenous data sovereignty, both of which will be extremely valuable as you move forward in the world after college. The commitment is modest and manageable for most course loads, you are compensated for your time and effort, and it is immensely rewarding to be a part of ensuring research involving your fellow citizens is done ethically, responsibly, and with respect to the diverse cultures of the NWT."

– Matthew Johnson, Student REC Member 2024- 2025

Have questions about permissions and processes for research conducted in the NWT?

CONNECT with our research ethics office

Aurora College's Research Ethics Office is located at the South Slave Research Centre (room 139, Aurora College, Thebacha Campus). If you have questions about permissions and processes needed to conduct research involving people in the NWT, reach out to us:

Website: About Research Ethics | Aurora Research Institute (nwtresearch.com

Email: ChairREC@auroracollege.nt.ca Phone: (867) 872-7084

(Just the QR code if needed)

we want to hear from you!

Please take this quick on-line SURVEY to give us feedback on the newsletter and how you want to hear about research happening in the South Slave. The survey is anonymous, but if you choose to leave your name, you will be entered into a draw for a copy of Boreal Herbal by Beverley Gray. If you are in Smith or able to pick up here, we will add in some yummy local food products!

Alternatively you can copy and paste this link:
https://forms.office.com/r/KRk9hccJgE

Monitoring wildlife response to landscape change in the South Slave

Brad Woodworth, Ashley McLaren and Liam Cowan, Government of the Northwest Territories, Environment and Climate Change; Samuel Haché, Environment and Climate Change Canada, Canadian Wildlife Service

Landscapes in the Northwest Territories are rapidly changing, nowhere more so than in the South Slave where recent severe floods, drought, and wildfires along with ongoing climate change have brought about major changes to the land. Given the importance of healthy wildlife communities to ecosystem functioning and traditional ways of living, it is important to monitor how wildlife respond to these changes.

In March 2025, guardians and land users from Fort Smith Métis Council, Kátł'odeeche First Nation, and West Point First Nation ventured out on snowmobiles to deploy sensors (wildlife cameras, acoustic recorders, and temperature loggers) at 55 locations across the South Slave, adding to the 65 locations where sensors were deployed north and east of Fort Smith in 2022/23. Sensors will be left out on the land to listen and watch for wildlife for one year before being collected or repositioned.

Canada lynx captured by a camera near Tsu Lake in March2024

If you are out on the land, you might spot one of our signs!

By analyzing the number of detections of each species in relation to landscape features and changes, we can better understand how wildlife communities are responding to changes to their habitats and forecast how they may respond to future changes.

This project is a collaboration between the organizations listed above along with Smith's Landing First Nation, Aurora College, Canadian Wildlife Service – Environent and Climate Change Canada, and GNWT Environment and Climate Change and is part of a broader NWT Biodiversity Monitoring Program. The project is funded in part by the NWT Cumulative Impacts Monitoring Program. For more information, please reach out to brad_woodworth@gov.nt.ca or ashley_mclaren@gov.nt.ca.

FARMER-led research

Territorial Agrifood Association

Territorial Agrifood Grow Conference panel discussion, Photo Credit: TAA

As part of the Future Harvest Partnership with Wilfred Laurier University, we are introducing a Farmer-Led Research (FLR) program. This initiative aims to help growers in the Northwest Territories test new farming methods and solve local challenges. Instead of scientists leading the research, growers take the central lead designing and running their own trials. Whether it's testing cold-hardy crops, improving soil health, or finding better ways to extend the short growing season, growers can decide which research they are most interested in pursuing.

With climate change bringing warmer temperatures and unpredictable weather, NWT farmers and growers need solutions that work here in the NWT. The FLR Program provides support so that participants can experiment and share their findings.

The process starts with growers proposing a research question such as: "Does straw mulch keep garlic warmer than plastic?" The Farmer-Led Research Coordinator, who is based at the Territorial Agrifood Association (TAA) in Yellowknife, will be there to support and help the grower to design the field trial with proper controls and data collection methods. Growers can then track results from their fields all season long and share what they learn with the agricultural community through technical reports, webinars, and at the GROW NWT Conference. More widespread research and result-sharing helps build resilient, productive farms adapted to northern conditions.

The FLR Program is about empowering growers to lead the way in developing locally-tested solutions. With funding, training, and support, participants don't just answer their own questions - they contribute to a growing knowledge base that strengthens agriculture across the territory. Together, we're building resilient food systems for the North, one trial at a time.

If you have a question you would like answered through your own trial, reach out to the TAA Farmer-Led Research Coordinator: research@nwtagrifood.ca to discuss further.

Characterizing SOIL fertility within Denendeh, NWT

Jane Mariotti & Dr. Catherine Dieleman, University of Guelph

Hello! My name is Jane and I am a master's student at the University of Guelph, Ontario. My research project hopes to provide local growers with information on where the best soils are located by associating landscape features (ex: specific trees, plants, drainage conditions, etc.) with high nutrient soils. The project also looks at soils burnt during the 2023 wildfire season to learn about how fire affects soils and their capacity to grow crops.

In the fall, all 97 soil cores collected during the summer of 2024 were shipped down to Guelph, Ontario. Over the winter, I chopped and dried the cores with the help of a lab technician. Currently those samples are being ground into a powder for 'Carbon to Nitrogen Ratio' analyses, which gives us a sense of nutrient availability in the soil for plants. Samples were also sent to A&L Laboratories in London Ontario, for testing that includes phosphorus, nitrate, ammonium, potassium, magnesium, calcium, sodium, aluminum levels, soil pH, and cation exchange capacity.

As I wait to hear back from A&L Laboratories, I am preparing for the summer 2025 field season. This summer, I plan to sample another 30 sites within coniferous, deciduous, and mixed forests (ten each). These sites will be located in burnt areas and mature forest stands (five each). Apart from fieldwork, I will be meeting with project partners to share updates and discuss future soil sampling locations.

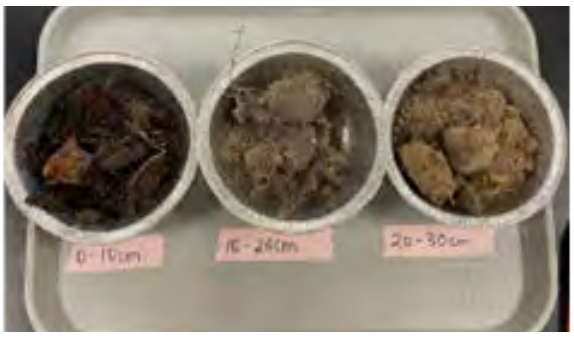


Photo Credits: Jane Mariotti

Starlink in the NWT

SUMMER 2025

Too much of a good thing? Investigating the social impacts of one year of Starlink in rural NWT communities

Michaela David & Dr. Rob McMahon, University of Alberta

For years, Northwestel's costly and limited Internet plans were the only available options for residents of satellite-served communities in rural NWT. This recently changed with the growing availability of Starlink, which offers rural communities access to fast, unlimited, and reliable Internet at a lower cost. But while Starlink's ability to bridge the digital divide seems beneficial, how does its rapid adoption impact users in these communities?

The University of Alberta (U of A), in partnership with the Native Women's Association of the NWT (NWANWT) and Computers for Schools NWT, is engaging in a multi-year participatory action research project to collect primary data on the outcomes of rapid Starlink adoption in two small communities: Aklavik and Lutselk'e.

Working with local researchers to conduct household surveys, the community-engaged research was conducted alongside an NWANWT-led initiative that provided Starlink equipment and covered monthly service fees for participating low-income households since 2023. Participants also receive refurbished laptops from Smart Communities Society NWT/Computer for Schools.

In summer/fall 2023, U of A's first round of data collection in the two communities provided baseline information for future annual surveys. The team returned to Lutselk'e in December 2024 to conduct follow-up surveys, which indicated that Starlink has mostly addressed first-level digital divide issues, such as access, affordability, speed and reliability.

We also saw that people were mostly using the Internet for streaming movies and TV shows, social media, and buying and selling goods. While more people now have higher quality access to the Internet, our second visit also revealed that people are growing increasingly concerned with the online harms that come alongside increased Internet usage, such as reduced time spent outdoors, cyberbullying, and online scams. However, the Internet is still seen as a tool to support language learning and as a tool to share critical information within the community, as well as to access online banking and public services.

These findings highlight the need for community-specific digital inclusion initiatives that are co-designed with the well-being of residents in mind. Such projects must be driven by the desires of community members and led by local residents. Potential ideas include workshops to help mitigate online harms, which may be provided through services such as online counselling and/or workshops led by Northerners. We are excited to continue working alongside participating NWT communities and organizations to evaluate the impacts of Starlink adoption and use in the coming years.

On-going snake research

Johanna Stewart, Researcher, Thompson Rivers University

Johanna Stewart was born and raised in Yellowknife, has several years of experience working for Environment and Climate Change, and is now a researcher based at Thompson Rivers University. Her research is focused on the red-sided garter snake, which was recently assessed as a species of special concern in the Northwest Territories.

Johanna is trying to understand the impacts that the 2023 wildfire season may have had on the red-sided garter snake population in the Fort Smith area. She will be based in Fort Smith May-September and will be spending the summer weighing, measuring and marking snakes to estimate the number and condition of snakes in the population.

She will also be assessing frog amphibian populations, which are the snakes' main prey source. If you're interested in getting involved, have information about snakes in the South Slave region or would like to learn more about Johanna's research, send an email to fortsmithsnakes@gmail.com

Johanna Stewart holding a garter snake near Fort Smith, NT, 2024

Boreal Berry JAMboree

MAKE THE MOST OF THE BERRY SEASON!

Join us for the **Boreal Berry JAMboree** in celebration of local berries around the community!

KEEP YOUR EYE OUT OVER THE NEXT TWO MONTHS FOR WORKSHOPS AND ACTIVITIES TO HELP YOU MAKE THE MOST OF THE BERRY SEASON FROM BERRY PICKING TO JAM MAKING, PIE MAKING, BERRY APRON MAKING, AND MORE!

Stay tuned for the upcoming events schedule with more information on each activity and workshop

BOREAL BERRY PATCH COLLECTIVE
HOME GROWN RESEARCH