

Tłıcho Student Research Assistant Program

Final Report - September 2013

PROJECT TITLE:
Tłıcho Student Research Assistant Program
NAME OF SPONSORING ORGANIZATION:
Environment & Natural Resources, Government of the Northwest Territories Wek'èezhìi Renewable Resources Board
PROJECT DESCRIPTION:
Tłıcho high school students from the North Slave Region were hired as research assistants to work alongside university researchers at the Tundra Ecosystem Research Station at Daring Lake, Northwest Territories. Students assisted researchers with fieldwork and in the laboratory at the research station. The Tundra Ecosystem Research Station is located 300 km north of Yellowknife. The Research Station facilitates long-term research and monitoring of the tundra ecosystem and supports conservation education programs and training opportunities for northern students. This was the first year of a project that will take place over a five-year period. Student Recruitment: Two Tłıcho high school students will be hired each year for a total of 10 students participating in the program over a 5-year period. Each student will be hired for one month; one in July and one in August. Participants should have a minimum of Science 10. Recruitment targets students who have previously attended the Tundra Science and Culture Camp at Daring Lake and are familiar with the Research Station and its operations. The Student Research Assistant Program opportunity is advertised and applicants are required to submit a resume. Students are selected through a screening and interview process. a) Objectives: • To provide education and training experiences for Tłıcho students • To provide valuable work experience for students • To introduce students to careers in science, particularly those related to the environment • To create awareness and interest in scientific research and fieldwork that may encourage future participation in initiatives such as community-based monitoring programs • To support efforts to engage Tłıcho citizens in the stewardship of land, wildlife and resources on Tłıcho lands and in co-management in Wek'èezhìi • To provide a mutually beneficial opportunity for students and researchers. Researchers will benefit from additional field and laboratory assistance, and students will benefit from the mentoring they receive b) Deliverables:

- Annual Final Report to summarize program activities
- Digital photographs of students engaged in program activities
- Signed photo release forms for each student
- Copy of poster advertising the program and employment opportunity. Posters were sent to Tłıcho community schools. They were also posted on the Wek'èezhì Renewable Resources Board Facebook page and website, as well as on the Tłıcho Government's Facebook page and website.
- Copy of Wek'èezhì Renewable Resources Board (WRRB) E-newsletter story publicizing the project. The story was distributed in the Summer 2013 issue and is posted on the WRRB website.

PROJECT PARTICIPANTS SUMMER 2013

For Year 1 of this project, Izaak Wedzin and Brandon Zoe were hired as Research Assistants for the months of July and August respectively. Izaak Wedzin was hired for a 28 day term, from July 9-August 5, 2013. Brandon Zoe was hired for a 28 day term, from July 27-August 31, 2013.

The Student Research Assistant employment opportunity was promoted on website and social media, as well as by poster distributed to schools. Applications were screened and interviews were held by telephone or in person.

Job duties and supervision were overseen by Environment & Natural Resources, Government of the Northwest Territories (GNWT).

WORK ACTIVITIES

Izaak and Brandon worked with university researchers engaged in climate change studies at Daring Lake, and assisted them with field work and in the lab at the Research Station. They assisted Clare Elliot, M.Sc. Candidate, Carleton University; LeGe, PhD candidate, Trent University; Sean Arruda, Honours Thesis, Trent University; and Mary-Claire Buell, M.Sc. Candidate, Trent University. Daring Lake is one location in a global network of research sites that scientists are monitoring to better understand any impacts climate changes might have on carbon cycle processes. Ultimately, the research is aimed at contributing to a greater understanding of the Arctic's overall response to a changing climate.

The work at Daring Lake has focused on assessing carbon sink/source strength of the Daring Lake region and has been ongoing for the last 10 years. For the 2013 field season, four core projects were established to address some of the ongoing questions about tundra carbon cycling.

These projects focused on these areas of inquiry / investigation:

1. Whether there is any correlation between the normalized difference vegetation index and leaf area index, in order to reduce error in carbon exchange models.
2. The roles that Arctic ponds play in the Arctic carbon cycle, to better predict their contribution to the Arctic's overall response to a warming climate
3. Season and interannual variation in productivity over a series of Arctic tundra vegetation community types to better understand the effect of earlier snowmelt on growing season production.
4. The influence of increasing shrub coverage on the carbon cycle to improve understanding of the

Arctic terrestrial carbon balance with current shrub expansion.

The summer students assisted researchers in the field by sampling vegetation and microbial communities and taking measurements of photosynthesis and respiration—and in the lab by preparing samples for examination under microscopes and by drying plant samples for later analysis. Izaak and Brandon also assisted with camp duties at the Research Station.

In addition to their work terms, both Izaak and Brandon participated in the 10-day annual Tundra Science and Culture Camp (TSCC), July 27-August 5, also at Daring Lake. Coordinated by Environment & Natural Resources, GNWT, the camp provides cross-cultural outdoor environmental education. This opportunity further enriched their work experience by providing interdisciplinary learning about the tundra ecosystem and hands-on exposure in field techniques in these disciplines. Working closely with scientists, environmental educators, on-site researchers and Dene elders, Izaak and Brandon learned about tundra wildlife, birds, plants, archaeology and human history—and gained a holistic appreciation of the unique Barren lands environment.

PRIMARY CONTACTS

ENR, GNWT: Karin Clark, Cumulative Effects Biologist (Karin_Clark@gov.nt.ca) (867-920-3014)

WRRB: John McCullum, Executive Director, (jmccullum@wrrb.ca) (867-873-5740)

Points of Land. WRRB E-Newsletter Article on Tłı̨cho Summer Student Research Assistant Program

<http://wrrb.ca/content/tlicheo-summer-student-research-assistant-program-2013>

(hard copy attached to email)

List of Attachments

- Digital photographs of students engaged in program activities
- Signed photo release forms for each student
- Copy of poster advertising the program and employment opportunity. Posters were sent to Tłı̨cho community schools. They were also posted on the Wek'èezhì Renewable Resources Board Facebook page and website, as well as on the Tłı̨cho Government's Facebook page and website.
- Copy of Wek'èezhì Renewable Resources Board (WRRB) E-newsletter story publicizing the project. The story was distributed in the Summer 2013 issue and is posted on the WRRB website.

Attachment 1 - Digital photographs of students engaged in program activities

Brandon Zoe



Brandon Zoe during project sharing



Brandon working on project



Brandon during project sharing



Brandon assisting elder cutting meat



Brandon shaving wood



Brandon using Atl-atl for spear throwing





Brandon after panning

Izaak Wedzin



Izaak Wedzin with elder Archie Wetrade



Izaak with group



Izaak viewing projects



Izaak heading out to do fieldwork



Izaak observing demonstration



Izaak with guitar



Izaak getting his feet wet at TSC



Izaak and group observing traditional butchering





Attachment 2 – Signed photo release forms



CONSENT FORM

Name:	Izaak Wedzin	Phone Number:	867 392 6574
Mailing Address:	I Wedzin @ Gmail. Com Box 384 XOE 040		
E-Mail Address:			

I hereby give Aurora College permission to use my likeness and/or artwork in the following format (s):

☒ Photograph ☒ Moving Image ☒ Voice Recording

and I waive any proprietary rights I may have to said recordings. I understand that Aurora College may wish to use these these recordings in a number of ways, including websites, publications or advertising, to provide information to the public and/or promote Aurora College programs, services and activities, and I grant them permission to do so.

I hereby release Aurora College, its employees, agents and subcontractors from any and all claims, actions and liability for damages, losses or expenses of any sort which may arise in connection with the use of these images and recordings.

I acknowledge I have read and understood the contents of this form, and have been given full opportunity to discuss the implications of this consent of my own free will and my decision is not based upon representations or advice of Aurora College.

Print Name: Izaak Wedzin

Izaak Wedzin
Signature

03/13 July
Date

Signature of Parent or Guardian if subject is under age 19:

Print Name:

N/A Izaak Wedzin

Signature

N/A

Date

Refusal to sign this form will not result in any adverse effect upon rights, benefits or services currently provided by Aurora College.



Release and Consent Form

Name:

Izaak Wedzin

Address:

P.O. Box 364XOE 6Y6

Phone Number:

(867)-392-6579

I, Izaak Wedzin, grant consent to the Wek'èezhì Renewable Resources Board ("Board") to use, reproduce and disseminate my personal information as identified below:

- My likeness in photographs, video or voice recording taken or requested to be taken by the Board; and
 - Release of my name and community of residence.
- (collectively referred to as "Personal Information")

I understand that by signing this form, I acknowledge and agree to the Board's use, reproduction and dissemination of my Personal Information in various media formats, such formats to be at the sole discretion of the Board. For the purposes of clarity, I acknowledge and agree that my Personal Information may be made available online as well as in print format, and that a copyright notice prohibiting the copying of material without the Board's written authorization will be posted on or within all Board publications regardless of format.

I understand that the Board is not responsible for and has no control over how third parties may use my Personal Information disseminated. I hereby waive all claims against the Board that may arise from or related to the Board's use, reproduction and dissemination of my Personal Information.

Signature:

Izaak Wedzin

Date:

July 03/13

IMPORTANT: If you are under 18 years of age, please have your parent or legal guardian read this document and complete the portion below, if they agree to its terms:

Name of Parent / Legal Guardian:

Izaak Wedzin

Signature:

Izaak Wedzin

Date:

July 3/13

The Wek'èezhì Renewable Resources Board is committed to respecting your privacy. You have the right to revoke your consent at any time by contacting us. If you have any questions, please contact us at sbeaumont@wrrb.ca



Wek'èezhii
Renewable Resources Board

Release and Consent Form

Name: Brandon Zee
Address: Box 147, Behchoko,
NT. X0C0Y0
Phone Number: (867) 392 6148

I, Brandon Zee, grant consent to the Wek'èezhii Renewable Resources Board ("Board") to use, reproduce and disseminate my personal information as identified below:

- My likeness in photographs, video or voice recording taken or requested to be taken by the Board; and
- Release of my name and community of residence.
(collectively referred to as "Personal Information")

I understand that by signing this form, I acknowledge and agree to the Board's use, reproduction and dissemination of my Personal Information in various media formats, such formats to be at the sole discretion of the Board. For the purposes of clarity, I acknowledge and agree that my Personal Information may be made available online as well as in print format, and that a copyright notice prohibiting the copying of material without the Board's written authorization will be posted on or within all Board publications regardless of format.

I understand that the Board is not responsible for and has no control over how third parties may use my Personal Information disseminated. I hereby waive all claims against the Board that may arise from or related to the Board's use, reproduction and dissemination of my Personal Information.

Signature: Brandon Zee

Date: July, 25 2013

IMPORTANT: If you are under 18 years of age, please have your parent or legal guardian read this document and complete the portion below, if they agree to its terms:

Name of Parent / Legal Guardian: Florence Zee

Signature: Florence Zee

Date: July 25, 2013

The Wek'èezhii Renewable Resources Board is committed to respecting your privacy. You have the right to revoke your consent at any time by contacting us. If you have any questions, please contact us at sbeaumont@wrrb.ca



CONSENT FORM

Name:	Brandon J. Zoe	Phone Number:	867.392-6148
Mailing Address:	Box 147, Benchoke, NT. XDE0YD		
E-Mail Address:	brandonzoe@hotmail.ca		

I hereby give Aurora College permission to use my likeness and/or artwork in the following format (s):

☐ Photograph ☐ Moving Image ☐ Voice Recording

and I waive any proprietary rights I may have to said recordings. I understand that Aurora College may wish to use these these recordings in a number of ways, including websites, publications or advertising, to provide information to the public and/or promote Aurora College programs, services and activities, and I grant them permission to do so.

I hereby release Aurora College, its employees, agents and subcontractors from any and all claims, actions and liability for damages, losses or expenses of any sort which may arise in connection with the use of these images and recordings.

I acknowledge I have read and understood the contents of this form, and have been given full opportunity to discuss the implications of this consent of my own free will and my decision is not based upon representations or advice of Aurora College.

Print Name: Brandon Zoe

Brandon Zoe

Signature

July 25, 2013

Date

Signature of Parent or Guardian if subject is under age 19:

Print Name: Florence Zoe

Florence Zoe

Signature

July 25, 2013

Date

Refusal to sign this form will not result in any adverse effect upon rights, benefits or services currently provided by Aurora College.

Attachment 3 - Copy of poster advertising the Tłıcho Student Research Assistant program and employment opportunity.

Posters were sent to Tłıcho community schools. They were also posted on the Wek'èezhì Renewable Resources Board Facebook page and website, as well as on the Tłıcho Government's Facebook page and website

Summer Student Job Opportunity at Daring Lake, NWT

Are you interested in science and the environment? Would you like to learn more by working with a researcher this summer? Are you a Tłıcho high school student?

There is a 1-month opportunity to work as a summer field assistant at the Tundra Ecosystem Research Station at Daring Lake. We are looking for two Tłıcho students: one for the month of July and one for the month of August.

Scientists are researching many interesting issues, such as the effects of climate change on Arctic tundra ecosystems. Successful applicants will learn how to do fieldwork, assist in the lab, learn about the unique ecology of the Barren lands and find out more about careers in science and research.

Here's how to apply:

Send your resume to

Karin Clark, Wildlife Division, ENR

Ph: 867-920-3014

fax: 867-873-0293

Email: Karin_Clark@gov.nt.ca



T
The application deadline is **JUNE 24, 2013**

Attachment 4 - Copy of Wek'èezhì Renewable Resources Board (WRRB) E-newsletter story publicizing the Tłıcho Student Research Assistant project.

The story was distributed in the Summer 2013 issue and is posted on the WRRB website.

Tlicho Summer Student Research Assistant Program 2013

Tue, 08/20/2013 - 10:00 — susan



Summer student research assistants helping with fieldwork at Daring Lake

Getting a chance to see the Barrenlands is a once-in-a-lifetime opportunity for many. Imagine spending a month there. This summer, two Tłıchǫ high school students had the opportunity to work alongside researchers up at ENR's Tundra Ecosystem Research Station at Daring Lake, 300 km north of Yellowknife.

With funding from the Aurora Research Institute, the WRRB and ENR collaborated on putting together a summer student program to involve Tłıchǫ students in research projects underway at Daring Lake. Working as research assistants, students experience what it's like to live and work at a remote field research station on the Barrens. But they're also picking up fieldwork training and some great life experience that may inspire their future career and education choices.

Izaak Wedzin is back in Behchokǫ̀ now after spending the month of July at Daring Lake--and Brandon Zoe, who was there in August, has just finished his work term and is back home.

For Izaak, one month on the tundra was one of the best things he's experienced. Once seen, it's a landscape not easily forgotten. The Barrenlands are a wide-open, treeless tapestry of textures and colours--clear blue lakes, tundra blooming with tiny plants, and undulating rocky ridges. It's a place where you can see a fox up close and its kits, as Izaak did (see his photo in the Photo Gallery below)--or a grizzly, at a greater distance but close enough that Izaak and his fellow hikers had to change their direction to avoid the bear getting wind of them! But the Barrenlands are also a unique ecosystem--and a good place for climate change studies.

This year's summer students worked alongside researchers from Trent University and Carleton University who are at Daring Lake "observing the tundra carbon cycle in a changing climate". Daring Lake is one location in a global network of research sites that scientists are monitoring to better understand any impacts climate changes might have on carbon cycle processes.

The summer students assisted researchers in the field by sampling vegetation and microbial communities and taking measurements of photosynthesis and respiration--and in the lab by preparing samples for examination under microscopes and by drying plant samples for later analysis.

As well as helping university researchers out in the field and in the lab, Izaak and Brandon participated in ENR's Tundra Science and Culture Camp. Over the course of 10 days, they studied a wide variety of topics including geology, archaeology, plants, birds, caribou, grizzly bears, and traditional knowledge--and learned how these subjects interrelate in a tundra environment. Each student also completed a collection project of their choice and an individual science project with the assistance of science mentors. Izaak collected tundra plants such as Labrador Tea and researched their medicinal properties and use in traditional Tłıchǫ culture. He also learned about traditional Tłıchǫ drum-making. Brandon collected tundra berries and examined how vegetation, soil temperature and moisture changed along a downward slope into a small pond. Take a look in our Photo Gallery below for photos showing activities our summer students were involved in --from learning how to make dry meat to how to pan for diamonds (or at least indicator minerals that might indicate the presence of diamonds!) to how to throw an atl-atl. It turns out that an atl-atl was an ancient spear-thrower, used by hunters in North America for 10,000 years. Photos are courtesy of Stephanie Yuill, ENR.

One of the most memorable experiences at the Science and Culture Camp was the harvest of a bull barren-ground caribou and all the learning activities that followed. WRRB Board member Archie Wetrade was one of the elders who participated in the Camp as an instructor. He showed the students how to wrap and tumpline the caribou and how to identify the different parts of the caribou. Students also learned how to cut and hang dry meat and had a chance to taste parts of the caribou they may not have before--the eyeball, brain, marrow, ribs, and boiled nose and jawbones. Elders prepared dry meat right at the camp--another taste treat!

The Tłıchǫ Summer Student Research Assistant Program is planned as a multi-year program so next year, two more high school students will have an opportunity to be hired as research assistants up on the tundra.



[Summer student research assistant Izaak Wedzin at Daring Lake](#)



[Brandon Zoe by Tundra Ecosystem Research Station](#)



[An elder shows Brandon Zoe how to make dry meat](#)



[Izaak and Brandon watching Archie Wetrade make a caribou bundle](#)



[Brandon and Izaak speaking with Tom Andrews at Science and Culture Camp](#)



[Brandon practising using an atl-atl, a model of an ancient spear thrower](#)



[Brandon learning how to pan for indicator minerals for diamonds!](#)



[Izaak's photo of a fox taking her kits to safety, Daring Lake](#)



[Izaak Wedzin after work as a research assistant at Daring Lake](#)