Tracking Change Project
Report on the Youth Knowledge Fair (24-26 May 2016)

Background: The University of Alberta, the Mackenzie River Basin Board, the Government of the Northwest Territories (GNWT) and many other Aboriginal governments and organizations and universities in Canada and internationally are working together on a 6-year, $2.5 million dollar research initiative called '*Tracking Change – Local and Traditional Knowledge in Watershed Governance*'.

The ***Tracking Change…*** project developed in recognition that many peoples in the Mackenzie River Basin, particularly Indigenous peoples, have valuable insights about the social and environmental sustainability of the Basin. Many land users (hunters, fishers, berry harvesters etc.) have been observing and experiencing what is going on with the land, water, fish, geese/ducks, wildlife in the same way, using the same signs/signals for many generations. Such tracking of change, has been more than a technical process of monitoring; people watch, listen, learn and communicate about change because they care about the health of the land and the health of their communities. While much of this knowledge is based on sacred oral traditions, there is a growing need to bring this knowledge forward to ensure the continued health and sustainability of the Mackenzie River Basin. ***Tracking Change…*** would provide the Mackenzie River Basin Board Traditional Knowledge Steering Committee, communities, co-management boards and NGOs an opportunity to work together to learn more about land user observations, experiences and oral histories about many kinds of ecological and related socio-economic and cultural change. Many previous studies were very local in nature and not linked to other research in other areas. Today, efforts to develop a broader, regional perspective are being facilitated through the efforts of co-management boards, regional organizations as a result of land claim settlements and related legislation (i.e., *Mackenzie Valley Resource Management Act).* Research is already being documented in some areas, but many communities do not have the resources to document their local and traditional knowledge (LTK) in ways that will contribute to watershed policy at regional, provincial/territorial and federal levels. Through this study, we hope to network with existing projects in the Basin, assist some communities in doing studies specific to their regions as well as facilitate a coordinated LTK study across the whole basin.

Youth Engagement: Project partners emphasized the importance of engaging youth in all aspects of our research project including the definition of research priorities and key issues for study. Some of the youth/young adults involved in the project will be graduate students from various universities. But given that post secondary enrollment in the north is low, finding ways to

engage with other students at the junior and high school level is also a key priority. Through the Youth Knowledge Fair, students can learn more about research, science and gain exposure to a university environment. But we can also learn from youth; they are our future leaders and their ideas matter! It is anticipated that outcomes from the student projects could help to identify key areas for future research to support the goals of *Tracking Change*…

Objectives of the Youth Knowledge Fair: As the project aims to document new knowledge through community-based and regional research projects, the sharing of knowledge among partner organizations and representatives of communities throughout the basin is critical. As one of the knowledge sharing activities in 2016 is a Knowledge Fa, this Youth Knowledge Fair brought together youth from the various jurisdictions of the Mackenzie River Basin. The objectives were"

- Create opportunities for junior high and high school aged youth to **connect with each other** in Edmonton for three days of educational activities including knowledge sharing activities, educational workshops, keynote presentations from inspirational youth and Aboriginal leaders, tours of the University of Alberta;
- Support students to **learn about their own histories, ecosystems and communities** from elders and their communities and through their schools through submissions of poster projects; and
- Encourage the **development of research and written/oral communication skills** by through a poster project related to the health of water, fish, fishing livelihoods and well-being of communities in the Mackenzie River Basin.

We hosted 35 junior high and high school students and 15 chaperones from the Northwest Territories (NWT), Yukon (YT), northern Alberta (AB), Saskatchewan (SK), and British Columbia (BC) with support from the Social Sciences and Humanities Research Council of Canada, the University of Alberta, Treaty 8 First Nations, Prince Albert Grand Council, and the Telus World of Science Edmonton (TWOSE). All travel, accommodations, and meals were provided to all participants from the *Tracking Change...* project. The following schools were represented:

- Ecole Sir John Franklin High School, Yellowknife, NWT
- Thomas Simpson School, Fort Simpson, NWT
- Mackenzie Mountain School, Norman Wells, NWT
- Paul W. Kaeser Secondary School, Fort Smith, NWT
- East Three Secondary School, Inuvik, NWT
- Chief Albert Wright School, Tulita, NWT
- Robert Service School, Dawson, YT
- Chief Tallcree High School, Fort Vermillion, AB

- Athabasca Delta Community School, Fort Chipewyan, AB
- Black Lake School, Fr. Porte Memorial Dene, Black Lake, SK
- Fond du Lac, Fond du Lac, SK
- Fort Nelson Secondary School, Fort Nelson, BC

Students prepared and presented posters on issues of importance to them/their communities and regions. The students presented to their peers and then to invited members of the public in an afternoon open house session.

List of posters:

- "Tazi twe Hydroelectric Project," Marie Rosalie Bruno from Black Lake School, Father Porte Memorial Dene
- "Trout" by Randon John Cook from Black Lake School, Father Porte Memorial Dene
- "The Mackenzie River Watershed: Our Water is the Boss," by Kennedy Marten and Mahailla Frank-Powder from Athabasca Delta Community School, Fort Chipewyan, AB
- "Lakes and Rivers in the Athabasca River," by Michael Boudreau and Raymond Cardinal from Athabasca Delta Community School, Fort Chipewyan, AB
- "Why is there oil in the Water?" by Jaiden Cypien and Tyson Cardinal from Athabasca Delta Community School, Fort Chipewyan, AB
- "Water Pollution: Canada's Toxic Tar Sands," by Shauntay Antoine and Alissa Castor from Athabasca Delta Community School, Fort Chipewyan, AB
- "Which Fish are Best to Eat?" by Sam Bunning from Chief Tallcree High School, Fort Vermillion, AB
- "How Nutrient Rich is Our Water," by Dana Auger from Chief Tallcree High School, Fort Vermillion, AB
- "Sustainable Water and Unsustainable Water," by Tyrell Fern and Josh Piche from Fond du Lac, SK
- "The Mackenzie River Basin: Sub-basins before and after," by Emma Tom Tom from Robert Service School, Dawson City, YT
- "Fish in the Mackenzie River," by Mataya Mantla from Chief Albert Wright School, Tulita, NWT
- "Changes in the Water Level in the Mackenzie River," by Rylan Campbell from Chief Albert Wright School, Tulita, NWT
- "Quietus of Adam's Ale: Current and Future State of the Mackenzie River Basin," by Shaznay Waugh from Thomas Simpson School, Fort Simpson, NWT
- "Fish Species and Migration Routes in the Mackenzie River," by SaNaeah Allen from Thomas Simpson School, Fort Simpson, NWT

- "Mackenzie River Basin," by Lane Voudrach from East Three Secondary School, Inuvik, NWT
- "Testing the Water," by Trya Cockney-Goose from East Three Secondary School, Inuvik, NWT
- "Deh Cho," by Cassidy Villeneuve and Paul William from Paul W. Kaeser Secondary School, Fort Smith, NWT
- "The Mackenzie River," by Faith Gaudet from Paul W. Kaeser Secondary School, Fort Smith, NWT
- "Fishing Without a Hook," by Cheyenne Hoagak from Mackenzie Mountain School, Norman Wells, NWT
- "Water Heart-Tudze," by Emily Bayha from Mackenzie Mountain School, Norman Wells, NWT
- "A Fishy Situation: The Machenzie River Basin – Theme: Historical and contemporary observations and perception of conditions and change in the health of the aquatic environment," by Branda Le and Taylor Lake, from Ecole Sir John Franklin High School, Yellownife, NWT

The quality of the students' work was impressive. A panel of judges reviewed the posters and evaluated the students' oral presentations. Awards were given out on the last day of the event. The posters will be reproduced in a report booklet (proceedings) of the event and added to the website.

The program opened on the evening of May 24th at the TWOSE. An introduction was made by Dr. Brenda Parlee, Tracking Change Project Director, followed by an opening prayer given by former Treaty 6 Chief Francis Alexis and opening remarks by Stan Blade, Dean of the Faculty of Agriculture, Life, and Environmental Sciences at the University of Alberta. The opening ceremonies ended with a science experiment given by TWOSE President and CEO Alan Nursall. The students were then broken up into groups to experience the Science Garage building activity, an Environment Gallery Science on a sphere presentation, and a live science demonstration on the chemistry of the northern lights. All activities were organized and presented by TWOSE staff. Students were then left to explore the galleries on their own: The Body Fantastic, Environment, and an exploration aquarium. The evening ended with a Galaxy show in the planetarium.

The Knowledge Fair program opened on May 25th with a presentation by Dr. Brenda Parlee on the Tracking Change program, which focused on how researchers and communities will come together to help achieve the project's goals over the next 6 years. Afterwards, representatives of the Office of the Registrar at the University of Alberta took the students on a campus tour. The tour ended at Pembina Hall where the students were invited to participate in the annual tipi raising hosted by the Faculty of

Native Studies. The group enjoyed time in the 'quad' with boxed lunches and some downtime to play Frisbee or enjoy the sun.

The afternoon opened with a presentation by Kelsey Dokis-Jansen. Kelsey spoke on her post-secondary education experience and presented her Master of Science thesis research entitled, *These Trees Have Stories to Tell: Linking Science and Traditional Knowledge to Monitor Caribou.* Next on the agenda was a 'Bingo' game, where students had to interact with each other to find answers to clues about the posters on each square. After this 'ice-breaker' activity, the students presented their poster or spoke to the audience about issues of importance in their own communities. The initial presentation was in preparation for the Open House session, where students then presented their research posters to invited guests. During the Open House, remarks were made by: Cheryl Baraniecki, Associate Regional Director General - ECCC Member from Mackenzie River Basin Board; Alex Mercredi, Principal of the Father Gramache Memorial School, Fond du Lac; and Jennifer Fresque-Baxter, Watershed Management Advisor from the Government of the Northwest Territories. Global Television was also on hand to interview students as they made their presentations. The busy day ended with a Mackenzie River Movie Night that was accompanied by pizza and snacks at the Edmonton Clinic Health Academy (ECHA). A documentary entitled *Cold Amazon: The Mackenzie River Basin* was played, which was followed by a discussion led by Jennifer Fresque-Baxter.

The morning of May 26th began with the students being divided into groups and alternating between two activities. One activity was a hands-on experiential learning at Dr. Mark Poesch's fish lab where the students learned about fish species found in Canada and had the opportunity to dissect tilapia. The students were tasked to find the fish's ear bone, which indicated its age. The second activity was an art project led by PhD student Kristine Wray. Kristine provided instruction to the students to paint what the environment or environmental change meant to them on a canvas. The canvases when completed and assembled together contributed to a larger art mural that spelt out "Tracking Change". Following these activities was lunch at Lister Hall that featured keynote speaker Kaia Lamonthe, Education Director with Treaty 8 who delivered an inspirational talk on education success. After lunch, an awards presentation was made (see below for recognitions), and then the students visited the Art Gallery of Alberta (AGA) to visit the *Professional Native Indian Artists Inc.: Group of Seven* exhibit. AGA staff led the students through a number of additional galleries and taught them different ways to look at and interpret art. The day and event was capped with a fun trip to the West Edmonton Mall where some enjoyed the waterpark and others went shopping.

Awards presented:

- First place prize was awarded to Shaznay Waugh from Thomas Simpson School, Fort Simpson, NWT for "Quietus of Adam's Ale"
- The runner up prizes were awarded to:
    - Emma Tom Tom from Robert Service School, Dawson, YT for "The Mackenzie River Water Basin";
    - Rylan Campbell from Chief Albert Wright School, Tulita, NWT for "Changes in Water Level at Tulita";
    - Cassidy Villeneuve from Paul W. Kaeser Secondary School, Fort Smith, NWT for "The Mackenzie River"; and
    - Faith Gaudet from Paul W. Kaeser Secondary School, Fort Smith, NWT for "Deh Cho."

An evaluation form was distributed to students and chaperones to complete over lunch. Responses overall were very positive. When asked about their experience, some respondents noted that it was, "exquisitely wonderful," "awesome," and "exciting and fun!" Many respondents stated that the most notable thing that they would remember about the Fair was the information on the posters and what they learnt about the Mackenzie River Basin, including the "impacts on people" and "how important it is". When asked what their favourite part of the Fair was, the majority of respondents answered the Telus World of Science Edmonton! When making suggestions for the next the Fair, respondents focused on increasing the number of participants from more places around the Basin; for the event to be limited to students in grades 10 - 12; and to have more time for students to share their research with their peers.

Photos and videos were taken throughout the event; these will be edited to produce a record of the Youth Knowledge Fair, to provide to each student and school for their records, but also to post to the website. It is hoped that this event will be repeated through the life of the project, on an annual or bi-annual frequency.

The Youth Knowledge Fair featured prominently on our Facebook page (see https://www.facebook.com/trackingchange.ca/) throughout the week; photos and updates were posted daily.

With more lead time for the next event, we hope to attract more sponsors so that we can invite a greater number of students to participate.