

1 – Community Input

Initial meeting, July 2012
Presenting the project





First mapping session - August 2012

What are the changes in the landscape? Where are there?

Field work summary - August 2012



Feedback on results, March 2013



Feedback on Result, March 2013

Reviewing the maps, and final input from the community for year one



Year 2 - Workshop session about landscape change August 2013



2- Youth involvement

GPS Course, August 2012



Unmanned Aerial Vehicle (Drones) workshop

August 2012



Permafrost coring, August 2013



Permafrost coring, August 2013



Ground Temperature Survey, August 2012



Reaching people from other communities...

Deh Cho Drum September 2013

Did we get it wrong?

Deh Cho Drum is committed to getting facts and names right. With that goes a commitment to acknowledge mistakes and run corrections. If you spot an error in Deh Cho Drum, call the editor at (867) 695-3786, or e-mail dehcho@nnsf.com. We'll get a correction or clarification in as soon as we can.

NEWS Briefs

Storytelling festival coming to Fort Simpson

The Northern Arts and Cultural Centre (NACC) is bringing its new storytelling festival to Fort Simpson. The KOKE Storytelling Festival will be in the village on Sept. 18 at the OSC Gallery located below the John Tietso Memorial Library. Fort Simpson resident Jerry Antoine will open the festival with a performance at 7 p.m.

Antoine will be followed by Scott McQueen of Yellowknife and Ryan McMahon, an Ojibway/Metis comedian based out of Ottawa.

A dinner for ticket holders will precede the festival at 6 p.m. Tickets will be available at the door.

Sod project underway at golf course

The Seven Spruce Golf Course is undertaking a project to enhance its facility.

Volunteers and staff with Rowe's Construction began laying sod around the artificial greens on holes one, two and eight on Sept. 9. The work is expected to be completed on Sept. 12.

Staff at the course were able to grow grass between the artificial greens and the fairways on six of the holes, but had trouble on the remaining three, said Shane Thompson, the club's president. The sod will allow golfers to play their balls where they lie and will enhance the course, he said.

The course received a grant from the Department of Industry, Tourism and Investment for the project. The staff at the department have been very supportive of the course, he said.

Learning to compost

A workshop about composting is being held in Fort Simpson.

Caroline Lafontaine with the Department of Industry, Tourism and Investment will be leading a session on how to build a composter and a compost pile at the community garden on Sept. 17 beginning at 7 p.m. During the workshop, a demonstration model of a composter will be constructed.

If the weather is unfavourable, the workshop will be postponed to the following day.

Deadline coming for ambassadors program

The Northwest Territories Youth Ambassadors Program is looking for applicants.

The program offers youth the chance to volunteer at major territorial, national and international events.

Upcoming events include the 2014 Arctic Winter Games in Fairbanks and the 2014 North American Indigenous Games in Regina.

Youth ages 16 to 24 are eligible to apply. The application deadline is Sept. 23.



Fabrice Calmels, right, a permafrost research associate with the Northern Climate Exchange at Yukon College, and Noel Hardisty of Jean Marie River collect a permafrost core sample and create a borehole to put ground temperature instrumentation in while Margaret Ireland watches on Aug. 28. The sampling is part of the second year of the permafrost study being conducted by Jean Marie River First Nation and partnering researchers.

Search for permafrost answers

Jean Marie River First Nation directing research study now in second year

by Roxanna Thompson
Northern News Services
Thompson/Deh Cho/Jean Marie River

A multi-year research project is underway in Jean Marie River to address the residents' concerns about how landscape changes created by thawing permafrost will impact their lifestyle and everyday activities.

Jean Marie River First Nation has partnered with Cystelle Laurent, a geographic information system manager with Edmonton-based Watertight Solutions Ltd. and Fabrice Calmels, a permafrost research associate with the Northern Climate Exchange at Yukon College, to conduct a permafrost study. The study, which is now in its second year, is being directed by the First Nation.

During a traditional knowledge study with elders the First Nation conducted in 2005-06, it became apparent the elders are very concerned about the changing climate, said Margaret Ireland, Jean Marie River First Nation's resource management coordinator.

This led the First Nation to apply for funding from Health Canada, partner with researchers and conduct a baseline vulnerability assessment in 2010-11 on potential impacts of climate change on the health and wellness of the community. Residents had concerns about food security, access to safe drinking water, extreme weather and safe travel, Ireland said.

"One of the things people were very concerned about was permafrost," she said.

People are seeing changes happening on the land and recently those changes seem to be happening faster and are becoming more noticeable, said Ireland.

"It's getting very hard to go into the bush," she said.

Thawing permafrost is creating ponds and causing trees to fall over, which is making traditional trails impassable.

The first year of the permafrost study focused on identifying and mapping areas of permafrost that are sensitive to climate change. The study area encompassed the community and its facilities, as well as two kilometres on either side of the length of the community's access road and a short connecting portion of Highway 1.

Of the 200 square kilometres studied, approximately 25 per cent of the area was found to have permafrost that was potentially sensitive to thawing. No permafrost was found in the community and very few areas were found along the road, said Calmels.

Permafrost is any type of earth material that is frozen consecutively for two or more years. When permafrost thaws, the ground can collapse and ponds can form.

"It creates big problems," said Laurent.

This year, the study area was increased to approximately 2,000 square kilometres, encompassing an area of land traditionally used for hunting and gathering between the Mackenzie River and Highway 1. Concerns about the effects of degrading permafrost will have on country foods and food security were incorporated into the study.

Permafrost in the Jean Marie River area is found mostly in the form of mounds or plateaus in areas of muskeg. The plateaus have lichen, brush and trees that make them very attractive to animals including moose and caribou, said Calmels.

As the permafrost thaws and ponds form, the landscape is no longer as good for those animals, he said.

"Community members know it is changing, so they are concerned for the future," Laurent said.

As part of the study, maps of the location of big and small game, as well as fish and wild fowl, were compared to the newly-created maps of potentially-sensitive permafrost. The study is attempting to comprehend how landscape changes resulting from thawing permafrost will impact the lifestyle and everyday activities of residents of Jean Marie River. This is the first study to address this problem, Calmels said.

The data that is gathered will give credibility to the community's concerns, he said.

The study has also included a strong community outreach program to involve community members in the research.

This year, five youths and other community members were in the field while a borehole was drilled to create one of the three sites for a permafrost monitoring network the community now owns. Each hole contains a temperature logger that will record permafrost temperatures at different

depths throughout the year.

Students at Louie Norwegian School were taken to check one of the monitoring stations on Sept. 3.

"Every time we come here, we always learn something from them and they learn something from us," Laurent said.

Laurent, Calmels and Ireland all hope the study will continue. The community has been happy with the collaboration, Ireland said.

"Sometimes, the things we find, I get excited about," she said using the permafrost cores from the boreholes as an example.

Ireland would like to see the study expand to McGill and Deep Lakes, two lakes traditionally used by the community. Aboriginal Affairs and Northern Development Canada has provided more than \$100,000 in funding for each of the two years of the study. Health Canada also provided funding this year.



This sample of permafrost was collected from a depth of six metres on Aug. 28 as part of the second year of a permafrost study that Jean Marie River First Nation is directing.

3 – Field work assistance



Excavation, August 2012-2013

Field Guidance, August 2012-2013



Drilling Assistance, August 2012-2013



Boating, August 2012-2013

