



WAPUSK NEWS

The voice of Wapusk National Park

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POLAR BEARS & CLIMATE CHANGE IN WESTERN HUDSON BAY

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*Photo: Nick Lunn
Nick Lunn with immobilized Polar bear*



The Polar bears we see in the Churchill region are part of the Western Hudson Bay population. This is one of 19 populations of Polar bears that live throughout the ice-covered waters of the circumpolar Arctic. Polar bears feed almost exclusively on seals, and so prefer to live on the annual ice cover over the shallower waters of the continental shelf and inter-island archipelagos. Seals are more abundant in these areas because the waters are more biologically rich than the deeper polar basin.

Polar bears depend upon sea ice as a platform from which to hunt seals. Bears that spend most of the year out on the sea ice weigh the least in late March. Late March is also the period just before ringed seal pups are born. The timing of Polar bears being at their leanest coinciding with the birth of numerous seal pups suggests that it is the success of the bears' hunting in spring and early summer that enables them to maximize body reserves necessary for survival, reproduction, and nursing of cubs through the rest of the year.

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Changes in the distribution, total amount and types of sea ice, and the patterns of freeze-up and breakup have the potential to significantly influence Polar bear population. Over the past several decades a growing number of studies have documented significant reductions in sea-ice cover in parts of the Arctic. Not only is the seasonal ice in Hudson Bay affected, but also the multi-year ice cover in the polar basin has been observed to be thinning. These changes are a consequence of climate warming. Recent reports by the Intergovernmental Panel on Climate Change suggest that climate warming in the Arctic will continue. This news raises considerable concern for the future of Polar bears as they rely on sea ice to survive. As a keystone species, Polar bears provide insight into the overall health of biodiversity within the Arctic marine system.

In 1980, the Canadian Wildlife Service (Environment Canada) began comprehensive and focused studies on the ecology of Polar bears in western Hudson Bay. These studies are continuing today. Each autumn,

a sample of Polar bears of all age and gender classes are captured while the entire population is onshore. Standard body measurements are taken, and biological samples are collected for dietary and contaminant studies. These data form the basis of a long-term monitoring program that has resulted in the best Polar bear dataset with which to examine climate change impacts.

The date of sea ice breakup (50% ice and 50% water) on western Hudson Bay is now occurring about 3½ weeks earlier than in the early 1970s (Figure 1), which has resulted in Polar bears spending less time on the sea ice hunting seals in the spring and coming ashore in poorer condition (Figure 2). A re-assessment of the size of the Western Hudson Bay Polar bear population was recently undertaken because of the concern of climate change impacts. The analysis showed that the population had declined by 22% from approximately 1,200 in 1987 to 935 in 2004. Furthermore, the analysis showed that, although the reduced time available to Polar bears on the sea ice has not had an apparent effect on the survival of prime adult bears (5-19 yrs old), the natural survival rates of dependent young, juvenile bears, and old bears were declining and were related to the earlier breakup of sea ice. Although other factors such as the annual harvest are also involved, climate change initiated and continues to contribute to the population decline.

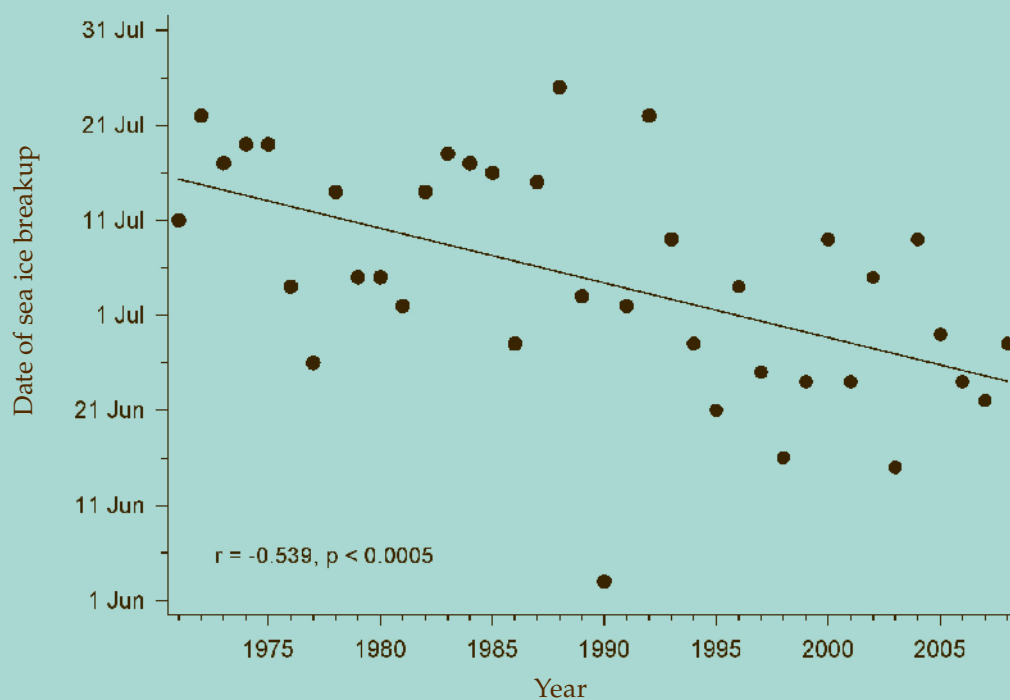
On a global scale, climate warming has reduced the total extent of Arctic sea ice by about 15% over the past 20 years. As the Arctic climate warms, increasing amounts of open water in winter will stimulate change in the distribution and abundance of Arctic seals, the primary food source of Polar bears.

The ongoing research of Polar bears in western Hudson Bay represents a significant contribution to Canada's national and international participation in scientific research related to climatic warming. The results will increase scientific knowledge of Polar bear population dynamics, further understanding of barriers to potential recovery, and aid development and implementation of effective conservation actions for the Polar bear.

*Parks Canada Photo: Donna MacKinnon
Polar Bears at Eskimo Point*



TIMING OF SEA ICE BREAKUP
ON WESTERN HUDSON BAY IN RELATION TO YEAR, 1971-2008.



MEAN CONDITION OF ADULT MALE POLAR BEARS AND
ADULT FEMALE POLAR BEARS ACCOMPANIED BY CUBS IN RELATION TO
DATE OF SEA ICE BREAKUP, 1980-2007.

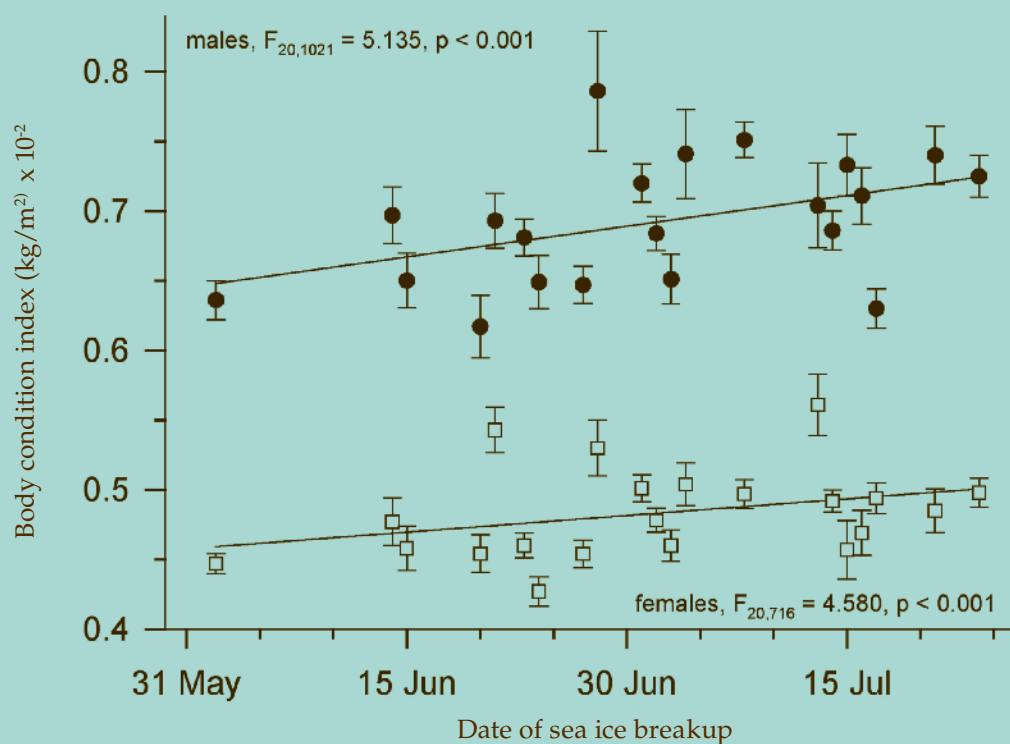


Figure 2 shows that when sea ice breakup occurs earlier in the year, polar bears come ashore in relatively poorer condition. When breakup occurs later, they come ashore in relatively better condition. These changes are related to the amount of time that polar bears are able to hunt seals during the critical spring period, just prior to when they are forced onshore.

WAPUSK NATIONAL PARK STARTS OFF GREEN

DESMOND RAYMOND

ASSET MANAGEMENT ADVISOR - PARKS CANADA

Power, potable water and wastewater treatment are basic needs for future visitor opportunities and research in Wapusk National Park. The problem is how to provide these services with little or no impact on the environment. The solution – the “EcoNomad™”.

A team consisting of Parks Canada Agency staff, Manitoba Conservation and the private contractor were on-site July 6th to 8th installing, testing and running the EcoNomad at the Nester 1 Research Camp.

The “EcoNomad™” is a factory-assembled utility and infrastructure appliance. This unit instantly provides a pre-fabricated and tested infrastructure convenience for any location on the globe—making it possible to establish a dwelling, community or business anywhere and at any time. The EcoNomad™ Utility Appliance conveniently integrates the following modules into one singular, transportable structure:

- Potable water purification
- Domestic hot water supply
- Wastewater management
- Engine (CHP) based power supply combined with
- Renewable energy options (PV, wind, water)
- Remote monitoring and control (optional)

The unit was purchased through a competitive tender process put out through partnership with Parks Canada – Manitoba Field Unit (MFU), and Public Works and Government Services (PWGSC). MFU developed the technical requirements while PWGSC issued and awarded the contract for construction. The finished unit was delivered to Churchill this past February and shipped overland to Nester 1 in March. Prior to the unit being delivered to Nester 1, Parks Canada staff Everett Olson, Desmond Raymond and Sheldon Kowalchuk visited the site in March to prepare site drawings and inspect the overland shipment route for the unit. To make efficient use of our time, empty fuel barrels were removed on the trip out. As can be seen by the photo, it was a cold but beautiful day for this work.



With successful shipment of the unit to Nester 1, the next challenge the team faced was getting the site prepared to accept power, water and wastewater services from the unit. As there was no true plumbing system in place, Parks Canada and Manitoba Conservation had to modify the existing facilities. While Parks Canada and the contractor worked on commissioning the unit, Manitoba Conservation staff simultaneously plumbed and wired the buildings. Within two days (very long days!) the site was operating with power (supplied by the solar panels) and we were all drinking water and utilizing the new washroom installed on site.

This summer, Parks Canada operated the unit for just under two months and can happily report that the unit has exceeded expectations. The renewable

power source has, for the most part, provided all power required to operate the site. During a 37 day period of operation, the back-up engine-generator ran a total of 17.5 hours, less than a ½ hour per day. The contractor had expected an average of 4 hours per day run time on the generator. Now that the initial bugs have been worked out, we are confident that the “EcoNomad™” will be able to run off its renewable energy sources and the generator will not need to run at all.

Water treatment and water quality is very high, comparable to or better than most municipal systems. The wastewater treatment will be measured upon close-out to allow us enough time to let the system’s biological environment take hold.

AT A GLANCE

The unit will serve as the model for future development in Wapusk: sound, environmentally friendly and efficient infrastructure that does not adversely impact the environment. It will also allow MFU to ensure modern facilities for our staff and visitors that will ensure their health and safety as well as that of the surrounding environment.

This project was highlighted as one of Parks Canada’s key green projects at the Green Show in Toronto April 25 – 27th and has proven successful in its first full season operating within the remote camp. In August Parks Canada provided tours of the site and the system to our partners, Mr. James Bezan, MP – Selkirk/Interlake and to a group of University of Manitoba students who were on site undertaking research in the park.

WERE THERE INUIT IN WAPUSK? A ROUND-ABOUT ANSWER...

LORRAINE E. BRANDSON

WAPUSK MANAGEMENT BOARD MEMBER & ESKIMO MUSEUM CURATOR

*Photo Courtesy of: Glenbow Archives
Inuit near Fort Prince of Wales – Early 1900s*

Wapusk National Park Interpreter Karyne Jolicoeur-Funk asked me to briefly comment about Inuit presence in the Park not realizing that at my age everything becomes a round-about story!

It was a cool, bright September day thirty-five years ago that I first arrived in Churchill. I was amazed to see the wide expanse of the tundra vista, and the last waves of Canada geese flying overhead. The area reminded me so much of the work of Clarence Tillenius, a famous Manitoba artist who was painting a mural for the new Arctic-Subarctic Gallery in the Manitoba Museum in Winnipeg. I was excited to begin my new job at the Eskimo Museum in Churchill cataloguing all those mysterious artifacts and Inuit art.

You may ask what did I know about Churchill or its historic aboriginal inhabitants, the Inuit, Cree, and Dene? In all humility, I could say very little! Yes, my university degree was in anthropology but what did that count for? And yes, my head was full of visions of traditional Dene culture because my contract at the Manitoba Museum was to research their history and its context within Northern Manitoba aboriginal history for the upcoming Arctic-Subarctic Gallery.

At that time the great Dene leader Matonabee had become one of my heroes. So was the Inuit leader Augustus (Tattannaeiuk), an interpreter of many British expeditions, including the first Franklin expedition (1819-22) that departed from York Factory.

I was anxious to see the stone fort before the first snow flew so Brother Volant directed me to the house of Jimmy Spence, the boat driver to the Prince of Wales Fort. His “house of many colours” at the end of Kelsey Street almost became a second home. His infectious laughter and stories became my window to a world I could only glimpse. The vision of his wife Maryanne sitting at the kitchen table patiently plucking goose feathers permanently imprinted on my mind. You can see this great couple’s picture in The Pioneer Gallery in Churchill’s Town Centre Complex.

As we all know, the history of the Churchill region, including the lands that now form Wapusk National Park, are a mixture of various periods of occupation and travel by aboriginal and non-aboriginal people. We have the footprints of the Inuit and pre-contact peoples (the Pre-Dorset and Dorset culture) that lived a similar lifestyle, the Cree people of the Hudson Bay Lowland, and the Athapaskan speaking Dene, whose territory stretches west to Great Slave Lake.

Back in the 1970s a long time researcher at La Perouse Bay, Dr. Fred Cooke drew my attention to the possible evidence of Inuit occupations east of the community of Churchill. The next summer (1977) I flew to Knight’s Hill on Bruce Martin’s plane with Fr Lionel Ducharme, a long time priest from Arviat in



order to investigate and record tent ring features. A stone's throw west of Wapusk National Park, this site appeared to be an Inuit encampment known by some residents of Arviat as Sarpik. And you may ask why did Inuit come here? or travel further east along the coast? Apparently to harvest the little ringed seal species!

Last month, some thirty years later, I had the good fortune to visit Nester 1, south of Cape Churchill and greet another long term researcher, Murray Gillespie. Aside from viewing the new Parks Canada "green utilities" trailer I was able to take a short guided walk with Murray. As I looked towards the sea and its expansive tidal flats I thought about the traditional Inuktitut name of Cape Churchill Haqqiq Nunaa (the land of Haqqi) and how Sarpik and Haqqiq Nunaa might have been occupied seasonally by the same people. There is even some speculation that Haqqiq Nunaa was Knight's Hill and vice-versa!

While the human history of Wapusk National Park is more closely aligned with the Cree people and

the Hudson Bay mail packet trail, the footprints of the Inuit and Dene reached its lands and shores too. Archaeologists with Parks Canada have recorded and identified many features in the park lands but have not conclusively attributed cultural identities to all sites. Much work remains to be done.

Over the years I have taken a special interest in maps and traditional local or aboriginal names and why features have been given their name in the Churchill region. In the late 1970s Captain Rick Holt and I followed the writings of 19th century Churchill factor George Simpson McTavish (Behind the Palisades) and used our knowledge of the land to match the names McTavish gave in his book to the places along the mail packet route that crosses what is now Wapusk National Park. One of many unfinished projects and dreams I have is to produce a regional map of place names utilizing the names I and others have collected to illustrate the human footprint of the region. Some day! Taima.

PARKS CANADA IN CHURCHILL A BUSY SUMMER!

DONNA MACKINNON

COMMUNICATIONS COORDINATOR - WAPUSK NATIONAL PARK

*Parks Canada Photo: Donna MacKinnon
BBC film crew at Sloop Cove*



Parks Canada hosts Ambassadors

The Parks Canada Visitor Centre, on June 18, was the site of a supper and a presentation to 17 ambassadors to Canada, representing countries from around the globe. Churchill was the first stop on an Arctic familiarization tour for the group. Hon. Eric Robinson, Minister of Culture, Heritage, Tourism and Sport hosted the event. Renowned Polar bear researcher Dr. Andrew Derocher addressed the guests about the effects of melting sea ice on the Western Hudson Bay population of Polar bears.

We're in the movies!

Manitoba North National Historic Sites were the location of two television film projects this summer.

Finding David Douglas, produced by the Oregon Cultural Heritage Commission, is a documentary featuring the life of David Douglas, an 18th century Scottish botanist whose world travels took him to York Factory.

Ray Mears' Northern Wilderness, a BBC production, is devoting one episode of this series to the life of Samuel Hearne, Governor of Prince of Wales Fort at the time of the 1782 French siege.

Both crews were on site filming in August. Anticipated premiere dates for the productions are Fall, 2009.

Prince of Wales Fort National Historic Site Keeping the Walls Standing

Over the past 200 years, sections of the walls at Prince of Wales Fort have weakened to the point of collapse. For the past several years a Parks Canada team of engineers and stonemasons have been rebuilding the weak sections supported by large wooden trusses. They are using the same working methods as the original masons in the 18th century. To reduce further deterioration of the walls a new drainage system is being installed. Archaeologists are recording significant buried remains on the ramparts prior to installation. In summer 2008 the focus was on the

northwest bastion, the section of the fort which received the most damage following the French siege of 1782. We look forward to the project team returning to PWF to continue this remarkable work in summer 2009.

We're on the world stage!

Over the past couple of years, the PWF wall stabilization project has been presented to international audiences in Krakow, Poland; Macau, China; Victoria, B.C.; and Quebec City by Lyne Fontaine, Senior Conservation Engineer with Public Works & Government Services Canada, and a long-standing member of the PWF project team.

Lord and Lady Selkirk Visit Prince of Wales Fort National Historic Site

On June 28, 1813 the Prince of Wales set sail from Scotland with 100 people, removed from their land in the Highland Clearances and destined for the Red River Settlement near the forks of the Red and Assiniboine Rivers. Thomas Douglas, (Lord Selkirk) was present to see his people set sail. The voyage was a miserable one, with an outbreak of typhus and smallpox plaguing the passengers. The ship's captain made a premature landing at Prince of Wales Fort and the sick were left to set up camp with no shelter and few provisions. On September 8, 2008 the current

Lord and Lady Selkirk of Douglas returned to PWF and Sloop Cove to witness the site of this tragic moment in Scottish history. Lord and Lady Selkirk paid a visit to the grave of John Sutherland, just north of PWF, who died in 1813 from smallpox. He had survived in his new country for only 2 weeks.

Saving York Factory

Canada's Government Announces Protection of York Factory National Historic Site of Canada

On August 14 at the Parks Canada Visitor Centre in Churchill, Mr. James Bezan, Member of Parliament for Selkirk-Interlake, on behalf of Canada's Environment Minister John Baird, announced a five-year research and engineering project aimed at finding ways to protect York Factory National Historic Site. The site is under threat of loss from multiple factors, primarily riverbank erosion. The Saving York Factory project is aimed at better understanding site erosion to develop practical engineering solutions to protect this irreplaceable site. The project, which was fully underway on site this summer, is being conducted by a multidisciplinary team of experts who are studying the soils, permafrost, vegetation, river erosion, drainage as well as historic interventions. Partner organizations include Churchill Northern Studies Centre, University of Manitoba, Natural Resources Canada, Fox Lake Cree Nation and York Factory First Nation.



*Parks Canada Photo
Lord and Lady Selkirk talking with Parks Canada
staff Rodney Redhead at Prince of Wales Fort NHS*

*Parks Canada Photo
Parks Canada Staff repointing
the east curtain wall*

David Thompson – Live!

The man who put Canada on the map returns to Churchill!

David Thompson was an intrepid fur trader, astronomer, surveyor and North America's greatest land geographer. He got his start in 1784 as a 14 – year old boy working under Governor Samuel Hearne at Prince of Wales Fort. In July, 2008, he returned to Churchill with his wife, Charlotte Small, disguised as actors for David Thompson – Live!, a Parks Canada theatrical production. David and Charlotte delighted townspeople and visitors alike as they performed scenes from their adventure-filled lives at the Visitor Centre and during Parks Day celebrations at Cape Merry Battery.

York Factory Ancestral Gathering

York Factory NHS came alive from August 6 – 12 with the 2008 York Factory Heritage Gathering, organized by Fox Lake Cree Nation. Approximately 100 former residents and descendants of workers at York Factory returned “home” to renew acquaintances, remember

and share their stories and introduce new generations of descendants to this historic site. Young and old were able to enjoy tours of the Depot, an opportunity to learn about the Saving York Factory project, evenings around the campfire, and a dip in the Hayes River to cool off from the hot weather. A highlight of this year's Ancestral Gathering were the “Depot after Dark” tours – stories about the Depot with a scary twist!

Geocaching Churchill

Geocaching is a new, fun way to explore and learn more about a community. Churchill is now home to seven Parks Canada geocaches. Jenette Martens, a Young Canada Works summer student, conducted extensive interviews and research with community members, Aboriginal elders, and historians. From this background work seven stories about the natural and cultural history of the region, as it relates to the Parks Canada sites, were chosen as themes for the caches. Get out your GPS unit (or rent one at the Parks Canada Visitor Centre) and log in to www.geocaching.com for more information.

UNIVERSITY OF MANITOBA FIELD COURSE IN WAPUSK

DR. RYAN BROOK

POSTDOCTORAL FELLOW - UNIVERSITY OF CALGARY & UNIVERSITY OF MANITOBA

Once again this summer, ten students and three instructors from the University of Manitoba, along with three Wapusk Park staff ventured into Wapusk to stay at Nester 1 field station for one week in August. Before heading out, the students learned about why the park was created and how it is managed with regard to the new management plan. Everyone flew out to Nester 1 by helicopter and while there, the students were engaged in lectures and group discussions and were able to learn about different types of jobs in Parks Canada. Students also spent much of their time immersed in research, collecting data on permafrost, vegetation cover, and measuring fox dens. Individual research projects were also developed on a range of subjects from collecting stories from people with long experience in Wapusk, to insect diversity, to impacts of hikers on snow goose behaviour. Wildlife encounters were numerous and we observed polar bears and caribou daily, while also learning about the challenges of travelling and living along the Hudson Bay coast. This was the fourth annual trip to Wapusk and it has now become a regular feature of the Churchill course.

One student wrote of her experience in Wapusk:

“After a week at Nester One Research Camp, I feel that I have taken away so much more than pictures. I have been introduced to the land, a new ecosystem which I have come to respect, enjoy and know through the field work, hikes and conversations with people who have many years of experience and those who are experiencing it for the first time themselves. I feel privileged to have had this opportunity. Not many people are or will be able to experience Wapusk the way I have.”



Photo: Ryan Brook
Two students probing permafrost active layer

For more information contact
Ryan Brook ryan_brook@umanitoba.ca

HOME AWAY FROM HOME

BY STEPHANIE MOSS,
YOUNG CANADA WORKS SUMMER STUDENT

*Group Photo from Owl River canoe trip
Rory Henderson, Kevin Burke, Stephanie Moss,
Pierre Marchand, David Walker, Karyne Jolicoeur-Funk*



Moving from Ottawa (population 800,00+) to Churchill (population 900+) for four months this summer was, without a doubt, a very big change for me.

No longer did I live four blocks away from Staples, Loblaws and Wal-mart. Nor did I have the conveniences of bus systems, 24-hour corner stores and Tim Hortons; however, I truly believe that I got the better end of the deal.

I traded big chains and easy conveniences for northern lights, Hudson Bay, Beluga whales, Polar bears, and local businesses whose owners and employees take the time to ask about your day, and even remember your name. I've had the time to get a second job working at the Seaport restaurant, which allowed me to meet many local people and make some wonderful friends.

Working for Parks Canada has only added to my enjoyment. Great co-workers have made my transition here much easier, and I've gained important experience during my work term. As a student employee with Parks Canada, I have the advantage of working on projects that are aimed at developing my skills and complementing what I've learned in university.

My tasks have included managing water quality and weather data, assuming the role of researcher on a canoe trip in Wapusk National Park, working with ArcGIS (map making software), and helping to produce informative reports and brochures that summarize important research that has been done in the park.

I am very happy to have had the chance to work with Parks Canada here in Churchill. I would recommend this experience to anyone else who feels a little adventurous and wants to have a fantastic summer!

BIG CITY TO BIG TUNDRA

RORY HENDERSON,
YOUNG CANADA WORKS SUMMER STUDENT

Moving all the way from Toronto to Churchill has been a journey to say the least. I have done things that I never would have done in Toronto, including a ten day canoe trip, flying in a helicopter, cross country skiing in the month of May, kayaking with beluga whales, and of course, seeing a few Polar bears.

Along the way, I have been involved in some very interesting research. I was one of six staff members that participated in a canoe trip down the Owl River in June. Our goal was to learn more about the Owl River by collecting various scientific information and assessing canoeing and kayaking opportunities on the river. My research on the trip involved recording all types of wildlife observations, including animal sightings, dens, nests, tracks and other animal signs. In the middle of Wapusk National Park, there is always something to see, and I was busy recording observations for the entire trip.

After eight more days at Broad River where I assisted with the construction of a fenced compound, I returned to the office to enter all of my observations from both trips into a new database. The Wildlife Observation Database is now the first of its kind for Wapusk National Park, and we are constantly adding data records to expand our knowledge of the various species within the park. I have also completed some work at our national historic sites, including: Cape Merry Battery, Prince of Wales Fort and Sloop Cove. David Walker (Ecosystem Geomatics Technician) and I mapped these sites using a high quality GPS unit over the month of July, updating the information that we have at the office.

I have learned and experienced so much this summer, especially about the wildlife in the region and how to watch how my actions affect the world around me. It was an unforgettable experience!



*Parks Canada Photo: Rory Henderson
Polar bear skull in the moss*

THE OWL RIVER BY CANOE

DAVID WALKER

ECOSYSTEMS GEOMATICS TECHNICIAN - WAPUSK NATIONAL PARK

*Parks Canada Photo: Rory Henderson
Cabin from the Fur Trade Era in the 1920's to 1940's*



For ten days in June 2008, a team of six Parks Canada employees paddled the Owl River through Wapusk National Park (WNP). The purpose of the trip was twofold -- to collect scientific data and to assess the recreational potential for canoeists. Parks Canada is considering future permitting of canoeing, one of the many potential visitor activities identified in the Wapusk NP Management Plan. Sending a team to better understand the river was the first step in this assessment process.

The scientific aspect of the trip included: water sampling, recording wildlife observations, tree measurements and conducting fish surveys. The information gathered will be stored in a geographic information system (GIS), a computerized mapping program that will help research partners and park staff better understand Wapusk's natural resources.

Assessing the tourism potential of the river was the second purpose of the trip. As we paddled, we tried to experience the river as if we were park visitors. Locations of potential campsites along the river were marked and rated as to their quality. The rapids along the river were mapped and graded for difficulty. Transportation logistics to and from the river were assessed. Visitor safety including risk from wildlife encounters, inclement weather, bugs, remoteness, rapids, etc. was assessed. Also considered was the level of paddling experience best suited to this river. The team also considered whether paddling on the river should be restricted to professionally guided trips or if independent groups of paddlers should also be permitted. These are just a sample of the questions asked while paddling the river. The following months will be spent answering some of these questions.

2008 Owl River Canoe Trip



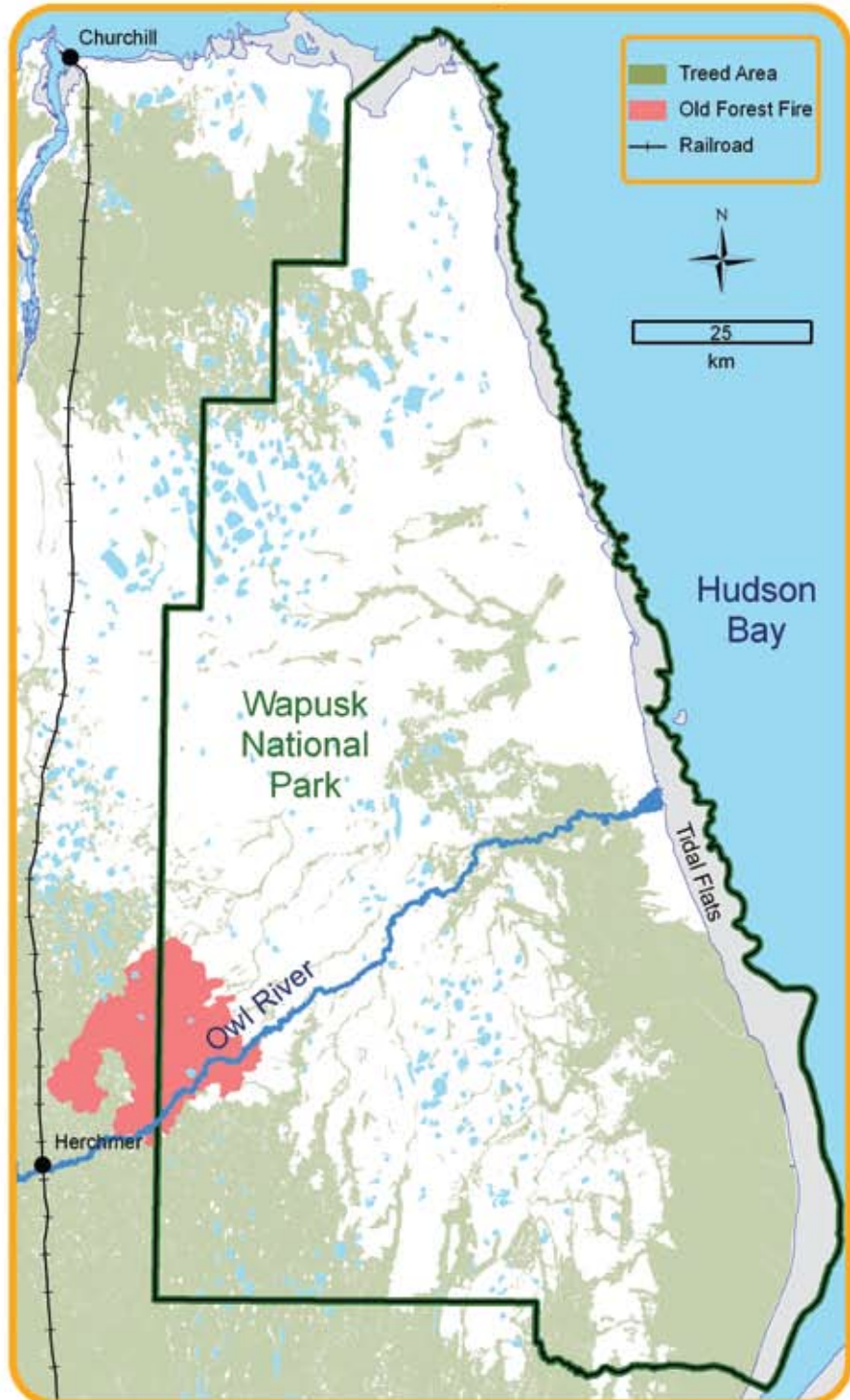
The Herchmer bridge was the starting point of the canoe trip. After we left the train and watched it continue its way South, we experienced a special feeling of instantly leaving civilization and being immersed in wilderness.



We stayed at a number of beautiful campsites along the river. The wonderful weather and the sound of the flowing river helped us relax and sleep well at night.



On one of the many sunny days on the trip, we canoed past the remains of an old forest fire.



Owl River Canoe Route Statistics:

Starting Point: railway bridge at Herchmer

Ending Point: Hudson Bay coast

Length: 153km

Trip Length: 3 - 10 days

Number of Rapids: 163 (class 1 and 2)

Number of Portages: 0

Landscapes: Taiga, tundra, Hudson Bay coast, old, forest fires, steep riverbanks.

Wildlife: Moose, caribou, wolves, foxes, black bears, polar bears, and many bird species.



Most of the Owl River is tree-lined, except the last 7 kilometers, where tundra can be easily seen from the river.



Walking on the muddy tidal flats of Hudson Bay was an amazing experience and a perfect end to a perfect trip.

Preliminary findings of the Owl River's potential as a public canoe route include:

- The river is well suited to intermediate paddlers looking to paddle a beautiful remote northern river with frequent rapids, but with little technical white-water.
- Access to the start of the river is relatively easy and inexpensive. Via Rail Canada can drop paddlers off near the railway siding of Herchmer, at the point where the Owl River flows under a bridge along the tracks.
- Getting off the river is more difficult and expensive as the coast of Hudson Bay is too dangerous for canoeists.
- Canoeing and kayaking on the Owl River has been identified in the WNP Management Plan as an activity that will be explored for the month of June. Travel on the river is best suited to June as water levels drop significantly following the peak runoff. By limiting activity on the river to the month of June, it also addresses safety concerns related to polar bears. There are an increased number of polar bears that begin to come ashore from Hudson Bay generally in July, which poses an increased risk to canoeists. There is also a high concentration of polar bear maternity dens in the Owl River area and disturbing pregnant bears at this critical period needs to be avoided.

The Owl River does not deliver the white-water thrills of a trip on some other northern rivers. What it does offer are the class 1 and 2 rapids that are fun and exciting throughout. The Owl River allows paddlers to experience the gradual transition from taiga to tundra and offers excellent wildlife viewing opportunities, including moose, wolves, caribou, foxes, and possibly black bears and polar bears. The bird-watching is also spectacular. Parks Canada will work with various interested stakeholders in the future to ensure that canoeing on the Owl River can be conducted in a sustainable manner and that visitors have memorable experiences.



*Parks Canada Photo: Rory Henderson
Wolf track along the Owl River shore*

“Before canoeing the Owl River I heard personal accounts from canoeists who said that it was one of the best trips they had ever taken. When I heard this I thought perhaps they hadn’t been on many canoe trips. However, after experiencing the Owl for myself, it certainly ranks as one of the best trips I’ve been on. Whether it was the fact that we had good weather, a full moon, summer solstice, a great team, fun rapids, multiple wildlife sightings, the fact that the mosquitoes hadn’t come out yet, or just the incredible sense that we were experiencing a river that not many people get a chance to paddle, it made for a once in a lifetime trip.”

David Walker – Geomatics Technician, Wapusk National Park

ECOLOGICAL INTEGRITY REPORT

HEATHER STEWART

ECOSYSTEM SCIENTIST – WAPUSK NATIONAL PARK

Ecological Integrity (EI) is often a difficult concept to understand, particularly in a world that seems to be experiencing so much change, from our human community life to environmental change brought on by processes beyond our control. Does EI mean maintaining a set of procedures that are designed to keep things the way they are? How is that possible in the face of predicted climate change? These are questions that make it important for EI monitoring to be planned within Wapusk National Park (WNP). With that in mind, WNP has completed a first draft version of its Ecological Integrity Report called the *“Ecological Integrity Monitoring Action Plan for Wapusk National Park of Canada 2008-2013”*.

Monitoring an ecosystem is like taking a photograph – it is a snapshot in time of the conditions on the land at that moment. As time goes by, changes can be observed. In our everyday lives, pictures of people that we know record their current hair styles, fashions, friends and family. With the landscape, monitoring is a snapshot of change of important parts of the landscape but it is also like a physical examination by a doctor. This examination has to be designed to capture any change that may occur and be robust enough to track that change over time. For example, the EI of the tundra indicator includes the type of climate influencing the tundra and the frozen soil (permafrost) conditions. These physical factors influence the type of landforms on the tundra as well as the micro-organisms, plants, land-dwelling animals and marine mammals that may be on land for part of their life as well as migrating birds dependent on the tundra for nesting habitat. It's a long list to try to monitor and WNP works with a number of partners who have been collecting information on the region for a long time.

For example, in monitoring the tundra, if we just looked at the number of caribou, it would be difficult to determine the cause of a decline in

numbers without knowing if we are observing this at the same time as an increase in wolves, a decrease in suitable habitat for feeding through winter and summer, or an internal parasite. With this in mind, the EI monitoring plan is designed to look at monitoring measures collected by our partners and find gaps that might point to change in the future.

The monitoring measures currently identified and implemented by Parks Canada that may be related to the tundra indicator are: wildfire, sea ice, freshwater and snowpack. In the near future, we hope also to begin observing the survival rates of young caribou during their first year as well as winter numbers. In addition, WNP has currently identified other indicators such as forest, freshwater, wetland, coastal and marine and has proposed measures for these indicators. WNP is engaged in partnerships with other federal government agencies such as the Geological Survey of Canada (GSC) to collect permafrost measurements at four permanent stations and with Canadian Wildlife Service (CWS) to monitor Polar bears and maternal dens within the park.

The Action Plan maps out the type of monitoring that will be undertaken in the park over the next 5 years and the information from this monitoring will guide management decisions.

How will this monitoring provide information?

Like your regular physical at the doctor, it will provide a baseline measure of the state of health of WNP and whether changes are taking place. Tracking a number of measures simultaneously may point to other factors such as climate change or disease or habitat declines.

SUMMER 2008 RESEARCH

HEATHER STEWART
ECOSYSTEM SCIENTIST – WAPUSK NATIONAL PARK

*Parks Canada Photo: Heather Stewart
Cloudberry in a fen*



VEGETATION SURVEY:

The vegetation survey project has been in place since 2002 looking at the inventory of selected habitat types throughout the park. Botanists Dr. Michele Piercey-Normore, Dr. David Punter and Elizabeth Punter and Dr. Bruce Ford of the University of Manitoba have been heading this project. The survey has included vascular plants, mosses and lichens found at each site. This summer, six new freshwater shoreline areas were explored in the northwestern segment of the park to determine the species lists for these landscape types.

Why is this important?

Although the landscape vegetation units are mapped (Brooks 2001), it only deals with the dominant plants in an area. We need to understand all the interconnections with plants that are not so obvious in these communities. Very often these smaller species are indicators of subtle change, or are important food sources for certain animals and birds at differing seasons, so we need to understand what plants make up a complete community, not just what are the top three species. Some plants are rare species and it is important to look at the detailed level of interaction

within each vegetation class. Although not technically plants, lichens are important winter food for caribou. Mosses are often early species to come in after a fire, enabling seeds to take hold and germinate. This work is also important in helping us determine where travel on the land should be restricted, or where best to locate future structures.

What can this research tell us?

Having the vegetation species checklists created from this work will permit us to conduct future research in similar vegetation classes, using the checklist as a baseline for comparison. If we notice certain species missing we can ask why this has happened. What is different about this plant community now from when it was surveyed? Are we noticing that these same species are always missing in certain sections of the park? Are certain species missing because the communities are now drier or wetter, and is the wind making sites more prone to exposure? Are these communities being compacted by trampling?

PERMAFROST MONITORING:

When most people hear of climate change they think of Polar bears and sea ice, but changing permafrost temperatures is also an important indicator of changing air temperature. WNP is in the second year of a multi-year monitoring program with the Geological Survey of Canada, looking at temperatures of the permafrost and electrical conductivity of landscape features.

Dr. Larry Dyke and Dr. Wendy Sladen (Geological Survey of Canada) returned to WNP this summer to install additional permafrost monitoring wells and data loggers. At each location a deep well (approximately 20m deep) was drilled using a diamond drill. Thermistor cables were placed in each well and at the surface, a data logger records the temperature of the permafrost, documenting whether the temperature is changing over time. Currently five wells are installed at sites stretching from Fletcher Lake to the coast. In addition, samples were collected from the active layer (thawed soil above the permafrost) and a soil analysis will be completed over the winter.

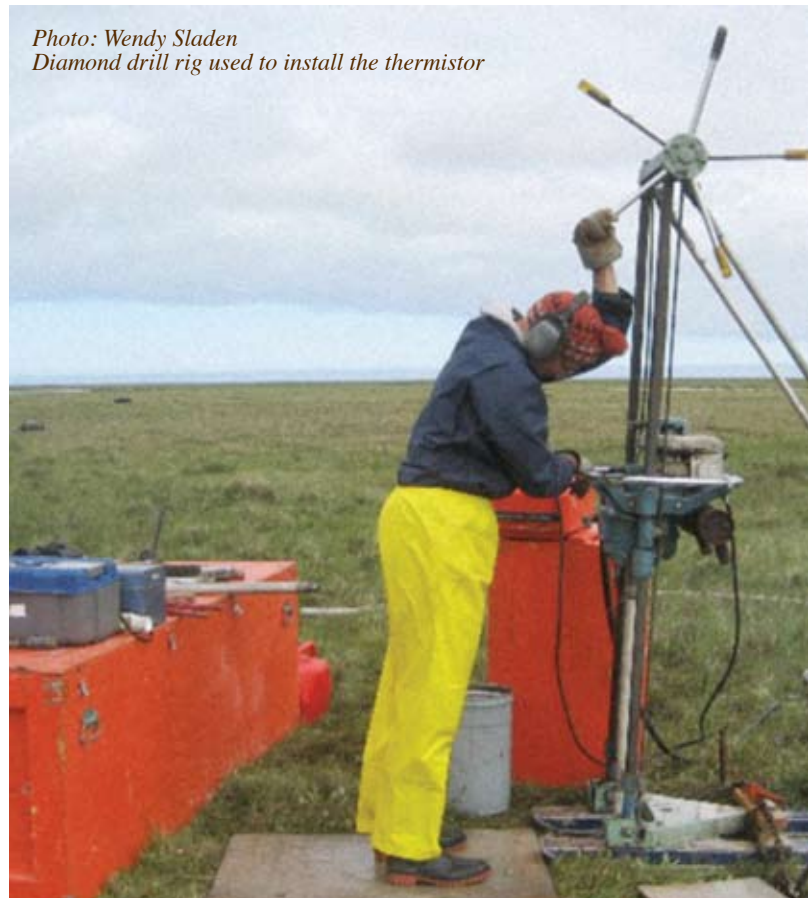
Why is this important?

Wapusk National Park is underlain by continuous permafrost and this has an immense effect on the landscape surface. Increasing permafrost temperatures have been recorded throughout the North and this temperature change will alter the properties of the permafrost and the plant communities above the permafrost. The active layer will most certainly get deeper and this will have an impact on ecosystems, buildings, carbon cycle and flow of water in the lakes and streams.

What can this research tell us?

The temperature record from the coast inland will enable us to determine what vegetation types insulate permafrost from rapid melting and to document this change. Three areas of landscape change will be important to note: (1) With the active layer increasing in depth, are areas becoming wetter or drier? If areas become drier, (2) are more trees establishing and is the tree line migrating northward? If so, (3) will this will have a significant effect upon animal species such as the Polar bear, Barren ground caribou and Arctic fox, who are dependent on the tundra habitat?

*Photo: Wendy Sladen
Diamond drill rig used to install the thermistor*





FRESHWATER SURVEY:

The Wapusk National Park greater ecosystem has well over 10,000 meltwater lakes and ponds scattered across the region. In order to help understand how diverse these freshwater habitats are, this summer, Drs. Jon Sweetman (PC Western and Northern Service Centre) and Shelley Arnott (Queens University), with funding through the International Polar Year (IPY), looked at the water chemistry and diversity of microscopic invertebrate animals called zooplankton in 92 lakes and ponds within WNP. Zooplankton are the base of the food chain in aquatic environments and are an important food source for many aquatic insects, fish and amphibians. The assessment consisted of taking water samples and dragging a zooplankton net through the water. A small collection cup at the end of the net enabled a sample to be put into bottles for identification and counts at each lake. Many of these ponds dry up over the summer and part of the survey was designed to observe whether these zooplankton disperse in the wind as resting eggs that are resistant to drying up or freezing. These dispersing zooplankton were captured in “windsock” nets set up along dry ponds and “the catch” will be assessed over the winter.

Why is this important?

We hope that this study will help pinpoint lakes with unique combinations of zooplankton and chemistry to see if these lakes are also home to fish. This is important in determining possible future study areas for fish populations and in understanding the similarities and differences among lakes and ponds within the park. These ponds and lakes can be quite variable in productivity, nutrient availability and habitat suitability for fish and other wildlife. Hopefully after this summer’s data is analyzed we will have a better understanding of what this variation means.

What can this research tell us?

By studying the relationships of organisms and the water chemistry, we can form a better idea of the richness of these lakes and ponds. This will help us to construct a fish sampling strategy for the future.

PCA SPONSORED STUDENT NAMED FOR PBI LEADERSHIP CAMP

KARYNE JOLICOEUR-FUNK
INTERPRETER - WAPUSK NATIONAL PARK

Every year, Parks Canada sponsors a student from Duke of Marlborough School in Churchill to be part of the Polar Bears International (PBI) Leadership Camp. This year's student is Donald Suluk.

"I'm looking forward to this Polar Bears International Leadership camp," said Donald "It's a great opportunity for me to experience something new and exciting. I'm happy Parks Canada has chosen me and I thank them for allowing me to experience this event."

For the last 4 years, Parks Canada has been part of the "teacher team" for the PBI leadership camp. This camp brings together youth from around the world with a team of teachers, zoo coordinators and members of wildlife management areas for one week of leadership development and learning.

The majority of time at the camp is spent in Churchill, MB surrounded by the tundra and its species. Students are educated about climate change, Arctic wildlife, and human impacts by a variety of specialists, guest speakers and adult leaders. Emphasis is placed on presentation and leadership skills needed to reach out to future audiences and to foster stewardship for the planet.

The mandates of Polar Bears International and Parks Canada point to many common goals. These similar goals invite a meaningful partnership in which Parks Canada contributes to the education of youth with regards to the respect and healthy maintenance of the natural world. The leadership camp is also made possible through the contribution of large urban zoos with many of the students working for and/or being sponsored by these zoos.

Parks Canada's presence at the camp offers education about natural sanctuaries, helping to paint a larger picture about wildlife conservation. At the end of the camp, these bright young students return home to use their leadership skills to share what they've learned about our environment.

Hopefully students like Donald will continue to inspire others about the sub-arctic and the arctic, its wildlife, and its fragility by committing themselves to communicating what they have learned and engaging others to take action towards reducing climate change.

To find out more about PBI's 2008 Fall Leadership Camp, visit:

www.polarbearsinternational.org/leadership-camp



Photo: Thorsten Milse

Photo: Ryan Brook

Winners of the Caribou Guessing Game, Wapusk News Spring '08 issue

Based on the average of five confident counts (3042, 2826, 2873, 3055, 2873), using a grid over this image, the Cape Churchill caribou herd is estimated to be 2934 individuals.

Tamara Beardy from York Landing and **Ivan Moose** from Gillam both guessed 3200 and were therefore only 266 caribou away from the estimated 2934 -- **CONGRATULATIONS!** Winners received a Wapusk tote bag.

Thank you to everyone who participated!

WHY DO CARIBOU CONGREGATE IN THIS WAY?

According to Dr. Ryan Brook of the University of Calgary, "These large congregations of caribou are common during the post-calving season. Biting flies and mosquitoes reach extreme levels during this time and largely determine movements and behavior of caribou."

It seems the large group is a way of sharing the insect load. It is rare to see groups larger than 10 caribou in August once the mosquito and biting fly numbers drop."

CAPE CHURCHILL CARIBOU HERD - WINTER

At this time of the year the herd is moving and mixing, preparing for the rut in late October. This is the only time during the year when the caribou are mixed. During other months of the year the males form bachelor groups apart from the rest of the caribou. Little work has been done on the status of this herd. They are classed as a forest-tundra ecotype, which means they migrate between forest and tundra. This herd exhibits characteristics of both barren ground and woodland caribou and may be a mix of Qamanirjuaq barren ground caribou and woodland caribou from the Nelson-Hayes Rivers area. Caribou are an important food source for northern peoples.



Guess What Game!

Can you guess what's in these picture pieces?



LOCAL TALK

Tell us how you enjoy nature in the Churchill area!

Write us a few lines or a short paragraph about one of your best wildlife viewing or photographing opportunities or any other story you would like to share about enjoying nature in this area. Your story may appear in the next issue of "Wapusk News".

Wapusk Games
Wapusk National Park of Canada
P.O. Box 127
Churchill, MB R0B 0E0

You may also drop off this information at the Parks Canada office in Churchill, MB or e-mail at: wapusk.np@pc.gc.ca

Fill in the blanks below the picture pieces to enter your name for a prize.

Name: _____
PO Box/Street address _____
Town: _____ Province _____
Postal Code: _____ Phone: _____
email: _____

We want to hear from you! The Wapusk Management Board appreciates any comments or suggestions you have about this issue of the newsletter. _____

Find out the answers in the next Wapusk Newsletter