

the Beluga News



Increasing our knowledge of Churchill's Beluga population



NEW STUDY FINDS: CALVES ROAMING THE ESTUARIES

A new study has found that, rather than congregating in distinct areas, belugas with calves moved throughout the Churchill and Seal River estuaries to raise their offspring during the summer months. The findings support the need to protect wide swaths of marine habitat in Western Hudson Bay.

Each summer, an estimated one-third of the world's belugas migrate to the shallow estuaries of the Churchill, Seal and Nelson rivers of Western Hudson Bay to feed and raise their calves.

In some populations, belugas segregate themselves, with older males separate from females and immature males.

But the study found that belugas with calves mixed with adults and juveniles throughout the Churchill and Seal River estuaries. This behaviour could not be attributed to any environmental factors such as sea surface temperature, water depths or distance from shore.

"Belugas are very social so that could be what's driving their distribution," said Kristin Westdal, a co-author of the study. "This means it's important to protect the entire area because belugas with calves are roaming widely within it."

Oceans North has long supported the creation of a national marine conservation area in this region to protect these whales from the threats of declining sea ice, increased predation by killer whales and industrial development.

The study was based on photographic data of belugas collected during Fisheries and Oceans Canada (DFO) aerial surveys of these estuaries during August 2015. Calves can be identified because they are 30 to 50 percent smaller than adults, while juveniles are grey and 50 to 75 percent the size of adults. A total of 13,538 belugas were counted in the river plumes of the Churchill and Seal River estuaries, with calves making up between 4.25 percent and 6.6 percent respectively of the total population.

Dr. Kristin Westdal is the Science Director for Oceans North. The other two co-authors on the study were Jeremy Davies, a marine spatial expert with Ocean Conservancy, and Steve Ferguson, a University of Manitoba professor and Research Scientist at Fisheries and Oceans Canada.

IN THIS EDITION:

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WAVEBREAKING NEW RESEARCH

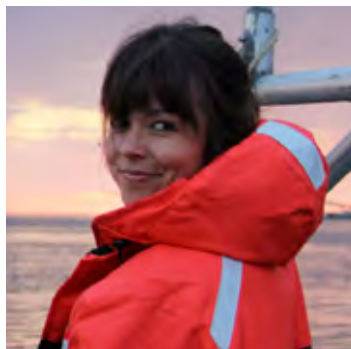
BACK PAGE:
BELUGA BITS CONTEST!



Beluga Bits researchers C-Jae Breiter and Dr. Stephen Petersen and Beluga Boat captain Kieran McIver discuss the deployment of a 360 degree camera while on the water.

Credit: Ashleigh Westphal/Assiniboine Park Conservancy

Beluga calves start out brown, then turn dark grey before gradually maturing into their white colour.



Dr. Kristin Westdal

Science Director for Oceans North

A marine mammal expert, Kristin Westdal has worked extensively on research about belugas, killer whales and narwhals in Canada's Arctic. She owned and operated a kayaking beluga whale watching operation in Churchill from 2001 to 2005. Her PhD research through the University of Manitoba generated new insights about belugas in Western Hudson Bay. Kristin is a regular contributor to the Beluga News.

Scientists Studying Belugas in Churchill Create Working Group

Every summer, thousands of beluga whales gather in Manitoba's Churchill River, which makes the town of Churchill one of the best places to see—and to study—belugas. As more and more research on belugas takes place here, the need to foster collaboration between scientists working in this region has also increased.

That's why the Beluga Working Group has been created, which now includes about 20 members representing researchers from nonprofits, government and academia.

The motivation for organizing the working group was to keep everyone informed of each other's plans and projects and to improve communication with residents of Churchill. Beluga scientists often find themselves being asked questions about other research projects that they aren't directly involved in while they are doing fieldwork.

Members of the working group currently include representatives from Assiniboine Park Conservancy, Fisheries and Oceans Canada, Polar Bears International, Oceans North, Ocean Wise, and the University of Manitoba. Membership fluctuates as graduate students finish their research and move on with their careers.

The group provides an opportunity to share data or resources to the benefit of both scientists and beluga populations. Research groups who tend to be in Churchill more often or for longer time periods, like Assiniboine Park Conservancy and Oceans North, can also assist the staff of new projects. This includes helping them connect with community members for goods and services or providing advice.

“The shared goal is to understand more about these whales and provide information that will help manage human activities in a way that ensures healthy beluga populations.”

It's exciting to see the growing interest in Churchill as a hub for beluga-focused research, from studying the whales' habitat and communication to their interaction with tourist boats, and we hope the working group can provide support for this important work.

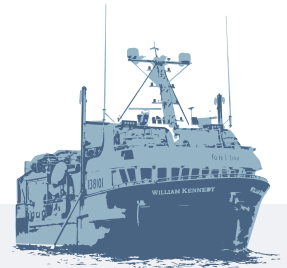
By Dr. Kristin Westdal and Dr. Stephen Petersen, the director of conservation and research at Assiniboine Park Zoo.

NEW BELUGA RESEARCH

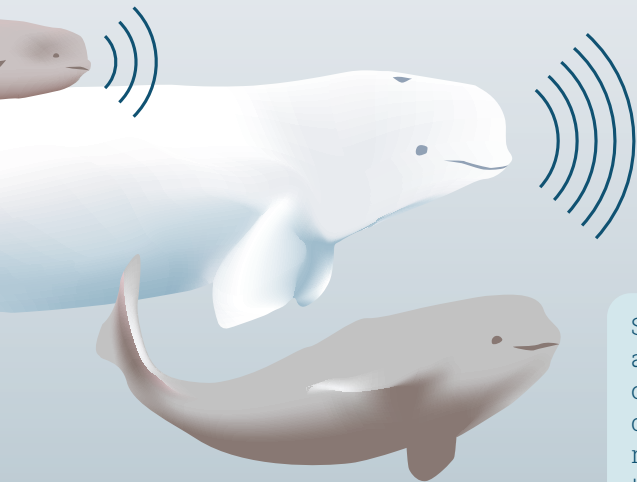


Sea North 2
Jet Propelled Boat

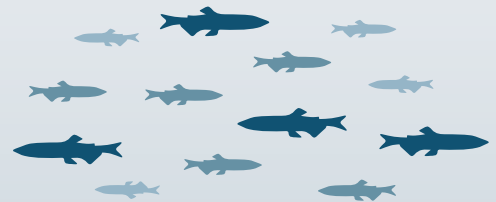
Fish Study: Fish provide essential nutrition to belugas and seals. This summer scientists will collect fish samples to learn more about the food web and ecology of the area.



The William
Kennedy
Science Ship



Sound is as important to belugas as sight is to humans. The ability of mothers and their calves to communicate is critical to the rearing process and maintaining the health of beluga populations.



Capelin: Primary Food Source

Churchill River Estuary: A Beluga Calving Nursery under Observation

The Churchill River estuary, along with the estuaries of the Seal and Nelson rivers, is the summer home of the largest congregation of population of belugas in the world. The whales return to this area year after year, preferring the shallow, warmer coastal areas. Although considered healthy, this population is expected to be under increasing pressure in the future from climate change and impacts of shipping.

Over the past thirty years, Churchill has enjoyed a growing tourism industry. Small vessels are used for whale watching and to transit the estuary to the Fort Prince of Wales site. While tour operators have acquired knowledge of the whales' behaviour, virtually no systematic study has been conducted on the interaction between vessels and whales.

To address this gap, Oceans North organized a three-year study to observe such interactions in the estuary of the Churchill River. The study was conducted with the assistance of the Churchill Northern Study Centre and Sea North Tours.

Over the three years, close to 1000 observations were made in total. Analysis of the results is still

underway. However, **key patterns include:**

- **Feeding was seen in the estuary in the presence of vessels**
- **Belugas interacted with small vessels**
- **Newborn beluga whales were seen in the estuary, including in groups near the tourist vessels.**

Results to date suggest that belugas may be habituating to vessels. While this appears to be good news, key questions about impacts remain. In particular, are there distinct interactions between the vessels and mothers and calves? This question is difficult to answer with the existing data, as the sample size of female/calf pairs is too small to determine any particular impacts on the critical age category of mother whales and beluga calves.

To seek answers about beluga calves, another phase of research is needed. For the next two summers, researchers will systematically monitor and record observations that characterize movements of female belugas with calves as they

respond to tourist vessels in the Churchill River estuary. This method is planned as follows:

- A team of two observers will follow whales visually, under experimental (vessels present) and control conditions (no vessels present).
- A focal pair of female/calf will be randomly selected, distance to vessel (or distance from a control site) will be determined using a laser range finder, and behaviour will be recorded by observers.
- Over the course of a three-minute sample period, changes in behaviour and distance will be recorded according to set types.
- Data will be assessed for statistical differences in behaviour and by distance. Data gathered will be processed by the Oceans North research team and analyzed to aid in improving our understanding of beluga-vessel interactions in the study area.

- Oceans North

VISIT TO HUBBART POINT

Sacred Site, BREATHTAKING SIGHT

By **Sarah Lawrynuik**

Inuit hunting camp dating back at least 1000 years offers optimism about climate change and environmental evolution.

...As the helicopter approaches Hubbart Point, it's clear a couple of passes will be necessary to scare away the dozen bears loitering in the area. The thumping of the rotors sends them running, for a time at least.

Linda Larcombe, an archeologist with the University of Manitoba's school of medicine, is overwhelmed upon landing at the site for the first time. "It is spectacular," she says. "There's a lot of activity in one small space."

"At a lot of Manitoba archeological sites, everything is below the ground, there's hardly anything to see on the ground. So it's unusual to go to a place like this, where there's remains and structures to actually see."

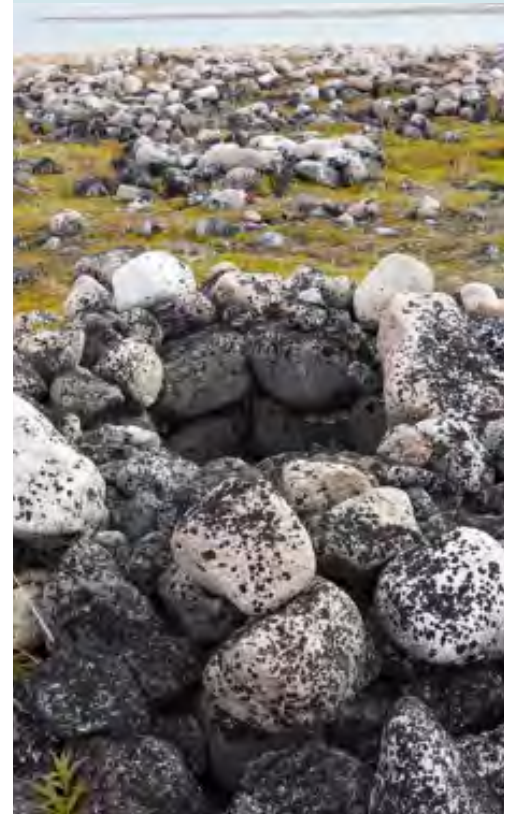
The raised piece of land juts out into Hudson Bay with the bright greens and yellows of coastal plant life surrounding the point. There are mounds of pink-hued boulders wrapped in layers of black, deadened lichen. Spending an hour at the site is barely enough time to take in all of the features; the enormity of the historical site is breathtaking. "I feel like there's a real presence here, which is difficult to describe in words, and probably also to photograph," says Paul Labun, a policy adviser with Oceans North.

In Inuktitut, this place is known as Qikiqtaarjuit, which roughly translates to "place of small islands." At the time the Thule people would have used this point, the water would have been much higher, as the ground in this area is rising, and has been since the last ice age in a process known as glacial isostatic adjustment. It was previously cut off from the mainland and was more protected from polar bears and other predators at the time.

Johnny Mamgark, the Arviat-based Inuk guide, wasn't able to make the trip out to Hubbart Point in late

"It is special, special to us Inuit, but also to Manitobans. A special place where the beluga migration goes, polar bears, seals, just about everything.

Johnny Mamgark, Arviat-based Inuk guide



Food caches were and are an important way that Inuit communities store food when they're hunting.

(Photo Credit: Paul Labun)





Archeologist Linda Larcombe is overwhelmed upon her arrival at Hubbard Point: 'It is spectacular'

(Photo Credit: Paul Labun)

August, but in a phone interview, he explains that this point maintains a special place in modern Inuit culture. While he and other hunters regularly travel to the area to hunt beluga, caribou, even wolves, they never set up camp there.

"We never camp on that island, no. We respect it too much. We don't even go on that island,"

"What [our research] shows is that the area has been productive over a long period of time, and productive through different climatic cycles."

Chris Debicki, Oceans North

Mamgark says. "It is special, so special to us Inuit, but also to Manitobans. A special place where the beluga migration goes, polar bears, seals, just about everything. It's very special!"

The abundance of wildlife in one concentrated spot is likely why it's maintained its importance over the course of generations, he says.

The history of people on the land is a big part of what makes the site so unique, but also so hard to understand. What was used at one time versus another? How many people would have used the site at once? Layer upon layer of structures intermingle with one another, obscuring the answers to those questions.

"They used a lot of the natural boulders around there to build the bases of structures, and then they would have used wood (or whale bones) to build the roofs of the structures. But all that remains are the large stones and the base of the structures. And there's over 100 tent rings,"

Larcombe says.

"And then there's also meat caches, which I'd always envisioned meat caches as small, little compact places of stacked rocks, but these things are huge."

Some of them, at least a metre high. They'd have to be substantial enough to protect the meat from bears, after all. "We know so little about that kind of Thule occupation, generally," Larcombe says. She hopes to be able to interest graduate students to conduct research out at Hubbard Point to help her make sense of the site. The carbon dates came from only from a couple of samples after minimal excavation. With more investigation, more history could easily be uncovered.

Larcombe and Labun are both hyper-cautious about intruding, but Mamgark says as long as the items that belong to the site are left there, he's eager to learn more. His support is also contingent on researchers not getting in the way of the hunting.

"If we work together, I wouldn't mind people coming there to study it," he says.

A big reason for Oceans North to continue the research, though it might seem a bit off message for a conservation group, is to demonstrate the importance of marine mammals to humans throughout the history of this continent, said Chris Debicki, vice-president of policy development for Oceans North.

He also hopes the project highlights the cultural and intrinsic importance of beluga whales to the Inuit, bringing attention to why the population needs to be preserved.

One of the leading theories for how the Thule were so successful at migrating rapidly across

the continent into new places, such as northern Manitoba, is that the climate warmed enough during the Medieval Warm Period, which ran from the year 900 until approximately 1300.

"The climate warmed, so the whales started moving," says Lorraine Brandson, the curator of Churchill's Itsanitaq Museum. The Thule culture, as a whole, evolved alongside the expansion of the whale's territory, she explains. Then with the Little Ice Age, between the 16th and 19th centuries, encampments became smaller as the region became less productive, hunting less successful. "So there is a climate-change aspect to their culture. That environmental explanation is the main explanation archeologists use... for their shifts in culture."

Debicki sees the connection between climate change and the archeological dig as a twisted source of optimism. Climate change can have devastating effects, but somehow, in some form, this ecosystem seems to endure.

But what that reality looked like for people in a different time, in a different climate, could be used to develop conservation and adaptation efforts now as the world faces a much faster and much more severe change.

"What (our research) shows is that the area has been productive over a long period of time, and productive through different climatic cycles," he says. "It's not to say that (in this) area the change isn't going to be cataclysmic and disruptive, but there's a good probability, based on historical record, that it will remain productive."

(Abridged from the Oct 30, 2020 Winnipeg Free Press, edited for space)

PERSPECTIVES:

Interview with Harry Tootoo

“It’s a part of our life. Without the beluga, we wouldn’t have survived.”



Q: When did Inuit come to Churchill?

The tent rings near Churchill go back as far as 3000 years, maybe even further. For years and years, Inuit came down here because there’s a pretty big abundance of belugas and seals. The water is perfect, it’s not too deep. They can hunt whales. As long as they can get close to it with the kayak, you can get close to a whale and harpoon it.

Q: How long have Inuit been harvesting beluga whales?

Beluga are a part of our staple diet. It’s a part of our life. Without the beluga, we wouldn’t have survived. Beluga and seals provide us with food and oil for heat and light. Beluga meat has all the vitamins in it that you need to be nice and healthy.

Q: How many whales were harvested?

Back then, they only took what they needed. They wouldn’t over hunt. They didn’t have big enough boats to go out and harvest a dozen whales, and it was useless to over hunt because you had no refrigerator or nothing like that.

They only took what they could handle and made a cache for any extra. They hunted for their families.

Q: How do you prepare beluga meat (maktaaq)?

In the old days, the maktaaq was cached and then it ferments a little bit, it ages, but it doesn’t really get too rotten. But when it’s fresh, that’s the best time to eat it. I love it when it’s fresh, they just cut it up right there or boil it up. Those are my two favorite ways of eating maktaaq.

Q: We are here at the “Churchill Flats” where there was a whaling plant for a several years, what do you recall about this place?

Whalers and hunters would go out, catch the whales and bring them here to the plant and they would harvest them and get the oil. Train cars used to come and take the oil down south.

When I was a kid, we used to come down here on these very same rocks and watch the whalers. About 10-15 boats,

hunting whales. They’d be out there chasing with harpoons in the air and a motor driver in the back. And they’d all be going all over the place, almost hitting each other. It’s a good thing nobody ever got hurt catching whales that way.

They’d bring them right up to the ramp here and haul the whale. There was a draining spot, and they pulled out the whale teeth. We used to go collect them and sell them to the tourists. We were always saying, Oh, when we get bigger, that’s what we’ll do too. But the plant closed in the ’70s.

Q: What happened after the whaling plant shut down?

Tourism started developing. John Hicks had a motel here, the Beluga Motel, and he started whale watching boat tours. Tourists would come here from all over the world.

That’s when aquariums came too. We caught live whales to ship all over. They were called the cold-water cowboys. They had three people: the motor driver and two “jumpers.” They would go after the whales. Sometimes they wanted females and sometimes they wanted males. Always after the young ones, the gray ones. We shipped whales to Japan, China, down to the States. I think all the beluga whales now in captivity are descendants of the ones caught here.

Q: What personal memories do you have about belugas in Churchill?

I remember years ago, me, my older brother and another buddy of his went chasing whales. And we ended up catching a small, baby whale. We had it for a little while but then we found a mother and put the baby back into the water. It was pretty neat. It was too young. The good eating whales are the big white ones. The young ones don’t taste as good.

Q: Do Inuit hunt whales in Churchill now?

There’s not very many Inuit here in Churchill now. Nobody really goes out hunting unless there’s enough people in town that say, go get one for me. And then one whale will last the whole year.

(Edited)



Harry Tootoo

Resident of Churchill

Harry Tootoo is a longtime Churchill resident and member of the local Inuit community. In this interview on the river bank he remembers growing up alongside the beluga whales of the Churchill estuary.

OPINION:

Manitoba must preserve its ocean ecosystem

By: Ron Thiessen

PREMIER Heather Stefanson has committed to doing things differently, including a promise to listen and collaborate more. One worthwhile way to demonstrate this new approach would be to embrace Manitoba's identity as an ocean province and take steps to protect and conserve our threatened marine habitat. These conservation efforts need to extend to our great inland sea: Hudson Bay. Manitoba has 650 kilometres of sub-arctic coastline along Hudson Bay, with rich marine ecosystems in the wetlands and estuaries of such rivers as the Seal, Churchill and Nelson.

Belugas, polar bears and millions of seabirds flourish in these rich waters. The natural abundance of the North has long sustained Indigenous peoples, and is a major draw for tourists from around the world.

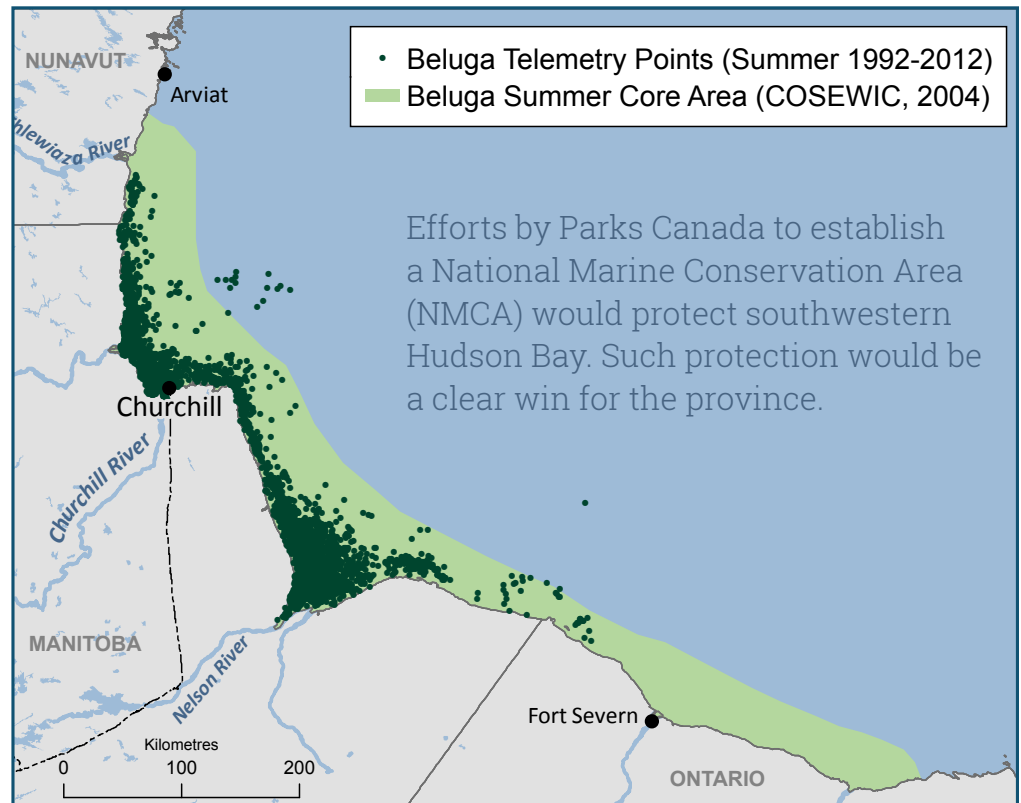
Efforts by Parks Canada to establish a National Marine Conservation Area (NMCA) would protect southwestern Hudson Bay. Such protection would be a clear win for the province. It comes with federal investment, tools and resources to protect and manage a vital marine area. It will help create sustainable jobs in the North.

Done right, it would be based on science, Indigenous knowledge, local knowledge and participation, while affirming Indigenous rights. This is important for a region such as Western Hudson Bay, where observable effects of climate change include a faster loss of ice than in most parts of the Arctic.

Scientific studies are making us keenly aware of the wide scope of services provided by oceans and coasts. Healthy oceans stabilize and slow changes to marine ecosystems that sequester large amounts of carbon, such as kelp, seagrass beds and the seafloor itself. Protecting these marine areas can help mitigate the impacts of climate change on both marine mammals and human communities.

In Manitoba, a healthy coast supports the northern tourism industry. Pre-pandemic, Churchill welcomed an estimated 15,000 visitors annually. The economic value of whale-watching alone is already a multi-million dollar industry with growth potential. Tourists from around the world continue to flock to Churchill for a once-in-a-lifetime chance to see polar bears, belugas and sea birds. But viewing these iconic species will only be possible if their habitat remains healthy. With the railway to Churchill repaired and the port finding its way back to full operations, it's time to seize this opportunity.

Elsewhere in Canada, northern communities are partnering with the federal government to create protected areas. In doing so, they are able to leverage major federal investment, along with related jobs



It comes with federal investment, tools and resources to protect and manage a vital marine area. It will help create sustainable jobs in the North.

and annual funding for programs and research. In 2019, Inuit partnered with Canada to create the Tallurutiup Imanga (Lancaster Sound) NMCA. That included more than \$240 million in federal support in infrastructure investments and programs. This past summer the Cree Mushkegowuk Council and Parks Canada launched a multimillion-dollar feasibility assessment for an NMCA in western James Bay that would extend to the Manitoba border. In a recent federal budget, almost \$1 billion was committed over five years toward marine conservation targets.

For Manitoba, an NMCA would provide new funding for crucial research into how climate change is affecting iconic species, such as beluga whales, and generate ideas to mitigate negative impacts. The town of Churchill and its tourism industry appear

open to working on this potential investment in their future. Regional Indigenous communities can provide valuable direction and knowledge about how this designation could best serve its people and the marine wildlife. Its time for Premier Stefanson to take up the challenge, by working with the federal government and northern communities to protect Manitoba's ocean assets.

Abridged from the Winnipeg Free Press Jan. 4, 2022

Ron Thiessen is executive director of the Canadian Parks & Wilderness Society, Manitoba chapter.

Help protect Hudson Bay!
Go to www.cpawsmb.org to take action with a quick and easy letter-writing tool.

BELUGA BITS

WIN
a tour for
two!

CONTEST

Residents of Churchill can WIN!

We are running a contest (open only to residents of Churchill) from July 1 -July 31.

To participate, register a username on Beluga Bits and contribute classifications during the contest period.

For every 10 classifications you complete, your name will be automatically entered in a draw to WIN a tour for two on the Beluga Boat this summer!

The winner will get to choose a tour date either on:

Tuesday, August 16 from 10am - 2pm OR Sunday, August 21 from 2pm - 6pm

(Please note, dates may be subject to change due to inclement weather).

To register for the contest and for more contest details, scan this QR code or visit form.jotform.com/220874013510242



You can have a whale of a time contributing to science!

What is Beluga Bits?

Assiniboine Park Zoo runs Beluga Bits, a collaborative citizen science project monitoring the Western Hudson Bay population of beluga right here in Churchill!

Using special underwater cameras run by explore.org and Polar Bears International, we can glimpse into the underwater world of these amazing animals. Not only does this provide us with a unique view, the videos and photos collected will help us understand belugas better as well as this amazing ecosystem.

We need your help!

Citizen scientists are the backbone of our project and we *whale-come* help from people like you! If you'd like to contribute, you can register online at zooniverse.org/projects/stephenresearch/beluga-bits

HOW BELUGA BITS WORKS



The Beluga Boat captures a live feed of beluga in the Churchill River estuary



On Explore.org, citizen scientists can take beluga "Snapshots" of the live feed



On Zooniverse, snapshots are categorized by citizen scientists



LISTEN TO THE PODCAST:

theoceanproject.ca

Episode 4: The Great Beluga Migration

Belugas gather in huge numbers each summer in Western Hudson Bay. So why isn't this marine habitat protected?



OCEANS NORTH

Oceans North is a registered charity that supports marine conservation in partnership with Indigenous and coastal communities.

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