Transcript | Out of the Arctic
Episode 07 | Disappearing Highways in the Ice: What Access to Walrus Means for People

Speakers: Brendan Kelly, Bryan Rookok Jr, Athena Copenhaver, Alex Shahbazi, George Kling
Study of Environmental Arctic Change (SEARCH)

00:00-3:10 - Intro & Set up

3:11-3:45 Brendan: What we're looking at is the western Arctic, the Bering Sea, the Chukchi Sea, the Beaufort Sea, the east Siberian Sea. And this graphic is made from satellite images. This used to be the kind of typical conditions in late spring or late in the ice-season, it's actually early spring, about March. The ice would be down, somewhere south of Saint Matthew [island] and maybe as far south as the Pribilof Islands

3:46-3:51 Bryan: It doesn't reach Pribilof Islands, seems like watching the Alaska weather now

3:52-4:37 Brendan: Good point, so this is what it used to be like and when I was a young scientist in the 70s, as Bryan says, it would be much further up, around Saint Matthew Island more typically, now, so this is sort of time of year, the spring, when the ice is at its maximal southerly extent. But what I wanted you to see is this–that the winds are predominantly out of the North, northeast in the winter months and that tends to blow the ice off of the southside of the peninsulas and islands. And that creates what we call a, "polynas." These big open water spaces.

4:38-5:05 MAP DESCRIPTION—POLYNAS

5:06-6:03 Brendan: And they do two really important things ecologically, they concentrate everything–diving animals, sea birds, marine mammals, walruses, seals, whales, so you start to think, well if you were living off marine mammals in that part of the world, where would you want to live? What isn't here, as the ice begins to retreat in March, it starts fracturing and fracturing and a lead system, in other words, a linear opening in the ice starting at about Cape Wales, goes up North and around past Point Hope and up the Chukchi coast and it isn't until it gets to Utqiagvik that it begins to diverge away from the coast. So it creates a little highway for migrating bowhead whales, Balogas, walruses, etc. But let's see where the long-term occupied sights are in this part of the world.

6:04-6:30 MAP DESCRIPTION—SETTLEMENTS

6:31- 6:49 Brendan: That's where people have been living for a long time. They have been living where these polynas and lead systems open up. Point Hope is an extremely old

occupation site, as is Gambell and Kookoolik–which is a village not far away from where modern-day Savoonga is.

6:50-7:05 **Bryan**: As a matter of fact–Gambell and Point Hope are communities that have been whaling since time immemorial and before the state of Alaska and they are still doing it.

7:06-7:59 **Brendan**: So this is, once I created a graphic that showed the lead system and I don't know what happened to it, but it just stands out that all these centuries of accumulated knowledge you can see what the ecological–so this is a social-ecological system, right? You have people who have lived in these places for literally thousands of years, harvesting a predictable harvest of migratory mammals, birds, and that's the context in which we need to understand what is happening today. The ice is not there. It is up at the Pribilofs at the peak and it breaks up earlier and it comes in later and it's changing the ecosystem, it is changing the access to animals, it's changing peoples' lives.

Oh and by the way there is less reflectivity because of the changing Albedo.

8:00-8:07 **Athena**: Right. And where did you find these? You had these in your files, you created these at some point?

8:08-8:10 **Brendan**: I created these

8:11-8:14 **Athena:** Right, because you started the conversation by saying I came across these this morning…

8:15-8:25 **Brendan**: Oh, these came from, I was looking through my archives for a slide I wanted to use for today's presentation.

8:26-8:47 **Bryan:** Right out on the island there on the winter time, we have prevailing winds from north, northeast and open waters on the south and the southern portion of the island which the birds migrate from north to south and even the seals and walruses at times they cross the island.

8:48 **Brendan**: To get to the polynas

8:49 **Bryan:** mmHmm

8:50 **Athena**: Wow

8:51-8:54 **Bryan**: At times there are fatalities.

8:55: **Brendan**: From the animals crossing [Saint Lawrence] island?

8:57 **Bryan:** mmHmm

8:58-9:54 **Brendan:** That's a rough travel. I've made that trip, you have too, I wouldn't want to do it on flippers. So this, George, the Punuk Islands are right kind of there on the edge of where that polyna is and in modern times the whaling at Saint Lawrence Island happens off of Gambell because the water opens up there early in the spring and that's where that lead system really starts, the one that goes north to Utqiagvik and beyond. But for the people in Savoonga, it use to be–and Bryan correct me if I get this wrong–but the ice was heavy on the north shore through and well into Spring. And so, when the whales showed up they'd hit this polyna and so the people of Savoonga would drag their boats over the island down to that polyna.

9:55-10:12 **Bryan** Southwestern portion of the island is called, [...] each and every boat captain has cabins there for spring whaling, approximately 38 miles, it all depends on the condition of the snow.

10:13-10:16 **Brendan**: It felt like a 100 to me.

10:17-10:24 **Bryan**: During the fall season, we do hunt now in the village.

10:25-10:50 **Brendan**: When I first started going out there this was a new phenomenon that people are hunting right off of Saint Lawrence Island. That just didn't use to happen and so this also speaks to adaptation, right? People are adapting to the changing circumstances.

10:51-11:15 **Bryan**: It seems like people are noticing the ice conditions and the pre-ice is not coming out to the island anymore. Seeing whales on the northside of Savoonga along the coast there communities started whaling from there up to the state we have been.

11:16-11:19 **George**: So why wont people adapt to the conditions that climate change is creating now?

11:20 **Brendan**: They will.

11:21-11:46 **Bryan**: We are adapting. We are adapting, it is just that some point we won't be able to adapt to the high winds, the high gusty winds that we are facing. We only have stick built homes. I don't think they'll last.

11:47 **George:** And if the whales don't come….? You can't adapt.

11:48-11:54 **Bryan:** Are they coming, they are still coming.

11:55-12:19 **Brendan** Perry Pungowiyi and other have described when the ice isn't here later in the spring when the walruses are going by, it means that instead on hunting really close to the village you're going as much as 100 miles north into open seas with high winds in a small skiff. It is expensive in fuel and really dangerous in terms of the safety of the hunters.

12:20-12:27 **Bryan**: And that's what we have been doing, my brother, Chris, boat captain went over a 100 miles

12:28-12:29 **Brendan**: For walrus?

12:30-12:39 **Bryan**: For walrus. In spring time they were much closer to King Island than our island

12:40 **Brendan**: You can't buy gas at King Island can you?

12:41 **Bryan**: no no no

12:42-12:46 **Brendan** It'd take a long time

12:47 **George:** So there are consequences to adapting?

12:49: **Bryan: Yeah**

12:50-13:47 **Brendan:** Exactly, so you know this as a biologist, people think of it as "just change" but from an evolutionary perspective, it is change that produces grandchildren. And so, if you have hunters that don't come back, those are grandchildren that don't get born. And so that is how adaptation actually happens from an evolutionary perspective. It's those genes that disappear from the gene pool that disappear from a selection event. I have seen this over and over again there are lots of conservationists, lots of biologists that will say, "eh they'll adapt. The animals and the people will adapt." And they will, at a population level, but at an individual level, that adaptation means you've lost somebody. It is like listening to Maija Lukin talk about all the relatives that went through the ice and never came back. That's adaptation, it's…

13:48 **Athena**: it's costly.

13:49-14:08 **Brendan**: Yeah, but this is a good example of knowing when we're saying the same thing. So if you have an management biologist who says, "eh they'll adapt" as though that were no big deal. And as an evolutionary biologist, I think, "oh my god how many people are going to be lost in that adaptation?" You know? Are we selecting for people who want to stay home instead of go out hunting, I don't know.

14:09-14:32 **Bryan** It seems like at times we put the mammals we have under an endangered species list. If they keep on doing that why don't they just put us–Saint Lawrence Island–under endangered species act as well.

14:33-14:34: **Brendan**: You're hurting my heart now

14:35: **Bryan**: Due to climate change

14:40 **Brendan** So that's my sea ice walrus lecture for now

14:45-14:52 **Athena**: Thanks for sharing

14:59-15:19 Pop in

15:20-16:03 **Brendan**: So one of the things about walruses coming to shore is that they are vulnerable to two things, terrestrial predators: polar bears and people and they are vulnerable to each other in stampedes. They get in really large aggregations and then when they spooked and all go off to the beach at once a bunch of them get trampled. And we don't really know what it means to go from these islands where the number of animals is limited and there are no predators to go to these mainland pull outs like Point Lay where there are predators and disturbances that will create more stampedes.

16:04-16:06 **Athena**: Bryan do you mind saying again what you said a moment ago where the haulouts were changing?

16:07-17:18 **Bryan**: Oh. I don't know if ship traffic has been affecting it. I'm sure climate change has been a major role in making the walrus haulout moving from Kynkay Island. It seems like the majority of the walrus russian chakchu area and constantly they are hauling out by Point Lay now. But we still do have haulouts in late Fall now, not as much as they used to back in the 70s and 80s. It seems like they have been declining, not the population, the population is healthy, but I don't know what the main problem is. A whole bunch of ships going along the north side of the island, east side of the island.

17:19-17:22 **George:** Have they done studies on how walrus move when ships approach?

17:23-17:34 **Brendan:** Very little, I think research in the Canadian Arctic, I'm not thinking of the specific pieces, but very little here. A lot more on whale responses to ship traffic, so it's really hard to know. Like I said, from my perspective, so much is changing within time. The ice availability is changing, the prey base is changing–has changed. The amount of ship traffic is changing, all this has changed and we are not even sure where these animals have moved to. I think we need to pull this all together as best we understand it and point to, what is it that we don't understand about this? such that we can't help we can have a sense of what comes next. What's Bryan's granddaughter going to face? I don't know.

18:25-18:30: **Athena**: Okay, no one is allowed to say anything else smart or important when I hit this button, ok?

CONCLUSION