

FINAL REPORT: QIA'S TUSAQTAVUT STUDY SPECIFIC TO BAFFINLAND'S PROPOSED PHASE 2 OF THE MARY RIVER PROJECT FOR THE COMMUNITIES OF ARCTIC BAY AND CLYDE RIVER

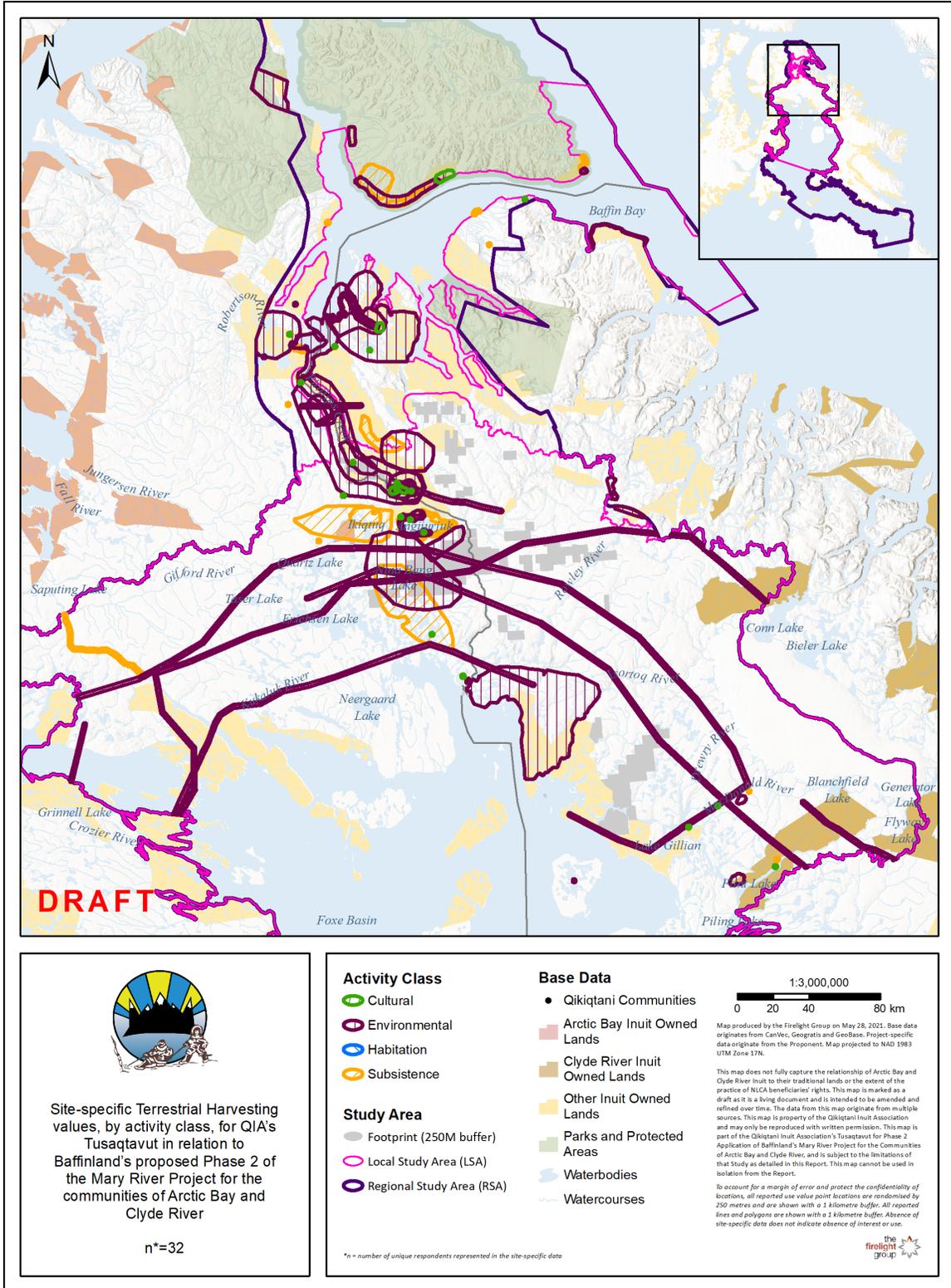


Figure 8: Arctic Bay and Clyde River site-specific Terrestrial Harvesting values reported in the Study Area

4.3.2 Importance

For Arctic Bay and Clyde River Study participants, Terrestrial Harvesting encompasses the hunting and gathering of a wide variety of plant and animal species on northern Baffin Island for sustenance, cultural, and economic purposes. Terrestrial Harvesting also involves traveling and camping on the land, ice, and water, and each of these activities possesses their own bodies of knowledge, practices, and customs, and conditions (these aspects of Terrestrial Harvesting are discussed further in Section 4.6, Cultural Continuity). Furthermore, Terrestrial Harvesting is vital to Inuit community food traditions and food sovereignty (discussed further in Section 4.7, Food Sovereignty).

During interviews for this Study, participants highlighted the diversity of terrestrial species harvested annually including large and small mammals, birds (e.g., especially ptarmigan and geese species), berries, and other food and medicinal plants.

And this is around end of August, so around beginning of September I come back home to Arctic Bay and start caribou hunting by four-wheeler. (A07 2020)

Around December [east side of Milne Inlet] would be a prime fox-hunting area, when the ice would be nice and solid and firm, and good travelling route. ... So, December, the fox fur was very good for like selling. (C21 2020, interpreted from Inuktitut)

Yeah, weasel, lemmings, fox ... Ptarmigan ... Yeah, mostly those small game ... They were also a part of our sustenance. (C15 2020b, interpreted from Inuktitut)

They would harvest [snow geese] eggs and snow geese [on Bylot Island], (C25 2020, interpreted from Inuktitut)

Yeah. There was goose camp around here [on Bylot Island]. There was a goose camp around here. Sometimes has a lot of goose, and Canada goose. They migrates here. When they start to have eggs, they pick some eggs. ... Yeah, during the spring ... Pond Inlet people start going up to that area picking some eggs. (C20 2020)

Because they're very high cliffs, it was her father that collected the [murre] eggs [on Bylot Island]. ... Her father was very good at climbing cliffs. ... June because that's typically when the eggs are ready to be picked. (C25 2020, interpreted from Inuktitut)

This inlet is Inuksuit Fjord ... Yeah. [There we get] Crow berries, eider ducks. Lots of eider ducks that we hunt up there. (C17 2020)

Blueberries ... Him and his wife [pick them] ... That's how men take their women out, blueberry picking is the most romantic thing ever ... When the berries are ripe, usually around September, August. September. (A14 2020, interpreted from Inuktitut)

Okay, so she knows of a kind – type of a seaweed, like on a shoreline for example. And if you have eczema or any kind of skin condition, it's very – it heals the eczema. (C12 2020, interpreted from Inuktitut)

While Terrestrial Harvesting encompasses a diversity of species, caribou is a cultural keystone species for Inuit on Baffin Island and particularly of interest in relation to the Project; much of the remainder of this section (4.3.1) is focused on caribou. This is owing both to the role of caribou in the lives of participants, as well as the reported importance of the Study Area for caribou and caribou hunting. Caribou were described as central to participants' terrestrial foods diet, hunting culture, and identity.

I'm Inuk and I, I like my meat, hey, and caribou meat, they're one – they're one of our number one choices ... (C16 2020)

It's [caribou] really embedded in me, the taste of it, everything. And you hear the stories of caribou hunters going extremely far to catch caribou because they've been eating seal all throughout the winter and whatnot. And I try and live by those stories and try and continue on caribou hunting ... Yeah, no matter how far I have to go, I tend to try and keep going, because I hear stories of my uncles going far as that. (A07 2020)

Ptarmigans and caribou are the major food source in around here. ... Throughout Nunavut actually. Every Inuit culture still depends on those kinds of – the availability of them. ... So, as soon as the youth have – when they start catching caribou and ptarmigan, they stick to their country food and they're not eating the non-country food as much. (C05 2020b, interpreted from Inuktitut)

One participant highlighted the specialised knowledge that surrounds caribou, including the ability to differentiate mainland and Baffin Island herds by appearance and taste.

There's different kinds of caribou. There's caribou from mainland around anywhere. Elders can recognize them. I don't. They all look the same to me, but they taste different. (A07 2020)

Especially this year, my friend, which is my cousin, he caught a bull caribou in this valley ... And his father looked at the antlers and right away said this is not island caribou, this is mainland caribou that travelled. (A07 2020)

Participants discussed the traditional and ongoing practice of using all parts of harvested caribou, and especially the hides which are a highly insulative material critical for surviving the extreme northern climate along.

... caribou is important to him because that's what we know. We – that's our food source from the beginning of Inuit. And that knowledge is passed on for survival for clothing and the crucial role it played in us to get tools, material and sinew from the caribou. And the hide itself was our way of survival for clothing. (C14 2020, interpreted from Inuktitut)

And it's [caribou] also vital because it's been a way of surviving to clothing and tools that it provides ... So, not only did we use the hide for clothing, it was also used for mats. So, like, for beds, so you can be warm ... Caribou hide is one of the most valued and precious material in the north [pause] because of its insulative and – insulative properties. (A12 2020, interpreted from Inuktitut)

Caribou has a significance to him because it's traditionally – it was for clothing and the meat and along with the bones were like ... for tools and clothing, that's why it's so important. And today that same value and importance, it's placed on caribou. ... Because by experience they know that polar bear – or caribou hide is the best in [Inuktitut spoken] property compared to like man-made materials. Because it gets extremely cold here in high arctic. ... They make mitts, parkas ... (C02 2020, interpreted from Inuktitut)

Similar to Marine Hunting discussed in Section 4.2, Terrestrial Harvesting and caribou hunting in particular involves time on the land with family and the sharing of knowledge. Participants described hunting at a young age, the joy of learning about and exploring the land, participating in a hunting party, and sharing meat with family.

My father started bringing me caribou hunting when I was probably six, five or six ... Like there was so much caribou at that time that you could go up the hill to go catch caribou. So, wintertime he – I actually caught my first caribou when I was maybe seven, seven years old, just around the corner here. (A07 2020)

So, it was, like, a family – like, a group hunting party, including the whole family. Not his family, his wife and other couples and the whole family. So, let's say, three sets of parents ... And they processed the caribou and they camped overnight ... Six caribou they caught, about six caribou, and they processed them right over there ... (A14 2020, interpreted from Inuktitut)

He – it was the first time he's been there [unspecified, closer to Clyde River area], it was absolutely beautiful and he really enjoyed the hunting, the experience. (C07 2020, interpreted from Inuktitut)

Yeah, it's always so joyful to go fishing and hunting anywhere, so this is no different than any other hunting that he's done or fishing in other places, as well. It just makes him so happy to be out there on the land. (A14 2020, interpreted from Inuktitut)

As described in Section 4.1 (Site-Specific) and in the quotes below, Study participants have and continue to use the entire Study Area and identified numerous Terrestrial Harvesting values. These include harvesting areas for berries and other edible plants, and kill sites and important habitats for many animals, particularly caribou.

That whole [Study] area is all caribou hunting... Yeah, it's pretty much anywhere that they can caribou hunt. ... Yeah, so it's used as a caribou

hunting ground using all-terrain vehicles ... When the caribou are full of fat, around August. ... In the [19]70s, like he would occasionally go caribou hunting, up in that area. ... Yeah, he still goes to this day. ... He goes by snowmobile and dog team. ... From Clyde River. ... So he's been doing this for many years. ... [referring to a mapped area] this is where all the caribou are, this is where all the caribous are and this is where the hunting used to be... (C01 2020, interpreted from Inuktitut)

There used to be caribou in that area and over there. ... And hunters used to hunt, harvest caribou on Bylot Island as well. ... Lots of rabbits ... Lots of arctic hare and ptarmigans around there. ... They used to catch caribou as much as they wanted around that area, where he pointed and further. (C01 2020, interpreted from Inuktitut)

Like Milne Inlet, [inaudible] Mary River, all this area was at one point a traditional caribou migration route... (A10 2020, interpreted from Inuktitut)

Yeah. Yeah [when living in the Study Area], the reason that his family went caribou hunting a lot ... is because that his mother, an Inuit, preferred the meat from that [Project] area, coming from the caribou. So, that's why it was a prime caribou hunting area because the meat was preferred. ... Good, lush vegetation in the summertime ... (C21 2020, interpreted from Inuktitut)

There's lots of blueberries around Pond Inlet area. ... Like the whole region. ... Yeah, they picked berries around there [in 1956]. ... [They also picked] Mountain sorrel and Airraq [in the area]. ... In the height of summer August is when you – they would start harvesting plant. ... Because it was a nice sandy area. It was very easy to pick anything that was a root plant. So, it was ideal for picking. (C15 2020a, interpreted from Inuktitut)

So, the root plant we were talking about yesterday ... she would pick Airraq around that area [Bylot Island] as well. ... yeah, because it's the – they eat the roots. (C21 2020, interpreted from Inuktitut)

They used to go berry picking in the hill area [on west shore of Eclipse Sound] where he's pointing ... And rabbit hunting ... Around August when the berries are ripe for picking. (A01 2020, interpreted from Inuktitut)

Terrestrial Harvesting values were also reported in the southern portion of the Study Area in the vicinity of the approved and permitted southern rail route and port at Steensby Inlet. The quotes below described caribou hunting grounds and important habitat features such as caribou movement corridors connected to the mainland, as well as traditional hunting grounds for snow geese and Canada geese.

So, regarding Steensby, as far as I've gone is here [points on the map] for caribou hunting. We caught, there's caribou all over here. And then caribou migrate to mainland down this way [points on the map]. They go through there and down to south Baffin. ... Yeah. All this area is like a highway to caribou. (C17 2020)

Oh yes, so [the Project Area] that's a caribou tradition – like, historical caribou habitat area. ... Yeah, and also, the caribou run away from the wolves to, to that area as well ... All the way to Steensby, yeah ... All that area here is prime caribou habitat. (C21 2020, interpreted from Inuktitut)

So they [caribou] cross there [Steensby Inlet area] ... Yeah, they cross through the ice in the winter time ... And they come from the Hall Beach area and migrate up there. (A13 2020, interpreted from Inuktitut)

And the next day I was looking for caribou along this area in Steensby. I saw a female and a calf and I said to myself, only if it was back in the day, because female and a calf, we're not supposed to hunt them. And I kept seeing tracks of caribou, male tracks, but it was kind of hard to track them down because of the winter. (A07 2020)

People from Clyde would come up here [area overlapping Footprint, LSA, and RSA in Steensby Inlet area] to go harvest snow geese and Canada geese ... even though they travelled vast distances to go caribou hunting, even if there was not much caribou, they would never starve because they had so much Canada geese and snow geese to harvest and sustain themselves. ... he didn't get to harvest and go hunting for geese on his own, but he ran into elders and hunters that told stories that this area's good for geese. ... This whole area is filled with geese. (C05 2020a, interpreted from Inuktitut)

The Mary River mine site itself and the surrounding area is well known to many participants, particularly as hunting grounds and habitat for caribou, polar bear, ptarmigan, and geese.

He has been told from stories that it [the Mary River mine area] was a prime caribou hunting area, previously to Mary River project. ... [He heard that] From hunters in Igloodik, Arctic Bay, Pond Inlet. ... Yeah, around the – from the mine to the mill and along that area. (C07 2020, interpreted from Inuktitut)

[In the 1950s] They stopped by Mary River. ... before they went further, they would caribou – his family would caribou hunt first around Mary River. ... The area around Mary River was ... a caribou calving area. ... They used to butcher the caribou there, process it, without leaving too much garbage behind, or waste behind. ... this was more or less like a common hunting area from different communities. (C15 2020a, interpreted from Inuktitut)

But if I'm caribou hunting, which I love doing, I've actually gone towards Mary River a couple times. (A07 2020)

And when we're there [Naksaluk valley], when they're there, the men, they hunted caribou around Niruuyaat [phonetic spelling 0:07:04]. ... Right where the [Mary River] mountain is. (C17 2020)

So, growing up as kids, there was always Nallua [phonetic spelling 0:11:18]. People going to Nallua to go caribou hunting, they'll fish there and get stone. ... Like it's always been where people gathered in the summer. Like I've never experience it. But we've always heard that, that's where they went to hunt caribou in the summer, by walking from the coast up there. (C17 2020)

And this [big lake in Project area] is called Tasiujajuaq in Inuktitut. ... And there's always caribou migrating around this area, so people from Pond Inlet always goes there ... to go hunting. ... Yeah, I've seen people going to that lake and go hunt and had a successful hunt when I'm staying at [Milne] port. ... It's just that there's, there's valleys around this [Project] area too, hey? There's good valleys and there's lots of water and there's like what, what caribou – what caribou eats. (C16 2020)

So, because they're high and mountain is there – those two mountains [at Mary River] were big habitat for ptarmigan. ... That's where there was abundance of ptarmigans. ... the ptarmigans and the caribou start retreating starting in August going up there to [those higher grounds to] have food source. ... he went up to the hills around this area to – tracking a polar bear. ... And when he reached the peak of the mountain, on the top, there was a lot of ptarmigans. (C05 2020b, interpreted from Inuktitut)

Yeah, there's always snow geese around the little lakes in that area [Baffin Island interior southwest of Project site]. Snow geese and Canada geese ... it's a small nesting area. It's not large but they usually nest around the little lakes around that area ... Yeah they will be affected. (A13 2020, interpreted from Inuktitut)

Participants possess a detailed knowledge of the ecology of the Mary River mine area, especially for caribou, and discussed the importance of the area for calving and caribou movement, water sources and forage (i.e., lichen), and predator avoidance. The area's ecological value has always provided ample game and hunting opportunities for Inuit hunters.

And the community knows that area to be one of the most abundant in wildlife, like, like a diversity of wildlife. ... Because it has food source for the caribou. So, a habitation area for caribou cause of the abundance in food source. ... Lichen. And he said that the topography is perfect to produce lichen. (C13 2020, interpreted from Inuktitut)

The lakes [in the Mary River mine area] were good water for caribou. (C15 2020a, interpreted from Inuktitut)

Okay, they [caribou] would gather around Mary River to go calving in the springtime. ... that whole area, up to all that area up to Mary River, and all, all that is like a calving area. ... Yeah, so the caribou's usually have their calves in the higher Pingo areas, so he's more concerned about the effects to the calving areas. ... (C21 2020, interpreted from Inuktitut)

Yeah, and he would make observations for himself, because historically that's been a calving area, and his father, of course, knows the area inside out, and that's how he made himself familiar with the area to observe the calving and things like that. So, he's seen it for his own eyes. ... [caribou] leave in the fall, come back in the spring. ... Yeah, towards the end of May, they would start migrating back. (C21 2020, interpreted from Inuktitut)

Yeah, so this area here [interior of Baffin Island, close to Mary River] has like the most luscious vegetation. There's small game and it's more luscious than like the coastal areas as well, because it's inland, so it's warmer, so there's a lot more growth. ... and the vegetation grows faster. ... Yeah, that's why it was a prime habitat for caribou... (C21 2020, interpreted from Inuktitut)

The behaviour of those big bulls were known that they liked to hang around in big lakes to try and avoid wolves. ... So this big lake [just south of mine site] was used to harvest big bulls ... And then they would cache the bull for later use ... Since we had no stores, we would have to time everything. So they're here gathering for clothing, but why they shifted their focus to this area to bulls is that because they're healthy. They have big fat and it's for later use. So they would cache them so they can pick them up in the winter time for food source. (A02 2020, interpreted from Inuktitut)

In addition to the aforementioned ecological and subsistence values, the importance of the Mary River mine area to contemporary hunters from Arctic Bay and Clyde River is in part derived from its historic significance as an ancestral hunting and gathering area.

Yeah, [traditionally, they would hunt around] all the lakes [in Study Area]. All the surrounding lakes. ... Before they had rifles they had to have like tactics and a plan to herd the caribou to the lake so they could use their harpoons and to harvest them. ... there's a lot of stories – historical stories that Mary River along with the neighbouring lakes are a very crucial part for Inuit use for clothing and food to gather caribou. ... But with interactions with other Inuit ... Throughout the years he [of interacting with others and hearing stories], he knows that this area was heavily used for caribou hunting. ... there was evidence that this area was used by huts, like where they used to use houses. So, there's still evidence that some houses around here. ... they would spend summer and fall there only when, when that land started to change and the snow was coming in, temperature dropped, they would start to go back to their communities after they made like qamutiik, which are the sleds. ... And they would use caribou bones and hide, everything that they harvested in order to make their equipment to be able to go back home. (C05 2020a, interpreted from Inuktitut)

Yeah, gathering place around there ... Yeah, they would go caribou hunting by kayak ... into the fifties [1950s], when they were still using kayaks and traditional methods ... (C21 2020, interpreted from Inuktitut)

She remembers people ... So there would be people going – coming back from Mary River area, their dogs, and the people would be walking from Mary

River, in the summertime, carrying loads of caribou, on their way to Arctic Bay. So they would sometimes stop through there. And then because Mary River used to – the area used to have – it was a prime caribou hunting area, so anyone – anybody from Arctic Bay and Pond Inlet that used to go to Mary River area for caribou hunting. So it was like a path from Arctic Bay to Mary River. (A04 2020, interpreted from Inuktitut)

[The Project is] a big concern because the ancestors – well, his ancestors, our ancestors, used to use that area [Mary River, Baffin Island interior] as a, as a prime hunting area because the caribou were used as clothing. And, and when the fur was ready for harvesting to make clothing, that's where they caught the caribou. And if it's not the same anymore, even though we don't use the – we don't use the caribou clothing all the time, but we still – we still need them because we make clothing out of them. It's – the opportunity to be able to do that will reduce, and he's very concerned about that. ... That used to be a gathering place for Inuit that would inland caribou hunting when it was –the caribou fur was prime for making clothing. (C21 2020, interpreted from Inuktitut)

The qualitative data shows that Terrestrial Harvesting in the Study Area is an important part of Arctic Bay and Clyde River participants' culture and way of life. This is underscored by their extensive knowledge of plant gathering and hunting locations and wildlife habitats in the Study Area, as well as certain locations with historical and ancestral significance. Terrestrial Harvesting, and caribou hunting in particular, provides individual and family sustenance, while fostering a sense of identity and tradition.

4.3.3 *Impacted Baseline*

Participants from both communities have noticed a decline in caribou and other wildlife abundance within and around the Study Area.

We started going [to the Mary River area] about 2005, we started going there. Until a couple of years ago, 2018. But we haven't really seen any caribous around the area. Well, we've seen a lot tracks before, first we started going there we seen quite a few tracks and each year we started seeing less tracks. And a few years ago we didn't see any tracks at all... (A15 2020)

Yeah, he observed that there used to be more caribou prior to the mine operating, but now, it's – he's observed that there is less ... So, the wildlife are sensitive to noise, even though the noise might be far away. So, they are probably going elsewhere, aside from their habitat. (A14 2020)

Oh there's a lot less mammals, mammals around. And like there's less caribous around ... Yeah and there' also less seals on the ice too ... Probably from the ore on the ice. (C19 2020)

In the following quote, the participant explains that hunting grounds in the Study Area were always considered reliable and it was common for Clyde River hunters to travel there for caribou.

From what I heard the caribou migration is a lot smaller now ever since the mine started. Back in the day, even people from my home community used to come here to go hunt caribou. All the way from my, from here, people used to go up there, because they know they're going to have a successful caribou hunt up there, hey. (C16 2020)

Hunters have been observing that caribou movements on Baffin Island are changing. Specifically, participants observed that caribou that would normally move into the area from the south are staying further south either on Baffin Island or the mainland, which they interpret as an impact of Mary River mining activity.

He – from his observation of having travelled up there and now with Mary River project in production, he has observed that the caribou are migrating further south. Like, they're, they're ... They're being further south. ... Yeah, he grew up going up there all the time ... And they would go caribou hunting over there. ... And ever since Mary River project started ... It appears there's less wildlife since the project started in that area. ... Since the blasting started. ... And since the project started. (C08 2020, interpreted from Inuktitut)

... he knows for sure that the caribou that used to be around here, are some of them are migrating towards Iqaluit area. ... Yeah, there's more around Nettling Lake. ... Yeah, they are seems to be migrating further south. (C21 2020, interpreted from Inuktitut)

Clyde River participants have observed that the movement of southern caribou herds into Baffin Island is being influenced by the Mary River mine, and as a result fewer caribou are arriving on the Clyde River side.

No, when – the other guys, when they reach that lake ... They go caribou hunting. And, right here, they sometimes reach this area. ... But they, they've stay – they – been noticing the caribou are getting closer to the lake because of the Mary River project. ... [They are moving] Down towards the lake. But like I said, the trail – we think the caribou stops now over towards [Inuktitut spoken] area now ... Because of the noise from the, the project. Because there's not much room there between the – between Mary River and the Barnes Ice Cap. So, we've been noticing the caribou more towards the lake, looks like they've been near the project area. But, the caribou coming from the mainland are not really showing up to this side. ... Yeah, [the] Clyde [River] side. (C03 2020)

She feels that even when she's living in – living in Clyde River and there's – they would go caribou hunting here, that they used to be closer, but she feels that since the mine started, that the caribou are no longer even close to Clyde River. (C12 2020, interpreted from Inuktitut)

...because when I started living here in Clyde River we used – we don't have to – we didn't have to go so far, just into the inlet up here and catch some –

as much as we can, I mean what we need. And now, there's no more caribou around that area. (C18 2020)

Several participants expressed concern that the Mary River Project is impacting lichen, caribou's main food source. They believe this is causing herds to select habitat further away from the Study Area to the south. The first quote attributes the cause of effect to ore dust deposition, specifically.

And the impact today because of the Project, where he just pointed, there's scarcer caribou and you have to go almost towards Igloodik to be able to find caribou now. ... Because the area where the dust settles is not, probably best for grazing, because the particles have landed on the lichen, so they're going further south to have a fresher, none affected lichen to eat. They have discerning tastes, you know, [Inuktitut spoken]. ... Cause they're herbivores, they eat it a lot. ... They need a certain amount. Only way that they get so big, is to have a proper feeding area. (C01 2020, interpreted from Inuktitut)

Yeah, and those [lichen] are one of the caribou main food source. You see them on the rocks, they'll be either be orange or yellowish or black. ... So, Baffinland, Mary River ... Is an ideal habitat for growth for lichen ... Since they're extracting and destroying the land to get to the ore, they're also taking away the food source for caribou because it's ideal habitat for caribou. Just the way the topography is made and just the way that it never had ice caps, it's abundant in food source for caribou and ptarmigan and rabbits... (C05 2020b, interpreted from Inuktitut)

One participant reported that caribou are not utilising traditional calving areas in the Study Area as they had before the mine, believing that sensory disturbance from the mine (e.g., blasting) is a contributing factor and caribou are now selecting different areas.

So this whole area ... ever since he was a kid, living – like, a child, living around there, like it was just a prime calving habitat, feeding, everything about caribou, around that area. ... But it's quite evident that with the project the way it is the caribou don't go to their original spots as they used to, even with small number of caribou, they still don't inhabit that original habitat area like they used to. ... their natural habitat is pretty much gone, especially the calving area and places like that. (A04 2020, interpreted from Inuktitut)

Yeah, it's a concern that there's no calving, because they've gone to other areas to calve, but it's now permanently occupied, the Mary River project. So there's really no way for the caribou to be comfortable giving birth when there's blasting and other things going on. (A04 2020, interpreted from Inuktitut)

In addition to caribou, Study participants reported that numbers of other species have declined in the Study Area, including migratory Canada and snow geese, wolves, and wolverines. As wolves and wolverines are predator species, their local population status is seen as a useful indicator of prey species abundance in an area. Goose population

reductions in the Study Area were attributed to habitat disturbance from Mary River mine blasting, Tote Road traffic, and the presence of ore dust in their nesting and feeding areas.

So an indicator around this area [along Tote Road corridor] is that the wolves and the wolverines are not really present anymore. That means that there is not much food source ... There used to be signs up and tracks of wolf and predation specifically wolverines in this area. They barely ever see any tracks now. (A10 2020, interpreted from Inuktitut)

There used to be a lot of snow geese there [around the Mine Site], but when they were flying over they didn't even see one single snow goose. (C24 2020, interpreted from Inuktitut)

He has also observed when he first started working there that there used to be a lot more Canada geese and snow geese around that [Project] area, but on his third year ... When he was there that he's observed reduction or the amount of birds around that area, especially snow geese and Canada geese. ... [He thinks it is] Probably due to the amount of traffic on the tote road. ... And the blasting could affect the animals around that area as well. (C07 2020, interpreted from Inuktitut)

Also, I forgot about the birds. Like, when the geese starting to migrate up here for – almost right from the Mary River all the way to the 100 Tote Road, there was birds all the way down to the Milne Inlet. One summer, there was so many birds there flying lots around [inaudible] ... Year after that it wasn't really so. It was different. That area – [Inuktitut spoken] – Lot of nesting there goes there too for the goose and all that. ... Canada geese and snow geese – lots of snow geese prefer that area ... So, they were, they were so close to that mining activity that they were feeding where all the dust was going. (C18 2020)

Overall, many participants expressed concerns related to the ongoing deposition of Mary River Project ore dust both within and beyond the Study Area, particularly regarding the contamination of plants and animals valued as food sources. In the quotes below, for example, participants explain that caribou contamination via water sources exposed to ore dust is a key concern, and that they have already heard accounts of sick caribou from Pond Inlet hunters.

[Interpreter:] He could notice on his way through the land, you could tell where the snow is coming from Baffinland because it's red. Yeah. It's visible. ... The dust. And you can visually see it on – from the plane. ... [C14:] And my concern was cari – there's caribou. ... They're not afraid of a big machines anymore. And they're breathing all this thing. ... And they're drinking water from [the area] – that's my concern. (C14 2020, partially interpreted from Inuktitut)

He's heard some accounts from people of Pond Inlet, that the caribou that was caught in that area and have grazed from that food source, possibly

affected by the dust from Mary River project. The, there has been some accounts of a person consuming meat from that caribou caught in that area, have either fallen ill or you can tell the meat has already been affected by the possibility of a diet containing the dust particles. ... [The caribou is] Skinnier, and the meat is yellowish. ... (C01 2020, interpreted from Inuktitut)

Several participants reported seeing and harvesting animals that showed evidence of ore dust exposure, including arctic fox, arctic hare, ptarmigan, and snow geese.

... Because it gets pretty dusty, especially at summertime, hey? It's – I know it's affects the arctic fox for their fur, because they get like red, reddish skin and arctic hares, they get reddish skin. If they can do anything that can help the environment or our animals with the Tote Road, from all the dust it collects, it even goes to our sea up there, I mean to our fiord. (C16 2020)

[The dust is] so reddish in colour, right? Yeah, and I saw a little hare, a little rabbit that came around the building [at the Mary River Mine Site] and it was covered, like red, reddish fur, yeah. ... It was weird, yeah seeing that. (C24 2020)

So, at the time, they harvested three ptarmigans there, because they landed, and he didn't think much of it at the time, but when he harvested them, the legs and the stomach, they were orange. ... when they were coming in and landed, they were coming in from the direction of Mary River. (A12 2020, interpreted from Inuktitut)

So, he harvested – he harvested ptarmigans and the feet right here. The ones that he harvested two years ago, they were red and orange along with their fur. ... So, after they shot those ptarmigans and then when they realized that they were contaminated from all the dust, they ended up – they were not edible for them, so they ended up not eating them at all. (A09 2020, interpreted from Inuktitut)

... [They had] a friend who also observed by travelling around there, of all the – like all the dust and everything settled on the ground ... and snow geese turning brown. From the dust, like [they heard] all kinds of observations like that. (A13 2020, interpreted from Inuktitut)

Plant harvesting in and around the Study Area is also impacted by ore dust deposition in the Study Area, including near the water in Milne Inlet and in the area of the Tote Road.

Yeah, blueberries, not blackberries ... close to the shore in Milne Inlet ... Like last time I couldn't eat it – it was red ... From probably from the ore. (C19 2020)

... Yeah, vegetation being covered with the dust and all that. Because the truck drove through the road – Tote Road, without covering their ... The load, yep. (C18 2020)

In summary, the collected data demonstrate that participants from both communities are experiencing changes to Terrestrial Harvesting values which they attribute to current Mary River mine operations, including declining numbers (and thus reduced availability) of valued animals in and around the Study Area, and environmental contamination. Any additional Project impacts will be experienced within this already constrained environment.

4.3.4 *Project Interactions*

Based on their knowledge of the area and their experiences with existing Project components, participants have a range of concerns about potential interactions between the proposed Phase 2 Project components and Terrestrial Harvesting values.

As discussed in Section 4.3.2, caribou are known by Inuit to be highly sensitive to noise and other sensory disturbance and changes in their environment. The combination of Project increases in ore production at the mine site and increased ore transport by road and rail has many participants concerned that caribou movement patterns will be disrupted or altered. The Tote Road and north and south rail routes are known to intersect caribou movement corridors in the Study Area.

So, in terms of caribou migration, that's our biggest fear. And then, because the rail is going to cut the island ... It's going to be like a wall for caribou. We fear it's not – they're not going to migrate anymore. (C17 2020)

Yeah, he thinks that [increased traffic along road/rail corridor will] have an effect on the caribou ability to cross over because they usually migrate, just crossing over. He thinks that even they will not cross over and just go back, just to retreat where they came from. Like, that they would not be crossing because of the noise, they're more sensitive to the noise and would not be settled and would just – because they are, like, just very sensitive and aware of noise. So, he doesn't think they'd be crossing over ... he's not supportive of the railway because he thinks that's what's going to happen to the caribou, he's not happy about it. (A14 2020, interpreted from Inuktitut)

So I'm afraid that's going to happen if this railway goes ahead. The caribou, because they're always migrating into new areas, it's going to come over here and won't be able to cross the railway. That's my biggest concern. (A18 2020)

We know if they build the railway there will be crossings built. I'm concerned because the caribou won't say we have to cross over now. They cross over from Ipkituqjuaq and if there's a railway built they would not be coming down towards our area through Ipkituqjuaq as they would become confused about crossing. (C24 2021)

I think it's going to affect, if they do get the Phase Two going. I believe there's caribou around in this area, the caribou will migrate to this area instead, where it's more quiet, more – less noise pollution in the area. I believe it's going to have an effect. A lot. With caribou. Cause I heard hunters

telling me when I was up in Pond on my relief, they were saying that the caribous around this area have already moved a bit south of the area that they used to be. So, they said they're moving towards [inaudible] that's this area. So, if it goes ahead, I believe it's going to have an effect in the first few years, five years, 10 years they build it. The caribou will move away from the rail, the railway or whatever they build. (C04 2020)

Participants from both communities emphasised that they rely on the seasonal movement of caribou through the Study Area and into their hunting grounds. They are concerned that Project impacts on caribou and caribou movement would reduce the availability of caribou in areas they prefer for hunting and cause them to travel further for game.

But I'm worried about this, if they go ahead with the railway, the caribou, I'm worried they won't be able to go across the railroad to our general hunting areas or even further west where we go. So I don't like the idea of the railroad going all the way down to Pingujuaq. Because the caribou are always moving and they're pretty plentiful right now. More in the south bracket. And from what the elders say, they're going to come around in the next couple of years when the food replenishes up here in our area. So if that railway is there, I'm scared they won't be able to come to our area. (A18 2020)

Yeah, [the Project] will have an effect. Guaranteed. ... I think the caribou migration route is going to change. I believe they're going to turn before the – before they reach the project area. ... Yeah, the elders, when I was in my early teens, used to say when you see a caribou migration never bother the first group. Because if you bother the first group, all the herds going to turn back and won't come back for another 15, 20 years. ... So, yeah, it's going to make a big difference to us. Plus, we get no more caribou around there, our area, we're going to have to travel a lot further. (C03 2020)

Yeah. And that's one thing we fear is, with Phase Two, the caribou migration will be affected, when they migrate to this area ... All this area, all these willow for caribou. We would boat up through here, drop people off here [points on the map], and they would walk across. I would walk with them, and the boat would go around looking for caribou. Pick us up. Keep driving. We camped here waiting for caribou, and that's right under here. (C17 2020)

Participants also expressed concern regarding development of the southern railway and Steensby port, as the southern portion of the Study Area includes important habitat and migration corridors that caribou use to travel from Igloolik area on the mainland into Baffin Island. They described that any impacts on caribou use of this major caribou artery would negatively affect the availability of caribou in their hunting grounds both in that area and closer to their home communities.

So, so with the Phase Two, if that happens so close to the caribou crossing from Igloolik side to Baffin Island. ... if any noise disturbance or smell or any kind of disturbance that the caribou's not familiar with – that frightens it, if that caribou is starting to migrate to our area here, with the railroad being

there it would drive away the caribou migration patterns and the distribution would be impacted and they would move away. ... [Phase Two would] impair the crossing and the path for caribou migration from Igloolik side to our area to the – those Phase Two area, and they start coming to South Baffin this way. And right now this, this [southern part of the Study] area has caribou.... It's a very high important area for him. ... It's a traditional main route to go trade and pick up – or to go caribou hunting and pick – go trade and pick up walrus meat in Igloolik. (C05 2020b, interpreted from Inuktitut)

Yes and he's also concerned about the possibility of a railway being extended to Steensby Inlet because that whole corridor is like a caribou habitat and, yeah, he thinks that the caribou population will be impacted as well. (A01 2020, interpreted from Inuktitut)

... [The Project] it will affect the caribou migration, because they were talking about doing the road from port to Steensby, I think. ... Steensby and I'm pretty sure it will affect our caribou migration, because our hunters goes all the way here just to go caribou hunting too, near, near this area. ... that's where our hunters usually go out caribou hunting and Steensby's not that far from it too. Yeah, Steensby is right here. ... [it's] on our route from Clyde to Igloolik and Igloolik to Clyde [River] ... we went through this area ... and there were caribou on the area and we had three caribous from that spot. (C16 2020)

One participant believes that caribou will choose to keep their distance from the Project and move more into Melville Peninsula south of the Project on the mainland.

[Describing impact of disturbance of caribou migration] Yeah, maybe they'll cross over to ... he thinks that they'll be migrating towards Melville Peninsula more. (C21 2020, interpreted from Inuktitut)

In the following quote, a participant emphasises Project effects on caribou will have a negative impact on a critical food source for Inuit (as described in Section 4.3.2).

But the thing is, if [Phase 2 is] approved it's going to be crossing our caribou hunting grounds and caribou-passing areas, caribou mating grounds and movement – the trails, which will impact our food source and the environment around the mining activity in itself ... (C05 2020b, interpreted from Inuktitut)

One participant specifically addressed the wildlife crossings proposed by the Proponent to enable animals to cross road and rail infrastructure, and expressed doubt that caribou would utilise the structures.

But there are trails leading, where they are going to build the bridges for the rail, caribou crossings, is what they talked about. But caribou aren't going to know. That's what we fear. Like we'll build a caribou crossing, and then the caribou don't cross, well we don't, you know, I can't be up there, say "This

way, this way!" You know, they won't listen. So, we fear, is they are going to bump into the rail, and turn around and go somewhere else ... (C17 2020)

As discussed in Section 4.3.2, the Study Area provides habitat to a range of wildlife besides caribou. Impacts on other species such as nesting Canada and snow geese resulting from sensory disturbance from the proposed railway are also anticipated.

He would prefer that the project stays as is, and not expand ... Yeah, the birds will also be affected that hang out around that area from the train ... snow geese and Canada geese ... They lay eggs over around there. The snow geese and the Canada geese lay eggs around [Mary River area]. (A13 2020, interpreted from Inuktitut)

In addition to anticipated Project effects on caribou movement and availability for hunters, many participants are concerned that the Project would intensify and expose a larger area of wildlife habitat to dust deposition. This concern was attributed to both the increased production and blasting at the mine site, and increased ore transport (road and rail) north to Milne Port and south to Steensby Inlet.

What he has observed is that the Tote Road – around the tote road is all the dust that comes from the blasting of the Mary River. ... He knows for sure that the dust – the amount of dust being – going into the environment and settling on the land would substantially increase with the increased amount of traffic going on the Tote Road. (C07 2020, interpreted from Inuktitut)

... They say when people from Clyde River go caribou hunting sometimes, they go near there [glacier, inland of Clyde River]. And you can see that it's not going to be very far from there [Mary River Project], well walking very far. But the wind will be the factor flying all the dust into the area, and then the ice near the land there from all that dust. You know how when, when the sand blows out into the ice, it melts it faster. And talking about global warming, it's – that's going to be [pause] that's going to have a more impact than global warming. (C26 2020)

Yeah, so the dust has reached that far and has reached also Navy Board Inlet – I mean Eclipse Sound ... So it's a concern because there could be particles from the blasting substance that could be also travelling as dust particles and settling in certain areas ... It's a bit of a concern because there hasn't been a lot of effect study of the dust impact on wildlife and the environment. (A01 2020, interpreted from Inuktitut)

It would be a big concern if the project doesn't do anything to make improvements to control the dust because there's northern winds that flow towards Clyde River as well, and the dust particles can travel for like kilometres, kilometres, kilometres. (C08 2020, interpreted from Inuktitut)

So in terms of Phase Two and the plans for reducing the dust, if Baffinland will carry out what they say they would do in terms of reducing the amount of dust then that would help, especially in the port area. However, there's still

going to be blasting done at the project itself and that's the dust that travels that he's more concerned about, yeah. (A01 2020, interpreted from Inuktitut)

According to participants, ore dust is a contamination concern for caribou and other wildlife (e.g., ptarmigan, geese) known to rely on vegetation and water sources in dust-affected areas. The final quote in the sequence emphasises that contamination of food animals impacts Inuit food sources and Inuit culture as a whole.

I feel sad for the hunters. I mean, it's just wrong. I don't know – I don't even know what words to use right now. ... Yeah, it's [the dust] going to go a lot further. ... [Towards] Both Arctic Bay and Clyde River. ... The dust will impact the caribou feeding area. Like, the wind's usually coming from the north. (C03 2020)

So that's one thing we fear, is the dust is going to reach these inlets, and affect caribou foliage for caribou to eat. So that's one big fear we have, because there's lot of caribou up in this area, north of us. (C17 2020)

The truck carrying those iron ore without putting [a cover] over them – when the wind blew them out – from the dust, that I'm concerned for the lakes and animals ... (C18 2020)

And the airborne impact of the dust travelling far, will have an impact on wildlife when they do a blast, you can tell how far that, that dust through air can travel. So once it settles it will have an impact on wildlife and the environment as well, in that area that he just pointed. ... So once the dust settles, it will also settle in the area where caribou graze, so it will affect their food source, because they will be also in their diet including particles of dust. So that's the impact that he feels is going to happen. (C01 2020, interpreted from Inuktitut)

The dust settles into the lichen as they are very small particles and can settle on them. This would affect the health of the animal plus increase the amount of metal for example mercury in their body. How do we know? As hunters, we can see. We hunters we would see caribou with white spots on the meat, we really don't find that desirable to eat. As it could have something that can cause illness for us. That's how every animal we consume as well as caribou, we can question if it may have something that can cause sickness. We don't consume any part of the animal, we discard the entire thing as we don't want to eat any part of it. This is a reality that can happen to many species. If the dust is increased. (C05 2021)

Also, the snow geese and the Canada geese usually eat around there [Mine site] too in that area ... Yeah same thing for the hare ... Yeah [I'm worried they'll eat dust] once they, once they start mining more it might happen – more dust flying around there. (C19 2020)

So, those [high elevation areas around the Project] are very highly valued habitats, because today ptarmigan is a major food source. ... So, if any kind

of activities, even like dust from the train, if it starts to go everywhere it's going to contaminate the land and that's how it's going to impair their use of – able to access food sources, and even if they do, it may not be as healthy as it would be without being in contact or in with pollution that's produced by mining. Especially like the dust coming out from the, the train. ... that'll be very dangerous and that's how the negative impacts would not only be to the Inuit culture, to their food source, but to the habitat and the wildlife in the south. So, it's like it would have a link – chain reaction, top to bottom. (C05 2020b, interpreted from Inuktitut)

In addition to the contamination of food sources, one participant asserted that increased traffic and dust from the Tote Road would displace animals from the Study Area, especially small game such as ptarmigan, weasel, and rabbits.

He also thinks with the increased traffic, because there's so much dust happening, and there's, like, there's ptarmigans, there's rabbits, there's weasels, there's small game up there. So, he thinks that the small game would not necessarily be – this is their natural habitat, as well, because they're, like, basically all over, so this is part of their natural habitat where the Tote Road is for the small game. They would be also moving away from that area because they don't want to be covered – affected by the dust. (C15 2020b, interpreted from Inuktitut)

As described above, ore dust poses a threat to hunting practices and Inuit country food sources. Some participants stated that they would not hunt in the vicinity of the Study Area if the Project is approved or consume meat from dust affected areas.

He would not go hunting if Phase 2 went ahead. ... He would not go hunting there. ... Caribou will sometimes sway away from their feeding grounds, but they usually go to the same place, and it would, they would not, they would not be ideal for consuming and they would not go hunting there again if the Phase 2 continued. (C01 2020)

She also feels that the dust that derives from there is not really great for air quality as well ... And could also affect the wildlife diet, because once the dust settles then the wildlife might be consuming from the ground and it could affect their meat as well ... She would not eat it at all. (A10 2020, interpreted from Inuktitut)

One participant expressed deep concern that Project impacts on wildlife could be felt long-term by future generations.

He thinks that, you know, there might be great economic opportunities coming out of the project, but what if the wildlife disappears – like, they'll be nothing left for the future generation and he thinks about that. So ... [He has] Four children. ... [And] Four grandchildren. ... Yeah, because he thinks about their future, so that's what he thinks about. (C08 2020, interpreted from Inuktitut)

Plant health and its impact on plant harvesting were also identified by participants as of concern in relation to dust and contamination from the Project.

They will totally be affected. They, they, they will not – they will not be the type of plant prior to the project that you may have seen. So, she totally believes that there'll be an effect on the tundra plants or edible plants ... (C12 2020, interpreted from Inuktitut)

She would gather. If she had an opportunity, she would gather tundra plants just to see what they look like, but she would not consume them, if they're close to the Mary River Project. ... She doesn't want her body to be adversely affected by it. (C12 2020, interpreted from Inuktitut)

One Clyde River participant noted the prevailing winds blow from the Study Area towards the community. They are concerned about the health implications for Inuit from prolonged exposure and inhalation of dust particles.

... and like in the long run the wind's always coming from that direction and the dust is flying in the air that we can't see. It's going to land into your lungs and it's going to stay there. So, down the road there, there'll be more people that are sick from the dust that we're inhaling. (C26 2020)

Many Study participants are deeply concerned that the Project will result in further and significant impacts to the terrestrial environment. In the quote below, a participant speaks to the importance of the entire Study Area (from Steensby to Milne port) for traditional use and occupancy and their desire to see it preserved and unchanged.

... but he saying that if the project, Phase 2 goes ahead, it will have a huge impact in that corridor from Milne Port all the way to Steensby Inlet if the railway is built. ... that whole area, is, um, I don't know how you say that in English, but they want to keep it as is. ... They don't want further damage. ... In the Inuit sense, it's sacred because it's traditional use ... And occupancy. ... It's sensitive as well to us, sensitive as well. ... It's a very important place. (C01 2020, interpreted from Inuktitut)

Importantly, participants stated that conflict over the nature of existing and potential Project impacts on caribou and other animals is causing the animals to move away. During the verification meeting in Arctic Bay, participants described how this conflict is in breach of Inuit law and that conflict must be resolved in order to protect wildlife.

We used to go caribou hunting when they were plentiful. But, there was unrest and tension rose between some people and that cause the caribou to move away. That's why we have to be in harmony for the sake of the animals. We have to be happy while hunting and not say bad things or discuss bad things about the animals. This a lesson we must obey as the creator can take away or move animals if there is a conflict or an argument over them. We were like that as a community. But, apologized and resolved the issue and our differences. (A10 2021)

There should be not any conflicts when it comes to wildlife. This conflict about Mary River is causing a lot of grief. That is a strict law that we are supposed to follow. These conflicts could cause bad times and that bad time can travel as fast as the wind. This is not widely known as Inuit Qaujimagatunga. Wildlife know and they can hear if they are in the center of a conflict. Whether it be a small creature or big we have avoid creating unrest for the sake of the wildlife. It's the Inuit law and we must abide by it. (A9 2021)

In summary, participants from Arctic Bay and Clyde River foresee further habitat fragmentation, degradation, and contamination within the terrestrial environment resulting from Project increases in the production and transport of ore along existing (Tote Road), approved (southern railway), and proposed (northern railway) infrastructure. Anticipated impacts on Terrestrial Harvesting in the Study Area would occur in sensitive habitat for valued species (e.g., caribou calving areas and movement corridors, migratory bird nesting areas), and would lead to reduced availability of animals and plants valued for harvesting, reduced confidence in the quality of lands and resources, and reduced access to food sources that are central to Inuit culture and way of life.

In summary, Arctic Bay and Clyde River participants anticipate the following interactions between the proposed Project and their Terrestrial Hunting values:

- Impacts to caribou movement patterns due to increased Tote Road (during construction) and rail traffic (including noise and other disturbances);
- Reduced availability of caribou in preferred hunting areas;
- Displacement of animals including snow geese, ptarmigan, weasel, and rabbits due to increased Project activities;
- Wildlife mortality risks while crossing Tote Road and rail crossings;
- Contamination of animals and animal habitat due to dust settling on vegetation and water sources;
- Contamination of food plants due to dust settling on vegetation and water sources;
- Avoidance of preferred harvesting areas due to perceived and actual contamination; and
- Impacts on access to important food sources due to all of the above impacts.

4.4 FISHING AND FRESHWATER

This section (Section 4.4) discusses the importance, impacted baseline, and potential Project interactions with the Inuit Valued Component of Fishing and Freshwater.

4.4.1 Site-specific values for Fishing and Freshwater

Table 7: Site-specific Fishing and Freshwater values reported within the Study Area, by activity class. Numbers are cumulative with increasing spatial scales (i.e., RSA includes LSA and footprint).

Activity Class	Within 250 m of the proposed Project (footprint)		Within 5 km of the proposed Project (LSA)		Within 25 km of the proposed Project (RSA)	
	# of reported values	% of reported values	# of reported values	% of reported values	# of reported values	% of reported values
Cultural	0	0%	4	10%	6	10%
Environmental	2	22%	3	8%	4	7%
Subsistence	7	78%	30	77%	46	78%
Total	9	100%	37	100%	56	100%

The following Fishing and Freshwater values were documented in the Project Study Area. The values are organized by Activity Class.

- **Cultural values** including: a site with an Arctic char drying rack; Arctic char cache sites; and a place name;
- **Environmental values** including: Arctic char spawning sites; and sites where large schools of Arctic char have been seen; and
- **Subsistence values** including: numerous sites where Arctic char are caught; a site where halibut were caught; a site where Arctic char are fermented; and sites where drinking water is collected.