

Gwich'in Traditional Knowledge: Nèhtrùh (Wolverine)



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Gwich'in Interviewees: Walter Alexie, Noel Andre, Pierre Benoit, James Firth, Fred W. Koe, Ian McLeod, Sarah McLeod-Firth, William Modeste, George Niditchie Sr., Abraham Peterson, Peter Ross, Richard Ross

Gwich'in Validation Meetings: Walter Alexie, Noel Andre, James Firth, Colin Koe, Ian McLeod, George Niditchie Sr., Abe Peterson, Peter Ross, Richard Ross

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Nin Nihlinehch'ì' – Li' hàh Guk'àndehtr'inahtii
(Animals at Risk – animals we are watching closely)
2012-2014 Project



Dedication

This report is dedicated to the knowledgeable Gwich'in Elders, land-users, trappers, and hunters, both past and present, who contributed to this and other GSCI and GRRB projects.

By sharing your knowledge about animals at risk, you are helping to keep this knowledge alive to benefit future generations.

Mahsi' Choo!

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Executive Summary

The GSCI and GRRB conducted a study to gather and present Gwich'in traditional knowledge of wolverine. This study involved searching the digital archives of GSCI for relevant primary and secondary data, and conducting 12 traditional knowledge interviews with Gwich'in hunters and Elders. Verification sessions were also conducted to review the final report.

There is a stable but low population of wolverine in the Gwich'in Settlement Area and surrounding regions which are encountered by Gwich'in living in Inuvik, Aklavik, Fort McPherson, and Tsiigehtchic. The Western population of wolverines includes the Gwich'in Settlement Area. The species is classified as being of "Special Concern" by the Federal Committee on the Status of Endangered Wildlife in Canada (COSEWIC), as their population is sensitive to habitat fragmentation and encroachment of human activities, has a low reproductive rate, and requires large tracts of secure habitat to maintain populations.



FIGURE 1. FRED W. KOE AND MARY CLARK, IN FRED'S HOME IN FORT MCPHERSON, 2013.

Photo credit: K. Benson, GSCI.

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FIGURE 2. WOLVERINE.
Photo credit: © GNWT/R. Gau, ENR.

Introduction

Description of project

The GRRB and GSCI applied for funding to undertake a multi-component Gwich'in Knowledge of Species at Risk project in late 2011, and were awarded funding from the Aboriginal Funds for Species at Risk (Environment Canada) program in late summer of 2012. The program included separate Gwich'in TK studies for grizzly bears and wolverine. The grizzly bear study was completed in 2012-2013 with a final report produced March 31, 2014. This report presents our research on wolverines.

The Gwich'in Knowledge of Species at Risk study was led by a four-member steering committee: John Norbert (Tsiighehtchic), James Andre/Abe Wilson (Fort McPherson), Fanny Greenland (Aklavik), and William Francis (Inuvik), representing all NWT Gwich'in communities. The committee met for the first time on November 21, 2012 in Inuvik. The meeting included a review of the project goals and background, informed consent statement (see Appendix A) and all questionnaires (see Appendix B for wolverine questionnaire). They also selected potential interviewees.

Building on existing sources of Gwich'in TK, this study included interviews with 12 Gwich'in hunters and Elders to compile information about wolverine habitat, behaviour, threats, and population. This report was made possible due to Gwich'in people's keen observations and knowledge of the behaviour and habits of wolverine (and other animals) – in some cases based on reading the stories left in the snow by footprints alone. *“On the land, nothing misses the eyes of a travelling Gwich'in.”*¹



FIGURE 3. WILLIAM MODESTE IN THE GRRB BOARD ROOM, 2012.

Photo credit: J. Edwards, GRRB.

¹ Alestine Andre, *pers. comm.*, 2014.

Previous TK studies on wolverines in the region

There is one previous study where Gwich'in knowledge of wolverines was specifically targeted for collection – the Gwich'in Environmental Knowledge Project. The Gwich'in Environmental Knowledge Project (GEKP) of the GRRB included 11 interviews about wolverines and one community review session, completed in 1996 and 1997. Information about wolverine is also included incidentally in other GEKP interviews. These interviews were conducted to increase the use of traditional knowledge in resource management. Additionally, information about wolverines has been collected incidentally in various Gwich'in Social and Cultural Institute and Gwich'in Renewable Resource Board projects.

Methodology

The GRRB and GSCI worked together to carry out this project. A total of 12 semi-structured interviews were carried out by the project director, a local co-ordinator hired for the work, and/or GRRB staff. Interviews were conducted in all four NWT Gwich'in communities (Aklavik, Fort McPherson, Inuvik, and Tsiigehtchic). Before interviews commenced, an informed consent statement (Appendix A) was read to or by the interviewees, which described the project and how the information collected was to be used. A questionnaire was used by interviewers to guide the interviews (Appendix B). Most interviews were recorded using a Phillips Conference Recording System Model # LFH 0955 digital sound recorder, which stores the sound file in MP3 format. Sound files were later transcribed to GSCI standards. All transcripts and sound files are held by GSCI and GRRB, and original research materials will be put on deposit in the GSCI's storage area in the NWT Archives when the project is complete. Interviewees were given the option of receiving a copy of the sound recording and typed transcript. These were delivered in person where possible. After the interviews were completed, a series of verification sessions were held in Inuvik, Aklavik, Fort McPherson, and Tsiigehtchic. The report was read aloud in the session and the participants provided feedback as appropriate. The project Steering Committee reviewed the final draft of the wolverine report on March 26, 2014.

Gwich'in Traditional Knowledge: Wolverine

Special significance of Wolverine

In the past and today, wolverine fur is of particular value and rare due to both the scarcity of the animal and the difficulty in trapping or hunting them. Trapping wolverines can provide a very good income, and the furs are often sold locally. Most interviewees agreed that wolverines are smart, and hard to trap. Most also indicated that they are inedible except in cases of starvation.



FIGURE 4 HANNAH ALEXIE WITH WOLVERINE TRIM ON HER PARKA; FORT MCPHERSON - WIND RIVER TRIP MARCH 1998.

Photo credit: I. Kritsch, GSCI.

Wolverine fur is particularly prized for trimming parkas. It is very insulating when around the face, and unlike other kinds of fur, it does not freeze up.² It is considered to be the nicest fur for this purpose. A wolverine trimmed parka “*really looks good, boy. They got wolverine parky on, and all trimmed up and little tassels here and ...you’re greatest looking person.*”³ Sometimes the claws on the trim are painted red.⁴ Their furs are particularly easy to tan.⁵ The tails were also used on a lead dog’s harness as decoration, on the standing iron.⁶

² Walter Alexie, Gwich'in Knowledge of Wolverine 2013 Interview 1, Charlie Stewart GEKP (Wolverine), and many others.

³ Fred W. Koe, Gwich'in Knowledge of Wolverine 2013 Interview 3

⁴ Catherine Mitchell, GEKP (Wolverine)

⁵ Noel Andre, Gwich'in Knowledge of Wolverine 2013 Interview 10

⁶ Ernie Andre, GEKP (Wolverine), Peter Ross, Gwich'in Knowledge of Wolverine 2013 Interview 9, Gwich'in Language Centre Document: “Wolverine”. ND. Also called iron stand.

All I hear about is, wolverine tail... they used to fancy up their dog teams. They make bell, back band with fancy [decorations] on it, they tie it on their back, dog bells around their collar and sometimes if they're lucky, or if they're well off, if they're good, real good trappers, they collect wolverine tails, [and] the wolverine tail is stuck especially on the leader. They put a wolverine [tail], and then they tie ribbons around it. And that dog bell, that's when they're going to town for Christmas or any big days. And that leader is all dressed up, wolverine tail on it and, I think that leader knows that he's real important so he's in a hurry to go to town, travels real fast and that, his partners behind him they just keep up to the leader they're all excited. And my Grandmother used to say that leader knew that wolverine is on him that's why he's acting smart like that she said, which was true. Boy people in town see that dog team coming in like that and it was really something. Big news about it, news spread fast too. This person had a real fancy leader all dressed up, and himself he's dressed up too because he's wearing parky with wolverine trim on the bottom [and] around his hood. They say that's the best trim... any other fur, it gets frosty and full of snow and that wolverine – nothing. Real good for the parky fur. Around the hood even today a lot of them are after wolverine skins. To make nice parkas. Yeah, [wolverines are a] very important animal.

Sarah McLeod-Firth⁷

The Gwichya Gwich'in traded wolverine furs with the Inuit along the coast. In return, they would receive gloves made from the wolverine fur, or other items.⁸

The furs are very strong, *“just the stomach part is thin. But the back and that is really strong and it last very, very long.”*⁹ *“Wolverine and beaver skin was dyed on the inside.”*¹⁰ This dye is known as tsaih, which is made from ochre (a red rock) or other substances, including rotting stumps. Other dyes for wolverine include one made from lichen.¹¹

In the past, the gall bladder of wolverine was used medicinally. *“Only thing I heard of is that little thing on the liver they call gall bladder. ... they used to keep it for medicine, but it's only going to be used once and that's all. You can't use it twice.”*¹²

⁷ Sarah McLeod-Firth, Gwich'in Knowledge of Wolverine 2013 Interview 6

⁸ Bob Norman, Gwichya Gwich'in Place Names Project 1992 Tape 47

⁹ Gabe Andre, GEKP (Wolverine)

¹⁰ Alice Andre, Gwichya Gwich'in Googwandak Community Review meeting 2000

¹¹ Participants in Gwich'in validation sessions in Aklavik and Inuvik.

¹² Catherine Mitchell, GEKP (Wolverine)

Gwich'in legends

Wolverines are commonly encountered in Gwich'in stories and legends.

The Wolverine

– Bertha Francis¹³

A long time ago, Mr. and Mrs. Wolverine were hungry so they went searching for some food to steal. After searching for a number of days, they came upon a stage. The stage was used to store away food. Somehow, the wolverines got up on the stage. When they got on the stage, they decided to steal some geese. Mrs. Wolverine went to the ground and kept watch while Mr. Wolverine was piling up the geese to be carried away. Mr. Wolverine had been piling the geese for quite some time now and had a big pile. All of a sudden, Mrs. Wolverine, who was on the guard, heard something. She listened carefully and heard the sound of people advancing in their direction. Mrs. Wolverine yelled and screamed to Mr. Wolverine but because he was so involved in the robbery, he refused to listen or believe that people were coming. Instead, he said that it was just probably squirrel nuts making noise by the wind. Mr. Wolverine ignored the continuing pleas from the guard and kept on piling up the geese.

Soon the sounds came louder and louder. Mrs. Wolverine then ran off. The sound of people coming so close was getting louder, that the remaining wolverine stopped what he was doing and ran after Mrs. Wolverine. When the people got to the stage, they were angry that their winter supply had been disturbed but felt fortunate that nothing was missing. Mr. and Mrs. Wolverine were without food again. Mrs. Wolverine probably was scolding him for being so greedy.

Wolf and Wolverine

– Lucy Vaneltsi¹⁴

This is a legend of a wolf and a wolverine.

Once, long ago, a wolf's daughter got married to a wolverine. Her four brothers called the wolverine their brother-in-law and the wolverine, in turn, called them his brothers-in-law. They all lived in the mountains and the wolverine always got his food easily while the wolves had a hard time. The wolverine always had to share his catch with them because they were so unlucky.

One day the wolverine's wife had a son and he was very proud. He told his wife to take his son over to his brothers-in-law so they could give him a name. She did, and when she returned he was told of the new name that was chosen. He did not like the name and was very angry with his brothers-in-law. He said that he would never help them again.

Then one day the wolves were lucky and killed a few caribou. They brought a piece back to eat - their mother was cutting up the meat. The wolverine heard that and was glad they finally had good luck. He went over to the wolves' teepee and when his mother-in-law heard him coming she hid all the meat. When

¹³ COPE Story from Gwich'in Social and Cultural Institute.

¹⁴ COPE Story from Gwich'in Social and Cultural Institute.

asked about the hunt, she said her sons returned empty-handed. She said she was preparing a thin soup out of an old piece of bone. The wolverine returned to this teepee and laughed about their poor meal. After he had left their teepee the wolves had a nice feed of caribou.

Early in the morning, the wolves went back out to the same trail and the wolverine followed them to see what they were up to. When he caught up to them they were cooking up some of the caribou and the wolves told him to sit down and relax close to the fire. When the oil was very hot, one of his brothers-in-law grabbed and pulled his legs together. They threw the fat on the wolverine's stomach, and the burning fat made a big hole in his stomach and it killed him. This is why the wolverine has a dark spot on the fur of his stomach, to this day. They set the dead wolverine up in the middle of the trail and then went back home with the caribou.¹⁵

When their sister didn't see her husband with them she asked where he was. Her brothers said that he was coming with a big load of meat and he wanted her to go and meet him. She went back on the trail and when she found him sitting on the trail dead she was very angry and turned to go back home. Her brothers were waiting for her on the trail and killed her with a bow and arrow.

The only one that was living was the baby wolverine who was big now. His uncles renamed him and he told them that he would be called a wolverine. Also that if they had any food they better make sure that it was safe because he would be around and he would steal off them. So until this very day the wolverine is known to steal from people.

Wolverine and His Brother In-law

-William Nerysoo¹⁶

The wolverine and his brother-in-law decided to go hunting in the spring. When they were out hunting all their clothes got wet, so they set up camp and made a fire. The wolverine started thinking about a trick that he could play on his brother-in-law. The brother in-law knew that the wolverine was up to something. The brother-in-law took off his pants and put it by the fire to dry. The wolverine took off his pants and hung it on the log by his brother-in-law's.

The brother-in-law knew what the wolverine was up to. As soon as the wolverine fell asleep the brother in-law switched the pants around. Now the wolverine's pants are where he thought his brother-in-law's pants were. The wolverine did not know that his brother-in-law switched their pants around while he was asleep. The brother-in-law was pretending to sleep, meanwhile he was watching the wolverine. The wolverine

Nèhtrùh that is the [name] they give him because he is just a regular crook, so they call him nèhtrùh right there.

He always tell those Indian people make sure when you make cache make sure you fix it good, because your brother-in-law will be around to clean it up. There is stories about those animals like that.

Charlie Stewart GEKP (Wolverine)

¹⁵ Contributions to this paragraph were made by Richard Ross in the Aklavik validation session.

¹⁶ Gwich'in Language Centre files

looked at his brother-in-law and assumed that he was sleeping. The wolverine took what he thought was his brother-in-law's pants and threw it into the fire, and went back to sleep.

While the wolverine was asleep his brother-in-law got up and put on his pants. When the wolverine woke up he saw that his brother-in-law was wearing pants. He asked his brother-in-law, "Are those your pants?" The brother-in-law replied with a question, "Why? Are your pants tied at the bottoms?" The wolverine realized that the trick was on him.

The brother-in-law left for home. The wolverine stayed and sent word to his wife to bring him a pair of pants. His brother-in-law didn't give his wife the message. The wolverine's wife asked her brother, "Where is your brother-in-law?" "He'll be back tomorrow," answered her brother. The next day shortly after they awoke, he told the wolverine's wife what had happened, "Your husband threw his pants in the fire, so he has no pants, out at camp. You should take a pair of pants out to him." The wolverine's wife was very angry. She said angrily, "Why didn't you tell me this yesterday? Why tell me now? He's probably frozen by now!"

The wolverine's wife took a pair of pants to him and he was still alive.



FIGURE 5 EAST THREE [INUVIK], 24 APRIL 1957. S/CST. ANDRE JEROME, WITH WOLVERINE TRIM ON PARKA, SHOWING ITEMS CARRIED ON RCMP DOG PATROL FROM ARCTIC RED RIVER TO EAST THREE [INUVIK] AND AKLAVIK.

Photo credit: NWT Archives/Robert C. Knights fonds/N-1993-002: 0007.

Gwich'in stories

Many interesting stories about life in the past also include wolverines.

[Wolverine,] he'll go through anything, he'll go in the fish hole, he'll go in there too you know. One time he done that with somebody and [when that person] got back to his fish pit – [the] pit hole [had] wolverine traps around it, all [with] nothing. And it went in that pit hole, and it got stuck. It couldn't come out, and it was eating all that fish and he got fat – [so it] couldn't go back through that hole. This man here, he got back to his pit hole [and there] is wolverine in there, he tell his boy, 'give me the twenty-two;' shot it, gave back the gun to that boy and he look in there. Another one in there. 'Give me back my twenty-two' he say, 'that wolverine came alive again' he say, so he give him back [the gun and] that's when he shot it. Then he caught a... bigger one, pull out one wolverine and he look around he see another one there, that's two in there [and] he shot one of them. That's one little story about him.

Noel Andre¹⁷

Another story recounts how a wolverine lived inside of a moose carcass in the winter. The carcass eventually froze, with the wolverine still inside its body cavity. The wolverine ate his way around the inside of the moose all winter. In the spring, when things – including the moose carcass – started to thaw out, the wolverine escaped unharmed.¹⁸

Gwich'in place names and traditional trails

The maps on the following pages show Gwich'in traditional named places mentioned in this report (Figure 6), and trails associated with wolverine trapping and hunting (Figure 7). The trails map is based on data gathered during the Dene Mapping Project in the 1970s and 1980s. These trails point to greater use of the mountains when trapping wolverines.

¹⁷ Noel Andre, Gwich'in Knowledge of Wolverine 2013 Interview 10

¹⁸ Charlie Stewart, GEKP (Wolverine)

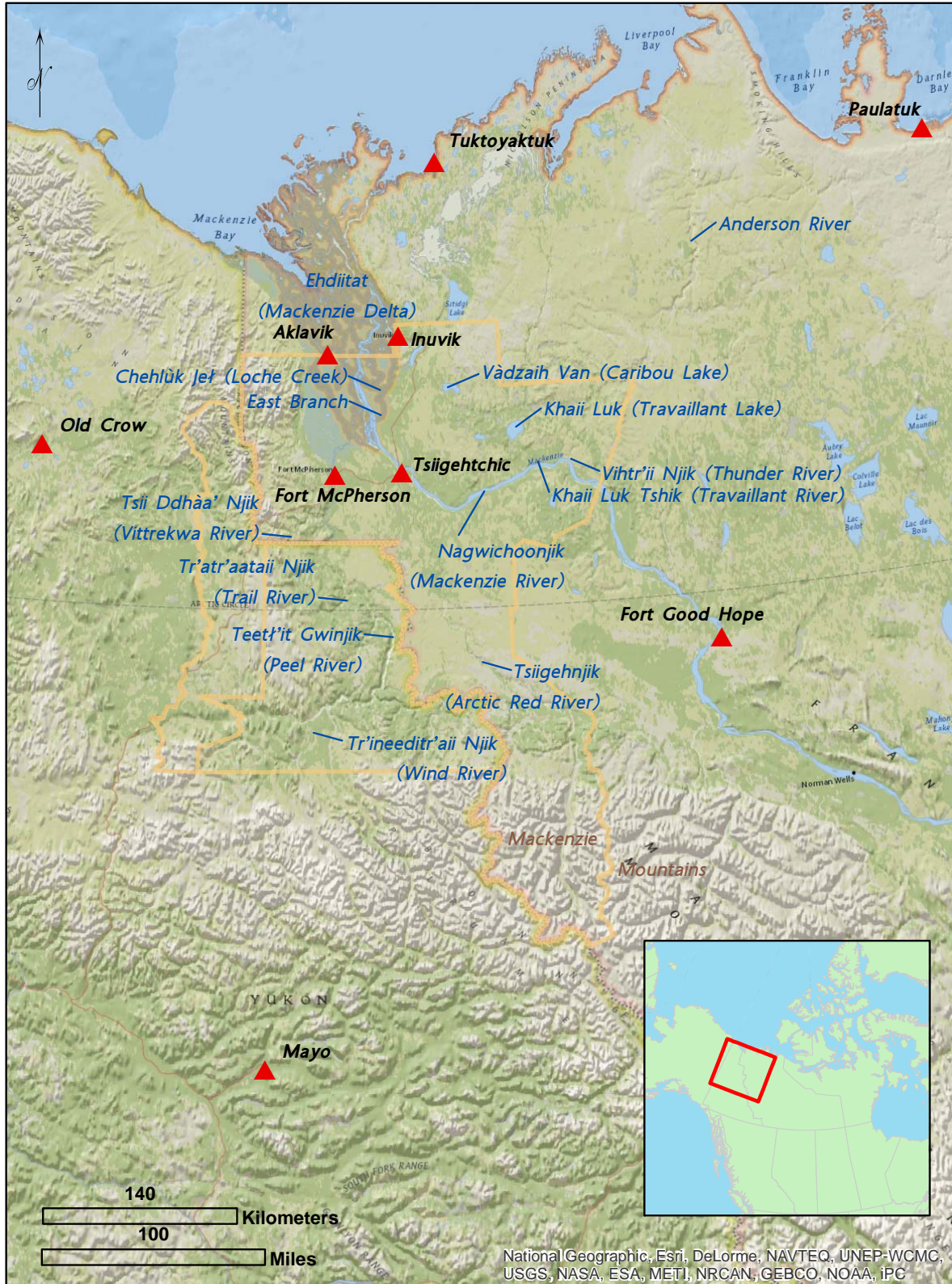


FIGURE 6. MAP OF GWICH'IN SETTLEMENT REGION SHOWING NAMES USED IN THIS REPORT.

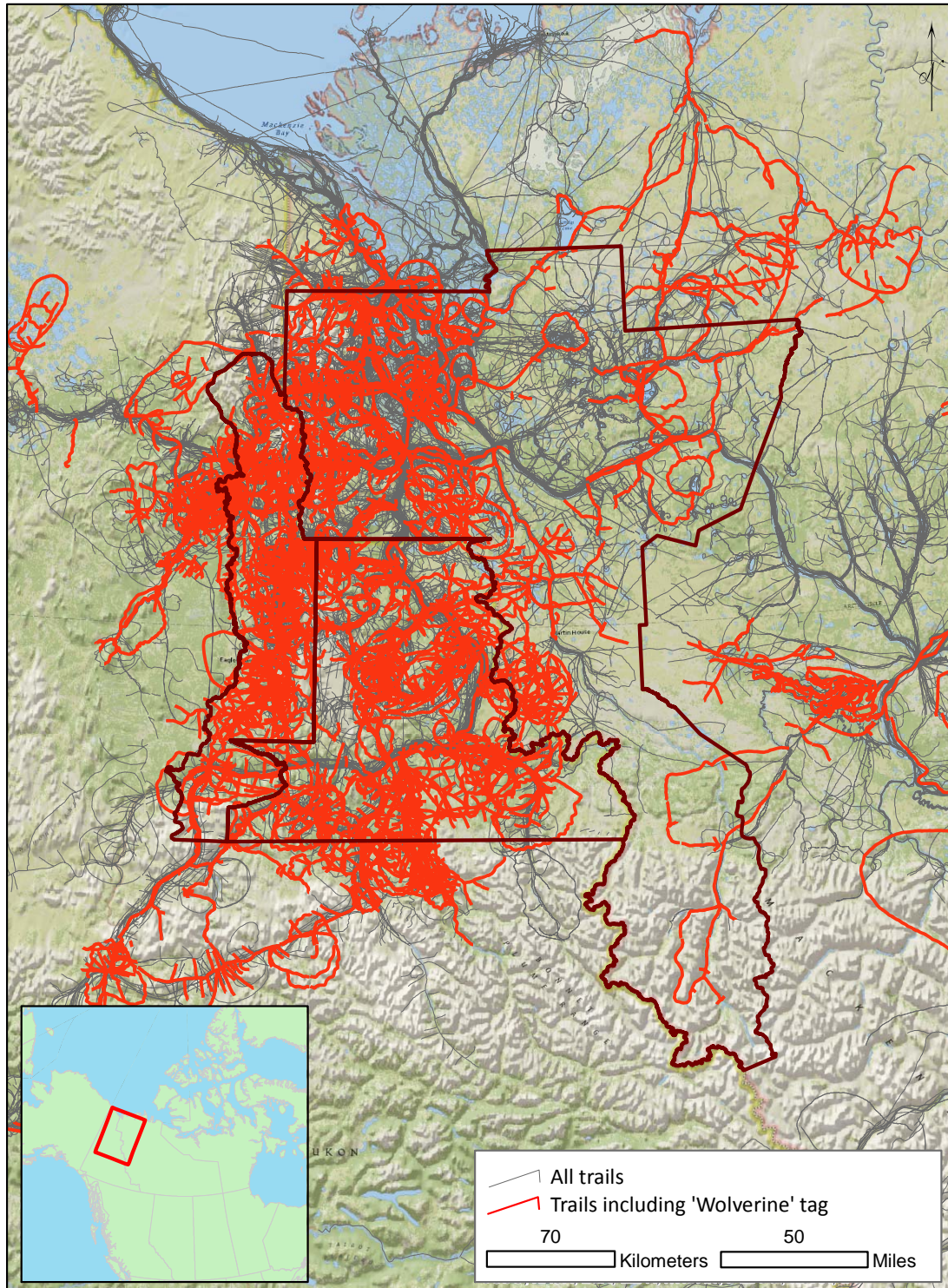


FIGURE 7. MAP OF DENE MAPPING PROJECT TRAILS.

Note: The 'Wolverine' tag on the trails indicates that the trail was used to harvest wolverine. The Dene Mapping Project was a large Mackenzie Valley-wide project undertaken by the Dene Nation in the 1970s and 1980s to gather traditional use information for use in negotiating the Denendeh Claim.

Gwich'in place names referring to Wolverines

There are several traditional Gwich'in place names which refer to wolverines. These are shown on Figure 9:

1. A lake named Gwit'iet Van Choo ("Next to something [Nagwichoonjik/Mackenzie River]-lake-big") is also known as Wolverine Lake. This place name refers to a lake in the Thunder River area.
2. Nèhtrùh Chì' (Wolverine-its' rock). This place name refers to an area up the Arctic Red River, and is associated with a legend:

The legend about Nèhtrùh Chì' ... a Chijuudiee ("monster [spirit animal] that lives in the water"), describes how this unique land formation up the Arctic Red River near Martin House was formed. The Elders told us that a giant wolverine came out of a nearby lake and burrowed underneath the ground, breaking up the hill in this area as it went into the Arctic Red River. Elders who know of this place are still cautious around here because this giant creature is considered wicked and will kill any person it encounters. If people hear a noise coming from this place while travelling on the river, they avoid stopping here. On the other hand, if the area is quiet, they may stop.¹⁹

Other versions of the legend indicate that the creature stopped before the Arctic Red River, on the hill. One Tsiigehtchic Elder recalls being told by his father to avoid the area in the winter because of the dangerous terrain in this area, "in case he fell down there."²⁰

3. Nèhtrùh Gyt (Wolverine-glacier). This place name refers to a glacier on the Blackstone River.



FIGURE 8. GABE ANDRE AND GEORGE NIDITCHIE SR. EXAMINING THE UNIQUE GEOGRAPHY OF NÈHTRÙH CHÌ' ALONG THE ARCTIC RED RIVER DURING THE 1993 GWICHYA GWICH'IN PLACE NAMES PROJECT.

Photo credit: I. Kritsch, GSCI.

¹⁹ Kritsch *et al.* 1994: 9

²⁰ George Niditchie Sr., Validation Session Tsiigehtchic

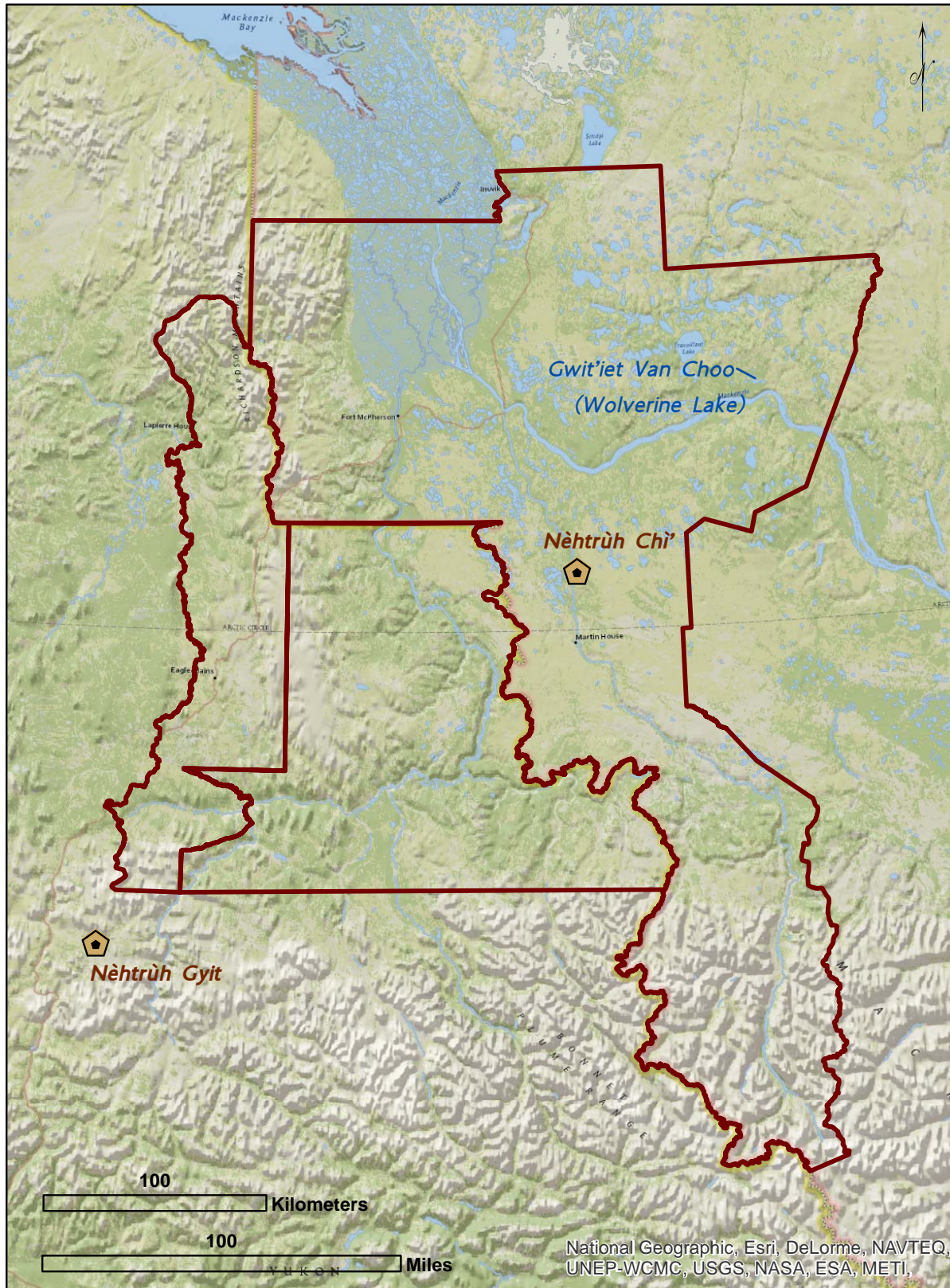


FIGURE 9. MAP OF TRADITIONAL GWICH'IN PLACE NAMES REFERENCING WOLVERINE.
Note: names in this map are from the GSCI's Gwich'in Place Names Database.

Physical description

Wolverines are a very distinctive-looking animal. They have dark fur with lighter markings, “*it’s like a U-shape, from below the arms down to the bum around up again up to the other arm. Like light brown to yellowish colour. Around the neck is like white parts on it.*”²¹ Wolverine have a strong smell, which keeps other animals away.²² Although most people had not heard the sounds a wolverine makes, they are known to growl similar to a dog.²³ Wolverine can vary in size, “*some of them are really big and some are small.*”²⁴ They can be one and a half to three and a half feet long, head to tail, similar to a medium-sized dog.²⁵ “*His head is small and [he has] bright eyes.*”²⁶



FIGURE 10. WOLVERINE.

Photo credit: US National Park Service.

Wolverines shed their coat in the spring, “*like any animals in the spring, I guess it change. Because it has to have new fur.*”²⁷ While shedding they do not look like wolverines, they are thin-looking and rusty coloured.²⁸ “*The sun would burn the fur and it’ll curl.*”²⁹ In the summers they have shorter hair.³⁰ “*By fall time they got brand new fur again.*”³¹ Gwich’in trappers noted differences in colouration, both within an area and between different areas. In any one area, some wolverines have more white in their markings, and some have more black.³² However, there is also a trend in marking colours towards the Arctic coast, “*up here [around*

²¹ Agnes Francis, GEKP interview of Edith Nerysoo (Wolverine)

²² Abraham Peterson, Gwich’in Knowledge of Wolverine 2013 Interview 2

²³ Charlie Stewart, Hyacinthe Andre, and others, GEKP (Wolverine)

²⁴ Catherine Mitchell, GEKP (Wolverine)

²⁵ Ernie Andre, Hyacinthe Andre, GEKP (Wolverine)

²⁶ Sarah Ann Gardlund, GEKP (Wolverine)

²⁷ Catherine Mitchell, GEKP (Wolverine)

²⁸ Gabe Andre, GEKP (Wolverine)

²⁹ Peter Ross, Gwich’in Knowledge of Wolverine 2013 Interview 9

³⁰ Edith Nerysoo, GEKP (Wolverine)

³¹ Charlie Stewart, GEKP (Wolverine)

³² William Modeste, Gwich’in Knowledge of Wolverine 2013 Interview 5

*Aklavik] they're mostly all dark I guess, [but if] you go towards Paulatuk, you get lighter ones. ... probably just different conditions ... less trees [so] harder to hide I guess.*³³ The differences in colouration may also relate to their health.³⁴ Also, it has been noted that wolverines living in a burned area may be more yellow in colour and pale, with almost no distinctions in their markings. This may be due to the change in diet.³⁵

Wolverines have large feet which allow them to walk on top of the snow.³⁶ Their claws are very sharp and are used in climbing onto stages and when hunting large animals.³⁷ The claws are different on males and females - *"it's the size and if you look at the claws, the female are a little sharper they're... [more pointed]. And [the] male is kind of round."*³⁸

Overall, females are smaller and sometimes they look different. *"Female has nice fur and the male always really black. [The female has] a patch... sometimes it's white and sometimes it's yellow."*³⁹

It is easy to tell a wolverine apart from other animals, even from a distance. They move in such a way that it is obviously a wolverine.⁴⁰

Diet

Wolverines will eat *"anything that's in their way. Like rabbits. Caribou, whatever."*⁴¹ At least one hunter feels that their diet is mostly from hunting rather than scavenging, *"mostly from hunting – squirrels, mice ... moles... [other animals] that live under the snow, and rabbits."*⁴²

However, many others suggest they are more reliant on scavenging, *"wolverine are not real killers they're scavengers."*⁴³ *"I never seen a wolverine kill any animals, only... [if they get a] chance, they kill them. Small animal. But mostly they live on carcasses. Dead animals they can find. They live on that. [If you] have a trap line, they eat up all the marten, bait and all that stuff. You toss away something, [they will] eat the whole lot. Eats everything up."*⁴⁴ If a wolverine cannot finish a meal in a single sitting, it will urinate on it and return to it later.⁴⁵

³³ Ian McLeod, Gwich'in Knowledge of Wolverine 2013 Interview 8

³⁴ Peter Ross, Gwich'in Knowledge of Wolverine 2013 Interview 9

³⁵ James Firth, Gwich'in Knowledge of Wolverine 2013 Interview 11 and in validation session.

³⁶ Walter Alexie, Gwich'in Knowledge of Wolverine 2013 Interview 1

³⁷ Abraham Peterson, Gwich'in Knowledge of Wolverine 2013 Interview 2

³⁸ James Firth, Gwich'in Knowledge of Wolverine 2013 Interview 12

³⁹ Sarah Ann Gardlund, GEKP (Wolverine)

⁴⁰ Walter Alexie, Gwich'in Knowledge of Wolverine 2013 Interview 1

⁴¹ Walter Alexie, Gwich'in Knowledge of Wolverine 2013 Interview 1, also mentioned by numerous others.

⁴² Fred W. Koe, Gwich'in Knowledge of Wolverine 2013 Interview 3

⁴³ James Firth, Gwich'in Knowledge of Wolverine 2013 Interview 12, Steering Committee meeting March 26 2014 agreed that scavenging was more important for wolverines.

⁴⁴ Bob Norman, Headwater of the Arctic Red River Phase III Interview 2

⁴⁵ William Francis, Steering Committee Meeting March 26, 2014.

It's always travelling to different places. Sometimes early in the fall in October, sometime in September, he kill lots of beaver. When the beaver is busy making his house he walk in the bush to get food – like willows and birch. That time [wolverine] gets them in the dark. That is the only time they work. He cache them, when he get too much he cache them. Later on in the winter time if it's got no food they go back to where he cached it and eat. He bury it underneath the moss and no other animal will find it.

Gabe Andre, GEKP (Wolverine)

They also eat ground squirrels - “ground squirrels ... it’s right in the ground. They live in the ground, [and wolverines] just dig them out, just like grizzly bears do.”⁴⁶ They will grab fish from creeks with their strong paws.⁴⁷ Wolverines may also eat roots.⁴⁸ “Along the lakes...they dig [little roots] like in the spring, in May. I don’t know if they do that just for... it could be females that are doing it because their legs are smaller maybe just to get ... the things going for the young ones.”⁴⁹

Wolverine’s diet

- Caribou
- Rabbits
- Beavers
- Ground squirrels
- Muskrats
- Mice
- Moles
- Fish
- Ptarmigan and grouse
- Carcasses
- Cached meat
- Trapline bait
- Trapped animals
- Roots

Wolverines can go without food for a while and still remain healthy. “I think it’s an animal that don’t eat very much. He’s just the kind of animal he is. But when there’s something there to eat, boy he eat lots too. He’s good for long time I think.”⁵⁰ A wolverine, though quite small, could finish an animal as large as a caribou in a night, “If you kill caribou he might eat one caribou, one night.”⁵¹

Biology and Behaviour

Behaviour

Wolverines are known to be wild and scared of humans, so rarely seen.⁵² It is rare occurrence to see a wolverine in a context other than them running away. “I watched one ... maybe for a couple of minutes one time in the mountain there, trying to dig under a rock. But then he got a whiff of me I guess, and then he just looked around

⁴⁶ Abraham Peterson, Gwich’in Knowledge of Wolverine 2013 Interview 2

⁴⁷ Abraham Peterson, Gwich’in Knowledge of Wolverine 2013 Interview 2

⁴⁸ Gabe Andre, GEKP (Wolverine)

⁴⁹ James Firth, Gwich’in Knowledge of Wolverine 2013 Interview 12

⁵⁰ Abraham Peterson, Gwich’in Knowledge of Wolverine 2013 Interview 2

⁵¹ Jim Vittrekwa, GEKP (Wolverine)

⁵² Walter Alexie, Gwich’in Knowledge of Wolverine 2013 Interview 1

and took off.”⁵³ However, although they are generally known to be cautious, they may approach an occupied tent and steal food right from a cooking fire.⁵⁴ One was caught a mile from the town limits of Aklavik.⁵⁵

Wolverines are solitary animals, generally seen alone⁵⁶ and always on the move. They “travel, just steady travel.”⁵⁷ Even their tracks along a trapline show them travelling alone.⁵⁸ However there are a few situations where there can be more than one wolverine together:

- If there is a stage or another source of food to scavenge, they will very occasionally be seen together, perhaps two or three,⁵⁹
- When mating (see Life cycle and reproduction section, below) “Only when they’re mating they go together, like two together. Otherwise they’re always by themselves unless they find a big cache and sometimes two or three together clean up all what is there,” and⁶⁰
- When adolescent, after leaving the mother (see Life cycle and reproduction section, below).

Wolverines may use the same places and trails over and over if a steady food source such as fish or rabbits are available. “Whenever they find a good place they could feed, they just stay in that trail. Like they find a good creek that is running with ... little fishes and stuff, where they could live, they stay there for a while.”⁶¹ A wolverine spot was found around a fish camp, a “place there right under the tree, there was branches just set out, maybe he sleep there.”⁶² They’ll defend their territory, and mark it with urine and other signs.⁶³

Wolverines are known to be ferocious. They’re very tough and strong, and could likely even kill a lynx (see Interactions section below).⁶⁴

Wolverines may sleep during the day and move around at night, or “he could have a little sleep and go again.”⁶⁵ “In the day time, most of the time, he sleeps... I think that is why you don’t see them around. At night he travel around. ... there is very few times you could see them in the day.”⁶⁶

*I know he like to pack things away,
even something heavy he can pack it
too...walk like a man and pack it. He
just walk with his two hind leg and
pull things over his shoulder with his
arm and walk.*

Gabe Andre GEKP (Wolverine)

⁵³ James Firth, Gwich’in Knowledge of Wolverine 2013 Interview 12

⁵⁴ William Modeste, Gwich’in Knowledge of Wolverine 2013 Interview 5

⁵⁵ Richard Ross, Gwich’in Knowledge of Wolverine 2013 Interview 7

⁵⁶ Walter Alexie, Gwich’in Knowledge of Wolverine 2013 Interview 1

⁵⁷ Winston McNeely, Gwich’in TK of the Mackenzie Valley Pipeline 2004, also mentioned by Peter Ross Gwich’in Knowledge of Wolverine 2013 Interview 9 and others.

⁵⁸ Charlie Stewart, GEKP (Wolverine)

⁵⁹ Abraham Peterson, Gwich’in Knowledge of Wolverine 2013 Interview 2

⁶⁰ Gabe Andre, GEKP (Wolverine)

⁶¹ Abraham Peterson, Gwich’in Knowledge of Wolverine 2013 Interview 2

⁶² Fred W. Koe, Gwich’in Knowledge of Wolverine 2013 Interview 3

⁶³ James Firth, Gwich’in Knowledge of Wolverine 2013 Interview 12

⁶⁴ Abraham Peterson, Gwich’in Knowledge of Wolverine 2013 Interview 2

⁶⁵ Abraham Peterson, Gwich’in Knowledge of Wolverine 2013 Interview 2

⁶⁶ Gabe Andre, GEKP (Wolverine)

Stealing food and scavenging

Wolverines are well-known to steal from people's supplies. They will climb the poles on a stage and eat, or ruin by urinating on, the supplies and furs found there.⁶⁷ Wolverines will even knock a cache over and take the food.⁶⁸ The only effective way to prevent them from climbing up the poles is to use a covering like stove-pipe sections on each pole – even peeling the bark from the poles and smoothing them will not always prevent a wolverine from climbing up.⁶⁹ Oil cans, emptied and split, were also used to cover the poles.⁷⁰



FIGURE 11. WALTER ALEXIE STANDING IN FRONT OF A TWO POST STAGE AT ALFRED BONNETPLUME'S CAMP AT TS'OK ÌITL'IN, WITH METAL COVERING A PORTION OF THE POSTS, IN 1999.

Photo credit: I Kritsch, GSCI.

Some people put wolverine traps at the base of their stages, and hanging down from the stage.⁷¹ Others have tried scarecrows, which work as the wolverines are generally so shy of humans.⁷² In some cases a structure was constructed on the stage to prevent wolverines from getting into the food, “*they build a little*

⁶⁷ William Modeste, Gwich'in Knowledge of Wolverine 2013 Interview 5

⁶⁸ Annie Norbert, Arctic Red River Oral History Project 1989

⁶⁹ Walter Alexie, Gwich'in Knowledge of Wolverine 2013 Interview 1

⁷⁰ Catherine Mitchell, GEKP (Wolverine)

⁷¹ Abraham Peterson, Gwich'in Knowledge of Wolverine 2013 Interview 2

⁷² Fred W. Koe, Gwich'in Knowledge of Wolverine 2013 Interview 3

log house on top and that's where our stuff would be."⁷³ However, wolverines can chew through logs to get at food.⁷⁴ Finally, a good amount of overhang on the stage can help keep wolverines out, as they do not like to climb 'upside down.' Three or four feet will keep the wolverines out.⁷⁵

From there we went, not that far, and we put up camp. Right there we left some dry meat. Half-dried meat for dogs. Dog food for coming back. We do that every certain place. Cut gunny sack and, must be a tree about that big, straight, just frozen. I stand on top of my brother's [shoulders], and he stand up with me, and I tied that meat way up on the tree. Secured it good to that tree. And then we took knife and we scrape all the bark off it - just made it shiny, slippery. That wolverine went up there. He took that meat down, just the gunny sack was left.

Walter Alexie⁷⁶

*"All he does is take away things from the camp, ... you got fish pile ... he'll take it, he'll take them out in the bush and hide them and then lay around in the spring time while he come dig it out again. Yeah, pretty smart animal."*⁷⁷



FIGURE 12. WALTER ALEXIE IN THE FORT MCPHERSON BAND OFFICE, 2010.

Photo credit: K. Benson, GSCI.

Wolverines can also steal fish from nets like bears. *"One fall we heard rumors, I was still home then, that people set nets on the Mackenzie River just at the shore [in Fort Good Hope, and] they use a little canoe and they set their nets. They want fish for the fall for dog feed and all that. Something used to come around at night and pull the net right out of the river, eat most of the fish, they were wondering who... they blame people in town, they thought somebody was robbing their nets at night after dark. They found out later it was a wolverine. One or two. They even knew how to check nets."*⁷⁸ Wolverine will also enter and leave a cabin by the stovepipe, sometimes getting stuck in the

⁷³ Catherine Mitchell, GEKP (Wolverine)

⁷⁴ Gabe Andre, GEKP (Wolverine)

⁷⁵ William Modeste, Gwich'in Knowledge of Wolverine 2013 Interview 5

⁷⁶ Walter Alexie, Black City Ethno-Archaeology Project 2004 Interview 8

⁷⁷ Pierre Benoit, Gwich'in Knowledge of Wolverine 2013 Interview 4

⁷⁸ Sarah McLeod-Firth, Gwich'in Knowledge of Wolverine 2013 Interview 6

stovepipe in the process.⁷⁹ *“Oh yeah they get into really rough places. Quite the little animal.”*⁸⁰ If a wolverine gets into a cabin or tent, it will foul and ruin it, including urinating on the stove, which causes a terrible smell when the stove is lit.⁸¹



FIGURE 13. IAN MCLEOD IN HIS OFFICE IN AKLAVIK, 2013.

Photo credit: N. Melnycky, GRRB.

Wolverines are known to steal bait from traps without getting caught in the traps. They will also take the hind end of martens from traps.⁸² *“Last year I caught a few marten [in the Delta] but they are no good to me, see half of it is [eaten]. Just the other half is left, that is a wolverine going around, you could see his tracks. They can outsmart you anytime, them things.”*⁸³ They will also take other trapped animals, although this was reported less often than with marten. *“Well, I know one time I caught [a weasel] in a trap and a wolverine was on my trail and he took that weasel out of my trap ah. I don’t know where he put it.”*⁸⁴ They simply follow a trapline trail to get to each trap. *“Well they follow [your trapline] and they take the marten, they take the baits, ... go behind the trap and take the trapping from behind and it’s really hard to trap them.”*⁸⁵ They’re smart enough animals that they can learn the habits of the trapper, and will stay around a trapline waiting for the trapper to set fresh bait. *“Oh that guy is putting all the bait back there, I’m going to live good again.”*⁸⁶ Wolverines will cache food they scavenge such as trapline bait and trapped animals. *“They hit your trap line or they’re going to go along the trail and clean up*

He is as smart as any professor in this world. He knows how to handle that trap.

Charlie Stewart GEKP (Wolverine)

He could outfox you.

Joan Nazon GEKP (Wolverine)

⁷⁹ Abraham Peterson, Gwich’in Knowledge of Wolverine 2013 Interview 2, also mentioned by George Niditchie Sr., Tsiigehtchic Validation Session.

⁸⁰ Richard Ross, Gwich’in Knowledge of Wolverine 2013 Interview 7

⁸¹ Richard Ross, Tsiigehtchic Validation Session

⁸² Walter Alexie, Gwich’in Knowledge of Wolverine 2013 Interview 1, Eunice Mitchell GEKP (Wolverine), Pierre Benoit, Gwich’in Knowledge of Wolverine 2013 Interview 4

⁸³ Wally McPherson, Gwich’in Knowledge of Boreal Woodland Caribou 2010 Interview 15

⁸⁴ Charlie Vaneltsi, GEKP (Weasel)

⁸⁵ William Modeste, Gwich’in Knowledge of Wolverine 2013 Interview 5

⁸⁶ Abraham Peterson, Gwich’in Knowledge of Wolverine 2013 Interview 2

[the] bait, or whatever you catch it's going to take it and hide it.”⁸⁷ After they cache the food, they can live off their supplies for a time before coming back and raiding the trapline again.⁸⁸



FIGURE 14. WOLVERINE.

Photo credit: NWT Archives/Rene Fumoleau fonds/N-1995-002: 2118.

Wolverines also scavenge from hunters and other animals. “Usually wolverines follow around wolves too. Scavenge whatever they kill, I guess.”⁸⁹ They’ll also hang out around caribou herds during hunting season. “If there’s lots of caribou they all hang out up on the flats where there’s guts and that, where people hunt.”⁹⁰ If they get a carcass or remains, they will drag it and foul it with their urine. “He just destroy it. It’s no more good, it’s only him he could eat it... If you catch a whole moose, [and] you go back for it tomorrow, if he’s around, he’ll destroy all that meat by tonight. Pack it all over the place and he pee all around there.”⁹¹ Wolverine will also drag meat from a cache and hide it – they can take quite a bit of meat in one night.⁹² Although small, they are strong enough to pack away a moose or caribou hindquarter.⁹³ “Hind quarter from a woodland [caribou] is pretty heavy. And they just drag it, like, like nothing. [The wolverine] dragged it probably about half a kilometre. Dug a big hole there covered it up.”⁹⁴ Wolverine are also very protective of their property. They will chase a person or even another animal from a carcass.⁹⁵

⁸⁷ Gabe Andre, GEKP (Wolverine)

⁸⁸ Peter Ross, Gwich’in Knowledge of Wolverine 2013 Interview 9

⁸⁹ Ian McLeod, Dall sheep, grizzly bear and wolf interactions in the Richardson Project 2008

⁹⁰ Ian McLeod, Gwich’in Knowledge of Wolverine 2013 Interview 8

⁹¹ Abraham Peterson, Gwich’in Knowledge of Wolverine 2013 Interview 2

⁹² William Modeste, Gwich’in Knowledge of Wolverine 2013 Interview 5

⁹³ Richard Ross, Gwich’in Knowledge of Wolverine 2013 Interview 7

⁹⁴ James Firth, Gwich’in Knowledge of Wolverine 2013 Interview 12

⁹⁵ Abraham Peterson, Gwich’in Knowledge of Wolverine 2013 Interview 2



FIGURE 15. NOEL ANDRE IN HIS HOME IN TSIIGHEHTCHIC, 2013.

Photo credit: N. Melnycky, GRRB.

Habitat use and requirements

“Wolverine like the higher country, the higher hills and . . . creeks and lakes—that’s prime wolverine country. Bob lynx. It’s seasonal again, depending on the population of rabbits and ptarmigan, rodents.”⁹⁶ They are seen crossing open flat areas but do not spend time there. “Wolverine tend to like hilly countries, where there’s lots of hills and creeks. Especially in the mountains, there’s more wolverine. But the flat areas . . . they don’t really go [there.] They’ll stay by the creeks, for the fish maybe, or hilly country for . . . the birds, and the lemmings and [the other animals] that hang around there.”⁹⁷

“I see them on the tundra . . . they cross the tundra, but if you chase them or anything like that, they’ll get into the woods where it’s nice and thick and you can’t follow them.”⁹⁸

Forest fires will cause a wolverine to leave the area. “They’ll head maybe for the Delta if there is fire in the hills. Even those little ground squirrels there they head right for the Delta, they’re not going to stay up in the hills.”⁹⁹

Wolverines will return to a burned out area soon after a forest fire.¹⁰⁰ The wolverine may be able to predict a fire or flood, and move off to safe ground - “they’re warned. They know when there is going to be fire and flood and they go to high places.”¹⁰¹

Movement

Wolverines can travel great distances, and quickly. “They can go 75-80 miles easy. My cousin was coming back from Mayo long ago with dog team, he

They travel all over.
They travel around with
animals that they could
live on.

Sarah Ann Gardlund, GEKP
(Wolverine)

⁹⁶ Willard Hagen, Gwich’in TK of the Mackenzie Valley Pipeline 2004

⁹⁷ James Firth, Gwich’in Knowledge of Wolverine 2013 Interview 12

⁹⁸ William Modeste, Gwich’in Knowledge of Wolverine 2013 Interview 5, also mentioned by James Firth Gwich’in Knowledge of Wolverine 2013 Interview 11.

⁹⁹ Charlie Stewart, GEKP (Wolverine)

¹⁰⁰ Walter Alexie, Gwich’in Knowledge of Wolverine 2013 Interview 1

¹⁰¹ Sarah Ann Gardlund, GEKP (Wolverine)

was alone and he say he met wolverine ... he travel all day ... right on Wind River, so he see his tracks, honestly! It snowed that night. He said, that wolverine... went 75 miles that night. Easy for him.”¹⁰² Although they can travel anywhere and are not confined to trails,¹⁰³ they also “travel along the river and along the creeks.”¹⁰⁴ Wolverines use sheep trails to travel in the mountains.¹⁰⁵ Wolverines might look like they are moving slowly or awkwardly, but they have a fast pace.

I see wolverine tracks... I tried to follow them in the spring time. I tried following them and I thought maybe I'd catch him up. When [there is a] crust on the snow, when you could walk right on top with snowshoes but they'll break through once in a while. I thought I'll catch him up but no, I couldn't catch him up. Well I guess he's always kind of hopping like that you know... [a wolverine could be] moving five-six miles an hour, you know, even if he is just [travelling at] a normal pace, probably could go faster than that if he tries to speed up.

William Modeste¹⁰⁶

Wolverines can overcome many obstacles when travelling – they can swim, they can climb mountains, and they can even climb trees.¹⁰⁷ “I see him swimming across the river once in a while.”¹⁰⁸ Although their large feet allow them to travel on top of the snow, they can also dive beneath it to escape and to hunt small animals. “They get in the deep snow, he could dive in the deep snow. And he'd come out some other place. That's the kind of animal he is. He just dives in deep snow, you don't see him, until he comes out way over there and... You don't know where he'll come out, in the deep snow, he lives in deep snow. Same as marten.”¹⁰⁹

Wolverines are always on the move. As noted in the Biology and behavior section above, they are often moving at night. They follow their food supply, “and wolverine too they move around, they have to follow the food supply ... so they move around quite a bit. Wherever you see caribou there's always wolverine, or lots of moose there's always wolverine, rabbits there's always wolverine.”¹¹⁰

¹⁰² Walter Alexie, Gwich'in Knowledge of Wolverine 2013 Interview 1

¹⁰³ Abraham Peterson, Gwich'in Knowledge of Wolverine 2013 Interview 2

¹⁰⁴ Gabe Andre, GEKP (Wolverine)

¹⁰⁵ Allen Koe Sr., GEKP (Sheep)

¹⁰⁶ William Modeste, Gwich'in Knowledge of Wolverine 2013 Interview 5

¹⁰⁷ Walter Alexie, Gwich'in Knowledge of Wolverine 2013 Interview 1, Pierre Benoit, Gwich'in Knowledge of Wolverine 2013 Interview 4

¹⁰⁸ Ian McLeod, Gwich'in Knowledge of Wolverine 2013 Interview 8

¹⁰⁹ Abraham Peterson, Gwich'in Knowledge of Wolverine 2013 Interview 2

¹¹⁰ James Firth, Gwich'in Knowledge of Wolverine 2013 Interview 12



FIGURE 16. PIERRE BENOIT IN INUVIK, 2013.
Photo credit: N. Melnycky, GRRB.

Life cycle and reproduction

Wolverines start to come together to mate in the spring – February, March or April. *“I see they start going together by tracks in March.”*¹¹¹ They will scent-mark at that time to try to meet with a mate.¹¹² *“In the spring time sometime they’re two together. They travel around together. I’ve seen the tracks. But mostly in the winter time they’ll be alone... occasionally you’ll see two together, I mean the tracks ... But I imagine it’s the mother and the cub or something.”*¹¹³ The mothers will dig a den to give birth and raise the young ones. *“Well, every [year] it got young one and it’s underneath the ground, they got a hole underneath the ground. It got young one inside.”*¹¹⁴ The young ones may also be born on ice, *“When [s]he have young one, they claim they have young ones on the ice...because it’s a tough animal. Because you want to make them little things tough. So most of the time the little young ones are born on the ice.”*¹¹⁵

I’ve never seen [a young wolverine], but I heard them. ...Not far from my cabin, I noticed when we first moved there, there’s always wolverine. Usually, you look at the tracks, [and] you could tell a female and male. And I followed this one and [the tracks] took me to the den. I could hear them in there, but I didn’t dare go any further than that. But I heard them and there’s probably, I don’t know, maybe two or three in there. [They sounded like a] little animal, like a cat or a little ... animal. [It was] just a hole in the ground on the side of the hill... it was pretty small. Just enough to get in there. If I never heard the noise I would never even have seen it, never even have been there because ...everything’s just covered naturally.

James Firth¹¹⁶

¹¹¹ Gabe Andre, also mentioned by Hyacinthe Andre, GEKP (Wolverine), and Richard Ross, Gwich’in Knowledge of Wolverine 2013 Interview 7

¹¹² James Firth, Gwich’in Knowledge of Wolverine 2013 Interview 12

¹¹³ William Modeste, Gwich’in Knowledge of Wolverine 2013 Interview 5

¹¹⁴ Hyacinthe Andre, GEKP (Wolverine)

¹¹⁵ Jim Vittrekwa, GEKP (Wolverine)

¹¹⁶ James Firth, Gwich’in Knowledge of Wolverine 2013 Interview 12

However, people do not generally see young wolverines or places where a female may give birth and raise her family. The mother will hide the young ones very well away from people.¹¹⁷

It is likely that their dens are in the hills or mountains, where “*they find a cave in the hills or wherever they find a hole, or make holes. They always go back to their own cave and they have their young ones. Mostly way up in the hills where there is rock. I guess they’ll have their young there. They got a good place where nothing can get at them... Well, they keep them in the hole and they get out there and they use themselves as a decoy.*”¹¹⁸ Dens may also be at the base of cliffs.¹¹⁹

Young wolverines may grow quite quickly, becoming independent as quickly as three months.¹²⁰ They stick together in small groups into the fall - “*in the fall time when you first start going out there, you might see two travelling together. And that’s more because they’re [from a] litter so they’re out on their own now, so they kind of hang around together. For the first ... I don’t know I’m not sure, but maybe for the first year they hang around together but after that they all [split up].*”¹²¹

Physiology and adaptability

Wolverines are generally thought to be very tough, smart animals. Many interviewees told stories about their ability to get into caches to get at food. There were also stories of the wolverine’s strength, for example, even after getting caught in a deadfall trap and having a crushed chest, a wolverine was found to have removed the large log and moved quite a distance before succumbing to its injuries.¹²² Many interviewees told stories about wolverines breaking traps to escape as well.

Wolverines have an excellent sense of smell, good vision, and are adept at using their senses to follow trails. “*Wolverine ... follow the old dog team trail no matter if it has snowed or blowed, the trail could be covered but they’re smart they got smart feet, tough feet, everything tough. Good nose, good eyes, good brains too.*”¹²³ With their good sense of smell they can smell food from long distances.¹²⁴

Once, a wolverine smelled a gut pile from across Caribou Lake, about ten miles.¹²⁵ They can also smell the metal of traps, which makes it harder to trap them.¹²⁶

¹¹⁷ Pierre Benoit, Gwich'in Knowledge of Wolverine 2013 Interview 4

¹¹⁸ Charlie Stewart, GEKP (Wolverine)

¹¹⁹ Joan Nazon, GEKP (Wolverine)

¹²⁰ Walter Alexie, Gwich'in Knowledge of Wolverine 2013 Interview 1

¹²¹ James Firth, Gwich'in Knowledge of Wolverine 2013 Interview 12

¹²² Walter Alexie, Gwich'in Knowledge of Wolverine 2013 Interview 1

¹²³ Sarah McLeod-Firth, Gwich'in Knowledge of Wolverine 2013 Interview 6

¹²⁴ Sarah Ann Gardlund, GEKP (Wolverine)

¹²⁵ James Firth, Gwich'in Knowledge of Wolverine 2013 Interview 12

¹²⁶ William Modeste, Gwich'in Knowledge of Wolverine 2013 Interview 5, also mentioned by Peter Ross Gwich'in Knowledge of Wolverine 2013 Interview 9 and others.

As noted above, wolverines are generally very fast-moving. Walter Alexie saw a wolverine running up a mountain as though he was running on flat ground. “[When running] *up that mountain, he just like go on the flat, ... nothing hard for him that animal, tough.*”¹²⁷ They do not stay in one place for long – they’re always moving. In a few cases, though, wolverines are slow. They can be slow when walking through or on snow, and when they travel across a lake or river in the winter, they can be more easily hunted on skidoo.¹²⁸ They are also very determined. When a wolverine is trying to get onto a stage, it will keep trying until it is successful.¹²⁹

Wolverines do not hibernate; they can be seen out any time of the year.¹³⁰ Wolverine can stay out and hunt during even the coldest weather.¹³¹ “*And they’re out in all kinds of weather, the colder the better, because they know that other animals are trying to find a place to sleep and be comfortable. He know it, that’s when wolverine is happy.*”¹³²

Numerous interviewees mentioned that wolverines are inedible due to how muscle-bound they are. Wolverine meat is not even used for trap bait as it would not attract other animals. “*That wolverine he is so crooked ... all the animals, ...they don’t want to go looking for wolverine.*”¹³³

Interactions

Wolverines are generally a top predator where they live.¹³⁴ Wolves may be able to kill a wolverine, but it would likely have to be more than one wolf.¹³⁵ “*Wolf and wolverine they’re brother-in-law ... Yeah, they’re brother-in-law. Wolverine was married to one of wolf sister. That’s why you see wolverine all the time, you see his track, you say, hello shaa*”¹³⁶ (*Shaa* is a friendly, teasing term for a brother-in-law¹³⁷). However, most animals will stay away. “*That is one animal they don’t want to fool around with. ...If he have to fight he’s got big claws and he’s got good-sized teeth. He’ll put up a hell of a fight before you get him down, that thing. I never hear of anything ever try to attack that*

¹²⁷ Walter Alexie, Gwich’in Knowledge of Wolverine 2013 Interview 1

¹²⁸ Fred W. Koe, Gwich’in Knowledge of Wolverine 2013 Interview 3

¹²⁹ Abraham Peterson, Gwich’in Knowledge of Wolverine 2013 Interview 2

¹³⁰ Walter Alexie, Gwich’in Knowledge of Wolverine 2013 Interview 1

¹³¹ Noel Andre, Gwich’in Knowledge of Wolverine 2013 Interview 10

¹³² Sarah McLeod-Firth, Gwich’in Knowledge of Wolverine 2013 Interview 6

¹³³ Charlie Stewart, GEKP (Wolverine)

¹³⁴ James Firth, Gwich’in Knowledge of Wolverine 2013 Interview 12

¹³⁵ Walter Alexie, Gwich’in Knowledge of Wolverine 2013 Interview 1, Pierre Benoit, Gwich’in Knowledge of Wolverine 2013 Interview 4

¹³⁶ Robert Alexie Sr., GEKP (Draft Review Wolf / Mallard / Geese February 18 & 20, 1997)

¹³⁷ Aklavik/Inuvik Validation sessions

Wolverine Tanning

Wolverine skin is scarce these days so you really have to work with it carefully. Slowly and carefully I always remove pieces of meat and fat off the skin. You have to watch so the fire isn't too big (it can burn the fur). It has lots of fat and that softens the hide - next smoke it for a little while. You can work around, or on, the area where the feet were with baking soda and soapy water. It takes about two days to do this but it usually takes three days.

Wolf, lynx, and fox are tanned the same way as the wolverine.

Lucy Vaneltsi, COPE Story

wolverine.”¹³⁸ Wolverines can protect themselves in a fight by going on to their backs and using their teeth and claws to defend themselves.¹³⁹



FIGURE 17. GEORGE NIDITCHIE SR. IN HIS HOME IN TSIIGEHTCHIC, 2013.

Photo credit: N. Melnycky, GRRB.

Wolverines can hunt even large animals like caribou and moose. “Well, if they don’t get the adult, they’ll get the calf.”¹⁴⁰ As noted in the Behaviour section above, they are found (along with many other predators) around caribou herds, waiting to scavenge from other animals or from what hunters leave behind.¹⁴¹

I was hunting caribou one time. I shot a caribou and the caribou went in the bush. I hit it, [and] I was going to take my snowshoes and go after it, but I thought there was another lake on the other side, so I thought caribou might come out on that lake. I went over to the other lake and there was nothing, I didn’t see nothing so [after some time passed] I went back to ...where he went in the bush. When I got in the bush the caribou was on the lake and wolverine was trying to kill him. [The wolverine] was jumping on, on the caribou and [chewing its back]. I went over there with a ski-doo, and when he heard the ski-doo coming he went running in the bush....A caribou is a lot bigger than a wolverine. But I guess they smell the blood you know and, and [have] that determination to kill that caribou.

William Modeste¹⁴²

Wolverines hide in trees, and jump onto passing caribou or moose to kill them. They then chew the cords in the back of the head and neck, to sever the main blood vessels here.¹⁴³ Wolverines can also use trees to escape from bears.¹⁴⁴

¹³⁸ Charlie Stewart, GEKP (Wolverine)

¹³⁹ George Niditchie Sr., Gwich’in Knowledge of Wolverine 2013 Interview 11

¹⁴⁰ Douglas Kendo, Gwich’in Knowledge of Boreal Woodland Caribou 2010 Interview 10

¹⁴¹ Abraham Peterson, Gwich’in Knowledge of Wolverine 2013 Interview 2

¹⁴² William Modeste, Gwich’in Knowledge of Wolverine 2013 Interview 5

¹⁴³ Albert Frost, Gwich’in Knowledge of Boreal Woodland Caribou 2010 Interview 19, George Niditchie Sr., Tsiigehtchic Validation Session

¹⁴⁴ Joan Nazon, GEKP (Wolverine)

Wolverines can stay on top of the snow even in conditions where caribou break through. “*Wolverine [in] mid-winter, they could stay on top the snow and [they] don’t break right through. It’s not like caribou, caribou break through.*”¹⁴⁵

Wolverines are also known to grab a prey animal’s throat.¹⁴⁶

I hear the wolverine can kill a moose. I guess they grab them by the throat or back of the legs where they kill the nerves...[so] the moose can’t run anymore [and when] the snow is too deep and they’re injured anyways...they slow right down; that’s when the wolverine just finishes his job and he’s good for a week, or maybe more. If nothing else comes around and steals from him. And he’ll stay right with that, his killing.

Sarah McLeod-Firth¹⁴⁷

Wolverines will hunt sheep if the opportunity arises.¹⁴⁸ “*Well, [mountain sheep have] special places in the high mountains, where the wolverines and wolves won’t bother them, where they can have their young ones.*”¹⁴⁹

Wolverines are fast enough that they can catch ptarmigans by smelling them through the snow. “*I guess ptarmigan was sitting in the snow, [it was] night time and [the wolverine] scared that ptarmigan he just made two jumps and he got it, you could see his track... Just the feather was there, you could see it.*”¹⁵⁰ Wolverine will also eat grouse.¹⁵¹

Wolverines actively hunt muskrats, and are important for the overall health of muskrat populations. “*That is how come ... you can shoot [muskrats] all spring... you can shoot all kinds of rats. [Wolverines] keep the population down, it keeps them healthy. So the next year, fall like, there [are] nice healthy rats. Otherwise, [if wolverines] don’t do that, [muskrats will] get sick and they die off.*”¹⁵²

Wolverine are smart in the way they hunt porcupines. “*Other animals hunt it but they never get it because of the quills. Only the wolverine, he just cover him up with snow. He covers him up with snow, and he goes under [the porcupine] and grabs it by the belly, only way he kill it.*”¹⁵³ This is a very smart strategy to avoid the porcupine’s defenses, as the “*porcupine [has] all those quills on him... and [the wolverine] knows that. And wolverine when he get too close to it [the porcupine will] just lay down in the snow and never move. Wait until somebody try to jump on him,*

¹⁴⁵ Walter Alexie, Gwich’in Knowledge of Wolverine 2013 Interview 1

¹⁴⁶ Fred W. Koe, Gwich’in Knowledge of Wolverine 2013 Interview 3

¹⁴⁷ Sarah McLeod-Firth, Gwich’in Knowledge of Wolverine 2013 Interview 6

¹⁴⁸ Robert Alexie Sr., Dall sheep, grizzly bear and wolf interactions in the Richardson Project 2008

¹⁴⁹ Victor Stewart Sr., GEKP (Sheep)

¹⁵⁰ Walter Alexie, Gwich’in Knowledge of Wolverine 2013 Interview 1

¹⁵¹ Tabitha Nerysoo GEKP (Grouse)

¹⁵² Charlie Stewart GEKP (Wolverine)

¹⁵³ Johnny Charlie, also mentioned by Thomas Mitchell, GEKP (Porcupine) and Peter Ross Gwich’in Knowledge of Wolverine 2013 Interview 9.

then he let go his quills. But ... wolverine he cover him up with snow, put enough snow on it, he tap it down so he make it hard, anyways. At the end ... he trap it like that. That's the way he kill it."¹⁵⁴



FIGURE 18. JAMES FIRTH IN GRRB LIBRARY IN INUVIK, 2013.

Photo credit: R. Brooks, GRRB.

Wolverines may simply turn a porcupine over and kill it by biting at its belly. When this happens, the skin, with quills attached, remains in a single piece as though the porcupine has been skinned.¹⁵⁵ However, this does not mean that wolverines are not scared of the porcupines' quills, which can kill an animal as large as a moose.¹⁵⁶

Wolverines are known to hunt weasels, lynx and mink.¹⁵⁷

Wolverine will eat beaver.¹⁵⁸ *"I see him clawing his way into beaver houses ... in the winter time. He'll work until he gets inside and then, he'll go along the shore and find all their ground holes; he'll damage those and then go back to the house, and then pulls them out. There's two smart animals, beaver and wolverine. Beaver is good engineer."*¹⁵⁹ The wolverine may also wait inside the beaver house for the beaver and drown it. *"They chew away at it, and scratch away at [the house], until he make a hole through it. Then he gets inside and then he waits for [the] beaver. He knows it, I don't know how come he can see in there, in the dark. Beaver comes up, he grab the beaver by the [nose, and then] shove him back in the water and drown him like that. That's how smart he is ... that beaver house too is made with mud and frozen ... still he chew right through it."*¹⁶⁰

They are also known to stay around a glacier or frozen overflow coming up onto a beaver house in order to kill the beaver for food. *"According to the old timers, my father, he said that ... if a glacier get in their camping area, beaver house; wolverine is always around and he knows [the beaver is] going to freeze sometime. So he checks, he keeps checking, and by the time [the beaver] is ready to get out of the house, well ... wolverine [knows] where it comes,*

¹⁵⁴ Noel Andre, Gwich'in Knowledge of Wolverine 2013 Interview 10

¹⁵⁵ Walter Alexie, Gwich'in Knowledge of Wolverine 2013 Interview 1

¹⁵⁶ Antoine Andre, GEKP (Porcupine)

¹⁵⁷ Joseph Kay, Percy Kay, GEKP (lynx, mink), Percy Kay, GEKP (Weasel)

¹⁵⁸ Tom Wright, Gwich'in Knowledge of Boreal Woodland Caribou 2010 Interview 1.

¹⁵⁹ Peter Ross Gwich'in Knowledge of Wolverine 2013 Interview 9, also mentioned by Noel Andre, Gwich'in Knowledge of Wolverine 2013 Interview 10

¹⁶⁰ Noel Andre, Gwich'in Knowledge of Wolverine 2013 Interview 10

that's nature. ...It keep checking... *Tsii Ddhàà' Njik* [Vittrekwa River] is good for that. Lots of glaciers in there ... I remember when there was a glacier and that wolverine was sticking around."¹⁶¹

As noted above, wolverines are known to fish. "Well, the birds would hunt [crookedback] if they catch them in the shallow spot. Any kind of other animals, just like wolverine or wolves would catch them easy if they were in a shallow place too."¹⁶² Bears and wolverines are the only two animals that Antoine Andre felt would eat jackfish.¹⁶³

Wolverines may be the only animal who could kill a grizzly bear – they might kill a cub left alone or who had wandered off.¹⁶⁴ Wolverine may also fight grizzlies for food. "[Wolverine,] that's another strong animal, so, if they're hungry enough I guess, they'll fight the bear for their food, or whatever."¹⁶⁵ However, bears and wolves who are eating from a carcass can likely chase wolverines off.¹⁶⁶

They're smart, very smart clever animals, in fact my old dad, his name was Simon Modeste, he was a trapper too, nothing but dog teams them days. Or else he use snowshoes for walking in deep snow, deep trail, you break your own trail with your snowshoes, ... we had our home at Thunder River. That's on the Mackenzie River, we had a cabin there. We stay there in the winter, in the cold, cold days. But my dad had a trapline towards, towards the lakes, fish lakes. Nets in, all winter, for dog food. So that's what he was going to check once again, check the nets, get more fish for dog food and in the meantime check his traps, He had traps here and there, especially around lakes where there's creeks ... that's mink country. And mink are real good prices that winter, I remember that.

So anyway Simon was going to check his traps on the way to the big fish lake where his nets are set under the ice. Going to check his nets for fish, lots of crooked backs, the odd white fish, jackfish of course. ...

So anyways, he hit this lake, there's about three creeks across, he don't hit the lake from those creeks because on account of thin ice. Where there's creeks there's always thin ice at the mouth, you have to be really careful, always carry a long stick, check the ice before you walk, or it's very dangerous.

So he come on this end where he knows there's nothing but trees. He hit this lake, ...the dogs stop, the dog team stops, they kind of sat back

¹⁶¹ Robert Alexie Sr., GEKP (Draft Review Loche & Beaver), also noted in Aklavik/Inuvik Validation Sessions.

¹⁶² Cecil Andre, GEKP (Crookedback)

¹⁶³ Antoine Andre, GEKP (Jackfish)

¹⁶⁴ Anonymous Aklavik Hunter, Gwich'in Knowledge of Grizzly Bear 2012.

¹⁶⁵ Eddie Greenland, Gwich'in Knowledge of Grizzly Bear 2012 Interview 1

¹⁶⁶ Fred W. Koe, Gwich'in Knowledge of Wolverine 2013 Interview 3

and he put on his big snowshoes and he walked to that snow bank. Just like somebody [had] been there with a caterpillar or something. Snow bank was like this, so he walked toward it. He's got a big stick, ...he don't pack his rifle on him, he just carry it in his hand, more handy. So he look around, and he see blood, a little bit of blood. Found it funny. He walk around, he see tracks, two tracks. He check the tracks, one was a wolf, wolf tracks going up toward the bush. Running away from the lake, walking towards the bush. He [saw] another track, that side, so he walk around this way, [it was a] wolverine track.

The wolf, he was bleeding, so I guess they had a fight, with wolverine and wolf. They met, they had a fight on that little lake. All this time there was a mink caught in one of those traps in the creek. That's what they were after I guess. The wolverine claimed that mink, he knew he was the boss of that wolf, they're good fighters - dangerous, wolverine. Tough too, real tough animal, so he injured that wolf pretty bad. That wolf was just bleeding and went back in the bush, never mind that mink, let the wolverine have it.

Sarah McLeod-Firth¹⁶⁷

Human-Wolverine interactions

As noted previously, wolverines tend to avoid people and are rarely seen.¹⁶⁸ They are known to avoid areas with increased noisy human activities such as skidooring.¹⁶⁹ Sometimes the scent of food (such as bait) will bring a wolverine to an unoccupied camp, or more rarely, right into an occupied camp.¹⁷⁰ They have also been seen at dumps.¹⁷¹ As described in the Behaviour section above, wolverines also approach a carcass if left too long, a stage, camp, or even a cache of fish. They'll pull the food, carcass or fish apart, spread it around, and foul it.¹⁷²

As noted in the Physiology and adaptation section above, wolverine flesh is not eaten and would be a very tough meat if it was.¹⁷³ *"It's really tough. Just like in one tent ... they had nothing to eat and they cooked it all day and all night, it never get soft. It's just tough they say."*¹⁷⁴

¹⁶⁷ Sarah McLeod-Firth, Gwich'in Knowledge of Wolverine 2013 Interview 6

¹⁶⁸ Walter Alexie, Gwich'in Knowledge of Wolverine 2013 Interview 1

¹⁶⁹ Steering Committee meeting March 26, 2014

¹⁷⁰ Abraham Peterson, Gwich'in Knowledge of Wolverine 2013 Interview 2

¹⁷¹ Noel Andre, Gwich'in Knowledge of Wolverine 2013 Interview 10

¹⁷² Abraham Peterson, Gwich'in Knowledge of Wolverine 2013 Interview 2

¹⁷³ Walter Alexie, Gwich'in Knowledge of Wolverine 2013 Interview 1

¹⁷⁴ Edith Nerysoo, GEKP (Wolverine)



FIGURE 19. SARAH MCLEOD-FIRTH IN TSIIGEHTCHIC, 2013.

Photo credit: A. Andre, GSCI.

Trapping and hunting

Wolverines are trapped by Gwich'in trappers, both for their furs and to remove problem wolverines from traplines. Traps are placed where wolverine tracks are seen, or along a trail made by the trapper.¹⁷⁵ Fresh fish and rotten fish are used for bait in traps. Small pieces are best.¹⁷⁶ Wolverine can also be caught in traps set for other animals such as mink.¹⁷⁷ They can also be shot, but are rarely seen and are very fast-moving. *"If you chase it, it'll run up a tree. Oh yeah, really good climber. Nothing hard for that animal."*¹⁷⁸ Trappers and game wardens used to sometimes poison problem wolverines on their traplines as well.¹⁷⁹ Their fur is prime in January, and is trapped from November to March.¹⁸⁰ It is considered somewhat rare to trap a wolverine.¹⁸¹

Wolverine furs are worth quite a bit especially if sold locally. *"On the market and [in the] south they're not as good as if you sell it locally.... so I always try to sell mine locally if I could."*¹⁸² However, trappers often give wolverine furs away rather than sell them.¹⁸³

Before conibear traps and leg hold traps were commonly used, deadfalls were used to trap wolverines. These traps used a log that fell onto the animal and killed it.¹⁸⁴ Several types of deadfall traps were used, including a two-log and a four-log deadfall. Logs fell on the wolverine as it reached for the bait which was

¹⁷⁵ Walter Alexie, Gwich'in Knowledge of Wolverine 2013 Interview 1

¹⁷⁶ Walter Alexie, Gwich'in Knowledge of Wolverine 2013 Interview 1

¹⁷⁷ Fred W. Koe, Gwich'in Knowledge of Wolverine 2013 Interview 3

¹⁷⁸ Walter Alexie, Gwich'in Knowledge of Wolverine 2013 Interview 1

¹⁷⁹ Walter Alexie, Gwich'in Knowledge of Wolverine 2013 Interview 1, Charlie Stewart GEKP (Wolverine)

¹⁸⁰ Abraham Peterson, Gwich'in Knowledge of Wolverine 2013 Interview 2, Charlie Stewart GEKP (Wolverine)

¹⁸¹ William Modeste, Gwich'in Knowledge of Wolverine 2013 Interview 5

¹⁸² William Modeste, Gwich'in Knowledge of Wolverine 2013 Interview 5, many other interviewees mentioned the good price for their furs.

¹⁸³ Steering Committee meeting March 26, 2014

¹⁸⁴ Many references, for example Alfred Semple, Black City Ethno-Archaeology Project 2004 Interview 4, Pierre Benoit, Gwich'in Knowledge of Wolverine 2013 Interview 4

only available from one side.¹⁸⁵ The use of deadfall traps declined when conibear traps became available, as deadfalls can take considerable time to set up. “Conibear is good. Because deadfall take lots of, lots of time to build it. You got to cut logs and then, all that stuff. It’s just like deadfall that conibear, I got one [wolverine] in conibear. It just went in and that’s it, it just stayed right there.”¹⁸⁶ Some trappers still use deadfalls, and they were mentioned by many interviewees as the best type for catching wolverines due to the lack of metal parts, and the inability of the wolverine to break out of the trap. “Rock cubbies are good for catching wolverines. Rock cubby – when you make cubbies out of rocks. They don’t smell plywood. They go there right away. . . . You put your trap there and they go right to it.”¹⁸⁷

Long ago, pitfalls were also used:

A few pitfalls are made to catch foxes and sometimes wolverines. These are dug usually around permanent camps where the locations are known even to the children and do not constitute a danger to human life. The holes are about four feet in diameter and five feet deep, the excavations being made in the fall before the first freeze-up when the ground is most workable. Sharp-pointed bones about eight inches long are tied to stakes which are thrust into the ground at the bottom of the pitfall to make the points stand up solidly, especially after the ground freezes. After the freeze-up, thin plates of crusted snow about one inch thick are spread over the openings and bait is placed on top. The animal tempted usually falls through head first and is impaled through the chest. It is said that these traps will not catch wolves because they are too smart.¹⁸⁸

Wolverines are also hunted, especially further north closer to the Arctic coast, with the assistance of fast skidoos.¹⁸⁹ Wolverine appear to have learned to approach an area after they hear the sound of gunfire from a hunter, as grizzlies will.¹⁹⁰

Distribution

Wolverines or their sign are seen ‘all over’ and are spread across their habitat.¹⁹¹ Some areas mentioned specifically include:

- the Mackenzie Mountains at the headwaters of the Arctic Red River,¹⁹²

¹⁸⁵ Walter Alexie, Gwich’in Knowledge of Wolverine 2013 Interview 1

¹⁸⁶ Walter Alexie, Gwich’in Knowledge of Wolverine 2013 Interview 1

¹⁸⁷ Ian McLeod, Dall sheep, grizzly bear and wolf interactions in the Richardson Project 2008

¹⁸⁸ Osgood 1970: 33-34

¹⁸⁹ Peter Ross, Gwich’in Knowledge of Wolverine 2013 Interview 9

¹⁹⁰ Woody Elias, Gwich’in Knowledge of Grizzly Bears 2012 Interview 5

¹⁹¹ Walter Alexie, Gwich’in Knowledge of Wolverine 2013 Interview 1

¹⁹² Frederick Blake Jr., Headwater of the Arctic Red River Phase III Interview 4

- north of the Mackenzie River in the Travaillant Lake area where boreal woodland caribou are found,¹⁹³
- up the Peel River from Fort McPherson in the Trail River area,¹⁹⁴
- Arctic Circle to Fort McPherson,¹⁹⁵
- Anderson River area, and¹⁹⁶
- Mackenzie Delta.¹⁹⁷

Although they are all over, there may be slight differences in density. Several areas were noted as being slightly better for wolverines due to an abundance of food, such as in the mountains, around Old Crow, the Arctic coast, the Anderson River area, the area between Thunder River and Travaillant River, and other areas with large numbers of caribou and moose.¹⁹⁸ Around Aklavik, wolverines are seen “*mainly in the mountains along the creeks, but they’re all over too, get them in the Delta once in a while. Just not as many.*”¹⁹⁹



FIGURE 20. ABRAHAM PETERSON IN HIS HOME IN FORT MCPHERSON, 2010.

Photo credit: K. Benson, GSCI.

There may also be some seasonal changes in distribution. “*In the mountains, because up there is always something to eat. Not like in the Delta here it’s hard for them. [We saw them in the Delta] just in winter time.*”²⁰⁰ One Elder felt that they were more common in areas with brush - “*that’s where he makes his living.*”²⁰¹

There may be a greater density of wolverines in the Anderson River area, and around Old Crow in the Yukon. This may be due to the abundance of animals and the low level of use of the area by people. “*There’s more animals around [Anderson River], than here [around Fort McPherson], because down that way, their land is nice and quiet. They hang around there, where there’s wolf, wolverine, caribou, it’s always something there. Because*

¹⁹³ William Modeste, Gwich’in Knowledge of Boreal Woodland Caribou 2010 Interview 18

¹⁹⁴ Walter Alexie, Gwich’in Knowledge of Wolverine 2013 Interview 1

¹⁹⁵ Walter Alexie, Gwich’in Knowledge of Wolverine 2013 Interview 1

¹⁹⁶ Abraham Peterson, Gwich’in Knowledge of Wolverine 2013 Interview 2

¹⁹⁷ Steering Committee meeting March 26, 2014

¹⁹⁸ Abraham Koe, Fred W. Koe, and others, Gwich’in Knowledge of Wolverine 2013 Interviews

¹⁹⁹ Ian McLeod, Gwich’in Knowledge of Wolverine 2013 Interview 8

²⁰⁰ Abraham Peterson, Gwich’in Knowledge of Wolverine 2013 Interview 2

²⁰¹ Pierre Benoit, Gwich’in Knowledge of Wolverine 2013 Interview 4

it's nice and quiet."²⁰² Another trapper who trapped in the Anderson River area indicated that the most wolverine they trapped in a season was two – and many years they didn't get a single fur.²⁰³

Population size and trend

Wolverines are considered to be scarce, both today and in the past.²⁰⁴ They do not appear to have the same drastic population cycles that other animals such as rabbits have, although their relative scarceness makes it hard to understand population trends.²⁰⁵ There does appear to be some relationship between periods with low rabbit populations and times when it's harder to trap wolverines.²⁰⁶ *"Like the last three years there's been quite a bit more [than] there was [before], a lot of marten in the last three years because of food supply. A lot of lynx, a lot of foxes. ... It just goes with the food cycle. You know if there's lots of food then there's lots of wolverine, lots of animals. But if there's no food, then there's nothing, or very little."*²⁰⁷

There may also be shifts or trends in wolverine populations over time. *"Sometimes you're lucky to get wolverine. It's got to be lots before you get lots of it too. If there is none, some years you can't even get one."*²⁰⁸ One trapper recalled that when he was growing up around Loche Creek on the East Branch of the Mackenzie River, there were few wolverines in that area. *"You hardly see them, you got to go like around Caribou Lake, up over that way, where there was animals, that's where they hang around."*²⁰⁹ This coincided with a general scarcity of game in the area. However, the wolverine population may be increasing in recent years. *"Wolverines, they're all in a big incline. ...because there are not many harvesters out there anymore, there's more wolves, there's wolverines, there's more foxes, there's more marten. Marten, before you'd be lucky, like ten years ago, you be lucky to see a track in town. Now you can actually see them in town, running."*²¹⁰

If wolverines were to die out in an area, it is likely that wolverines from nearby could re-establish the population, due to the wolverine's ability to move long distances.²¹¹

²⁰² Abraham Peterson, Gwich'in Knowledge of Wolverine 2013 Interview 2

²⁰³ William Modeste, Gwich'in Knowledge of Wolverine 2013 Interview 5

²⁰⁴ Walter Alexie, Gwich'in Knowledge of Wolverine 2013 Interview 1, also mentioned by numerous others.

²⁰⁵ Walter Alexie, Gwich'in Knowledge of Wolverine 2013 Interview 1, Noel Andre, Gwich'in Knowledge of Wolverine 2013 Interview 10

²⁰⁶ Hyacinthe Andre, GEKP (Wolverine)

²⁰⁷ James Firth, Gwich'in Knowledge of Wolverine 2013 Interview 12

²⁰⁸ Gabe Andre, GEKP (Wolverine)

²⁰⁹ Abraham Peterson, Gwich'in Knowledge of Wolverine 2013 Interview 2

²¹⁰ Russell Andre, Gwich'in TK of the Mackenzie Valley Pipeline, 2004

²¹¹ Walter Alexie, Gwich'in Knowledge of Wolverine 2013 Interview 1



FIGURE 21. WOLVERINE RANGE MAP²¹²

²¹² ENR. 2012 Wolverine Shapefile map. GNWT, ENR, Yellowknife, NT

Limiting factors and threats

The relationship between wolverine populations and caribou populations is complex.

Right now [in 2010], I think [boreal woodland caribou calf survival] would be good. I say that because whenever we travel there is very little wolves, you hardly see wolves, like the predators, you hardly see them. So I think their calf survival would be good. Before, when there was lots of caribou, there is lots of wolves, lots of bears, lots of wolverine so I think it would be a little harder then... The Bluenose [Caribou Herd] does not come in [to an area used by boreal woodland caribou] anymore, so, I think maybe last year we might have got four wolves. Where usually we get 10 or 12, you know. I think the wolves are more after moose in that area. There is quite a bit of moose in there. But before, when the Bluenose were all in there, there was bears, and lots of wolves, and lots of wolverine.

James Firth²¹³

Climate change will impact wolverines by changes to the land, and changes to the time of year when the seasons change. An earlier spring may affect mating and rearing cubs. Climate change may also change forest fire and flood patterns, both of which could threaten wolverine.²¹⁴

The opening of the Mackenzie Valley Highway is considered a threat to wolverine, as it will bring easy access to people to the Travaillant Lake watershed and Caribou Lake area. An increase in ease of access will likely increase harvesting pressure on wolverines. The construction of the highway will also be disturbing for wildlife due to, for example, an increase in noise pollution.²¹⁵

An unoccupied building would likely not keep a wolverine from an area, given their habit of stealing. “*The wolverine probably go over and see if the door’s locked.*”²¹⁶ Wolverine may make use of seismic lines for travel - “*I [have] trapped on seismic lines, that’s where they always have their tracks, down my ski-doo trail.*”²¹⁷

Wolverines are occasionally seen on the road.²¹⁸ They are occasionally hit by vehicles.²¹⁹ The proposed Mackenzie Valley Highway will increase the likelihood of wolverine dying in road accidents.²²⁰

²¹³ James Firth, Gwich’in Knowledge of Boreal Caribou 2010 Interview 17

²¹⁴ James Firth, Gwich’in Knowledge of Wolverine 2013 Interview 12

²¹⁵ James Firth, Gwich’in Knowledge of Wolverine 2013 Interview 12

²¹⁶ William Modeste, Gwich’in Knowledge of Wolverine 2013 Interview 5

²¹⁷ Ian McLeod, Gwich’in Knowledge of Wolverine 2013 Interview 8

²¹⁸ George Niditchie Sr., Gwich’in Knowledge of Wolverine 2013 Interview 11

²¹⁹ Walter Alexie, Gwich’in Knowledge of Wolverine 2013 Interview 1, Noel Andre, Gwich’in Knowledge of Wolverine 2013 Interview 10, James Firth, Gwich’in Knowledge of Wolverine 2013 Interview 12

²²⁰ James Firth, Gwich’in Knowledge of Wolverine 2013 Interview 12

Development such as pipelines should not affect wolverines if they are kept clean and allowed to grow over.²²¹ However, mining-related activities such as exploration, helicopter travel, and camps might threaten the wolverine's habitat and even the wolverine itself, through disturbance.²²²



FIGURE 22. PETER ROSS IN HIS HOME IN TSHIGHTCHIC, 2004+.

Photo credit: K. Benson, GSCI.

Animal Health

Wolverines are generally very healthy animals.²²³ *"You hardly see a poor wolverine, it's always fat."*²²⁴ It is less common to catch a wolverine in poor shape. *"I've seen some pretty poor wolverine, like there's no fat on them ... But most, most of the time there's always a good layer of fat on them all the time. Not very often you'd get the poor ones but there's some, the older ones... Always either eighty, ninety percent of them are [in] good shape."*²²⁵ You can sometimes tell from the tracks if the wolverine is in poor shape because *"the track is different... [When] they are... hungry, they are poor, so they don't go too far."*²²⁶ Wolverine do not have the same infestation of lice or other external parasites that are found on lynx, which may relate to the lynx's consumption of rabbits. Rabbits are known to have a lot of lice in the spring.²²⁷

Although some animals may succumb to rabies, wolverines may be less likely to. *"Never did [find a dead wolverine]. I found foxes and I find them dead, but they're just from rabies. Wolverine I never heard of them dying."*²²⁸

Protection

If required, a reduction in wolverine harvest might offer protection to wolverine numbers. *"Nothing that you can do, only slow down on hunting it."*²²⁹ Keeping the land clean and generally following traditional hunting practises will also protect the wolverine. *"You could keep the country clean ... When I was a kid I travelled up, they just took me along for company. Them old timers around McPherson, when they kill animals they just gather up the whole thing and maybe put it some place, and burn it up, and keep the country clean like that."*

²²¹ Abraham Peterson, Gwich'in Knowledge of Wolverine 2013 Interview 2

²²² Fred W. Koe, Gwich'in Knowledge of Wolverine 2013 Interview 3

²²³ Walter Alexie, Gwich'in Knowledge of Wolverine 2013 Interview 1

²²⁴ Abraham Peterson, Gwich'in Knowledge of Wolverine 2013 Interview 2

²²⁵ James Firth, Gwich'in Knowledge of Wolverine 2013 Interview 12

²²⁶ Walter Alexie, Gwich'in Knowledge of Wolverine 2013 Interview 1

²²⁷ Walter Alexie, Gwich'in Knowledge of Wolverine 2013 Interview 1

²²⁸ Charlie Stewart, GEKP (Wolverine)

²²⁹ Catherine Mitchell, GEKP (Wolverine)

Nowadays, these younger generations they don't care, they just throw the hide and everything away. During that time I went up with them old timers and you never see garbage or anything around.”²³⁰

The variety of habitat types available in the area may help wolverines if they are in trouble “*around here anyway, because they could use the Delta too.*”²³¹

Traditional Gwich'in conservation practices are important for managing the numbers of wolverine in an area.

...it's something that we as Gwich'in have to manage ... you know we don't ever get into big game hunting like for wolverine ...because it's such a fine line where ... if you kill too many, then you just clean them right out because they can't really produce fast enough. We got to be careful too where like right now ... it's almost like a bounty. Like for a wolverine carcass you get, I think seventy five dollars. I think [there] should be an education for the young people. Just because you see a wolverine doesn't mean you have to go chase it, kill it. It's just how you think, out on the land. It's going to be there forever and we hope ... because of our [land] claim and the rights that we have. ... But I ...have grandchildren, I'd like them to be out there too. And be able to enjoy the life I had out there. We just got to be ... educated about them. It's not only wolverines, everything that's out there ... [you] don't take everything, you know? Just treat it like a farmer with his land ... the land will only produce so much, then you let it rest. It seems out there you're always moving, your eye is always moving. So you don't clean out one area. Wolverine is the same thing. Like I said, the year before we got ... lots of wolverine. So last year we just cut [our harvest] right back. We just went after the ones that were problems.

James Firth²³²

²³⁰ Charlie Stewart, GEKP (Wolverine)

²³¹ Ian McLeod, Gwich'in Knowledge of Wolverine 2013 Interview 8

²³² James Firth, Gwich'in Knowledge of Wolverine 2013 Interview 12

Credits: Interviewees

Gwich'in Knowledge of Wolverines 2013-2014:

- Walter Alexie
- Noel Andre
- Pierre Benoit
- James Firth
- Fred William Koe
- Ian McLeod
- Sarah McLeod Firth
- William Modeste
- George Niditchie Sr.
- Abraham Peterson
- Peter Ross
- Richard Ross

Interviewees, Gwich'in Environmental Knowledge Study 1996-1997:

- Robert Alexie Sr.
- Antoine Andre (D²³³)
- Cecil Andre
- Ernie Andre (D)
- Gabe Andre
- Hyacinthe Andre (D)
- Agnes Francis
- Sarah Ann Gardlund (D)
- Joseph Kay
- Percy Kay
- Allen Koe Sr. (D)
- Catherine Mitchell (D)
- Joan Nazon (D)
- Edith Nerysoo
- Tabitha Nerysoo
- Charlie Stewart
- Victor Stewart Sr. (D)
- Charlie Vaneltsi
- Jim Vittrekwa (D)

²³³(D) - Deceased.

Bibliography

Kritsch, Ingrid, Alestine Andre and Bart Kreps. 1994. "Gwichya Gwich'in Oral History Project." In: Bridges Across Time: The NOGAP Archaeology Project, pp. 5-13. Edited by Jean-Luc Pilon. Canadian Archaeological Association Occasional Paper No. 2.

Osgood, Cornelius. 1970. Contributions to the Ethnography of the Kutchin. Yale University Publications in Anthropology #14. Yale University Press, New Haven.

Gwich'in Social and Cultural Institute. 2010. Gwich'in COPE Stories. (Committee on Original People's Entitlement). Gwich'in Social and Cultural Institute. Fort McPherson, NT.

Primary sources

Gwich'in Knowledge of Wolverine Project – 2013-2014. Traditional knowledge study conducted by the Gwich'in Social and Cultural Institute and the Gwich'in Renewable Resources Board. Transcripts on file: Gwich'in Social and Cultural Institute.

Gwich'in Knowledge of Grizzly Bear Project – 2012-2014. Traditional knowledge study conducted by the Gwich'in Social and Cultural Institute and the Gwich'in Renewable Resources Board. Transcripts on file: Gwich'in Social and Cultural Institute.

Gwich'in Knowledge of Boreal Woodland Caribou – 2010. Traditional knowledge study conducted by the Gwich'in Social and Cultural Institute and the Gwich'in Renewable Resources Board. Transcripts on file: Gwich'in Social and Cultural Institute.

Gwichya Gwich'in Googwandak Community Review –2000. Meeting held to review draft land use and oral history book. Transcript on file, Gwich'in Social and Cultural Institute.

Gwich'in Environmental Knowledge Project (GEKP) – 1996-7. Traditional knowledge study conducted by the Gwich'in Renewable Resources Board. Transcripts on file: Gwich'in Social and Cultural Institute.

Gwichya Gwich'in Place Names Project – 1992. Traditional use study of the Travaillant Lake area conducted by Ingrid Kritsch and Alestine Andre. Transcripts on file: Gwich'in Social and Cultural Institute.

Gwich'in Traditional Knowledge of the Mackenzie Gas Project Area – 2004-2006. Traditional knowledge and traditional use study conducted by the Gwich'in Social and Cultural Institute. Transcripts on file: Gwich'in Social and Cultural Institute.

Headwaters of the Arctic Red River Phase III: Traditional Ecological Knowledge and Archaeological Assessment – 2007. Traditional knowledge and archaeological potential study conducted by the Gwich'in Social and Cultural Institute. Transcripts on file: Gwich'in Social and Cultural Institute.

Dall sheep, grizzly bear and wolf interactions in the Richardson Project – 2005-2008. Traditional knowledge and wildlife biology project conducted by the Gwich'in Renewable Resources Board. Transcripts on file: Gwich'in Social and Cultural Institute.

Black City Ethno-Archaeology Project – 2004. Oral history and ethno-archaeology project conducted by a partnership of the GSCI, Teet'it Gwich'in Council, Tr'ondëk Hwëch'in First Nation and Yukon Heritage Branch. Transcripts on file: Gwich'in Social and Cultural Institute.

Gwich'in Language Centre files – No Date. Various legends and stories collected and curated at the Gwich'in Teaching and Learning Centre/Gwich'in Language Centre.

Appendix A informed consent statement

Gwich'in Traditional Knowledge of Species at Risk 2012-2014

Interviewee: _____

Date: _____

Community: _____

Location: _____

Interviewer(s): _____

Translator: _____

Others Individuals Present: _____

Background

The Gwich'in Renewable Resource Board and the Gwich'in Social and Cultural Institute are interviewing holders of Gwich'in traditional knowledge to gather information that will be used in various species at risk processes. For example, this could include reviewing and providing information for territorial and federal status reports, and creation of plans to help the species at risk. This interview is about

- Wolverine Grizzly bear Mountain woodland caribou

Study Goals

The objectives of this study are to collect Gwich'in knowledge about species at risk including observations on the land, special significance, physical description, distribution, habitat, population size and trend, limiting factors and threats, and animal health. This knowledge will benefit the communities in that it will be a permanent record available for future generations and that it will be useful in assessing species at risk, recovery planning, and resource management.

Recording of interview

With your permission, the interview will be recorded and a transcript made. The transcript is a typed record of the interview and is useful for report writing and extracting information later on. The information marked on the maps will be digitized or traced into a computerized mapping system.

Verification of information

The interviews will be transcribed and a summary report will be completed. Following the interview you will receive a copy of the transcript if you wish and will have opportunity to correct any of the information that was recorded. There will be a verification meeting at a later date to go over the TK study results,

which will include knowledgeable Gwich'in Elders and harvesters from all Gwich'in communities. Corrections and changes can be made at the meeting.

Language

If you would prefer to be interviewed in Gwich'in, we can arrange for a translator.

- YES (I want a translator) NO (I don't want a translator)

Data Storage

Original materials, which may include audio files, written notes, transcripts, translations, maps, videos, and photographs, will be kept at Gwich'in Social and Cultural Institute offices and eventually placed in secure storage at the GSCI's archives in Yellowknife. A copy of the final report will be distributed to each organization identified by the Aurora Research Institute for consultation. Copies of all research materials will be stored on a secure computer at the GRRB office in Inuvik as well.

Use of information

The information collected in the study will be used to write a report that will be distributed to community organizations, each participant if desired, and will be made public.

This summary report may be shared with the Northwest Territories Species at Risk Committee for the creation of Species Status Reports, to the federal Committee on the Status of Endangered Wildlife in Canada (COSEWIC) for their use in assessing species at risk, and to the federal government for use in the recovery planning, among others, so that they can benefit from this knowledge and avoid asking knowledge holders for the same information. In the future, other researchers may be interested in using this information. Access to the original materials will be controlled by the GSCI and GRRB.

Funding

The funding for this study has been provided through a contribution agreement from the Aboriginal Funds for Species at Risk through Environment Canada, with in-kind support from GRRB and GSCI.

Payment

You will be compensated for your time and knowledge at a rate of \$XX.XX. You will be paid by cheque from the GRRB office in Inuvik, and it will be mailed to you within two weeks. An invoice will be filled out at the end of the interview.

Confidentiality

Gwich'in Elders and participants interviewed will have credit in the report for the valuable information they provide. Gwich'in like to know who provided traditional knowledge information and their names on tapes and/or transcripts and final reports will add credibility to the traditional knowledge provided. If confidentiality is requested, then the interviewees name will be removed from the report and they will not receive credit for their information.

Participation

Your participation in this interview is completely voluntary. You have the right to refuse to answer questions you are not comfortable with. You also have the right to stop the interview at any time and withdraw your participation from the study at any time, even after the interview is complete.

You do not have to answer any questions you do not want to, and you can stop the interview at any time.

May we interview you for this report? YES NO [INTERVIEW ENDS]

Do you wish to be given credit for the information you provide? That is, have your name in the report? If not, confidentiality of your name is ensured.

I want to be acknowledged specifically (such as at the end of quotes).

I want to be acknowledged generally: my name will not be associated with specific comments but I will be acknowledged as a contributor.

I do not want my name used or associated with the information I give or included in the report; I want to remain anonymous.

May we record this interview for the report and for future generations to use?

YES NO

May we take your photo for use in this report and other GSCI or GRRB materials?

YES NO

Would you like a copy of the taped interview on CD?

YES NO

Would you like a copy of the transcript?

YES NO

By signing below, you give informed consent for this interview. We respect the choices you made filling this consent form.

Signature of interviewee

X _____

Date: _____

Signature of interviewer(s)

X _____

Date: _____

Contact:

Kristi Benson

Sharon Snowshoe

Amy Amos

Appendix B Questionnaire

Questionnaire/interview guide for Gwich'in Traditional Knowledge Interviews on Wolverine

Gwich'in Social and Cultural Institute/Gwich'in Renewable Resources Board

[Informed Consent statement reviewed/signed]

What year were you born? Where were you born and raised?

Have you always lived in _____? If not, where else have you lived?

How much time do you spend on the land each year?

What months do you usually spend on the land?

What types of activities do you do on the land now and when do you do them?

What types of activities did you do on the land when you were a child?

At other times in your life?

Have you seen wolverines your whole life? If not, when in general have you seen or not seen them?

Where in general do you usually see wolverines?

What are you usually doing when you see them?

Can you easily tell if the animals you see are wolverines? If so, what makes them distinctive?

Is there a separate name for wolverines in Gwich'in? What is it?

Are there any names for wolverines which should be recorded?

Young wolverine

Female wolverine

Male wolverine

Different ages?

How important are wolverines to the Gwich'in and why?

Mapping Exercise:

Can you mark on this map (fine-scale map of the local area):

- the areas where you spend time on the land, now and in the past? Outline the areas that you know best. If the areas are discreet, indicate how long your experience is in each.
- Mark locations where you have seen or encountered wolverines. For each location, indicate:
 - What year?
 - What season?
 - What were you doing?
 - Was it you that saw it? If not, who?
 - Did you see a wolverine itself or sign? If so, please describe what you saw.
 - Was it a male or female? Young ones?
- Would you consider any areas to be important to wolverines during the **summer**? For each location:
 - Why?
- Would you consider any areas important to wolverine during the **spring**?
 - Why?
- Winter?
 - Why?
- Fall or freeze up?
 - Why?
- Have you ever seen a wolverine den? Mark all on map. For each:
 - When did you see it?
 - Was it being used at that time?
 - Is it special or important?
- Mark any areas that you feel are the most important to protect for the long-term survival of wolverines

Range Boundaries

The whole GSR is considered to be within wolverine range [*show range map*]. Do you think this is correct?

Was there a time in the past when you couldn't find wolverines across their whole range?

Are they found evenly across the GSR or are they more common or less common in some areas?

Have you ever seen a wolverine somewhere and thought, "that's unusual"

Do you think wolverines are kept separated from each other because of rivers, roads, poor habitat, or anything like that? Or do their ranges overlap at all? In other words, could different populations become totally separated or do they always mix up?

Behaviour and biology

Habitat Use and requirements

What do wolverines eat in the summer? Fall? Winter? Spring?

Describe a wolverine den –

- Where do wolverines like to den?
- What do their dens look like?
- Could you look inside it? If so, what did you see?
- Do the wolverines use anything inside or around the den?

Is there any landscape features (provide example: hills, woods, caves, valleys) that wolverines use? For what, and when?

What sort of area would support a lot of wolverines?

Do you think the whole area used by wolverines is good habitat for them? Or are any areas poorer? If so, why are they using those areas?

Is there anything a wolverine needs to stay healthy, such as a particular plant or mineral? Stream or lake? Food type?

Movements

Do wolverines move around in a particular pattern daily? Do they migrate seasonally? Describe.

Do they move away from their mothers as they grow?

What stops them from moving freely – for example, open areas or treed areas, roads, mountains?

Do they come together at any time of year, for example, to mate?

Life cycle and reproduction

How old are wolverines when they first have young ones?

How many young ones (kits)? Do they usually live to be adults?

Do you know how long wolverines can live?

Any other information about their life cycle? [*have you ever observed cubs with their mothers and can tell us anything about how they grow up*]

What do wolverines usually die from? Have you seen any carcasses?

Physiology and adaptability

Do any areas have better-fed wolverines, or under-fed wolverines? What causes these things?

Can wolverines tolerate changes to their habitats? If so, how much and what types of changes?

Interactions

How do wolverines get along with other animals?

Do wolverines fight with each other?

With any other animals?

Do they hunt? If so, what animals, and at what times?

Can any animal kill a wolverine?

Do wolverines have to compete with any other animals for their food?

Population

Does the wolverine population have a cycle? If so, is it related to other animals or plants?

Is the population stable? Was there ever a time when there were very few? Way more?

If there were ever changes, what could have caused the changes?

Do wolverines look the same as always?

Did you hunt or trap, or hear of anyone hunting or trapping, wolverines? How were they hunted and/or trapped? Have hunting and trapping practises changed – are people harvesting more or less or using different traps, and if so, why?

Habitat

If you consider the plants, animals, and other natural things that a wolverine requires to live well, is it likely that wolverine populations will change in the future? Why?

Distribution trends

Do wolverines generally live across their whole range, year after year? Or is there cycles or changes in their range?

If wolverine became extinct in an area, would you imagine that nearby wolverines would move in? Do you think the new wolverines would be different enough that they would find it hard to adapt to life?

If the wolverine were gone for a long time, would the habitat change in such a way that it would be hard for them to return? How?

Threats

Habitat

What would make an area no good for wolverines?

Are there any changes in the land around you which are good for wolverine?

- Bad for wolverine?

Forest fires

How do forest fires affect wolverines?

Do wolverines return to burned out areas? If yes, how long does it take for them to come back?

What are they doing there?

Industry and Development

Have you observed wolverines using or avoiding areas that have been altered by industrial activity or developments? Can you provide specific examples? For example, seismic lines, roads, etc.?

Predation

Are there changes to the number of predators (such as wolves, or lynx) in areas where wolverines live? How does this effect wolverines?

If there are any animals that wolverines rely on for food, are there any changes to those animals? Describe effects on wolverines.

Wolverine health and disease

How can you tell if a wolverine is healthy, either from a distance or if it's being skinned and butchered?

Have you seen a change in wolverine health in your region?

If so, what do you think is the cause?

Noise and light disturbance

Have you observed noise or light disturbance from aircraft, skidoos, ATVs, or industry affecting wolverines in your area?

Do you notice areas where it is more of a problem?

Do you have suggestions for how to address this?

Over-harvesting

Are wolverines being trapped, shot or killed too often in your area? Describe. If yes, what could be done to stop it?

Vehicle collisions

Do vehicles strike and kill wolverines?

Climate change

Have you observed any changes related to climate change such as changes in snow condition, temperature, or rainfall in your area?

If so, have you noticed if these changes have affected wolverines or their habitat? How?

Threats - general

Are there any other things that negatively affect wolverines that we haven't already discussed?

Which of these threats stand out to you as having the most impact upon wolverines?

Are there potential solutions to these threats?

[IF APPROPRIATE] were there any threats to wolverine in the past that have been resolved, and are no longer a threat? [use peregrine falcon example].

[IF APPROPRIATE] are there any threats that might happen in the next ten years that will affect wolverine?

Other observations or beneficial practices

Do you know of any traditional Gwich'in conservation practices or activities which would preserve wolverines now or in the past?

Has there been anything done by people or governments that have been good for wolverine, such as the creation of a park, or rules about trapping for example?

Stories

Do you know any old time stories about the wolverine?