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February 28th, 2022

Chasàn Chùà Wildlife Corridor Research and Knowledge Sharing Project: Report to the Yukon Fish and Wildlife Enhancement Trust

With the generous support of the Yukon Fish and Wildlife Enhancement Trust, CPAWS Yukon was able to take on an ambitious project in the Chasàn Chùà (McIntyre Creek) area. This project involved two main components. The first component was a wildlife study that aimed to understand bird and wildlife dynamics around the creek. The second was a community outreach project, designed to celebrate the relationships that people hold to the creek, and to foster new connections. This report recaps the project.

Project photos, media articles, community event materials and a interpretive booklet are enclosed at the end of this document. A detailed financial statement is presented alongside this report.

Part I. Activities completed.

Wildlife study.

Data collection.

CPAWS Yukon and our collaborators completed extensive data collection during the summer of 2021. We set up Reconyx Hyperfire remote cameras at 41 locations throughout the Chasàn Chùà corridor, from the mouth of Chasàn Chùà near Whistlebend, to the creek's headwaters on the slopes of Mount McIntyre. In total, our trail cameras logged over four thousand camera days of observation between the end of May to mid September. We used the data managing and processing platform *WildTrax* to process the photos and tag wildlife that appeared on trail cameras. Once processing is complete, *WildTrax* allows researchers to maintain their dataset as open source, allowing for the added value of future studies utilizing the data from this project.

We used nine Autonomous Recording Units (ARUs) to record birdsong and frog calls throughout Chasàn Chùà. We rotated 9 ARUs between 40 field sites, with each unit present at each location for approximately one week between the end of May and early July. The ARUs were programmed to record for 5 minute intervals every hour during the early morning. We then transcribed a subset of six recordings for each location,

which totalled over 19 hours of recordings. We also used *WildTrax* to tag the bird songs and calls captured on ARU recordings.

To document the type of habitat at each site, we completed a broad vegetation classification worksheet. First, we took site photos in the four cardinal directions, as well as of the canopy. We then completed a vegetation classification datasheet, where we noted what type of forest the site was in, the ecozone, the aspect, moisture level, vegetation phase, and if the site was in a wetland, the type of wetland.

During April 2021, and again beginning in November 2021, we conducted winter track surveys in various parts of the Chasàn Chùà corridor. Each survey consisted of a triangular transect totalling 1.5 kilometres. The transects are located near a camera site so the data can be linked to that site. The record snowfall levels have made the transects challenging to do, both scheduling wise because we have to wait three days after a snowfall before doing a survey, and in terms of the physical exertion required. Despite these challenges, we have successfully completed track counts at over half of the sites, scattered throughout the study area so the surveys are representative and can be added into the data analysis.

Over the course of the summer, CPAWS Yukon maintained three malaise traps (insect traps) supplied by the University of Guelph as part of their biodiversity monitoring program. We sent the samples to the University of Guelph for DNA analysis.

Finally, we assisted Yukon government biologists, and bat researcher Brian Slough in collecting data on the use of Chasàn Chùà by bats. These detectors—microphones attached to the tops of 15 foot high poles—were set up at 42 unique sites, every 100 m along the lower sections of the creek. These detectors spent two weeks at each location between June 1st and September 20th before being rotated to a new site. Yukon government biologists and Brian Slough used Sonobat to analyze the data and differentiate different species of bats by their echolocation feeding calls. Most of the bats were little brown bats, but one silver-haired bat was also detected. Data analysis to understand how bats may be using specific characteristics of the creek is ongoing.

Data analysis.

We contracted Dr. Daniel Yip to assist with data analysis, in addition to study design. Dr. Yip compiled and linked the processed data using Geographic Information System (GIS) software. He overlaid human activity and disturbance spatial information such as roads, trails and neighbourhoods as well as existing spatial habitat layers such as watercourses, wetlands and riparian areas. He began his statistical analysis by testing if there were any clear relationships between all of the species data and the human disturbance information, but there were too many factors to make highly confident conclusions. His next step was to complete an occupancy analysis for each species with greater than 50 detections either from the ARUs or the remote cameras. An occupancy analysis looks at the presence or absence of a species at each site, and allows us to test if there are statistically significant relationships between the occurrence of that species and other factors such as human activity and development or habitat type. This same

analysis will be completed with the wildlife track survey data once we have completed surveys at each study site.

Preliminary results.

Moose showed a clear avoidance of the Lower Chasàn Chù area ($\beta = 2.38 \pm 0.817$ SE, $P = 0.003$; Table 1). Inversely, mule deer were found to prefer Lower Chasàn Chù ($\beta = -1.794 \pm 0.882$, $P = 0.042$). Lynx also seemed to be found more commonly in the Upper McIntyre area relative to Lower McIntyre although this trend was not significant ($\beta = 2.13 \pm 0.114$, $P = 0.061$). Coyote, porcupine, black bear, and grizzly bear did not show any statistical difference in occurrence between the two study areas although black bear and grizzly bear had low sample sizes which may have obscured any patterns. There was only a single wolf detection.

Birds were detected at all sampling locations with a mean species richness of 11.49 ± 4.7 SD. The lowest number of species found at a single location was 2 (station O4) and the highest was 21 (station A6). The low occurrences at O4 were explained by poor ARU placement, which resulted in creek noise drowning out bird vocalizations. Generally, species richness was highest around wetlands and riparian areas, particularly in Upper McIntyre where large tracts of intact habitat border the creek and adjacent wetlands. Riparian areas in areas with higher volumes of human activity, such as near the Raven's Ridge, Takhini, and Porter Creek subdivisions and the Alaska Highway, had lower species richness. The mouth of McIntyre Creek at the Yukon River was the only exception, characterized by a large wetland and riparian area which is inaccessible to human recreation (Fig. 9). Common species, such as Swainson's Thrushes, Yellow-rumped Warblers, Dark-eyed Juncos, American Robins, and Ruby-crowned Kinglets, were found at almost every location (Tbl. 2), but we also detected several rarer species at risk, including Olive-sided Flycatcher, Rusty Blackbird, and Lesser Yellowlegs.

Olive-sided Flycatcher (OSFL) – special concern – We detected OSFL at 3 stations at the upper reaches of Upper McIntyre. These sites were locations with some of the least road and trail disturbance in the entire study area and were not associated with wetland or riparian habitat (Fig. 10).

Rusty Blackbird (RUBL) – special concern – RUBL prefer to inhabit wetland and riparian habitat, and unsurprisingly, were detected in Upper McIntyre adjacent to McIntyre Creek and adjacent wetlands. RUBL were not detected in the Lower McIntyre wetlands adjacent to the Whitehorse subdivisions and associated human activity (Fig. 11).

Lesser Yellowlegs (LEYE) – awaiting listing – Similar to RUBL, LEYE were also found adjacent to McIntyre Creek within Upper McIntyre in large swaths of intact forest with little to no human disturbance (Fig. 12).

Our final analysis will attempt to dig deeper into potential relationships between human disturbances and the occurrences of various bird and mammal species. We are working to refine our approach to quantifying human disturbances. For example, we reached out

the adventure app Strava in the hopes of acquiring trail usage data for the Whitehorse area, to help to differentiate between high and low traffic trails. The City of Whitehorse and Yukon Department of Highways and Public Works also shared traffic volume data for several roads in the project area. We will also incorporate data from our winter track surveys into subsequent analysis.

Tables.

Table 1. Occupancy, detectability, and model estimates for all seven mammal species to investigate how occurrences among different species differs between Lower and Upper Chasàn Chùà, using single-species, single-season occupancy modeling.

Species	Psi (Occupancy)	p (Detection)	Estimate	SE	z	P
Moose	0.601394	0.243337	2.38	0.817	2.91	0.00359
Coyote	0.473248	0.25769	-0.927	0.709	-1.31	0.191
Mule Deer	0.293466	0.127881	-1.794	0.882	-2.035	0.0419
Lynx	0.330883	0.153113	2.13	1.14	1.87	0.0609
Porcupine	0.255946	0.139303	1.62	1.15	1.42	0.1568

Black bear, grizzly bear and wolf detections are not included because of low detections.

Table 2. Cumulative counts of bird species across the study area.

Species	Count	Species	Count
Swainson's Thrush	200	Alder Flycatcher	8
Yellow-rumped Warbler	164	Olive-sided Flycatcher	8
Dark-eyed Junco	150	Orange-crowned Warbler	8
American Robin	100	Bald Eagle	6
Ruby-crowned Kinglet	86	Chipping Sparrow	6
Lincoln's Sparrow	75	Common Redpoll	6
Wilson's Warbler	61	Pacific Wren	6
Blackpoll Warbler	54	Short-billed Gull	6
Common Yellowthroat	45	Lesser Yellowlegs	5
Pine Siskin	45	Northern Flicker	5
Wilson's Snipe	40	Red Crossbill	4
Northern Waterthrush	30	Varied Thrush	4
Common Raven	29	Mallard	3
Townsend's Warbler	24	Western Wood-Pewee	3
Canada Jay	18	Belted Kingfisher	2
Yellow Warbler	17	Black-capped Chickadee	2
Boreal Chickadee	16	Bohemian Waxwing	2
Golden-crowned Kinglet	16	Canada Goose	2
Rusty Blackbird	14	Sora	2

Solitary Sandpiper	13	Black-billed Magpie	1
Hammond's Flycatcher	12	Green-winged Teal	1
Red-winged Blackbird	11	Hermit Thrush	1
Fox Sparrow	10	Purple Finch	1
Spotted Sandpiper	9	Red-breasted Nuthatch	1
Warbling Vireo	9	Ruffed Grouse	1
White-crowned Sparrow	9	Savannah Sparrow	1
White-winged Crossbill	9	Yellow-bellied Sapsucker	1

Please see the end of this report for maps of bird and mammal occurrences.

Achievements, variances and lessons learned.

We were able to gather an extensive dataset of wildlife occurrences throughout the Chasàn Chùà corridor. We hope that this dataset will strengthen our understanding of how wildlife use the corridor, and in turn lead to better decisions about conservation and development around the creek. We will share this database with First Nations governments, the City of Whitehorse, Environment Yukon, YFWMB, researchers, environmental nonprofits and any other interested group or individual.

The scope of our project grew substantially beyond what we had initially planned. At the time we applied to the YFWET we had access to roughly 12 trail cameras, most of which were fairly old. Our plan had been to rotate the available cameras between 24 field sites over the course of the summer, similar to our plan for Autonomous Recording Units. Over the course of the spring we had discussions with several biologists at Environment Yukon, who offered to lend us enough trail cameras to have constant camera presence at every site throughout the field season. Yukon government biologists asked that we expand the scope of our study, from 24 to 41 sites. This would make for a more robust study, and allow us to do more powerful analysis.

The fieldwork component of the project grew into something much larger than we had originally envisioned, and probably involved an average of 3 or 4 staff days per week, throughout the summer. The data processing component, especially ARU transcription, was also much more time consuming than expected. We are glad that we were able to carry the project out, but it was a learning process for our organization. CPAWS Yukon staff have a better appreciation of the amount of effort that goes into fieldwork, and a greater admiration for organizations who do this type of work year after year.

Community outreach.

Fieldwork.

One of the biggest successes of our project was the opportunity to involve different community groups. 38 high school students from 3 different classes strapped on snowshoes and helped us count wildlife tracks. We also presented to these three classes (ACES, ES and WILD) about field research and Chasàn Chùà and hosted a natural

resources class from Yukon University on a field trip to the creek corridor. Many people joined us for fieldwork in the summer—Yukon government biologists, the Y2C2 Green Team, and about a dozen keen volunteers. In total, about sixty people lent a hand in data collection for this project. In addition to helping ease the burden of data collection, having so many helpers meant more people got to spend time exploring Chasàn Chùà—and hopefully helped to build connections with the creek.

Community event.

On July 24th, 2021 CPAWS Yukon hosted a day-long event, titled *Backyard Biodiversity at Chasàn Chùà (McIntyre Creek)*. The gathering centred around a series of guided nature walks along the section of the creek near Yukon University. Trail guides with the Yukon Conservation Society led two interpretive hikes, Bruce Bennett led two plant walks, Syd Cannings led an insect walk, and Malkolm Boothroyd led four bird walks.

In addition to CPAWS Yukon and the Yukon Conservation Society, a number of organizations had booths at the event. The Yukon Salmon Subcommittee shared information about Chinook Salmon, which included showing GoPro footage of salmon fry from a section of Chasàn Chùà just a few hundred metres away. Wildwise Yukon provided insights into living responsibly in wildlife country and Environment Yukon presented their wildlife and bat monitoring methods. CPAWS Yukon offered draw prizes for participants who collected garbage during their walks, and created a scavenger hunt for kids.

As a result of the summertime spike in COVID-19 cases, we were unsure of whether we would be able to host a public event until relatively last minute. In spite of the short notice the event was well attended, with a total of 76 people coming during the course of the five hour event. COVID-19 protocols included hand sanitization, sign ins for each walk, and a limit of 20 participants in each nature walk.

Achievements, variances and lessons learned.

In spite of the ongoing Covid-19 pandemic, we were able to bring many people together to spend time exploring Chasàn Chùà. Unfortunately, we were unable to hold an elder's gathering because of the pandemic—which had been one of our biggest hopes for the project. We attempted to organize an elders gathering over the summer, and finally had an event scheduled for September 22nd. It seemed like holding a socially distanced indoor event with Kwanlin Dün and Ta'an Kwäch'än elders would be possible, but in the end the event was called off midway through preparations.

Part II. Communications report.

Thanks to support from YFWET, we were able to make Chasàn Chùà/ McIntyre Creek a mainstay of CPAWS Yukon's communications. The trail cameras provided us with a

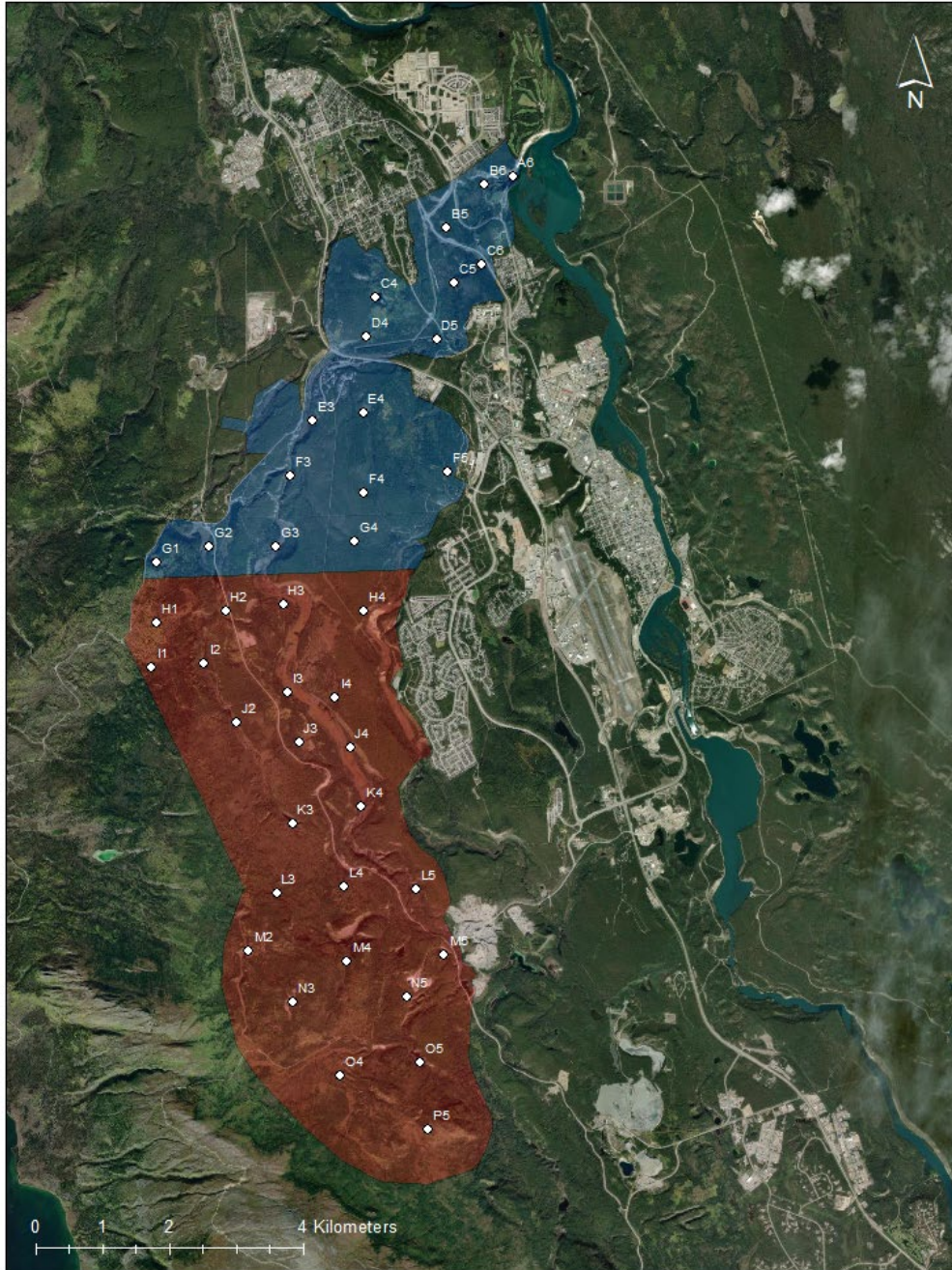
library of wildlife images from the creek, from moose calves trotting behind their mothers, to coyote pups playing with sticks, to glimpses of lynx, pine marten, grizzly bears—and one even one wolf. We have started a weekly tradition called #TrailCamTuesday, where we post a wildlife camera photo to our social media platforms, along with tidbits about the species in question. We were also excited to share a trail camera image of a cow and calf moose, along with a short project description, in the 2022 YFWMB calendar. Finally, we've developed a collection of wildlife track photos from our winter track surveys, which we've begun to share on social media as part of a track guessing series.

Our work was featured in several news articles, which are included with this funding report. One article, by the Yukon News, featured the bat detector surveys. Another article featured photos from the remote cameras at McIntyre Creek, and the most recent article featured our winter wildlife track surveys.

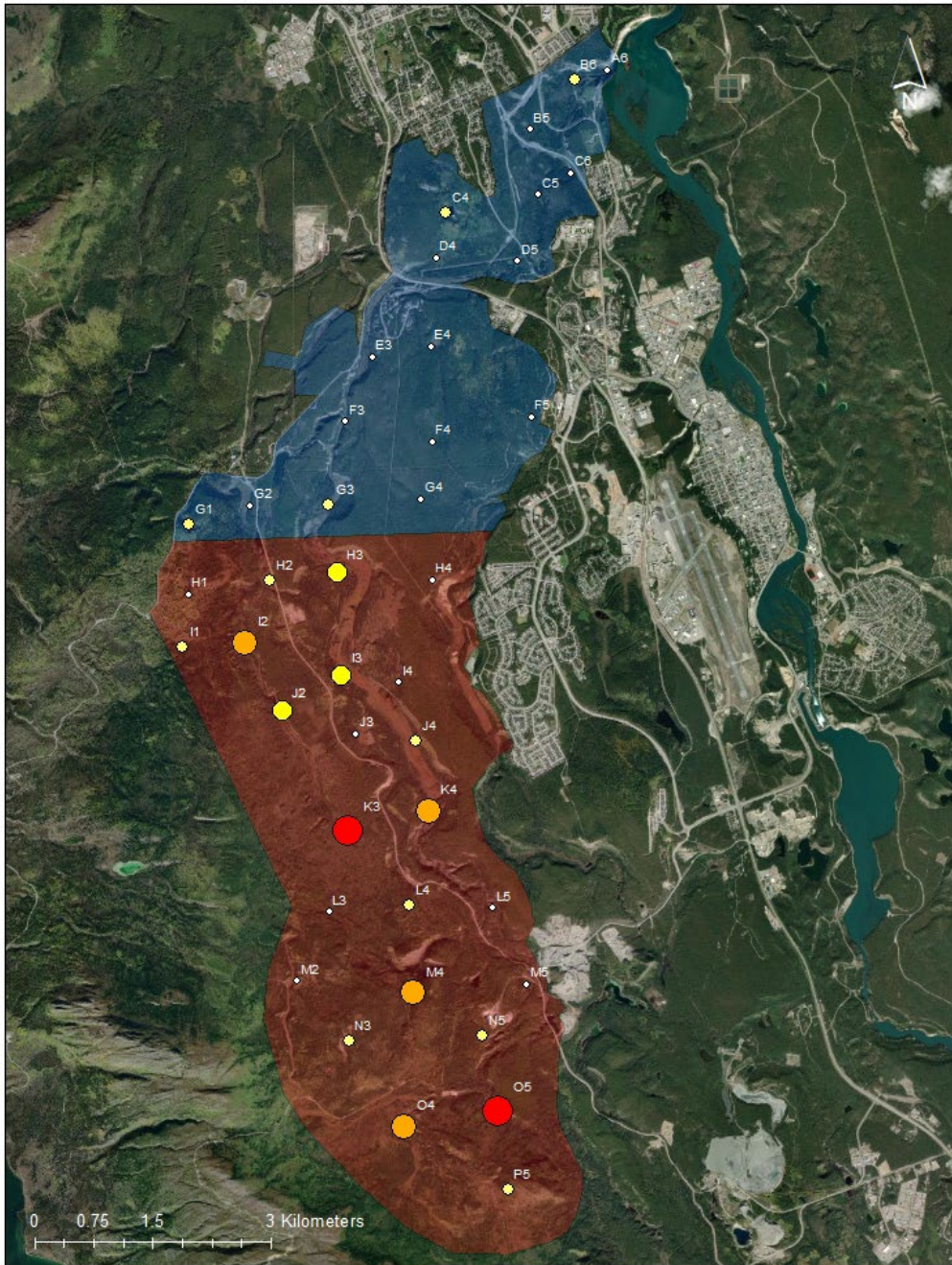
We are still working on our public-facing report about the findings from the Chasàn Chùa wildlife study. We had hoped to complete the science report by the time of this funding report, but the data processing, disturbance calculation and statistical analysis has taken longer than we hoped. April 2022 is our new target for the release of the science report. A communications strategy will be an important part of the report's release. While we have not done specific planning, we intend to a) accompany the report's publication with a press release, blog and op-ed, b) a series of social media infographics to share the report's key findings and c) creating a story map that merges the study's findings with photos and data visualizations.

In addition to public communication, we will share the report and the underlying data with CPAWS Yukon's contacts at First Nations governments, the City of Whitehorse, Environment Yukon, ECCC and the YFWMB. We plan on sharing our report with the Fish Lake Local Area Planning Committee, and we will offer to present our findings to the committee. We will also present the report during one of our quarterly meetings with the territory's Environment Minister and Energy, Mines and Resources Minister.

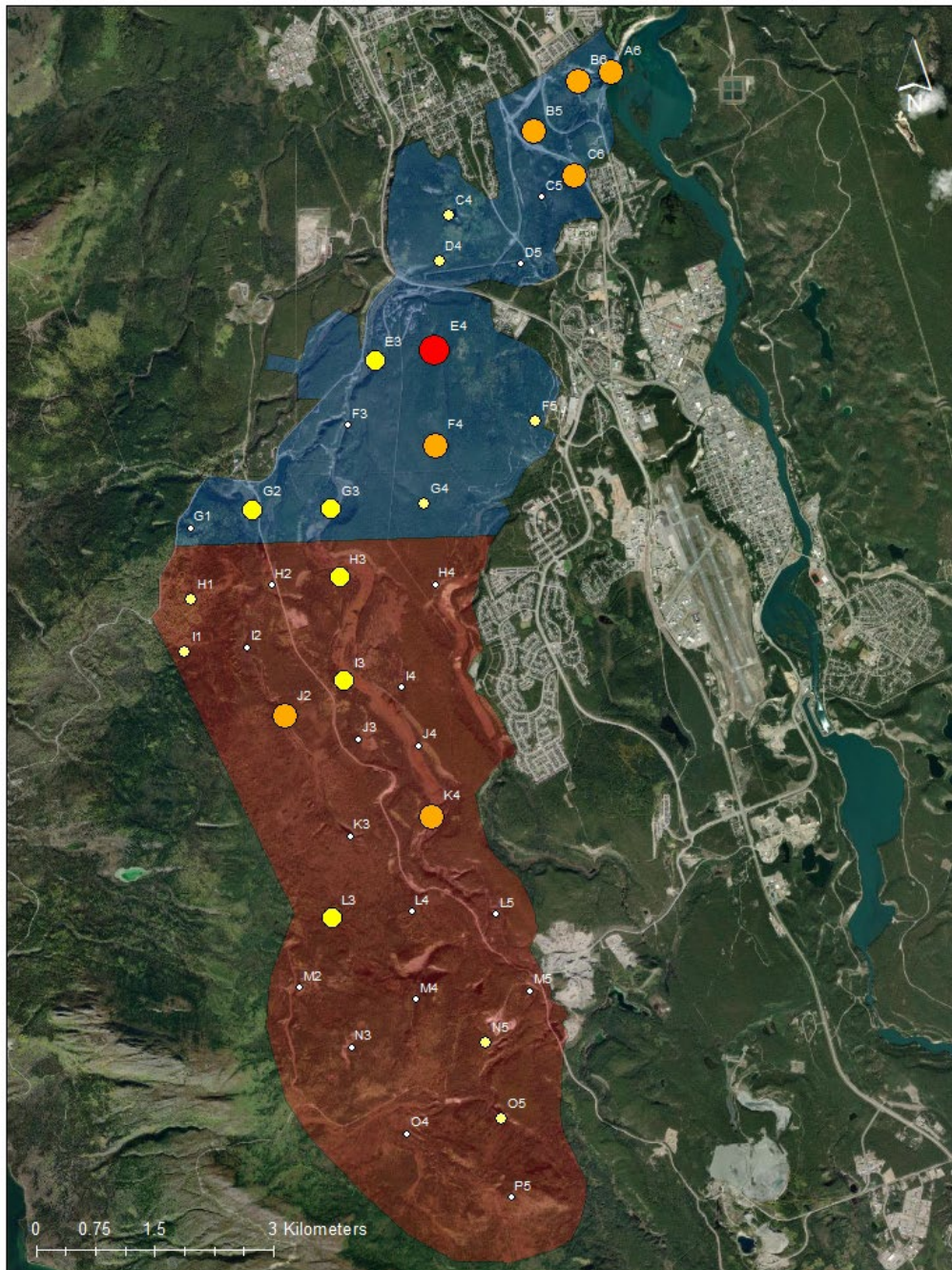
Maps



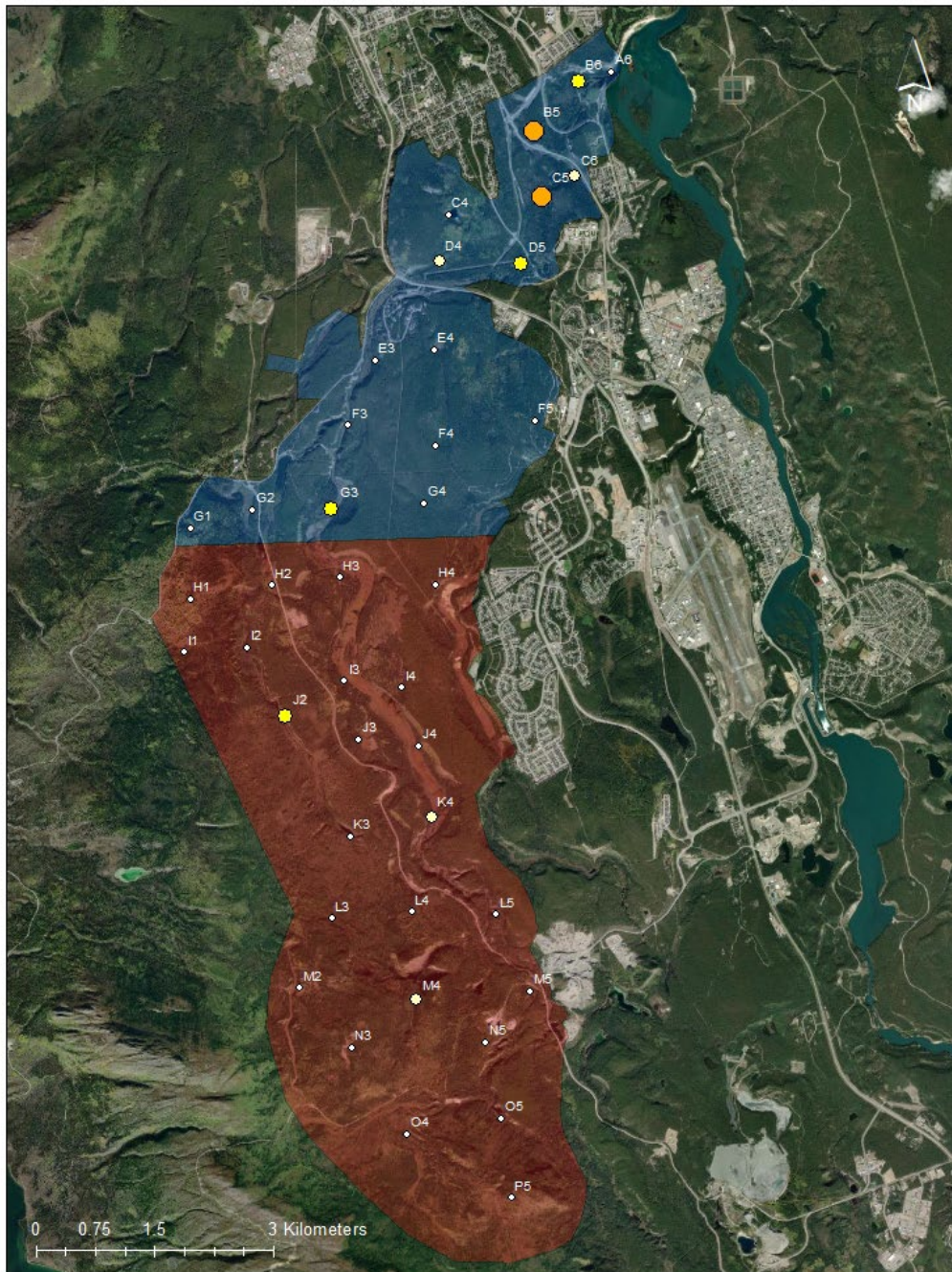
Map 1. The locations of wildlife cameras and ARUs in the Chasàn Chùà Corridor. The red area is Upper Chasàn Chùà and the blue area is Lower Chasàn Chùà. Human disturbances are highest in the lower sections of the creek.



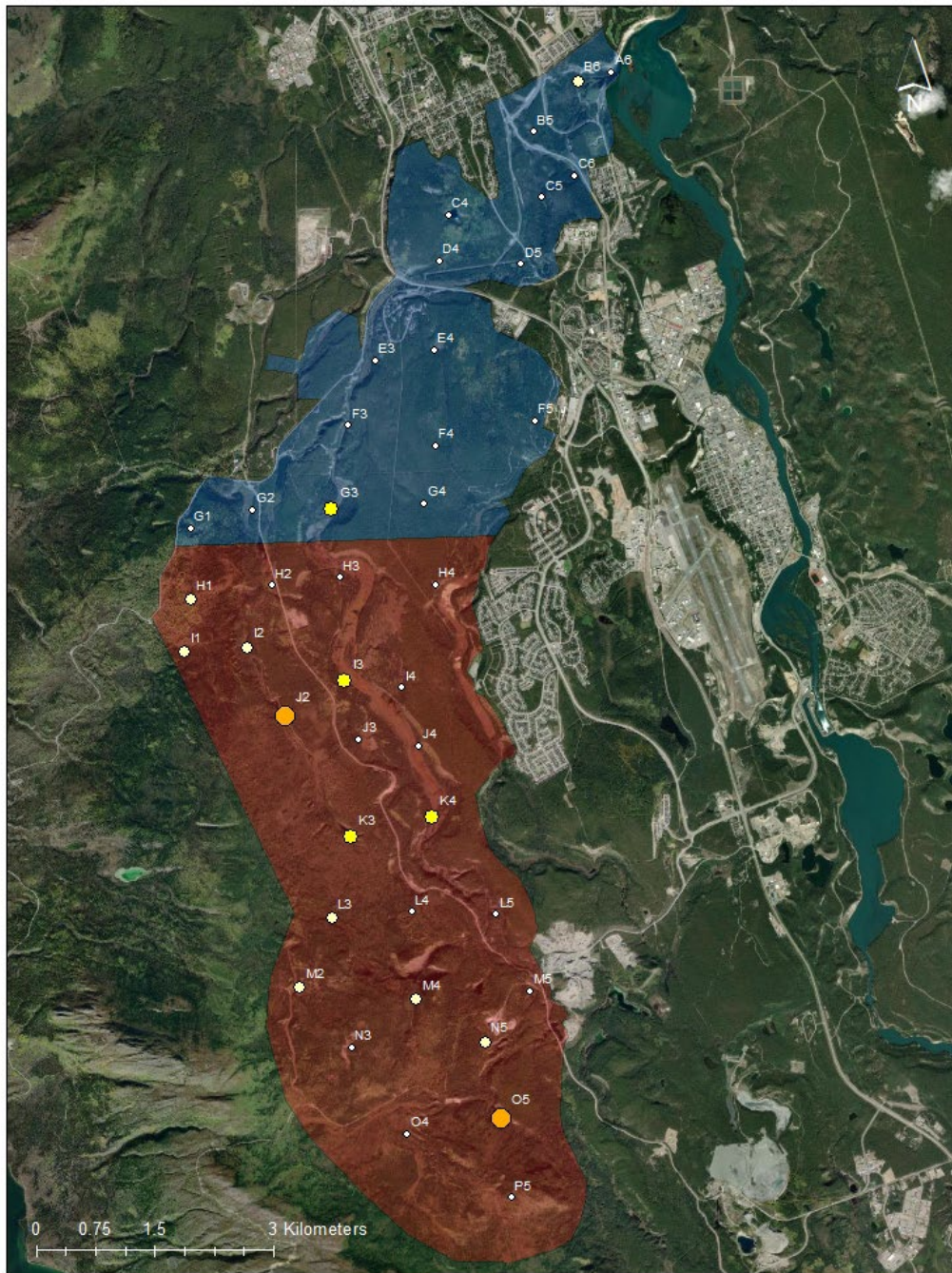
Map 2. Moose detections were skewed towards Upper Chasàn Chùà. This heatmap is based on wildlife camera data over a 12-week period. Larger circles indicate locations where moose were detected during more weeks.



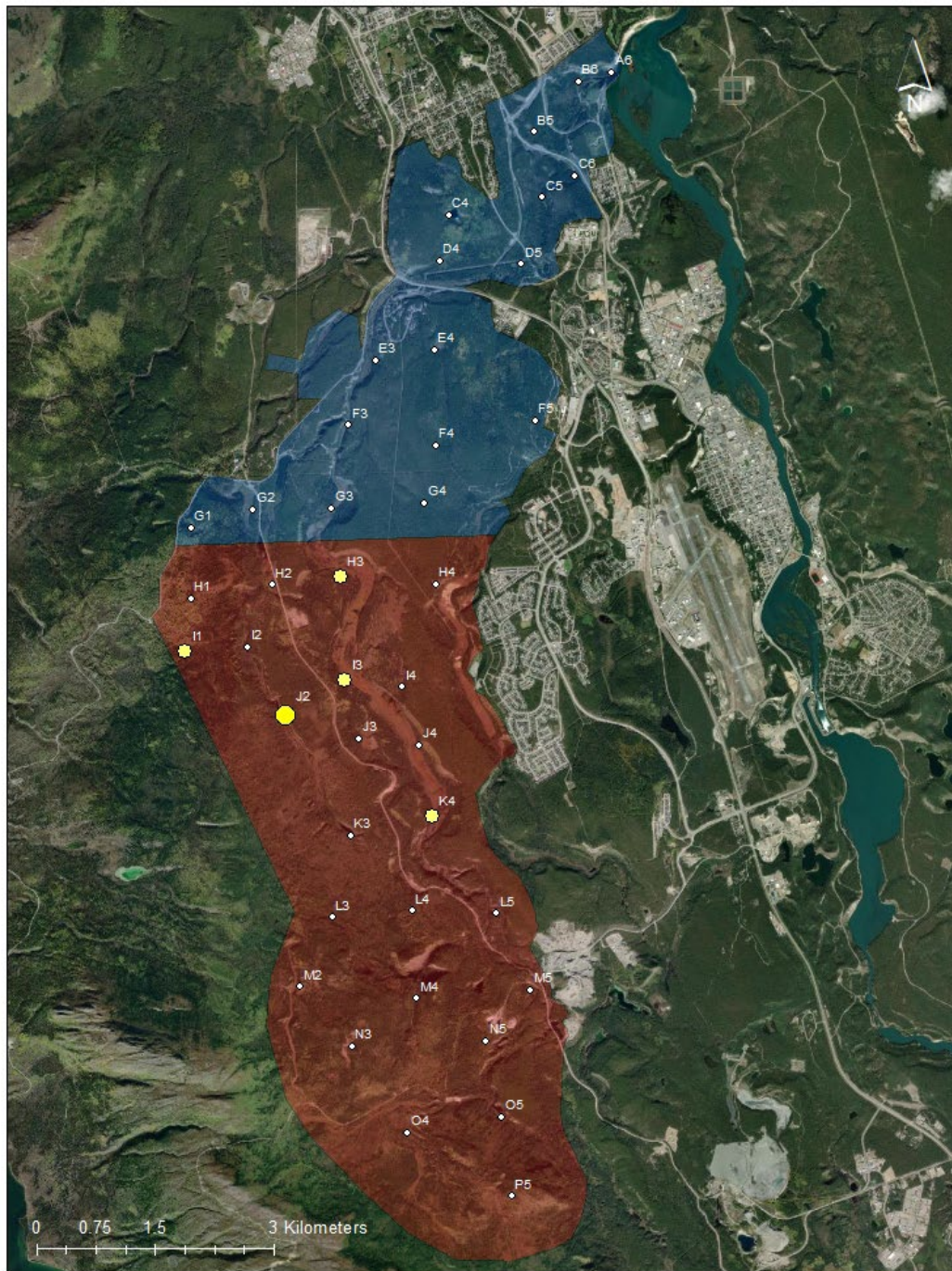
Map 3. Coyote detections on wildlife cameras were fewest in the uppermost sections of Chasàn Chùà. Brighter circles indicate where coyotes were detected in more weeks.



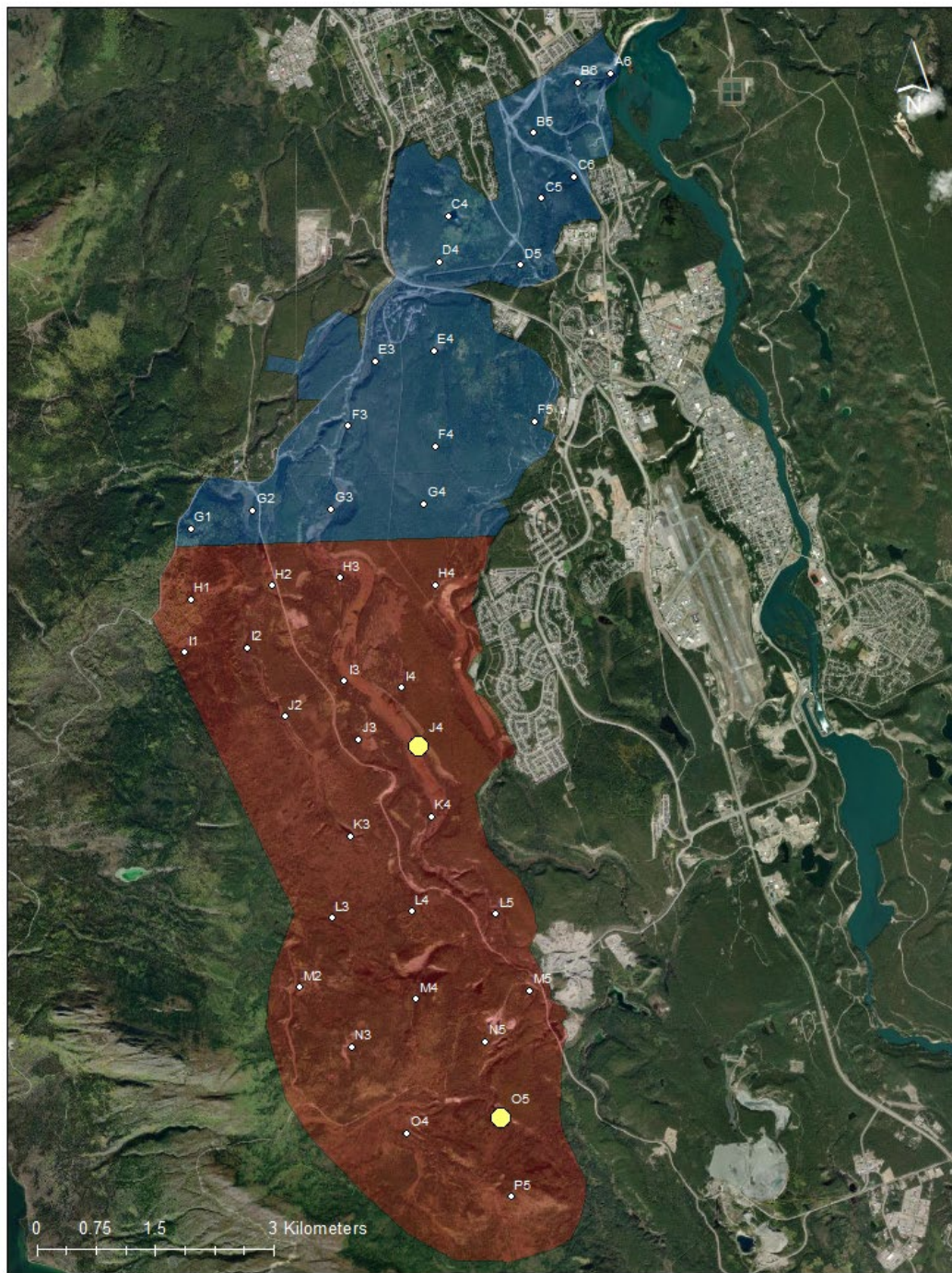
Map 4. Mule deer were recorded the most by wildlife cameras in the lowermost sections of Chasàn Chùà. Larger circles indicate the locations where deer were detected during more weeks.



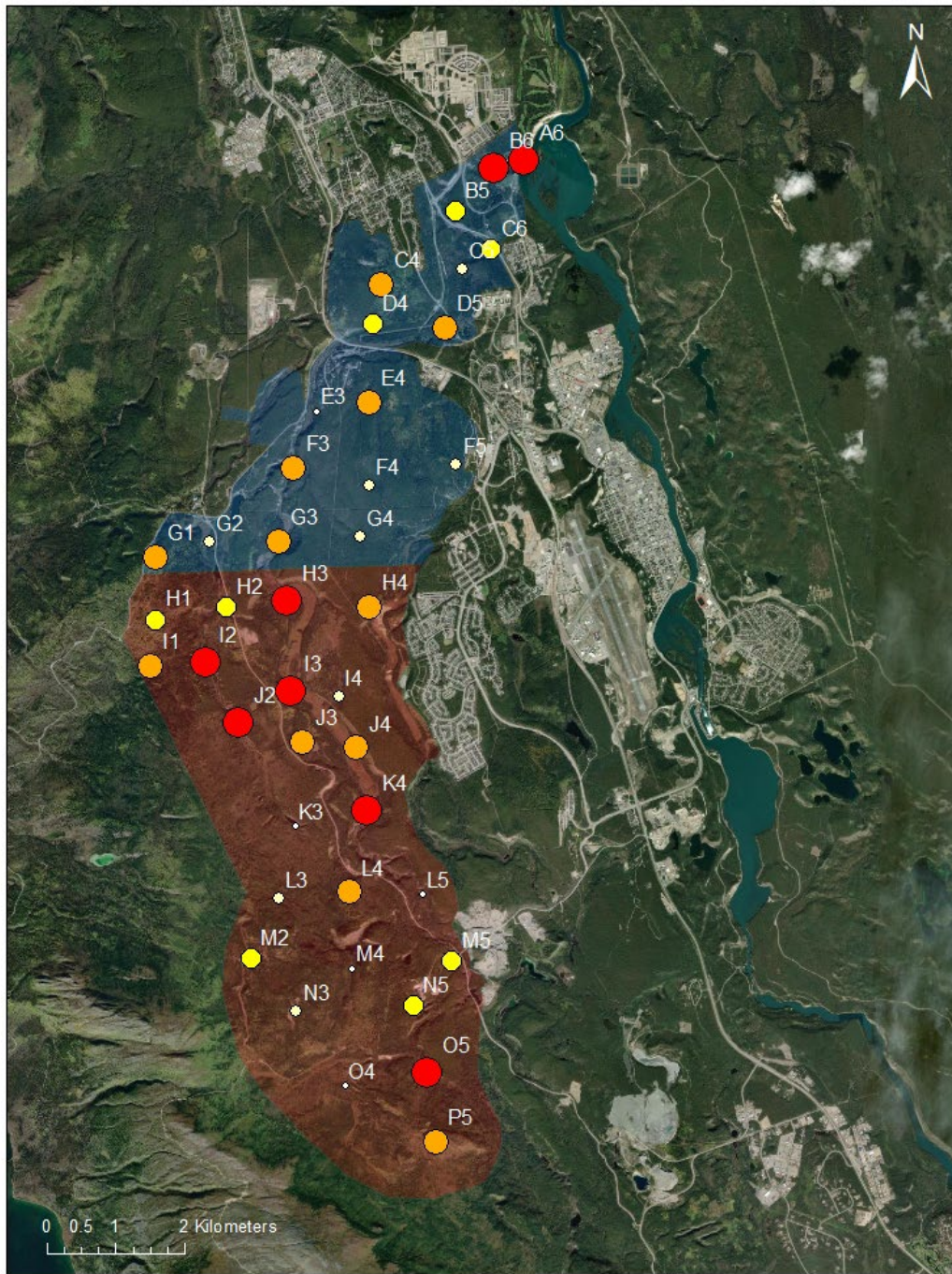
Map 5. Most lynx detections occurred in Upper Chasàn Chùà. Larger circles indicate where lynx were detected during more weeks.



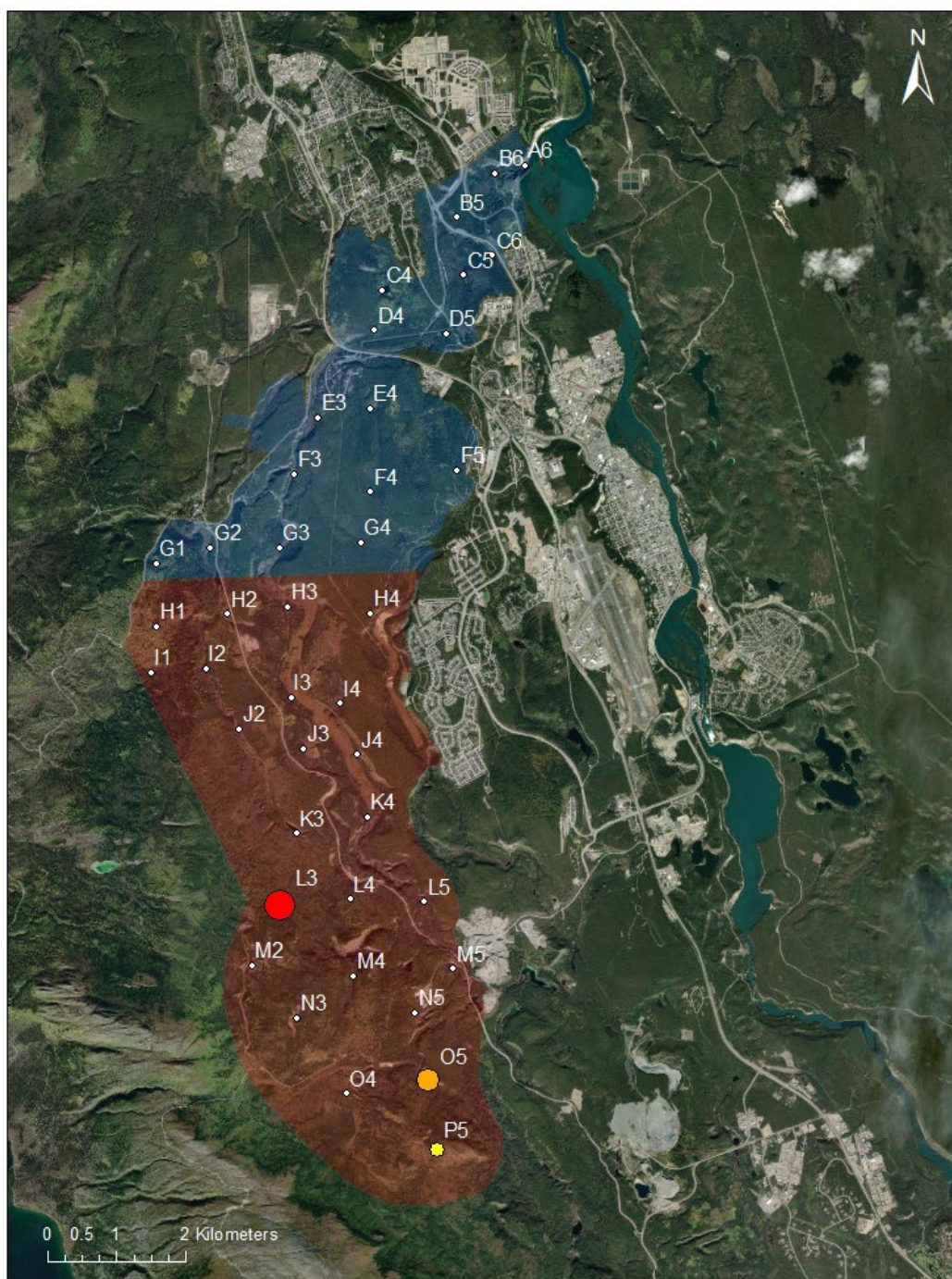
Map 6. Black bear detections on wildlife camera traps over a 12-week period. Larger circles indicate where black bears were detected during more weeks, relative to smaller circles.



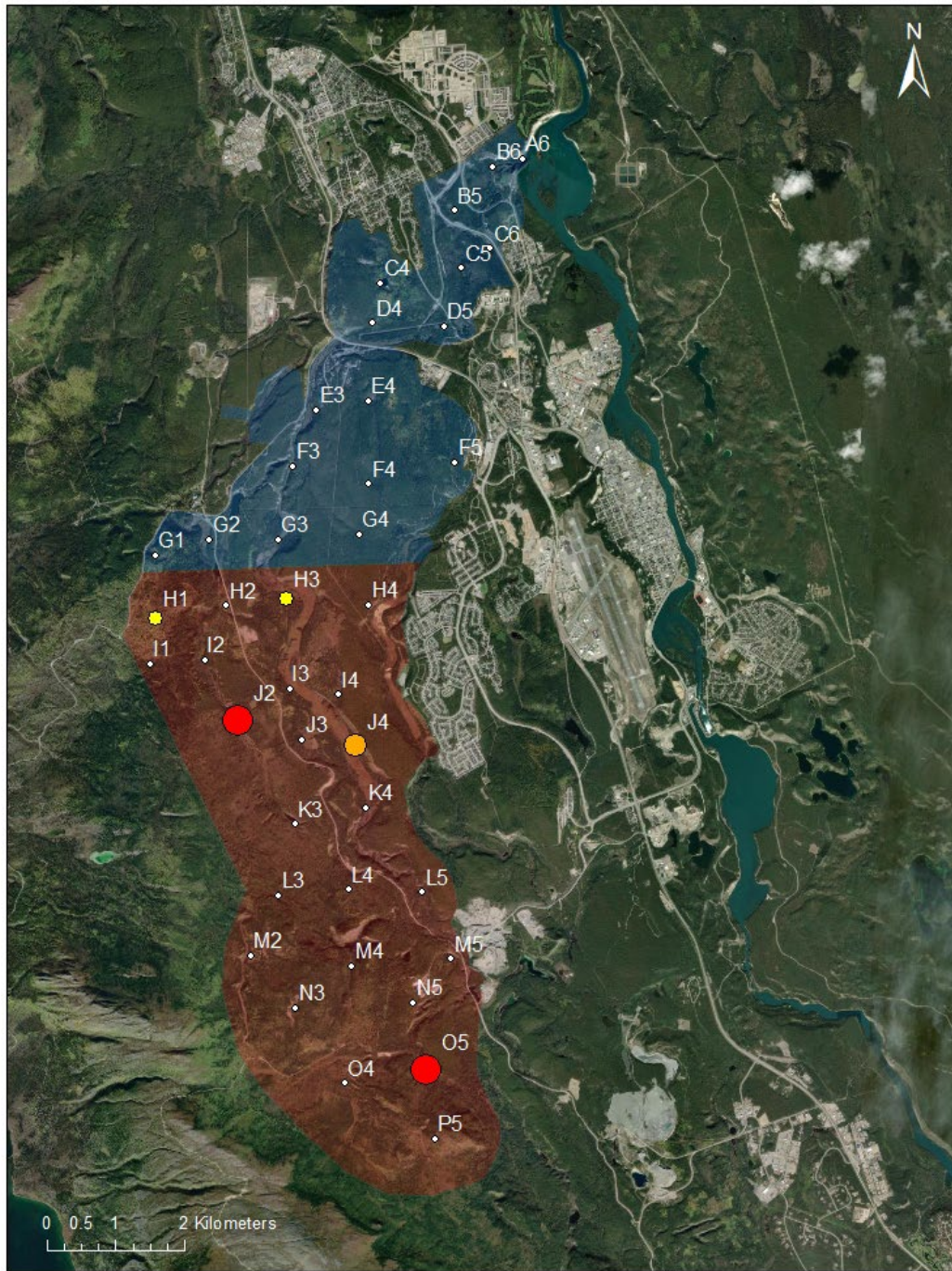
Map 7. Grizzly bears were rarely detected by our wildlife cameras. The yellow circles show the sites where they were detected.



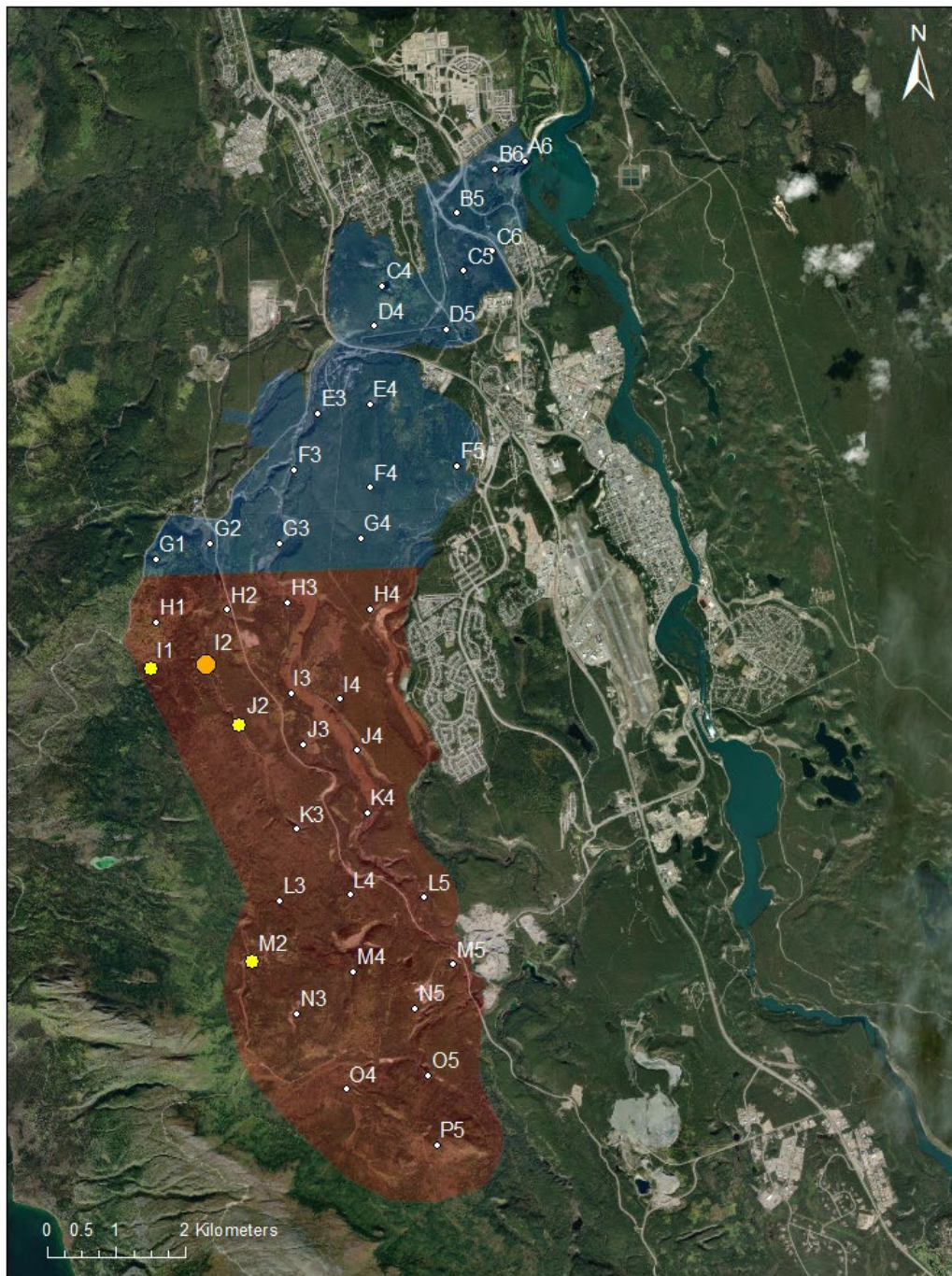
Map 8. Heatmap of avian species richness from ARUs over six re-visits for each location. Large circles indicate that more species were cumulatively detected over the sampling period relative to smaller circles.



Map 9. Heatmap of Olive-sided Flycatcher (OSFL) detections from ARUs over six revisits. Larger circles indicate that OSFL were detected in more visits relative to smaller circles.



Map 10. Heatmap of Rusty Blackbird (RUBL) detections from ARUs over six re-visits. Larger circles indicate that RUBL were detected in more visits relative to smaller circles.



Map 11. Heatmap of Lesser Yellowlegs (LEYE) detections from ARUs over six re-visits. Larger circles indicate that LEYE were detected in more visits relative to smaller circles.











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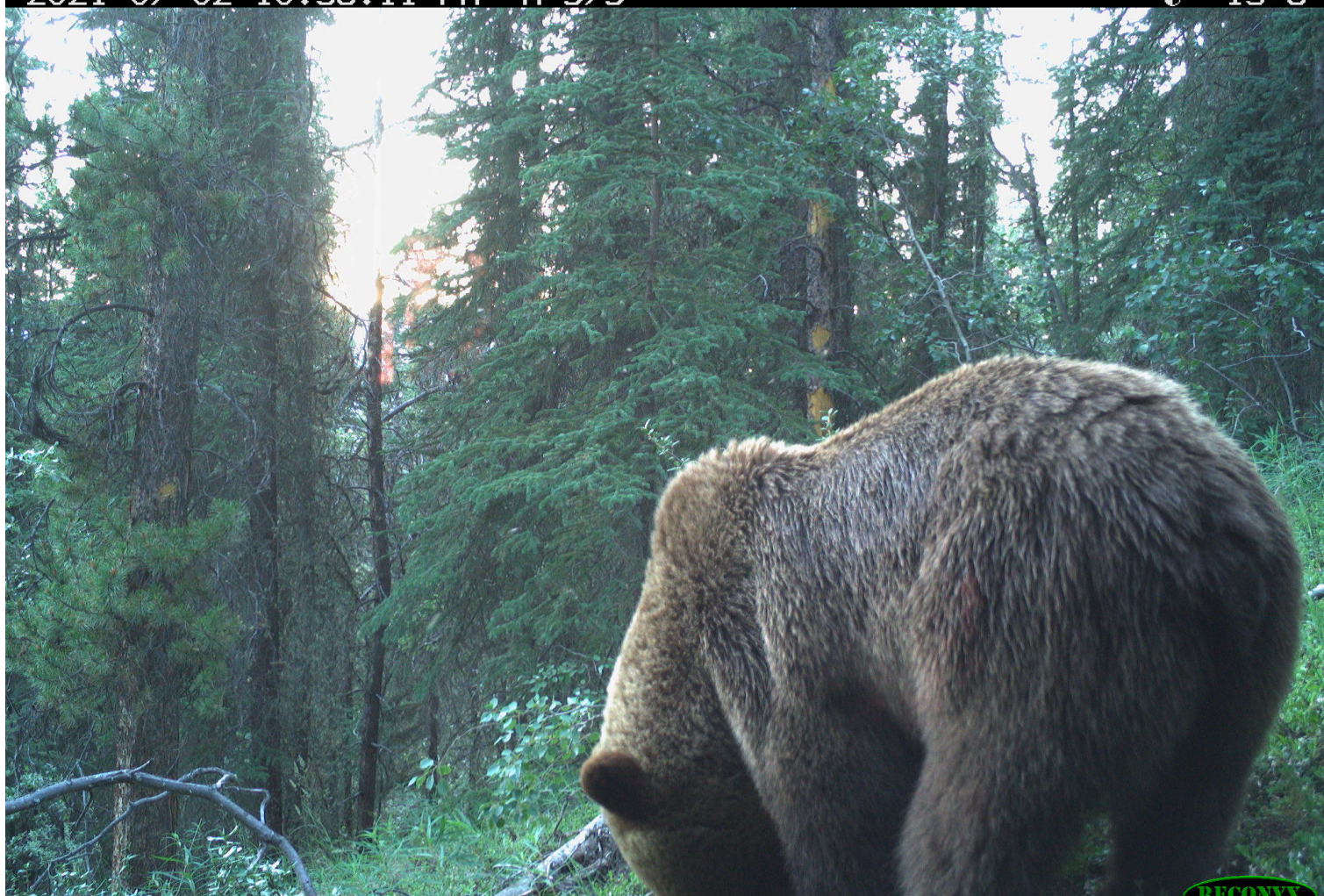


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North

41 cameras set on Whitehorse wildlife corridor yield surprising results

Part of the goal was to study the impact of human activity on McIntyre Creek

[Joseph Ho](#) · CBC News ·

Posted: Dec 09, 2021 6:00 AM CT | Last Updated: December 9, 2021



Cameras set up by the Canadian Parks and Wilderness Society (CPAWS) in McIntyre Creek over the summer photographed bears among other wildlife. The organization is studying the effects of human activity in the area. (CPAWS Yukon)

A conservation group got a close look at the wildlife in Whitehorse over the summer as it studied the impact of human activity in the area.

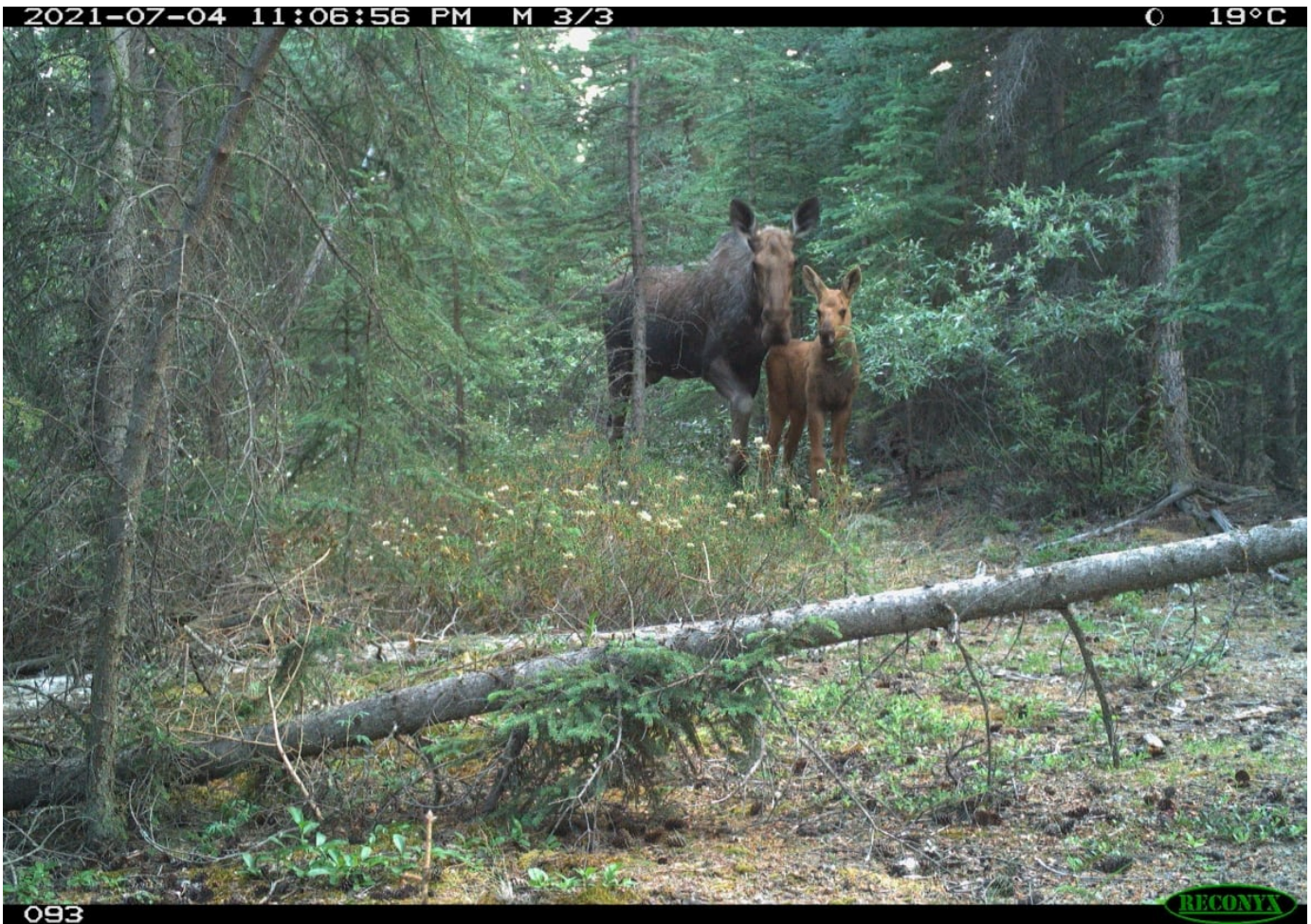
Between May and September, the Yukon chapter of the Canadian Parks and Wilderness Society (CPAWS) set up 41 camera traps in McIntyre Creek, a 42-square-kilometre area that cuts through the city and happens to be a popular spot for recreation.

Maegan Elliott, a conservation coordinator, said there is a "knowledge gap" they want to fill.

"We just don't have a complete understanding of how different wildlife species are using the McIntyre corridor and how human activity is affecting them. And especially what species are there throughout the year, or at different times of the year," Elliott said.

Elliott said McIntyre Creek is known as a "wildlife corridor," meaning animals use it to safely pass through the city en route to the wilderness outside Whitehorse.

The area also carries cultural significance as First Nations people would travel up the creek to access hunting and fishing grounds, she added.



A pair of moose captured on cameras set up by the Canadian Parks and Wilderness Society in McIntyre Creek in Whitehorse during the summer. (CPAWS Yukon)

The cameras captured a trove of data, recording common species like coyotes, foxes and deer.

They also caught grizzly and black bears, moose, pine martens and a lone wolf. Elliott noted that neither the bears nor the wolf were located in the busy areas.

"It's pretty exciting to open up a camera and it's kind of like Christmas morning (where you) open presents to see what you got on the camera," she said.

Moose were a common sight, which came as a surprise.

"It was originally thought moose were more common in the area in the winter, and they were pretty rare in the summer. But we actually got quite a few moose and even cows with calves in some of the busy parts of the area," Elliott said.

"So that was pretty interesting to me, that the moose are still able to make a living there, even with all the human activity."

Along with the photos, CPAWS also made recordings of bird songs during May and June.

Too early for conclusions

Right now, the group is surveying wildlife tracks in the snow to see how wildlife is using the area. Elliott said that data will be compared to trails and roads.

"And that should give us a pretty good idea of how they're using the area and how our presence is affecting them as well," Elliott said.

At this point, Elliott said it's too early to draw any conclusions from the data, which has yet to be analyzed.

She said the findings will be shared with planners at the City of Whitehorse, scientists and First Nation governments.

However, she urged others to pay attention, especially as the City of Whitehorse revises its Official Community Plan.

"It's a really important area for our wildlife but also for people to connect with the area," she said.

"Sometime in the new year, they should have a draft out of the plan and that

will have a vision for McIntyre Creek ... just want people to keep an eye out for that if McIntyre Creek is important to them."

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ENVIRONMENT

Who snows there? Winter tracking study revealing animal patterns in McIntyre Creek



Haley Ritchie
News Reporter

In the muted quiet of winter, it's sometimes hard to believe animals aren't all snuggled in their dens like hibernating bears. But plenty of activity takes place when humans aren't around to see it.

It's a lot tougher to be sneaky after a recent snowfall — a fact researchers at CPAWS are taking advantage of for a winter study in McIntyre Creek that examines foot-prints and trails left in the snow.

The study areas are made of carefully selected triangles of terrain with each side 500 metres in length. To collect data, researchers like Candace Dow and Maegan Elliott walk three 500 metres lengths in each direction to complete the triangle. As they go they write down what they see.

There is a long list of tracks to keep an eye out for — including caribou, coyote, deer, ermines, red fox, grouse, lynx, marten, moose, mouse, porcupine, hares, red squirrels and wolves.

The trekkers are also observing single tracks versus trails, older snow-covered tracks, animal beds and any creatures they spot while out on the walk. They track common signs of people using the area too — ski tracks, roads, snowmobiles, snowshoes,

boots and dog prints.

All of the sightings get written down on the triangle as the researchers move through the area. They can't just select the easiest path — to make sure the data is complete, they have to traverse on ridges, bogs, thick brush and deep snow.

"A lot of species also live there year-round. So we're learning how these different species are using the area and how they might be affected by the different types of human activity and development," said Elliott.

Unlike wildlife cams that have to be placed on game trails in order to have the best chance of capturing animals, the walking surveys cover a wider area and provide a more random sample.

"We've been really making an effort to scatter the surveys that we do throughout the whole area. So we're not just targeting the ones in lower McIntyre Creek close to the river, for example," she said.

On Jan. 27, a mild day, Elliott and Dow trekked three hours in knee-high snow to map out all the possible animal evidence in grid E3 — one of 41 planned surveys. CPAWS has completed about half of the surveys this year due to snow conditions.

The timing of snowfall also needs to be right for good tracking. Elliott said they need to wait three days after a fresh snowfall to make sure enough tracks have accumulated.



Candace Dow compares her GPS to a map showing the grids CPAWS will use as sample areas for the study. (Haley Ritchie/Yukon News)

"If you go the day after snowfall, you're not gonna see anything, because it's a clean slate," said Elliott. "Three to six days after is probably ideal after snowfall. After that, then you get a big wind or big melt, and then the snow kind of gets marked up. It just makes it more challenging to see what was there."

Between freezing and thawing cycles, the tracks can also get more difficult to read. For each observation, researchers also supply a confidence level of low, medium or high.

When the tracks aren't clear, the observers rely more

on their knowledge of animals and the environment. While the shape of tracks is important, there are other factors in identifying what kind of animal has been travelling on the snow.

"The size of the track is usually a pretty good indicator, but with foxes and coyotes, sometimes they can be a similar size, especially if the track is a few days old, and it's melted a bit. In those situations I tried to look at the length of the stride and how far apart the tracks are to get a sense of how long the legs are on that animal," she said.

"Also the area that you're in

is important — a lot of people walk their dogs in McIntyre Creek. So we always try to be really conscious of that, whenever we're near a trail, that it could just be dog tracks that are not necessarily a coyote or a wolf," she added.

Elliott and Dow recorded possible coyotes, foxes, squirrels on Jan. 27. Elliott said her most unusual sighting this season was an otter slide in the forest, mysteriously far from open water.

"That was probably the weirdest one that I've seen. I don't know what he was up to," she said.

The preliminary data will be organized and analysed in order to see what patterns it reveals — whether lynx avoid

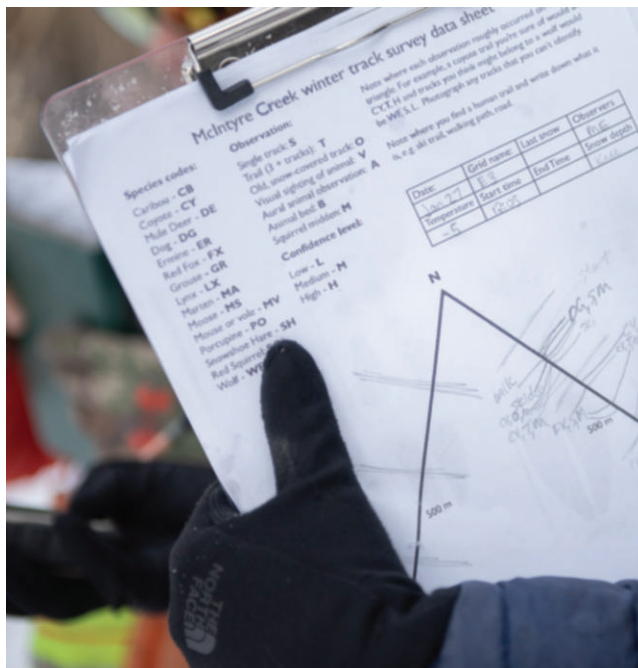
roads, for example, or if coyotes are using the ski tracks to get around. That data can be combined with summer studies that listened in on bats in the forest and wildlife cams to paint a better picture of what animals are using McIntyre Creek.

"We're hoping that the study will be helpful for informing land planning decisions that affect area," said Elliott. "This research will help inform those planning processes to tell them what species are there, how they're using McIntyre Creek and what types of development might affect them."

Contact Haley Ritchie at haley.ritchie@yukon-news.com



In order to provide full data, track observers follow the lines wherever they go — steep hills and knee-deep snow included. (Haley Ritchie/Yukon News)



The snow track survey involves walking three 500 metre lengths in a triangle and writing down all animal and human observations. (Haley Ritchie/Yukon News)



Tracks in the snow. (Haley Ritchie/Yukon News)

Listening in on bat populations along McIntyre Creek

HALEY RITCHIE / Aug. 30, 2021 9:00 a.m. / LOCAL NEWS

Picture 1 of 4



Microphones that can pick up bat calls have to be placed above the creek, which is generating higher noise levels than usual due to fast-flowing water. (Haley Ritchie/Yukon News)



At least for a few more weeks, the woods have ears (and eyes) along McIntyre Creek.

Yukon biologists have been monitoring the area this past summer with special microphones and trail cams aiming to get a better picture of which animals are using the area. In particular, special bat monitors have been set up along the creek, to track how bats might use wooded habitat.

“The Yukon Government has done quite a few surveys on ponds and wetlands around Whitehorse. With this question we’re more focused on the actual creek and seeing how bats use it, and if there’s specific characteristics, like soil, water, things like that that is really a draw to certain areas,” said Maegan Elliott, the conservation coordinator with the Canadian Parks and Wilderness Society (CPAWS) Yukon.

The McIntyre Creek project is a partnership between CPAWS and the Yukon Government, involving a number of scientists. The microphones will remain up until around the end of October, after which analysis on the data will begin.

Around the world there are 1100 species of bat, and five have been documented in the Yukon.

Most common is the little brown bat, but the big brown bat, northern bat, hoary bat and long-legged bat are also known to live in the territory.

With cool temperatures and short nights for most of their active season, the Yukon is not an ideal place for bats. They've also had to adapt to hunting in wooded areas and roosting in small crevices, trees or old cabins. Scientists also don't know where they migrate for the winter.

Like foxes in Whitehorse, the bats around the city have learned to live alongside humans. Many people think of them as pests like mice, but Yukon government senior wildlife biologist Tom Jung compares their lives to grizzly bears instead – they can live up to 30 years and are devoted parents who raise very few young over their lifetime. Occasionally, they also conflict with humans, which researchers want to manage.

That lifespan makes them relatable to us, but their low rate of reproduction leaves them vulnerable to disease and habitat change, and the little brown bat's population in the south has been decimated by an affliction called white nose disease.

While the disease hasn't made an appearance yet in the Yukon, the more information we have about bat habitat, the better we can protect them, said Jung.

"In Canada, [little brown bats are] endangered mostly because of disease. It's introduced to the bats in their hibernacula caves and other places where they spend the winter hibernating. Because they're an endangered species, we're trying to learn what we can about bats in the Yukon and boreal forests of western North America in general so that we can come up with conservation strategies," he said.

[Read more below](#)

High frequency microphones set up along McIntyre Creek could shed some light on these nocturnal mammals, allowing scientists to "eavesdrop" on their high pitched chatter.

"We don't understand what they're saying, of course, it's not that type of

eavesdropping, but at least we know where they've been and when," said Jung. "We can also divide up the recordings we get, based on whether that bat was actively hunting or traveling."

"So by putting out these detectors, we can understand what an important feeding area looks like for these endangered bats. Maybe it's a couple of big old trees, or maybe it's your pool in a stream, or it's a small beaver pond. If we understand that, then we can place a value on it for bat conservation," he said.

With special software, sounds captured this summer can be analyzed by independent researcher Brian Slough, who is able to detect variation in behaviour and species by the audio captured.

Around a dozen microphones have been placed in open areas along the creek every 100 metres. They are active shortly before sunset, and are sound activated during the night, when bats are most active.

The special bat detectors convert bat calls (or echolocation) to sounds that human scientists can hear. A bat call is from 20 to 200 kHz, far above the audible human range of 0.2 to 20 kHz.

In addition to the type of calls, Slough can also identify different species based on their calls.

"There are some larger bats that have lower frequency calls that are quite unique and stand out," he said.

Since bats don't stray too far from their roosts when looking for drinking water and insects, the levels of activity will be useful to identify which areas they use the most.

"The little brown Myotis or little brown bat uses edge habitats, mostly because they're fairly open for them to fly around and try to find the insects but also close to cover," said Slough.

"We'll learn about seasonal habitat use, which I think probably changes throughout the summer. I think the bats will use forest interiors more at the solstice when it's really bright, because they don't like being out in the light and they'll use open areas later in the season like passing over ponds or open habitats," said Slough.



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A WALK THROUGH MCINTYRE CREEK

its heritage, history, and all it has
to offer!



Yukon Conservation Society

CPAWS
CANADIAN PARKS AND WILDERNESS SOCIETY
NORTHWEST TERRITORIES

A collaboration between the Canadian Parks and Wilderness Society (CPAWS) and the Yukon Conservation Society (YCS)

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- Leyla Weston the Outreach Geologist of the Yukon Geological Survey.
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- Jeff Bond of the Yukon Geological Survey.
- Dorothy Bradley of Friends of McIntyre Creek.
- Our respective organizations and their staff who helped us immensely, the Canadian Parks and Wilderness Society - Yukon Chapter & Yukon Conservation Society

We respectfully acknowledge that Chasàn Chùà (McIntyre Creek) is situated on the traditional territories of the Kwanlin Dün First Nation and Ta'an Kwäch'än Council.

Published August 2021

Exploring McIntyre Creek/Chasàn Chùà

McIntyre Creek, also known as Chasàn Chùà, is located on the traditional territories of the Kwanlin Dün First Nation and Ta'an Kwäch'än Council. The Creek is the heart of a wildlife corridor that flows through Whitehorse, Yukon. Wildlife corridors are areas that link larger habitat patches and are vital for animal movement allowing them to feed, reproduce, and find shelter, which are all necessary for survival and enabling biodiversity to thrive.¹ McIntyre Creek offers an abundance of opportunities to explore the Yukon's wilderness in central Whitehorse. This self-guided hike is designed to provide you with information on a variety of topics pertaining to McIntyre Creek such as its inception, living inhabitants, historical importance, and more!

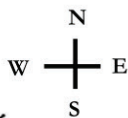
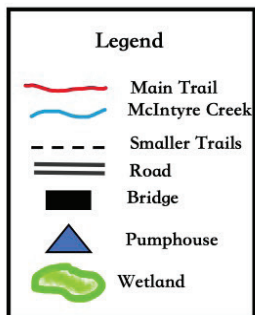


Please read the directions and map to follow the trail.

1. Park at the blue University Pumphouse Pond. Access the area by turning left onto a dirt road about two-thirds of the way (or 600m) up University Drive/College Drive just before the Yukon University campus. Follow the road until the end where you will see a blue pumphouse.
2. Follow the paved, multi-use trail past the bridge, and continue the trail. Near the bridge on your right, you will notice a bat house in a clearing. Feel free to stop and have a look. Don't forget to stop and check out the signs along the way by Yukon Wildlife Viewing.
3. Continue the paved, multi-use trail for another 260 metres until you see a well-established trail on your right that enters the woods; it is marked by wood and cement blocks and a sign marked "Trans Canada Trail" that can also be called the "Great Trail".² Follow this trail.
4. After continuing approximately 450 metres on this trail, you will notice a small intersection/fork; do not go straight; take the right towards the bridge and cross it.
5. There will be a few forks in the trail from this area. Try to remain to the right and maintain the wetland on your right. This trail is intended to circle the wetland and return to the blue pumphouse.

Length: About 2 km

Difficulty: Uphill and downhills, not paved, roots, and subject to wetness in certain areas.



Adventuring the Outdoors

Situated near downtown Whitehorse, McIntyre Creek, or Chasàn Chùà, is an exciting and accessible region to explore and discover new things! While venturing into the outdoors, make sure to be prepared.

Leave No Trace (LNT):

To keep outdoor spaces pristine, not only for wildlife but also for future generations, it is important to remember to “Leave No Trace.”³ Keep the following in mind when exploring McIntyre Creek to ensure minimal impact:

- Plan and prepare.³
- Stay on designated trails as much as possible, or travel on durable surfaces to minimize damage to the land.³
- Dispose of waste properly.³
- Leave what you find and take what you bring.
- Respect wildlife.³
- Be considerate of others, and the inhabitants of the area.³
- Be a steward of the land of which you are a guest.³



McIntyre Creek is also a great place to take your furry companions! Remember that these principles also apply to your pets

Do Not Feed Animals

Avoid feeding animals to minimize altering natural habitat, and to reduce human-to-animal conflicts in the future. Remember: a fed animal is a dead animal.³

Bear Safety

Be bear aware! You are in bear country, so remember to travel in groups, and make noise such as talking, singing, while on the trail especially in thick bushy areas with less visibility.³ Carry bear spray and know how to use it.³

Discovering Heritage Objects

Heritage objects can sometimes become exposed through erosion or other ground disturbance. If you believe you have encountered an artifact or fossil, please leave it in place, note its location, and report it to the Government of Yukon Archaeology Program at 867-667-3771, and/or the local First Nations: Ta'an Kwäch'än Council at 867-668-3613 and/or Kwanlin Dun First Nation at 867-633-7800.

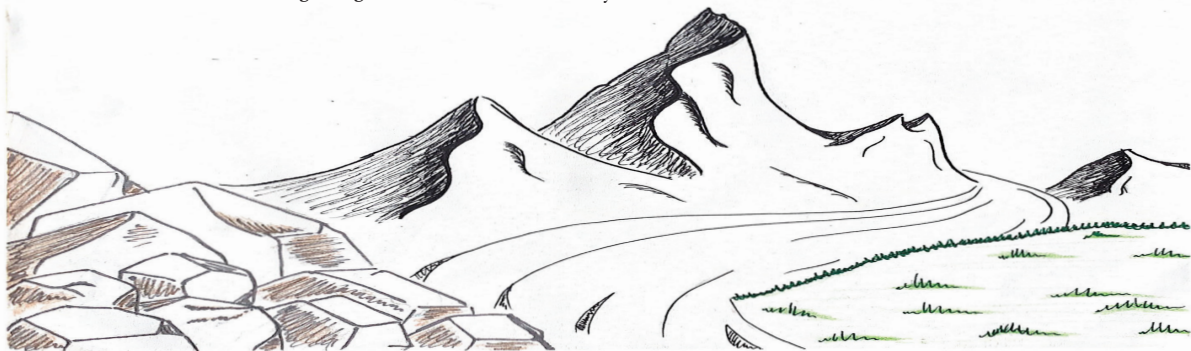
Formation of McIntyre Creek, and the Establishment of Whitehorse

During the last glacial maximum, nearly 20,000 years ago, McIntyre Creek was covered by a glacier over 1350 metres thick, overtopping Mount Granger whose summit is at 2087 metres above sea level (Leyla Weston, MSc, personal communication, July 2021)!⁴

As the ice eventually receded through the Whitehorse area, some 13,500 years ago, it left behind a network of creeks, lakes, and rivers due to the volume of melt water draining from the ice sheet.⁴ McIntyre Creek occupies one such channel carved by the glacier.⁴

This walk follows many hills and depressions, which are a remnants of the area's glacial past. This undulating topography is known as hummocky terrain, a landscape created at the end of the last glacial maximum (Leyla Weston, MSc, e-mail communication, July 2021).³⁰ As glaciers move, they pick up rocks of all shapes and sizes, as well as fine particles, and when the eventual retreat occurs, vast quantities of silt, sand and gravel are deposited along with large chunks of ice (Leyla Weston, MSc, e-mail communication, July 2021).⁵ Great accumulations of this debris occur when the former ice front remained in one location for an extended period of time;⁵ this happened in the Whitehorse area (Leyla Weston, MSc, e-mail communication, July 2021).³⁰ Eventually the buried ice bodies melt, creating depressions, and adding to the landscape complexity (Leyla Weston, MSc, e-mail communication, July 2021).³⁰ When walking through this landscape, think about its icy past.

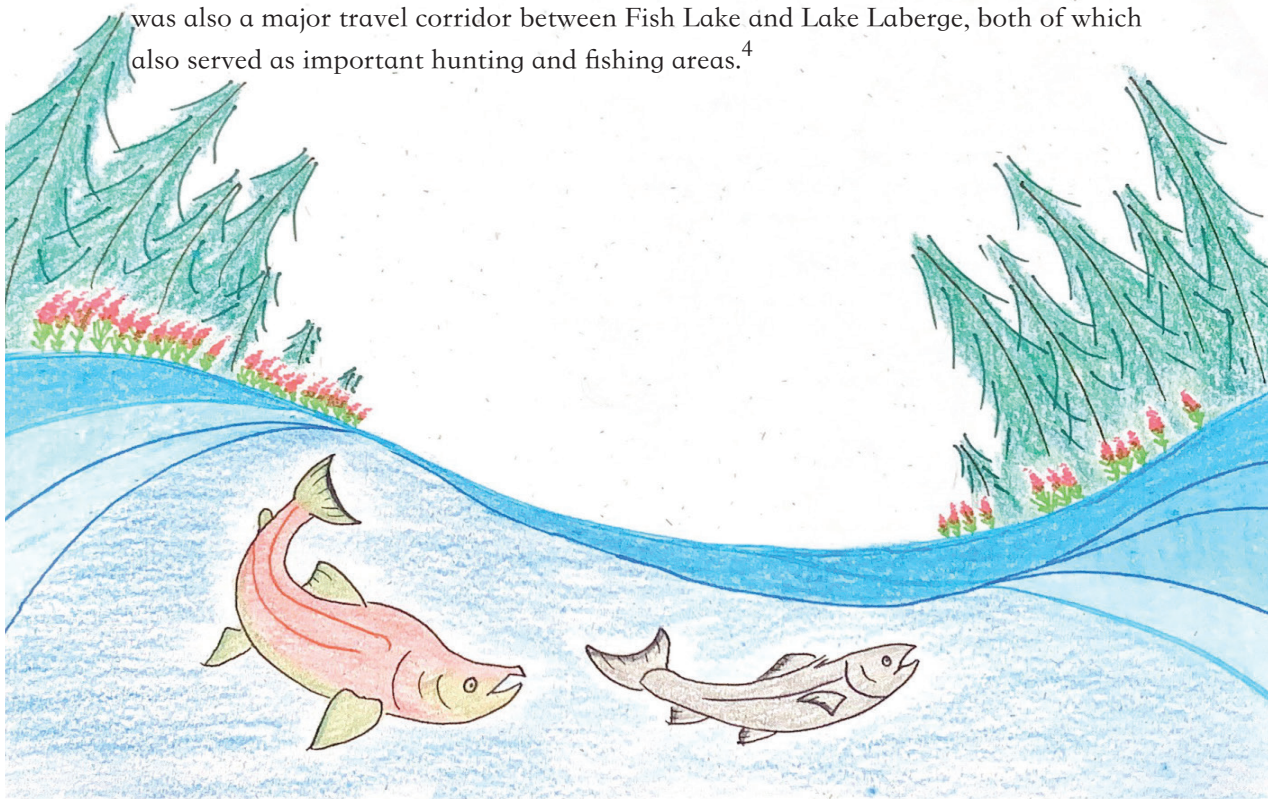
The Creek also has great significance to the establishment of Whitehorse as a town, as opposed to a staging ground for stampeders en route to Dawson during the Klondike Gold Rush (Leyla Weston, personal communication, July 2021). John (Jack) McIntyre, who the creek is now named after, was a prospector who took his chance in the Whitehorse area and discovered copper in the Creek in 1897.⁶ He staked the first (discovery) claim in 1898, which was known as the 'Copper King' claim.⁶ By 1899, most of the presently known copper deposits had been found and staked giving rise to the community of Whitehorse.⁷



First Peoples' History

The retreat of the glacier allowed the land to be colonized by vegetation; first by grasses and shrubs, then by trees.⁴ The glacial retreat allowed species once confined to Beringia to expand their ranges to the south.⁴ With animals and fish moving into McIntyre Creek, so came the First Peoples.⁴

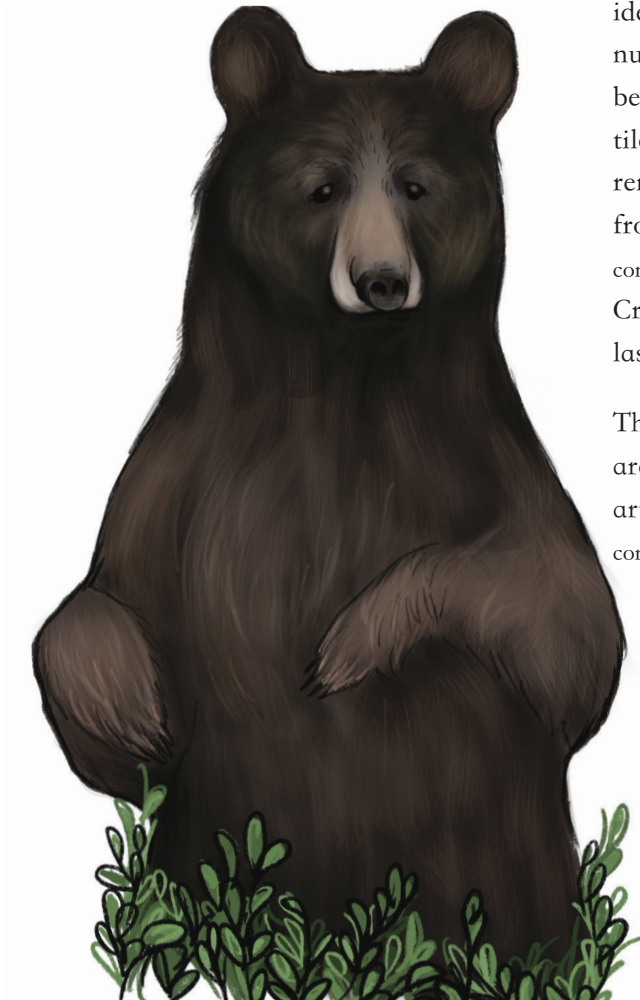
McIntyre Creek, or Chasàn Chùà as it is known in Southern Tutchone, holds great cultural significance to the Kwanlin Dün First Nations and the Ta'an Kwäch'än Council of whose traditional territory it lies within.⁴ McIntyre Creek served as a traditional site for harvest, a travel route, a burial site and more to the First Peoples.⁴ Near the confluence of McIntyre Creek and the Yukon River, the First Peoples had fishing camps including one called "The Point" or "High Banks" also known as Dàmäwtän in Southern Tutchone, the native tongue.⁴ As well as these permanent camps, there have been many sites along the creek that indicate consistent, seasonal use of this corridor for resources such as caribou, moose, bison, fish etc. The Creek was also a major travel corridor between Fish Lake and Lake Laberge, both of which also served as important hunting and fishing areas.⁴



The Southern Tutchone name of the Creek, Chasàn Chùà, translates to Copper Creek, which indicates that the First Peoples were aware of the presence of copper in the region.⁴ But, the majority of copper found in the copper belt is found in the form of copper ore,⁶ meaning the copper is trapped within a rock, in the form of several copper minerals, and is otherwise not easily accessible.⁷ The copper artifacts recovered from the surrounding area were made of native copper, or copper in its purest form, that originated near the Beaver Creek region (Ty Heffner, MA, oral communication, July 2021). This is indicative of the expansive trade routes between the First Peoples of the Yukon, as well as with neighbouring provinces and territories (Ty Heffner, MA, oral communication, July 2021).

Several archaeological sites have been identified along McIntyre Creek and numerous artifacts and features have been uncovered.⁴ These include projectile points, stone knives, microblades, remains of ancient campfires, and bones from hunted animals (Ty Heffner, MA, oral communication, July 2021). This indicates the Creek area was consistently used for the last 8,000 years.⁴

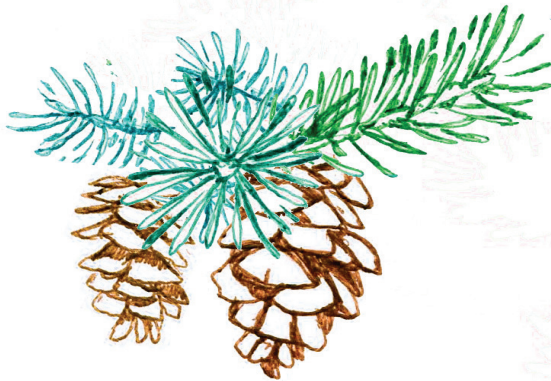
The portion of McIntyre Creek that you are standing on today has had several artifacts uncovered (Ty Heffner, MA, oral communication, July 2021)..



Plenty of Plants

South-facing slopes; cool, dark boreal forests; open lodgepole pine forests; uplands; wetlands etc.—McIntyre Creek is rich with diverse ecosystems filled with a large variety of plant life. There are many kinds of trees, flowers, berries, and other forms of plant life. Additionally, many trees and plants have cultural value and social significance to the Yukon First Nations.⁴ While on the trail, explore, and see what you can find!

Disclaimer: Consume plants at your own risk.

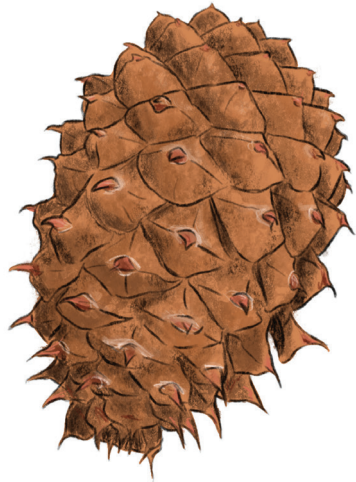


White Spruce

White spruce trees have shorter four-sided needles that grow all along the twigs and branches and are attached individually.⁸ This tree is also a conifer that have light brown and flexible cones.⁸

Lodgepole Pine

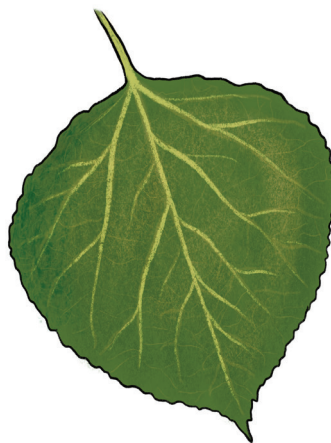
Lodgepole Pines are conifers, or cone-bearing trees, that have straight and narrow trunks with long needles that grow in pairs. The cones of this tree are sealed shut, with flat scales. As well, this is the only type of pine in the Yukon.⁸ You may notice that some of the pine trees have had their bark stripped. In the past, during times of little food, the First Nations would remove the bark and eat the underlying cambium.⁴ These trees, that served as a vital food source and are remnants of the First Peoples, are known as Culturally Modified Trees, or CMTs.



Trembling Aspen

These trees are deciduous, which means they lose their leaves come autumn. The leaves are green, and oval shaped with flat stems, and are attached to a light-coloured trunk with black nodes.⁸ The trunks are covered in a white powdery substance.⁸

Check out the leaves of the trembling aspen!



Arctic Lupine

These perennial flowers are usually seen in McIntyre Creek in the late spring and early summer. The flowers are purple and white while the leaves are made of five to six pointed leaflets.⁸ Lupines help to improve the soil by adding nitrogen—a valuable nutrient. As part of the pea family, these beautiful flowers can be poisonous to animals who consume them.⁸

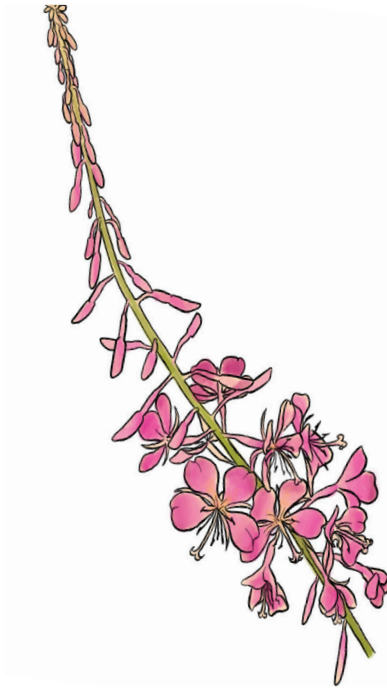
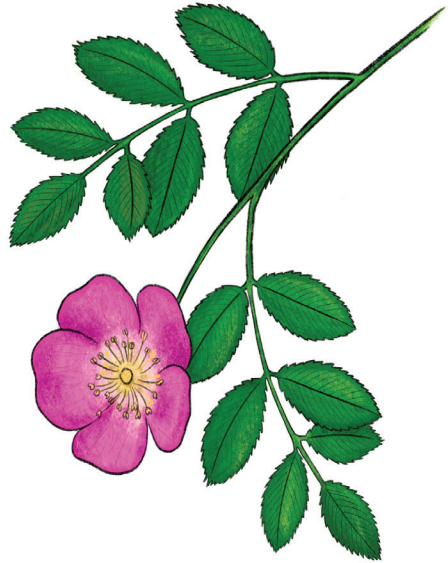
Labrador Tea

Common in McIntyre Creek, Labrador tea is a shrub with fuzzy, dark, glossy green leaves that develop a rust-coloured underside with age.⁸ This evergreen shrub grows in moist soils and has white flowers that bloom in June-July. Once the leaves develop the rust-coloured underside, they were harvested by the First Peoples for herbal tea.⁸



Wild Rose

This shrub usually blooms in mid-June and has thorny stems and pink flowers.⁸ It is part of the rose family with each flower having five petals.⁸ In mid to late summer, the flowers will seed into rosehips, bright red berries rich in Vitamin C. In early fall, and after the first frost, the berries are ready for harvest.⁸



Fireweed

Fireweed is a popular flower in the Yukon as it is the territorial flower.⁸ The flowers are a brilliant pink and come out in late June until September. The stems are covered in the narrow pointed leaves. These plants can grow as tall as 3 meters high.⁸ Fireweeds get their name as they are the first flower to bloom after a forest fire.⁸

Rare Find: Seep Monkey Flower

Seep Monkey Flowers prefer to grow in permanent freshwater springs and can be spotted in McIntyre Creek!⁴ They are listed as a vulnerable species on the Species at Risk Act (SARA).⁴



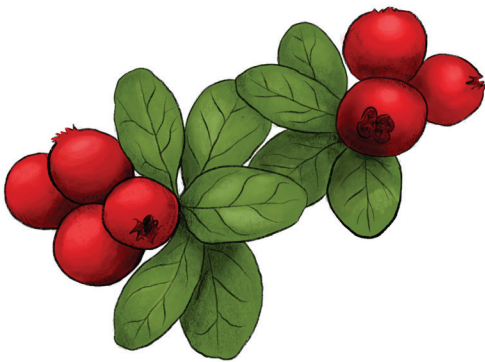
Kinnikinic or Stone berry:

Kinnikinic berries are red with a dry and mealy texture. The green oval shaped leaves of this shrub can be seen throughout the forest floor forming 'mats'.⁸ The flowers are light pink, edible, and are known as honeysuckles.⁸



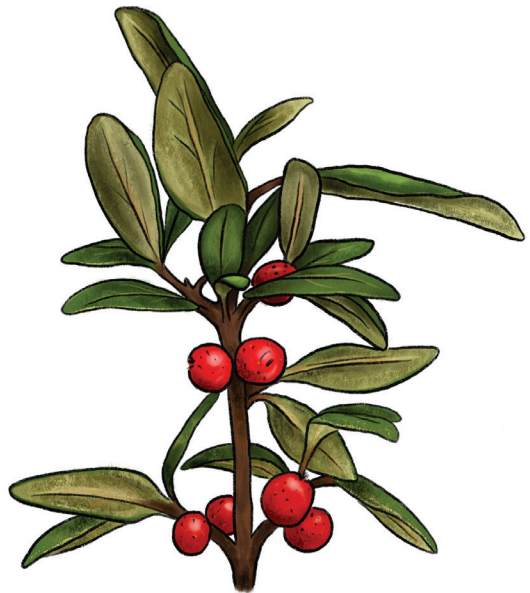
Low-bush Cranberry:

Low-bush cranberries can be easily confused with kinnikinic's. However, low-bush cranberries have slightly darker leaves with a prominent line down the centre.⁸ The leaves are also rounder than that of the kinnikinic. As well, low-bush cranberries are moist and have a pink interior compared to the dry texture of the kinnikinic. Cranberries are also darker in colour and are usually gathered after the first frost.⁸



Soapberry

These bushes have green leaves and tiny yellow flowers, which turn into bright red berries in late summer; the berries are only found on the female bushes.⁸ Soapberries are an important food source for wildlife such as bears and birds, and to the First Nations who use them to make ice-cream! The ripening of the berries signals the opening of fish camps, and the arrival of salmon!⁸



Wonderful Wildlife

McIntyre Creek is home to a variety of wildlife but is also an important wildlife corridor. This means several animals use it to refuge on their journey to distant lands, or between habitats. The versatility of the Creek as well as its abundance of resources allows it to accommodate a great diversity of life. See the information below to learn about some of the different animals that use the Creek.



Red Squirrel

This small creature is an easy find with its big bushy tail and copper coat. Red squirrels are omnivores and feed on a variety of food including seeds, flowers, mushrooms, eggs, bugs, lichens, and berries. Squirrels are territorial and will remain near familiar trees.⁹ You may encounter squirrel middens, where they have stored their seeds, near spruce or pine woods.⁹ These are sensitive areas that help squirrels stay fed during the winter, but also aid in foresting the land if forgotten by the rodent.

Red Fox

Foxes are widely found throughout the Yukon and in the Whitehorse region. These are small canines with an orange, brown, silver, or black coat with black stockings and a white underside.¹⁰ They are generalists that eat small mammals, berries, eggs, grasses, etc.¹⁰



Beaver

Beavers are large, brown, semi-aquatic rodents that are well known for their flat tails, large teeth, and extraordinary homes.⁹ Often referred to as the engineers of the natural world, they gnaw down large trees with their impressive teeth to build lodges and dams.⁹ Beavers are important to the McIntyre Creek ecosystem as they help maintain the wetland by stabilizing water levels and creating habitats for a variety of other species.⁹



Muskrat

Musk rats prefer to live near small lakes and ponds where there are plenty of aquatic plants to feed upon.⁹ Although they look like beavers, they are smaller in size and have a long, hairless tails that move side-to-side in contrast to the beaver who swings its tail up and down.⁹ Musk rats also do not build dams, and instead live-in burrows along riverbanks.⁹



Moose

Moose rely on McIntyre Creek as a feeding ground and a corridor that links habitats. In the summer, most of a moose's diet is made up of aquatic plants found in riparian zones,¹¹ like McIntyre Creek. Moose are well-adapted to wetlands as seen by their stinky legs that are used for walking through the land, and their ability to dive to up to five metres and reach speeds of nearly nine kilometres an hour in search of underwater food sources!¹¹

Fish in the Creek

McIntyre Creek is an important habitat and food source for many freshwater fish, as well as some fish who spend part of their lives in saltwater, such as salmon. For the Yukon First Nations, McIntyre Creek was an important site for fish camps, both temporary and permanent. The following is a list of a few different fish species that rely on the Creek:

Rainbow Trout

Rainbow Trout are a non-native species in the Yukon that were introduced in the 1950s. These fish have a rounded snout and spots on the back sides and dorsa.¹²

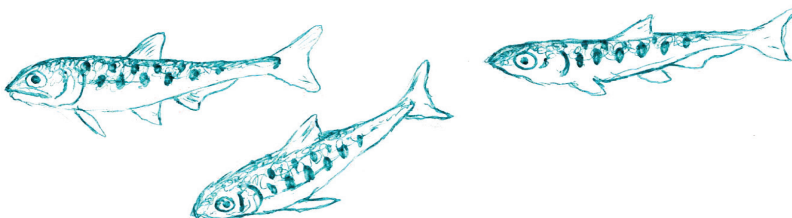
Rainbow trout are known for their beautiful silver-blue, green, and yellow colours along the body with a pink lateral line.¹²

Arctic Grayling

Arctic graylings are small to medium-sized freshwater fish with a large colourful dorsal fin. These fish feed on insects, fish eggs, and smaller fish.¹² The dorsal fin of a male arctic grayling is larger than the dorsal fin of the female.¹²

Chinook Salmon

McIntyre Creek is an important habitat for juvenile chinook salmon. Before their journey to the ocean where they will spend most of their adult lives, juveniles will feed on insects and plants in areas such as McIntyre Creek.¹² Juvenile chinooks are silver with parr marks, or stripe-like patterns, on their sides while the adults are significantly larger and red in colour.¹² Adult salmon come to spawn in the creek where they hatched. The handful of salmon that spend their early lives here, will eventually return to spawn, and later die here, which is crucial for nutrient cycling, especially nitrogen, in the terrestrial ecosystem.¹²



Birds of the Creek

McIntyre creek supports a wide variety of bird species ranging from old-forest dwellers, to waterfowl, to raptors and many more. The Creek is of great importance because it serves as a migratory route, a summer breeding habitat, or a year-round home to a multitude of feathered species.



Bald Eagle

A staple of the Yukon, and one of the most common birds of prey you may encounter on the walk. Look for their white-feathered heads that are a sharp contrast to their dark brown bodies.¹³ They build their nests on tall conifers that usually protrude above the surrounding forest canopy.¹⁴ You will likely see them soaring above you, chasing other birds, scavenging, or majestically perched on a tree.

Yellow-rumped Warbler

These beautifully coloured birds are usually found in the forests adjacent to the wetland.¹⁸ Warblers have narrow and pointed beaks for catching insects in the air, or picking off food from grasses, trees, etc.¹⁸ You will likely see their yellow rumps as they flit through the boreal forest.¹⁸



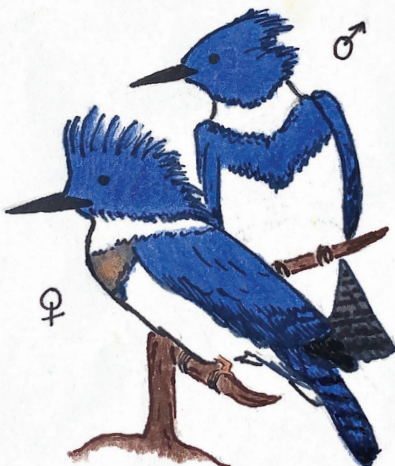


Boreal Chickadee

Another common sight in the surrounding forests of McIntyre Creek,¹⁵ these palm-sized, sharp-beaked birds usually eat insects, and seeds. They are commonly spotted in conifers, or willows and alders.¹⁵ Boreal Chickadees are browner than Black-capped Chickadees, and their chickadee call is more nasal sounding. (Malkolm Boothroyd, personal communication, July 2021)

Horned Grebe

These aquatic birds have a striking blue-red colour during their breeding period, that changes to a white-black colour during their non-mating phase.¹⁶ These elegant, diving birds build nests that float on water, in contrast to most water birds that generally nest along the shore.¹⁷ If you are lucky, you might see the Grebe's chicks hitching a ride on the adult's back.¹⁸ The horned Grebe is an endangered species, and is protected under the Species at Risk Act (SARA).⁴



Belted Kingfisher

These spiky-feathered birds are generally seen perched over a body of water on the hunt for small fish or fry.¹⁸ To capture their prey, the kingfisher will dive, cutting a line through the air and water, to seize its prey in its sharp, long beak.¹⁸

Illustrated above from left to right: Horned Grebe, Boreal Chickadee & Belted Kingfisher

Mallards

These ducks forage by tipping forward, or dabbling, into the water to collect seeds and vegetation near the surface.¹⁹ Their diet changes to insect larvae, earthworms, and other animal matter during breeding season in spring.¹⁹ If you encounter these iconic wetlands species, remember to keep your space, as they nest near dry land.¹⁹

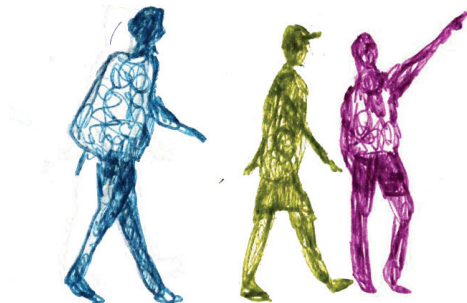


Rare Find: Great Horned Owl

During years of high hare population, these large, nocturnal owls can be seen at the Creek! (Dave Mossop, Professor emeritus, oral communication, July 2021)

Community Science!

McIntyre Creek has a lot of life to offer, but for experts to better understand what inhabits the Creek, we need your help! Take pictures of the wildlife that you see in the area, and upload them to iNaturalist, or inform experts. This will help track down invasive species, and to better catalogue the living inhabitants of this unique habitat!

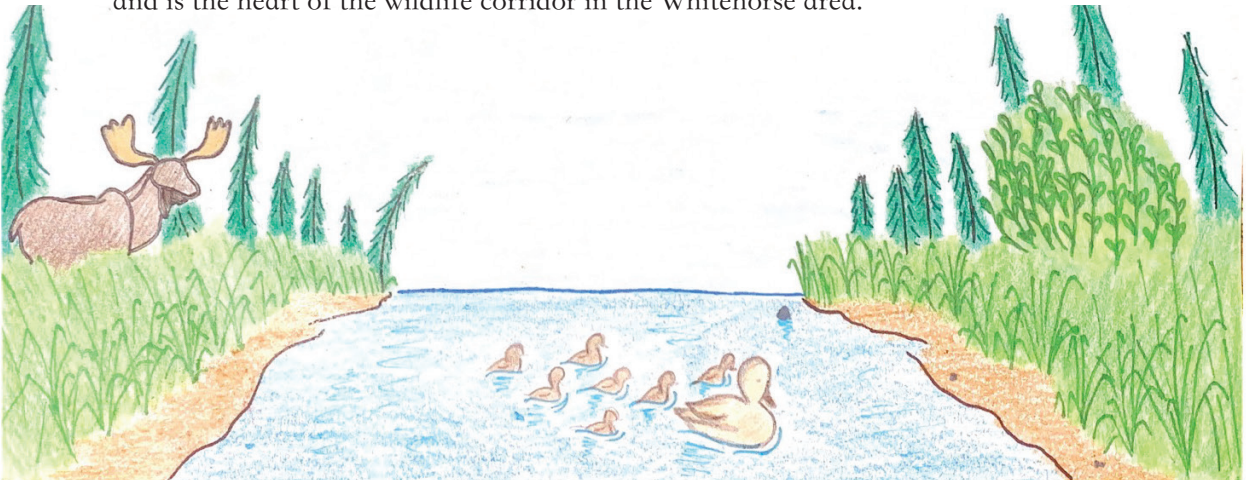


Wild Wetlands

Wetlands are areas that are either partially or completely submerged in water.²⁰ The water is usually from groundwater trickling through an aquifer, but it can also be from a multitude of different sources including seawater, rivers, floodwater, or lakes.²⁰ There are many different types of wetlands, all of which are varied by their inhabitants, water-source, and environment.²¹ Wetlands exist on every continent except Antarctica, and vary in size, ranging from potholes to massive expanses of land.²⁰

Wetlands are important because they support diverse and thriving ecosystems.²¹ They function as sanctuaries and nurseries for a large number of species.²¹ Humans also depend on wetlands for fire protection, flood control, storm protection, sequestration of carbon, purification of water, and for everyday items such as rice, a staple in nearly half of the world's diet.²² Moreover, as a carbon sink, they help minimize greenhouse gases by trapping it in the ground, and ultimately help in protecting us from a graver acceleration of climate change.²³ Canada is home to nearly 25% of the world's wetlands.²⁴ Of the world's wetlands, over 64% have been degraded, or lost since 1900.²⁴

At the Yukon University's Pumphouse Pond, you are looking at one of the many wetlands in the Yukon, and one of the most accessible. McIntyre Creek is spring fed, furthermore, it has many other smaller tributaries that flow into it resulting in this vast, wetland complex.⁴ This area has significant social, cultural, ecological value, and is the heart of the wildlife corridor in the Whitehorse area.⁴



Climate Change and Wetlands

Wetlands play a crucial role in climate change. Although wetlands only make up 5 – 8% of the Earth's surface, they sequester 20 – 30% of all soil carbon.²⁵ This is due to the lack of oxygen in the soil of a wetland, which allows for slower decomposition rates.²⁵ This leads to an accumulation of carbon in the soil that would otherwise be released as the organic matter broke down.²⁵ The destruction of wetlands leads to the emission of greenhouse gases, and ultimately, the acceleration of climate change.²⁵

Canada is warming up at nearly twice the rate of the rest of the world.²⁶ The Yukon has warmed just over 2°C in the past century. This is nearly three times the global average.²⁶ Over time, McIntyre Creek, because of climate change, will look drastically different to what you are seeing today.²⁷

As the climate changes, there will be more extreme weather events such as floods, storms, fires, droughts etc.²⁸ Wetlands act as natural buffers, and protective barriers that help shield us from these extreme events.²⁹ Therefore, it is critical to protect wetlands and ensure their longevity, because our persistence is, in part, dependent on that of wetlands.



How to Get Involved!

Want to learn more about conservation, and/or preserving McIntyre Creek? Here is a list of local NGOs to reach out to see how you can get involved in conservation in the Yukon, or specific to McIntyre Creek!

Canadian Parks and Wilderness Society - Yukon Chapter (CPAWS)

CPAWS is Canada's only nationwide environmental charity dedicated solely to the protection of our public land and water, and ensuring our parks are managed to protect the nature within them. The Yukon chapter provides a voice for the wilderness in the territory, helping to keep Canada's "true" north wild and free.

Tel: (867) 393-8080

Email: info@cpawsyukon.org



Yukon Conservation Society (YCS)

YCS is a grassroots environmental non-profit organization, established in 1968. Through a broad program of conservation education and input into public policy, they strive to ensure wise management of the Yukon's natural resources, wilderness protection and that development is informed by land use planning. YCS advocates, educates, and conducts research in the Yukon concerning environmental issues.

Tel: 867-668-5678

Email: info@yukonconservation.org



Friends of McIntyre Creek

The Friends of McIntyre Creek is an advocacy group dedicated to the protection of the proposed park for the benefit of all. The objectives of the Friends include education, awareness-raising activities, and wildlife and fish habitat enhancement and improvement projects. The Friends will provide the community with an opportunity to exchange ideas and to become involved in the management of McIntyre Creek Urban Natural Park.

Email: friendsofmcintyre@gmail.com



Ducks Unlimited

The National Boreal Program of Ducks Unlimited Canada has over 20 years of experience working with governments, Indigenous Peoples, and industry to develop comprehensive, science-based solutions for conserving boreal wetlands.

Learn how to get involved:

Tel: (867)-668-3824

Email: j_kenyon@ducks.ca



WildWise Yukon

WildWise Yukon (WWY), and its umbrella organization, The Centre for Human-Wildlife Conflict Solutions (CHWCS), is a community driven, non-profit society established in 2012. WildWise Yukon's purpose is to help Yukoners prevent and reduce the number of human-wildlife conflicts in the Yukon through research, education and public outreach programs.

Learn how to get involved:

Phone: (867)-335-5212

Email: info@wildwise.ca



Yukon Invasive Species Council (YISC)

The Yukon Invasive Species Council (YISC) is a registered non-profit society formed to prevent the introduction and manage the spread of invasive species in the Yukon.

Learn how to help and get involved:

Email: info@yukoninvasives.com



Learn Southern Tutchone Vocabulary!

Both Kwanlin Dün First Nations and the Ta'an Kwäch'än Council are Southern Tutchone speaking peoples. Below you will be able to learn Southern Tutchone words for some things mentioned in the booklet, or that you might encounter on the walk!

Plants and Wildlife

Arctic Grayling	T'àwa
Aspen	Tàgüa
Bald Eagle	Chùnday
Bear	Shár
Beaver	Tsà'
Chickadee	Ts'ǎgǎgia
Chinook Salmon	Gyü
Coyote	Kàyudi
Duck	Chắt
Female Mallard	Chắt shǎw ts'ǎn
Fireweed	Nàkhela
Fox	Nítthe
Great Horned Owl	Mäddhì
High Bush Cranberries	Gùkhyǎw
Horned Grebe	Łu chắt
Kingfisher	Tàch'ǎl
Kinnikinnick	.Zhür
Low bush cranberries	.Nítl'át
Lupine	Tsäl njī
Male Mallard	Chắt shǎw

Moose
Muskrat
Rainbow trout
Red Squirrel
Ripe berries
Rose hips
Soapberries
Spruce
Spruce cones
Unripe berries
Warbler
Wolf

Kanday
Dzäna
Mbeda
Dlùra dät'äl
Zhùr ghàjä'nindzì
Khúr zhùr
Nìghru
Ts'ú
Ts'ú dadzēl
Zhùr äju ghàjä'nindzì
Tsuā chāntthäwa
Ägay

Natural Features

Confluence
Copper
Creek
Glacier
Hill
Outdoors
River
Stream
Trail
Wet Ground
Woods

Dashe
Chätsàn
Tágàya
Tánzhí
Tl'äwtsän tl'ay
Chích'a
Tágà
Taghru
Tän gà
Nän kay kwàdlàt
Kwäta

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Happy
Trails!



Saturday, July 24th • 11 am - 3 pm • At the pumphouse behind Yukon University

BACKYARD BIODIVERSITY

At Chasàn Chùà (McIntyre Creek)



Guided hikes with Yukon Conservation Society • Interpretive walks with bird, plant and insect experts
• Join a bioblitz • Scavenger hunts for kids • Learn about coexisting with wildlife with WildWise Yukon



—— Schedule ——

- 11am: Guided hike with the Yukon Conservation Society**
 - 12 pm: Interpretive plant walk & Bioblitz**
 - 1 pm: Interpretive insect walk & Bioblitz *maximum 5 participants**
 - 2 pm: Guided hike with the Yukon Conservation Society**
- + Bird walks every hour on the hour**

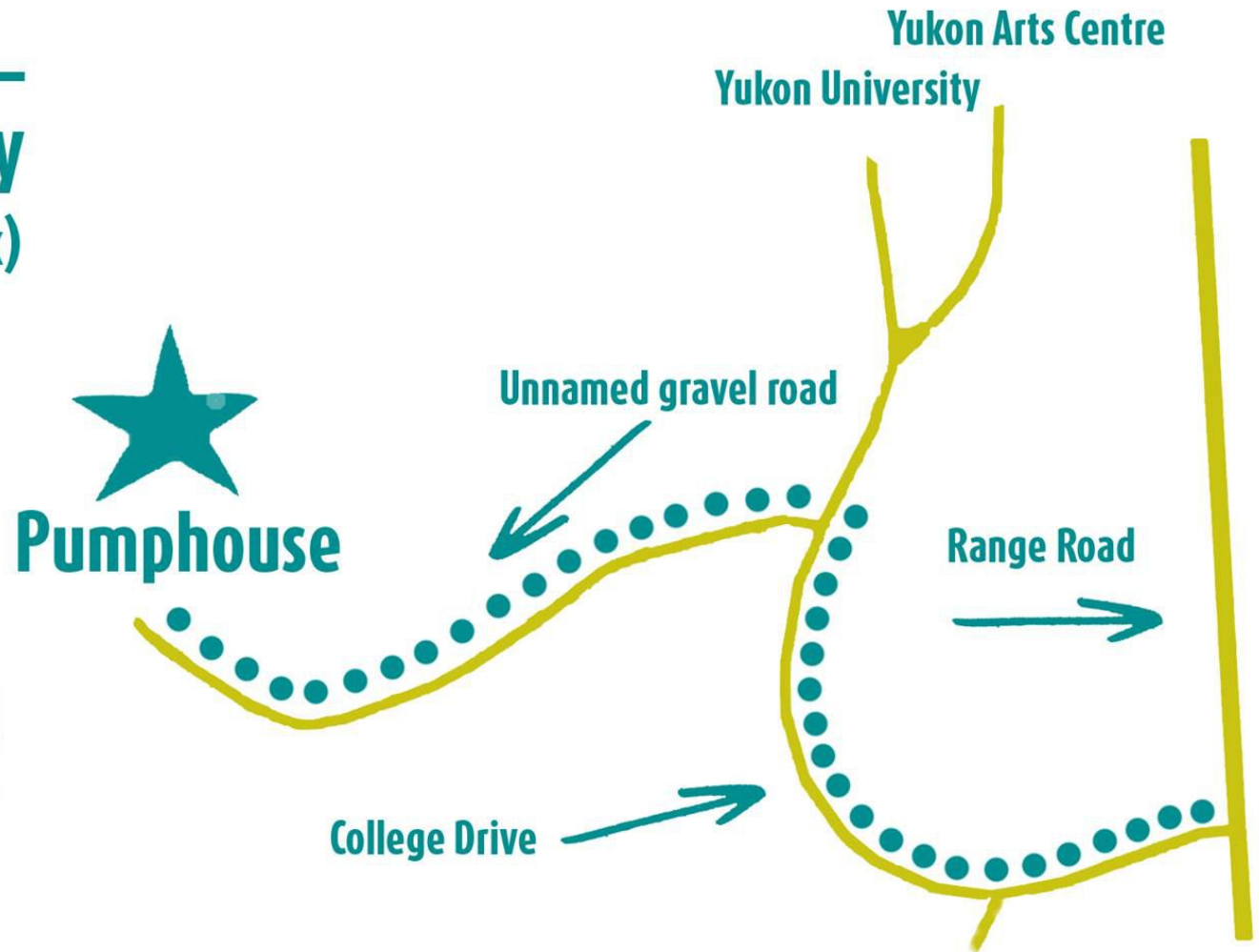
Due to COVID, guided hikes can have a maximum of 20 people.

How to get to

Backyard Biodiversity

at Chasàn Chùà (McIntyre Creek)

1. From Range Road turn at the sign for Yukon University
2. After 600 metres turn Left onto an unnamed gravel road
3. Continue for 600 metres and park near the blue pumphouse



Backyard Biodiversity Scavenger Hunt

1. Find a spruce tree and a pine tree, and write down three ways they are different!

2. See if you can spot an animal that migrates south for the winter. Animal name _____



3. Can you find an animal that stays here for the winter? How do you think it survives the cold? Animal name _____

4. Try to find an aspen leaf that looks like it has little white tunnels in it. What do you think makes the tunnels? _____



5. Can you spot anything swimming on the pond? What is it? _____

6. How many kinds of yellow flowers can you find? Take a photo of each species! _____

7. ☐ Try to Find a beaver dam...

8. ☐ Can you take a photo of a frog or a tadpole? (you might have to get your feet a little wet)



McINTYRE CREEK (Chasàn Chùà)

BIODIVERSITY CHALLENGE




[← Back to McIntyre Creek \(Chasàn Chùà\) Biodiversity Challenge](#)

McIntyre Creek (Chasàn Chùà) Biodiversity Challenge

Share your observations from McIntyre Creek / Chasàn Chùà! CPAWS Yukon is hosting this summer-long biodiversity challenge to encourage people to get outside and enjoy nature and learn more about the species at McIntyre Creek. This project will also involve a bioblitz weekend with experts on July 24th and 25th. Upload your observations throughout the summer, and come join us for the bioblitz!

Please act responsibly and follow the Yukon Government and Yukon First Nations' guidelines on physical distancing and entry to certain areas. Maintain safe and respectful distances from wild animals too.

Created by:  cpawsyukon - May 19, 2021

Project admin:  cpawsyukon

Project Requirements

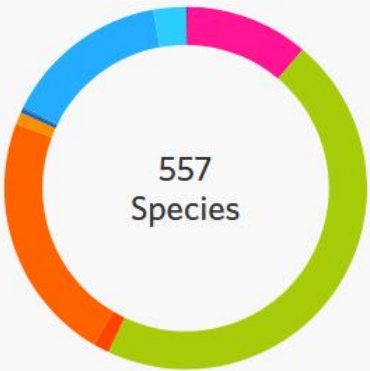
Observations in this project must meet the following criteria:

 Taxa	All taxa
 Location	McIntyre Creek
 Users	Any
 Projects	Any
 Quality Grade	Research Grade, Needs ID, Casual
 Media Type	Any
 Date	May, June, July, August, September, October
 Establishment	Any

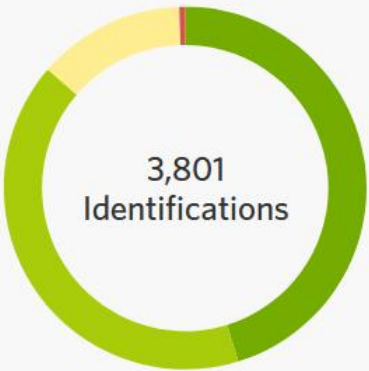
Stats



- Research Grade
- Needs ID
- Casual



- Unknown
- Protozoans
- Fungi
- Plants
- Chromista
- Mollusks
- Arachnids
- Ray-Finned Fish
- Amphibians
- Reptiles
- Birds
- Mammals



- Improving
- Supporting
- Leading
- Maverick

McIntyre Creek Wildlife Corridor Project – Vegetation and Ecosystem Data Sheet

Site ID: _____ Observer: _____ Date: _____

At each CT site the observer first assigns one LCC10 landcover class.

SECOND, use a table or map to identify the mapped LCC10 landcover classification for the site location, then assign a rating from 1-5 for the map/pixel label using a linguistic scale (see footer).

LCC10 Blind Assessment (observed classification):

LCC10 Ranking 1-5 (fuzzy set – see footer):

Better Classification (if application):

LCC10 Classification	LCC10/NALCMS Level 2 Classification Definition
Map Label: Con_taiga Sub-polar taiga needleleaf forest	Forest and woodlands with trees generally taller than 3 meters and more than 5% of total vegetation cover with shrubs and lichens commonly present in the understory. The tree crown cover contains at least 75 percent of needle leaved species. This type occurs across Alaska and northern Canada and may consist of treed muskeg or wetlands. Forest canopies are variable and often sparse, with generally greater tree cover in the southern latitude parts of the zone than the north.
Map Label: Decid_temp Temperate or sub-polar broadleaf deciduous forest	Forests generally taller than 3 meters and more than 20% of total vegetation cover. These occur in the northern United States, Canada and mountainous zones of Mexico. These forests have greater than 75 percent of tree crown cover represented by deciduous species.
Map Label: Mixed Mixed forest	Forests generally taller than 3 meters and more than 20% of total vegetation cover. Neither needleleaf nor broadleaf tree species occupy more than 75 percent of total tree cover, but are codominant.
Map Label: Shrb_temp Temperate or sub-polar shrubland	Areas dominated by woody perennial plants with persistent woody stems less than 3 meters tall and typically greater than 20% of total vegetation. This class occurs across the northern United States, Canada and highlands of Mexico.
Map Label: Grss_temp Temperate or sub-polar grassland	Areas dominated by graminoid or herbaceous vegetation, generally accounting for greater than 80% of total vegetation cover. These areas are not subject to intensive management such as tilling, but can be utilized for grazing. This class occurs across Canada, United States and highlands of Mexico
Map Label: Wetland Wetland	Areas dominated by perennial herbaceous and woody wetland vegetation which is influenced by the water table at or near surface over extensive periods of time. This includes marshes, swamps, bogs, mangroves etc either coastal or inland where water is present for a substantial period annually.
5 = Absolutely Right, no doubt about the match 4 = Good Answer, some doubt about the match but acceptable 3 = Reasonable or acceptable answer, maybe not the best possible classification but acceptable/reasonable. 2 = Understandable but wrong, there is something about the site that is understandable but there is a better classification. 1 = Absolutely wrong, This is an unacceptable classification (complete mis-match).	
Notes	

EcoZone: Boreal Cordillera (BC)		
EcoRegion: 177 Bioclimate zone: _____		
Ecoregions of YT (applicable)	Bioclimate Zones	
177 - Yukon Southern Lakes	Boreal Low (BOL) Boreal High (BOH) Subalpine (SUB) Taiga Wooded (TAW) Taiga Shrub (TAS) Tundra (TUN) Alpine (ALP)	
Broad Ecosystem (circle one): Upland (UPL) Wetland (WET) Water and Ice (WAI) Disturbance (DIS)		
Broad Ecosystem Units (add phase code to type code): _____		
Group (circle one)	Type (circle one)	Phase (circle one)
DRY	Rock (700)	n/a
	Ridge (110) Steep South-facing slope (120) Upper slope (130)	Herb-Bryoid (1) Shrub (2)
	MOIST	Gentle slope and plain (140) Steep North-facing slope (150)
WET	Drainage and depression (160)	Mixedwood (4) Coniferous (5)
	Wetland (310)	Herb-Bryoid (1) Shrub (2) Treed (3)
	Floodplain (different frequency levels)	Herb-Bryoid (371) Shrub (372) Deciduous (383) Mixedwood (384) Coniferous (395)
	Water and ice (400)	Water (1) Ice/Glacier (3)
OTHER	Disturbance (500)	Natural (1) Anthropogenic (2) Minesite (3)
Wetland Type (circle one if applicable)		
Bog	Peatland with high water table and lack of nutrients, may have raised surface. Dominated by Sphagnum mosses, ericaceous shrubs and black spruce trees.	
Fen	Peatland with high water table and slow internal drainage by seepage. Dominated by black spruce, tamarack, sedges, grasses, mosses.	
Marsh	Periodically inundated by standing or slowly moving water, rich in nutrients. Emergent vegetation of reeds, rushes, sedges; no woody vegetation.	
Swamp	Standing or gently moving waters occur seasonally or for long periods. Water level may drop seasonally, creating aerated conditions at surface. Dense forest or tall shrub thickets.	
Shallow open water	Relatively small bodies of standing water; a transition between lakes and marshes; areas of open water without emergent vegetation; water depth usually less than 2 m mid-summer.	
Site photos (4 cardinal directions and one of canopy) <input type="checkbox"/>		

