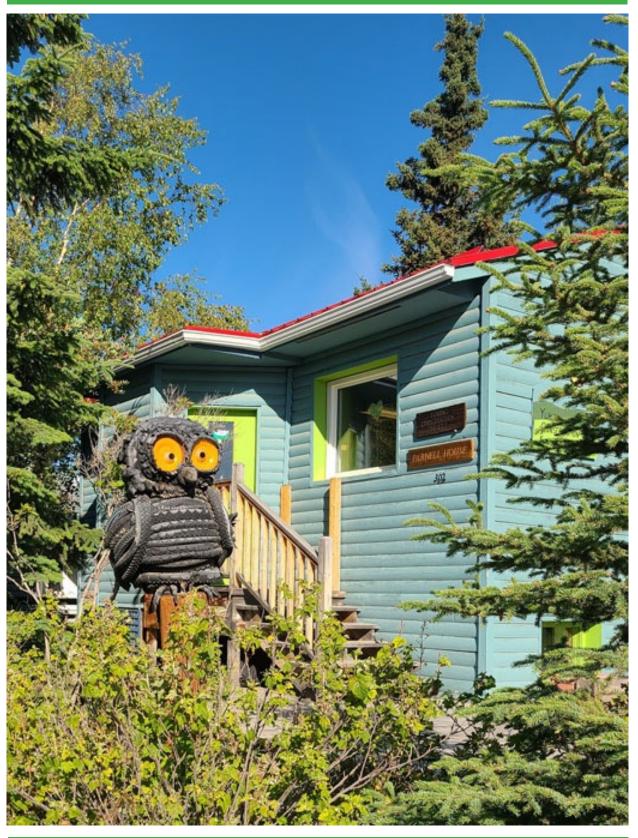
Newsletter of the Yukon Conservation Society Fall 2020







Yukon Invasive Species Council Presents Free Online Spotter's Network Course

The Yukon Invasive Species Council (YISC) was founded in 2004 with the goal of preventing the introduction and managing the spread of invasive species in the Yukon. Now, we have a list of over 20 invasive plants that we are keeping an eye on in the Yukon. Invasive plants are an issue because they often establish themselves in disturbed soils, and then start to spread and outcompete native plants, causing decreases in biodiversity and negatively impacting environment, economy and health. If you have ever noticed Sweetclover along Yukon roadways, you have seen that these monospecific stands of tall, white-flowered plants tend to take over from everything else, even Fireweed!

2020 has been an interesting year so far, and one of the ways in which YISC is adapting to COVID-19 precautions, is to move our Spotter's Network Course into an online format. If you are concerned about invasive species in the Yukon and the impacts that they have to our ecosystems, we invite you to join this free, online course.

Through videos, slides, quizzes and a question forum, the Online Spotter's Network Course covers identification of Yukon invasive plants, impacts of invasive species, how to report invasive species, and some basic invasive species management principles. We look forward to providing this course for all interested Yukoners, and we welcome your feedback!

Sign up for the course at https:// yukoninvasivespeciescouncil.apprendo. io/marketplace/courses/1744, or check out www.yukoninvasives.com for more information on invasives in the Yukon!

Learn to take action on invasive 1 species!



In this issue:

Yukon South Beringia	3
YCS Board & Staff	4
New Executive Director Editorial	4
Protecting the Wild – Lifestyle Transition	5
Why Electric Thermal Storage	6
The Challenges behind Remediation and Reclamation of Mines	9
Fishing Tales are Tall Tales	10
Dorothy Parnell - Obituary	11
Another Trail Guide Season Has Come and Gone	12
Why Raven Recycling No Longer Takes Glass or Styrofoam	14
Seed Saving Provides Food for the Future	15
Ted Parnell Scholarship Winner	15
Yukon Hard-Rock Mining Update	16
Tombstone Publication Project	17
Created at the Canyon	18



Yukon South Beringia - a new priority for conservation in the Yukon

Across Canada special places that host rare and endemic¹ species are receiving resources from the federal government to produce conservation action plans that will ensure that these species, and the habitats that they depend upon, will persist into the future.

Each province identified a "Priority Place"; all of them are close to our southern border- probably because this is where most people live and most industrial activity takes place, so more natural habitats are disturbed.

The territories were invited to identify places too, but only the Yukon did so. The Yukon has identified Yukon South Beringia, probably the oldest landscape in Canada for a Priority Place Initiative (PPI).

Yukon Southern Beringia (YSB) is defined as the southern portion of Beringia in Yukon: that land not glaciated in the last ice advance and south of the Peel River watershed. The area is specifically designed to include species endemic to this priority place (including small, isolated lowland grasslands, salt flats, and dunes that are host to a number of Beringian species at risk). The mapped area is approximately 89,000 km² and stretches from the Ogilvie Mountains in the north, south to Dezadeash Lake and Carcross (see map).

The area intersects with the traditional territories of the First Nations of: Tr'ondëk Hwëch'in, Nacho Nyak Dun, Selkirk, Little Salmon Carmacks, White River, Kluane, Champagne and Aishihik, Carcross/ Tagish, Kwanlin Dün and Ta'an Kwäch'än Council. All but one have modern land claims with settlement lands throughout the region. Principal land uses include mining, hunting and fishing, and tourism; there is a very limited agricultural presence.

YSB is large enough that conservation action towards key threats can take place, while industrial development (e.g. mining and mineral exploration) occurs in many areas. Another reason that YSB is a good choice is that most of the area is covered by the (under development) Dawson Regional Land Use Plan, so actions identified by PPI activities can be coordinated with the Land Use Plan.

The PPI process got underway in 2019 and it had been expected that information gathering projects would start this summer, but the pandemic put the plans on hold until summer 2021. YCS has prepared a proposal to design and implement a communications strategy for the PPIwe want to tell the story of Yukon South Beringia as the project unfolds and work towards a conservation action plan proceeds. We want to present the projects to the public so that the information gathered can be widely shared and used.

An Action Plan holds a realistic opportunity to achieve significant and measurable conservation outcomes. The vision for the YSB PPI is: **"Respect and uphold our sacred relationship with the natural world that maintains Yukon South Beringia's unique bio-cultural diversity."**

> Sebastian Jones, YCS Wildlife Analyst

A map of the southern part of Beringia, trimmed to the northern boundary of the Dawson land use planning area, the Peel land use planning area, and North Yukon land use planning area.



I. A plant or animal native and restricted to a certain place. https://en.wikipedia.org/wiki/Endemism



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Editorial

Coral Voss

I am humbled to be stepping into my role as Executive Director of the Yukon Conservation Society. The chance to work with the amazing team at YCS is a remarkable opportunity. I would like to pass on my gratitude to the previous ED who enabled me to so smoothly transition into my new role. In addition, I would like to acknowledge the tremendous efforts that the interim ED's, Debborah & Lewis, accomplished during these unusual and challenging times. I look forward to meeting all of the members, volunteers and supporters of YCS over the coming weeks and months.

This position is the realization of a life-long dream, to advocate and effect change for the environment and wildlife. A childhood surrounded by nature or a home shared with numerous animals led me to the focus of my formal education. I completed an interdisciplinary undergraduate degree in Conservation Biology and Anthropology at UBC. Afterwards I completed my Master's in Environmental Studies and a Graduate Diploma in Environmental/ Sustainability Education.

Despite the challenges of the past few months I have so much exciting news to share from YCS, for most of which I was not the ED but I would still like to highlight the amazing work being accomplished by my colleagues. The 40th Anniversary of the Trail Guide program after another successful season of guided hikes such as Bear Awareness and Stories of the Gold Rush. The Created at the Canyon program brought together six diverse local artists, from textile art to music and painting to print making, who created beautiful art inspired by the Yukon River and Miles Canyon. Created at the Canyon then opened as an exhibit at the Yukon Arts Centre, continuing until September 30th. The Electric Thermal Storage Demonstration Project is preparing to move to the installation stage, a milestone to be sure. Then there is the remarkable garden that has been tended so carefully, even flourishing during this very rainy summer and we are now enjoying the harvest.



As I settle into my new role as ED I look forward to continuing to gather new learning and ideas as I traverse the deep knowledge that exists at YCS and within the larger Yukon community. I am reminded of all the incredible work that has been accomplished and yet more still to be done.

Fall 2020



Protecting the Wild – Lifestyle Transition

The Yukon Conservation Society exists to protect the wild – the animals, the fish, the birds and even the plants. We do this largely by monitoring, and sometimes opposing, the actions of some industries and the policies of some governments. This is important work that has energized the organization for the last half century.

But that is only half the story. The increasing number of people who have chosen to live in the Yukon must also play a role in 'protecting the wild'. Along with people everywhere, we are realizing that continuing to live the status quo will only take us further down the road to unsustainability. We must change our own ways. But how, in what ways?

In a coming series of articles in *Walk Softly*, we want to explore some of the possibilities for these changes. YCS doesn't have a 'to do' list for its supporters. But we do have some ideas of directions that can lead to towards a brighter more sustainable future for the Yukon – for all its parts, human and non-human.

Getting Beyond the Box

From recent world history: some governments both big and small, some NGOs, some influential individuals and lots of young people acknowledge formally there is a climate crisis. Then Covid happened and everyone became distracted. In the last issue we left off celebrating the potential upsides of such a dramatic Change. Now we are perhaps getting to the edge of the so-called New Normal and wonder how do we get from here to whatever that New Normal could be? We have after all, this one moment in history to help design some of what we want to see our world become in, let's say, 2050. One thing is clear - we have already consumed too much of everything from this planet.

What modifications does it take to maintain here in the Yukon that special quality of life that we cherish without destroying it in the future? Let's consider some tools in our box resulting from the privilege of democracy combined with a small yet diverse population:

- A unique form of democracy that enables, encourages and even pays its citizens to become directly involved in the workings of government (for example, under the Umbrella Final Agreement the boards and councils set up for comanagement).
- •We each have a local MLA who is accessible.
- The territory is really a 'small town' in terms of knowing your fellow citizens and politicians.
- A common connecting thread comes from having lots of intact wilderness and a majority of people from all backgrounds who value their own backyard and spend lots of time in it.

Such advantages work best of course if the politicians are good leaders and if the citizens actually take on their responsibility to become involved. Good Leaders have to have vision not just follow some party line and they must really know and understand their constituents. Good Citizens have to engage with their neighbours, their colleagues, their MLA and other politicians to provide meaningful input into decision making.

Yukoners can readily take part in surveys and public input sessions and volunteer for opportunities to participate directly in the areas they are most passionate about. With many ways to communicate their values instead of simply complaining, is it not remarkable how effective single voices can be when the total population is only 40.000? Would you think that it is easier here to participate in making changes than in many other parts of Canada? Some Yukoners say individuals could and even should become more interested and uniquely involved in our common future. All of that with mutual respect.

Change can happen on a big scale and in a short period of time as we see these days when it is based on fear. How would it all look if we could enter the New Normal era with positive Change that addresses the climate crisis? Do you see the Yukon as a model for going forward with lifestyle and economy transitioning to a Place which supports keeping the planet as intact as it possibly can? Do you agree that we have at least the historic possibility to do that?

Think what it would take and let's start talking – Yukoners together.

Walter Streit and Elizabeth Hofer

YCS's Electric Thermal Storage Project



The Yukon is a beautiful place to live, and home to diverse groups of people, with many of its inhabitants sharing a passion for protecting the environment and working towards a sustainable future. As we all know, one of the greatest threats to our environment is anthropogenic (human-caused) climate change, which is driven by greenhouse gas (GHG) emissions.

In the Yukon, the second largest contributor to our GHG emissions is space heating, accounting for 21% of our emissions in 2017 (the largest is road transportation, at 54% in 2017). This represents an area where Yukoners could personally and directly reduce their carbon emissions. One potential approach to decarbonizing your home heating would be to switch to an electric heating system.

In 2017, electricity generation accounted for only 3% of our GHG emissions. Based solely on that, switching from fossil fuel to electric heat may appear to be an easy win. However, there is a critical problem. That 3% from electricity generation was emitted by liquid natural gas and diesel generators that run to provide electricity to meet the peak winter demand. The primary cause of that peak? Home heating.

So the question is: If a large number of Yukoners electrify their heating right now, is the impact on the Yukon's GHG emissions positive or negative? Furthermore, should the Yukon Conservation Society, as an environmental non-profit, be pushing for Yukoners to electrify their homes' heating systems through our electric thermal storage project?

Integrating Renewables - Benefits For Us

For Yukoners drawing power off the Yukon Integrated System (the electrical grid connecting most Yukon communities), one way to attempt to mitigate the use of fossil fuels, while still switching to electric heating, is to install electric thermal storage (ETS) heaters instead of conventional electric heaters.

ETS heaters draw power from the electric grid during off peak hours, when the demand on the grid is lowest and, therefore, so is the portion of electricity generated by fossil fuels; that power is then stored as heat in high density bricks. The stored heat is released from the ETS unit on demand throughout the day.

This has the effect of 'smoothing' the electric demand, which could allow Yukon Energy to use existing hydro power and reduce our reliance on fossil fuel generators. However, the amount of peak shifting that can be achieved in the Yukon with ETS and the subsequent GHG reductions has yet to be proven. Determining what those emissions reductions (as well as other benefits) could be is where YCS's Yukon Electric Thermal Storage (YETS) demonstration project comes in.

It's not just Yukon Energy that would benefit from a rise in the popularity of ETS in the Yukon. Adding any kind of storage to the grid is advantageous to those connected to it. Grid storage can help to smooth the ramping up and ramping down of intermittent renewables, like wind and solar.

For example, if the output from a wind farm increases significantly and suddenly (ex. from a strong gust of wind or a storm rolling in), non-intermittent sources like hydro and fossil fuel generators can struggle to rapidly decrease their own power production to maintain the grid's stability. If high amounts of intermittent power is allowed onto the grid too rapidly, dangerous and damaging frequency and voltage fluctuations can occur.

To stop this undesirable situation from occurring, power utilities that manage electrical grids with intermittent renewables and without adequate storage often 'spill' excess power in order to protect customers.

In this example, when adequate storage is available, excess power can be shunted into the storage system, allowing the existing generation time to incorporate the additional power from the wind turbines. This means independent power producers (like homeowners and First Nations governments) can sell more of their power to the grid. And that the grid itself will make better use of its renewables, ergo, there will be reduced GHG emissions. That said, these benefits of ETS have yet to be tested in the Yukon - that's what the YETS project is for.



So, setting aside the potential environmental benefits for a moment, what about financial benefits?

Financial Incentive - Benefits For You

In terms of cost per amount of heat provided, heating with electricity is only slightly more expensive than with heating oil. Paying \$1.20 per liter for heating oil works out to about \$0.11 / kWh. Depending on how much electricity consumed each month, Whitehorse residents pay between \$0.12/kWh and \$0.14/kWh excluding riders and taxes. That's a 10% to 27% increase. Of course, the cost of electricity has a tendency to change and the cost of fossil fuels are artificially reduced by subsidies. Fossil fuel prices are typically unstable and unpredictably and while electricity rates do tend to rise over time, they do so in a steady, predictable way.

In the event that the Yukon introduces a time of use rate structure with reduced electricity prices for electricity consumed in off-peak hours, homeowners who heat using ETS will be a step ahead of the curve in a position to take advantage of those reduced rates. YCS also intends to encourage the introduction of government rebates to assist with the high installation cost of ETS heaters, further reducing the financial barriers for Yukoners interested in ETS. As more and more Yukoners seek out ETS as a means to electrify their homes, the economies of scale will help bring down that high installation cost as well.

ETS installations are expensive and early adopters will have a slightly higher heating bill than those still heating with fossil fuels, but this project will help our participants overcome those financial barriers. In turn, we are confident that results based on data from our participants will encourage the introduction programs or policies (like time-of-use rates and rebates) in the years to come. This will reduce and eventually resolve the need for projects like ours to mitigate the financial barriers to electrification of heating with ETS and accelerate the adoption of ETS by Yukoners.

Infrastructure Perks - Benefits For the Utility

The environmental and financial benefits of ETS for Yukoners are not clear, though they are being investigated through our ETS project. Benefits for the utility, however, are clear.

When electricity consumption is spread out around the clock, compared to the big peaks that typically occur in the morning and evening, less peaking infrastructure - like the diesel generators that Yukon Energy has been renting lately - is necessary. In the Initial Economic Analysis of Electric Thermal Storage in the Yukon, it was anticipated that if a 9MW load (approximately 1,440 homes) of ETS was added to the grid, it would provide a peak reduction of 7.6MW and reduce GHG emissions by about 659 metric tons. That could also reduce the number of diesel generators rented by Yukon Energy each winter by up to 4. With over 10,000 homes in Whitehorse alone, that's an achievable number.

Not only does this reduce the cost (and GHG emissions) of trucking rented generators up the highway, it also eliminates the need to run them. This means the utility won't be spending money on their fuel, upkeep or rental costs. In addition to the capacity optimization benefits, peak shifting also reduces stress on generators that can lead to reduced equipment life expectancy. All in all, ETS and it's peak shifting capabilities pose a substantial benefit to Yukon utilities.

That all sounds promising, but it's important to note that ETS systems will sometimes still make use of diesel generated electricity as long as there are any diesel generators connected to the grid. Thankfully the Yukon Government's 'Our Clean Future' plan and Yukon Energy's '10 Year Renewable Resource Plan have us on a path to a future where Yukoners electrifying their homes' heating with ETS can be confident their heat will come from renewable energy all winter long.



Storage Savings - Benefits For You

In the Yukon, staying warm in the winter is vitally important. One reason homeowners might not be comfortable relying solely on electricity for home heating is the unfortunately high probability of winter power outages. With conventional electric heat, when the power goes down, so does your heating. With ETS however, this need not be the case. Some brands of ETS (like ECOMBI, the baseboardstyle ETS units we are using in our ETS project) heat via natural convection, meaning that if the power cuts out they'll keep heating your home until the bricks are cold, typically for the rest of their planned discharging period. Other kinds of ETS come with motorized fans that run on electricity; in these cases it is relatively easy to install a backup battery to keep the fans running if the power cuts out. Of course, in the Yukon sometimes power outages may last several days. If this occurs, it's always nice to have a wood stove for peace of mind, as well as an extra blast of cozy heat for the coldest days.

Building Our Clean Future -Benefits For All Yukoners

Finally, heating with electric thermal storage will help the Yukon as a whole meet our goals for a more sustainable way of life, as laid out in the Yukon Government's 'Our Clean Future' plan. As stated in the plan, the Yukon Government intends to achieve a stable 93% renewable energy use and to supply 40% of our heating requirements with renewable energy by 2030. To reach the goals laid on in Our Clean Future, Yukon Energy has created its '10 Year Renewable Electricity Plan'. The plan includes a pumped storage generation facility at Moon Lake and an interconnection with the expanded Atlin Hydro project, among other things. The planned additions will allow for the Yukon to run on 97% renewable energy, a 4% increase to what is laid out in Our Clean Future. This means that heating your home electrically will be that much greener - a huge win in our books.

So, is ETS a Solution?

We're a little bit biased, but it seems to us that when we weigh all the variables, ETS can be an important part of the solution to GHG emissions in the Yukon; now is the time to electrify your home heating with ETS. From reduced GHGs, to increased longevity of a community asset - our electrical infrastructure - and from more peace of mind in winter, to more peace of mind for the future, ETS seems like a sound investment. The only real downside that we can see is that the technology is a bit on the pricey side. Happily, the Yukon Electric Thermal Storage demonstration project can help with that for at least 40 lucky Yukoners. And perhaps in the future there will be government subsidies to support Yukoners who want to heat with ETS. Here's to a warmer future and a cooler planet.

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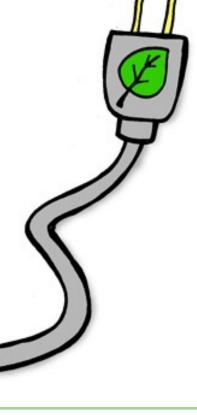
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Initial Economic Analysis of Electric Thermal Storage in the Yukon - JP Pinard, J Maissan et. al

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The Challenges Behind Remediation & Reclamation of Mines

Following our (potential) celebration on initial steps towards remediation of Type II Abandoned Mines, detailed in 2020 Spring *Walk Softly*, we thought we'd explain exactly what remediation and reclamation means for Yukon's land ecology, community and public trust. A Type II Mine is a Yukon mine that the federal Government originally approved and once it has closed, would theoretically, pay to have it cleaned. There are six Type II mines in the Yukon that are the responsibility of the Federal Government. While not all of them require closure and remediation, they are all responsibility of the Federal Government. Environmental assessment and approval processes are underway with documents available for download and review on the Yukon Environmental and Socio-economical Assessment Board (YESAB) website.

Just as the Yukon territory has a history of mineral exploitation that dates a century back, the legacies of historic resource extraction remain long afterward abandonment. At the beginning, little was done to communicate health risks to communities or plans for closure and remediation. This was partially a combination of poor transparency and not enough research on extraction's permeating risks.

Mines that are no longer operating are a multi-headed beast that require action on many levels. Mining waste can pose human health risks before restoration and major ecological detriment to water, soil and plant/wildlife. Current action will define these long-term environmental legacies of extractive developments on future landscape. Remediation and/or reclamation is a chance to shape this legacy and reconcile a fractured ecosystem.

While technical literature on remediation tells us what potentially works, many techniques are (often) experimental. It can take many years to get the ball rolling on restoring ecosystem function. Slow recovery rates and material staying in the environment make clean up very complex.

The terms remediation and reclamation are sometimes used interchangeably but, there is a difference. Remediation refers to the methods to treat, contain and reduce the risks from contamination. Reclamation refers to the restoring of ecosystems to their function levels. In theory, remediation comes before reclamation.

To fully understand what type of reclamation needs to be done, an initial assessment of the site must be completed. This is where we currently lie in infamous of the Type II Mines, the Faro Mine as well as the Keno Mine Reclamation project. These assessments flag immediate safety risks posed by open adits, portals or deteriorating buildings and environmental offsets. Abandoned fuels in drums and tanks, potential acid-generating tailings and waste rock dumps and/or presence of leached metals into water are sampled and analyzed for severity and threat. To complicate matters, the contaminants may have spread. Depending on the landscape, they can be transported via wind or surface water - this creates a landscape wide challenge. The United Keno Hills Mines Remediation Project outlines the assessment on surface water, ground water, vegetation and soil, wildlife and socio-economic components through the YESAB documents which are available online.

Disturbances are split into surface and sub-surface. Surface disturbances come from extractive activities, infrastructure, mining and hydrocarbon production. While sub surface refers to radiation and chemical contaminants near mineral processing and oil/gas installations including air, fuel and community which can accumulate in the biota. Naturally, these long-term effects are of major concern to Yukon citizens.

Community outcry over the ongoing impacts of historic extractive development have been a major driving force for the clean up. Within First Nations groups, mining contamination from mining raises concerns related to traditional land use such as contaminated fish stocks and water. Mining sites can be harsh environments for plant growth which also threatens traditional harvests.

There are existing studies that consider the role of First Nations knowledge in reclamation practices particularly with cultural history and knowledge of biota and land-based resources. It's incredibly important that projects make use of this knowledge for a well-rounded understanding. But perhaps more importantly, this is a chance to reconcile a historic relationship between people and the mining industry. Mine reclamation is public concern and should require public consultation every step of the way.

Remediation and reclamation are creative processes. It requires dedicated folks from many disciplines to reshape a fractured ecosystem and relationships between land/people. It's a complex and necessary initiative and the work we put it now will determine how the space will be remembered and cared for in the future.

If you want to learn more about this subject feel free to contact the YCS Mining Analyst at *mining@ yukonconservation.org*.

Ana Giovanetti



Fishing Tales are Tall Tales

By the time this article is published, it will be clear that the 2020 Chinook and Chum salmon runs on the Yukon river were an utter disaster; fewer fish of either species will have completed their journey home to their natal streams than in any other year in recorded history.

It is difficult to overstate how dire these disasters are; Chinook passage at the Whitehorse rapids fish ladder was about 10% of recent years. Almost the entire 4-year-old age class of Chum salmon (Chums return evenly split between 4 and 5 years old) simply vanished at sea.

But I don't want to write here about the details of the disaster; others have done so and some details will not be fully understood for months. What I want to discuss is the story of how this catastrophe happened.

This awful year was entirely predictable – and people did predict it ¹ – but these warnings, like so many others before, were doomed to be ignored.

I have been fortunate enough to have been a commercial salmon fisher on the Yukon River. I started fishing near Dawson in 1984. Salmon were abundant, and we fished as much as we wanted. The Tr'ondëk Hwëch'in owned a fish processing plant, so we had a market that could absorb all the fish we could catch.

I assumed that the fishery was sustainable and with good reason. The Yukon River flows through two of the wealthiest nations on earth, countries replete with highly educated scientists and governed under sophisticated and honest laws. If we cannot manage salmon fishing sustainably on the Yukon, I reasoned back then, we cannot manage salmon fishing sustainably anywhere. But we've signally failed. We have failed to take adequate action to ensure that enough fish made it home to reproduce. We failed to ensure that beautiful giant Chinook that characterized the very fittest of the species were honoured and nurtured. We took half measures, too little and too late until now, in this dismal summer of 2020, nobody along the Yukon was allowed to fish for Chum and the few Chinook taken should have been left to spawn. So, what happened? Why did we ignore the evidence before us, and make bad decision after bad decision? Why have we done on the Yukon what we have done to so many fisheries around the world? How could the Yukon River salmon fishery still be listed as sustainable by the Marine Stewardship Council?



Very low seasonal fish count at YEC fish ladder, Aug. 19, 2020



Essentially, we lied to ourselves. We deluded ourselves that all the evidence before us could be ignored. As the largest of the giant salmon became scarce and vanished, our scientists maintained that the salmon were still the same size, on average. Some scientists still maintain that the documented shrinking of salmon does not apply on the Yukon. Recent studies on the belatedly recognized shrinking size of salmon glosses over or discounts altogether the fact that the fisheries have been targeting the largest fish for generations.

So, why have we lied to ourselves? The lies were obvious, and it was equally obvious that in the long run, we would be the ones to suffer, alongside the salmon.

Self-delusion, it turns out, is an essential part of being human; it has real beneficial purposes. Telling ourselves foundation stories, myths, defines our tribes and our nations. Commonly held beliefs are essential for humanity to cooperate in achieving great endeavours.

Sometimes these stories appear to come true - consider the story that American President Kennedy told, that America could send a man to the moon in the 1960s. At that time, those charged with making it happen did not really know if it was possible, but an entire nation was convinced and made the story come true...but it was not a sustainable achievement; nobody has replicated the feat since.

So, is that it? We lied the salmon into extinction? Does knowing this provide us with an approach to undoing some of the harm we have caused? We know that simply presenting the evidence that our actions are affecting salmon, driving them into extinction has no effect on the decisions we make because the stories we tell ourselves that we can continue to act the way we always have are more compelling than abandoning the comfort of our mythological past for an uncertain and likely uncomfortable future.

But we do have examples where major shifts in our actions have taken place, where we have abandoned destructive behaviour in the face of concerted efforts to carry on regardless. There are lessons to take from these events. Consider how smoking tobacco has become anathema compared to only a generation ago. It took a lot of work, and required combatting concerted disinformation campaigns. But we are winning that one.

Typically, we abandon mythologies only when we are forced to. Have we reached that point with Yukon River salmon? Is the evidence of the consequences of the actions we have taken over the past 50 years compelling enough? Is the anguish felt by thousands of people along the river as they watch a way of life evaporate in front of their eyes enough?

Maybe. I hope so. I hope it is not too late.

Sebastian Jones, YCS Wildlife Analyst



Dorothy Parnell – Obituary

We are very sad to announce that the 101-year-old mother of Ted Parnell, has passed away on August 20, 2020. YCS would like to send our deepest condolences to the Parnell family.

To read the full obituary you can see it https://www.amgfh.com/condolences/.

Memorial donations can be made to the Dorothy and Douglas Parnell Fund, Help Lesotho, or to the Ted Parnell Scholarship Fund through the Yukon Conservation Society.



1. http://yukonconservation.org/news-events/ycs-and-yukon-salmon-subcommittee-2020-update

 $http://yukonconservation.org/news-events/a-yukon-river-chinook-salmon-crash-for \verb+2020$

Another Trail Guide Season Has Come and Gone

As the cranberries start to sweeten with the first frost and the office is strangely quiet with the Trail Guides having finished, this seems to be an annual sign at YCS that fall is around the corner. In a normal year the Trail Guides would be headed south, like a flock of birds, back to university or finding winter jobs in the Yukon. However, this summer is anything by normal, we are in the middle of a global pandemic so instead of heading back to school the Trail Guides will be attending online classes, working hard to further their love for the environment and their drive to protect it or further their training as an interpreter.

Despite a very different summer the Trail Guides and myself had a lot of fun this season. We were lucky enough to add a third Trail Guide to the team allowing Preet, Wyatt and Micah to not only guide hikes but make fun and educational videos as well. The combination of giving guided hikes and making videos meant that the Trail Guides could deep dive into research for their favourite subjects for the videos and then share it while giving the hike.

I learnt so much watching these videos, everything from how to make delicious wild teas to why birds disrupt ant hills to information that porcupines are the only North American animal that makes their own antibiotics. The making of videos also gave us a platform to share our love for the outdoors with a broader audience and with all the people who may not have been able to visit the Yukon this summer.

The lack of tourists meant that our hike numbers were down from the past summers but with many more locals coming out we were never lacking very specific wildlife questions, visitors sharing their wonderful Yukon knowledge with us, and great and crazy stories. This year YCS is celebrating its 40th anniversary of the Trail Guiding program and to mark the occasion, we partnered with CPAWS and Friends of McIntyre Creek to give a specialty hike at McIntyre Creek. This event was very well attended by dozens of locals who were excited to learn about the urban wetland and ready to argue about the difference between a highbush cranberry and squash berry bush.

I learned more about Yukon plants, bug, wildlife, communications and poster making in the past three months being the Trail Guide Coordinator then I ever thought I would. As I head off to further my training and education as a teacher I am looking forward to explaining to five-year olds why the Aspen tree leaves have white squiggly lines on them, to look out for bumble bees with no orange on their bums and that the only way to eat soopolallie berries is by adding a lot of sugar.

I would like to extend a huge thank you to Preet, Wyatt and Micah who made this summer so much fun and Annie Li, a high school volunteer, who joined us every Tuesday and Thursday no matter how hard it was raining, and always had a huge smile on her face.

Thank you for a wonderful summer YCS, it was such a pleasure being on the education and outreach side of environmental conservation this summer.

> Galena Roots YCS Trail Guide Coordinator



Thank you!

Sean Smith, Brent Liddle, Bruce Bennett, Julia McGoey, Clare Diatch, Ty Heffner, Leyla Watson, Penny Sheardown, Nyla Klugi-Migwans, Syd Cannings, Lance Leenders, Patricia Cunning, Heather Ashthorn

Specialty hike speakers: Gurdeep Pandher, Keith Halliday, Alice Cyre, Heather Ashthorn, Lance Leenders, Kate Nowak, Meagan McCaw and Noel Sinclair and Bruce Bennett

Funders: Yukon Energy, Lotteries Yukon, City of Whitehorse, Yukon Government, Government of Canada

Wyatt Risby

This was my second year joining the trail guide team. And just as last year, I have learned more than expected and met people that enriched my life and made my summer worth the rain. Though COVID-19 put a damper on the tours, we were still able to get lovely locals and even some people from farther south in Canada. The Yukon Conservation Society has been a bridge to the community for me, and served as the jumping off point for my environmentalist career. I hope to see familiar faces next year. And I want to thank everyone at YCS for the wonderful summer and the amazing support.



The 2020 YCS Trail Guide Team: Preet Dhillon, Wyatt Risby, Galena Roots and Micah Taggart-Cox

Micah Taggart-Cox

My summer was very exciting. Being able to work outside for so much of the summer was fantastic. I learned a lot, both from the experts that talked with us and to people who came on our hikes.

I was never particularly interested in geology classes in high school as it was very general with little context, however learning about the geology around Whitehorse through YCS was very interesting for me.

I also learned a lot more about plants that can be used medicinally. Even growing up here, I didn't know much about many of the common plants around Miles Canyon.

Much of the knowledge I gained from working with YCS this summer will stay with me for the rest of my life.

Preet Dhillon

As I sit under the Miles Canyon bridge hiding from the rain, it feels like any other day of the summer. However, today is different, today is our last of guided hikes. Looking back on my summer, I've grown fond of the juniper, sage and spruce scented air, the sound of the Yukon River rushing through the basaltic columns and hearing the silvery aspen leaves tremble in the wind. I loved learning so much about the rich natural history and people's history of Kwanlin and I loved teaching others about it too. From cattle shooting the rapids to soopapllelies fire proof powers there is so much more to learn! Thanks to our wonderful Trail Guide -Coordinator for keeping us busy and saving us from the rain! And thanks to the YCS family for the encouragement, support, coffee and veggies on the table! Even though I'll miss exploring the canyon with my fellow Trail Guides and laughing about a fox crossing the bridge I couldn't be more grateful to have spent my summer in a such a beautiful place and with great people!

Happy Trails!



Why has Raven Recycling stopped taking glass and styrofoam?

Over the last couple of years Raven has stopped taking a couple of products: glass in 2019 and styrofoam after reopening in response to COVID-19 in May. We stopped taking glass because there has never been a market for glass in the Yukon. We stopped taking styrofoam because the commodity markets for this commodity completely dried up.

These materials are resources and Raven does not believe they should go in the landfill. Please rest assured that the decisions we make about the materials we don't accept are not easy but they are necessary in order for Raven to continue to operate and pay our staff.

On the topic of glass, the decision in 2019 to stop taking glass was made between all the community recycling depots in the Yukon including P&M Recycling. Like other jurisdictions that are not located within a 500mile radius to a glass recycling facility, Yukon's glass has never been shipped outside for recycling. The glass ended up in the CoW landfill as cover material to keep the litter down. Depots have explored selling crushed glass for construction material in walking paths, asphalt additives, sand-blasting material, or as products for local businesses. So far, none of these initiatives has been economically viable in the long term.

It does help if you clean and smash your non-refundable glass containers so it takes up less space in the landfill.

We recently stopped taking styrofoam because it is no longer accepted by southern recyclers. There is no market. Once the price of virgin oil dropped, the plastics industry quit using recycled material. The markets are always variable and with every material we accept, we are always competing with virgin sources that are usually heavily subsidized by governments.

We have tried a couple of ways to deal with styrofoam including making small bricks with the extruder and larger bricks with a baler. Unfortunately, neither product has found a local market. No-one wants to see styrofoam in the landfill and truly the best option is having no styrofoam produced in the first place. Raven Recycling Society is a nonprofit social enterprise. This means we operate much like a business, but put all profits back into achieving our goal of Zero Waste. We are separate from all levels of government and do not receive core government funding. Raven is governed by a volunteer board of directors, and we provide roughly 30 well paid non-government jobs.

It costs money to collect, sort store and ship recyclable materials back to market. The Beverage Container Regulations have provided certainty for a small portion of the materials we collect. The refund setup allows us to get those materials recycled. Raven continues to lobby governments to include more materials in the waste management system. This would not only provide more certainty for the recycling industry, but be a definite win for the environment!

> Joy Snyder, ED of Raven Recycling



Beverage containers have a deposit on them. That allows depots like Raven Recycling to process and ship these resources to places where they can be recycled. Raven Recycling uses the profits from their bottle depot to subsidize the processing and shipping of money losing recyclables.



Many other items are recyclable and they are worth money but this amount is always changing depending on the recyclable market. Typically they are not worth enough to pay for the handling and shipping to recycling plants.

Seed Saving Provides Food for the Future

Often mid-summer, a gardener will notice one of their spring crops has started to flower. At this point most will pull the plant and put it onto the compost heap. But what would happen if they didn't compost the plant but allowed it to complete its life cycle? Well in some cases the following year would be filled with volunteer vegetables growing randomly throughout the garden. Years ago, my mother left parsnips to go to seed in her garden and they came in so thick the next few years, you couldn't sink a shovel into the ground without having to dig up parsnip roots. But then she started to save the seed. There were enough seeds to plant our market garden.

A plant will generally produce many more seeds than needed just to assure continuity of their species. So there are usually enough to reseed the same garden in following years and even to trade with other gardeners. And by saving the seeds and growing them the plant becomes more and more hardy in areas where it is sometimes difficult to garden. Plus, the younger the seed the more vigorously it will germinate and the stronger the plant will be. So it is to our advantage to save our seeds here in the Yukon and share them with other gardeners. Not only will we have hardy varieties but we will also be ensuring our own food security.

In the past few years, eating local and living sustainably have become more common. And saving seeds is part of this. But once the plant has gone to seed there are still some things a gardener needs to do to ensure viability of the seed. The seed must be dried. This can sometimes be done by pulling the entire plant and hanging it upside down. Allowing any sap or nutrients to drop to the seed, there by completing the maturation of the seed. Once the seed is dried. it will need to be separated from the plant. This is can be done by simply breaking off the seed pods or beating them with sticks to knock the seed loose. There will always end up being other plant material mixed in with the seeds and these can be removed. if desired, by winnowing the seed. This involves throwing the seed into the air and catching it, allowing the wind to blow away the lighter chaff. Or it can be done by pouring the seed from one container to another in front of a blowing fan. Once the seed is cleaned in this manner it needs to be stored to maintain it until spring. This is easy to do by keeping them in containers that mice or bugs can't get into and in a dark, dry, cool place. Then all that needs to happen is for winter to run its course and spring to burst forth again.

Joan Norberg



2020 Ted Parnell Scholarship recipient: Preet Dhillon



I'm a second year Arts & Science undergraduate student at Queen's University. I will be majoring in Environmental Studies and minoring in Geography. I am a born and raised Yukoner and grew up adoring the aweinspiring landscapes of our beautiful home! I have also spent time exploring Vancouver Island which has led me to appreciate the importance and diversity of the outdoors. I enjoy getting outside, going for runs, cooking and have recently tried my hand at gardening. I intend on pursuing a career that allows me to advocate for the preservation of the environment and its flora and fauna.

I would like to thank the Ted Parnell Scholarship Committee for naming me as a recipient of this award. Finally I am glad to see so many great students sharing a similar passion for the environment. Together we can build a more eco-friendly future!



Yukon Hard-Rock Mining Update

Despite this being the slow summer of COVID-19 for most sectors of the economy, the "essential" industry of mining and its impact on the environment continues to inflict itself upon the Yukon. The crew (both staff and volunteers) at the Yukon Conservation Society have been participating in the Yukon Environmental and Socio-economic Assessment Board (YESAB) and Yukon Water Board (YWB) processes to either halt or limit harm to the land from mining operations. YCS submitted comments over twenty times to YESAB on quartz exploration projects as well as doing presentations to the Yukon Mineral Development Strategy. Below are some of the 2020 spring and summer highlights.

Alexco: This company intends to open up some new silver mine shafts in the Keno region. An application for a water licence was held in February and YCS was an intervener. The Yukon Water Board increased the security (money a mining company has to pay to the Government to cover cleanup and closure costs should it go bankrupt) by \$2,361,462 from the previous \$7,871,492 for a total of \$10,232,955. While the total amount of just over \$10 million might not be too big in the grand scheme of things (after all, the Wolverine Mine is estimated to cost at least \$35 million to cleanup and close, albeit it's larger in size and scale), the fact the security was increased by 23% is hopefully a bit of a wakeup call to all parties concerned. If larger securities become the norm for all Yukon mining projects, it should mean abandoned mines get cleaned up quicker and better.



Yukon Mineral Development

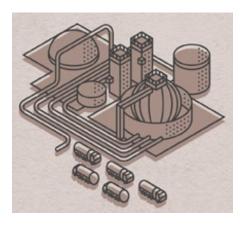
Strategy: An independent panel is looking at how the Yukon's legislative framework for mining can be (and it needs to be) improved, updated, rewritten, or even replaced. YCS met with them in May, and then provided two written submissions. While these types of panels tend to move slowly, so we do not expect radical reform any time soon, in the long term there is the possibility of addressing the many, many flaws in the Yukon's mineral exploration and extraction regime.

Victoria Gold: It was a busy year for the Victoria Gold mine between Mayo and Keno, and not in a good way. Due to an unanticipated amount of snow-melt, 43,130,000 litres of water running off a waste rock pile had to be discharged into the ground without adequate treatment. The water was released over nine days, with three of the days' runoff having elevated levels of arsenic. Later in the year an estimated 4,500 litres of cyanide contaminated water from the heap-leach pile was spilled. As if that wasn't enough excitement the Yukon Water Board increased the financial security for Victoria Gold to \$30,780,939 from \$27,406,539. This is an increase of \$3,374,400 (or about twelve percent).

Kudz Ze Kayah: This proposed mine on the Robert Campbell Highway between Ross River and Watson Lake has been slowly working through the assessment and permitting process. Back in January YESAB released a draft screening report on the project, and YCS reviewed it and submitted comments. The final report is anticipated any month now.

Coffee Mine: This proposed mine is south of Dawson and west of Pelly Crossing. Initially proposed by Kaminak, then taken over by Goldcorp, who in turn were swallowed up by Newmont, this could be the largest mine permitted since Faro, and the largest gold mine in Yukon history. YCS submitted comments to YESAB regarding the mine and the access road in March. Everyone is now waiting for the draft screening report. Newmont is also doing quartz exploration work around the proposed mine site, and YCS has been submitting separate comments to YESAB on those projects.

Brewery Creek: This mine shut down two decades ago, and received plaudits for a relatively well-done closure and reclamation, but now a company called Golden Predator is attempting to restart it. While it has yet to enter the YESAB review, questions are already being asked by YCS about the validity of the former (but apparently still active) quartz mining and water licences.



16



Faro Mine: The Federal

Government continues to do 'emergency works' onsite to ensure no catastrophic failures happen. Meanwhile, the final closure and remediation plan continues to move slowly through the YESAB adequacy review. This means that groups such as YCS and the general public must wait until YESAB opens it up for general comments. It may happen in the late fall or over the winter.

Casino: The Casino Mine, located just upstream of the proposed Coffee Mine, has gone somewhat dormant although the company is doing ongoing exploration at the site. Casino has indicated that they will be submitting an Environmental and Socio-economic Statement to YESAB by the end of 2021.

Wellgreen: This former mine was a rare earth metals mine in the southwest corner of the Yukon, situated within the Kluane Wildlife Sanctuary. The site is currently owned by a private company who hope to reopen it, yet it would appear that the Yukon Government is paying for mill and tailings cleanup and remediation. YCS is monitoring the situation and will be participating in the YESAB process as it develops.

White Gold Exploration: A

company with numerous hard rock claim blocks put a lot of quartz exploration applications through YESAB this year. YCS commented on most of them, raising environmental concerns and possible actions to reduce and mitigate them.

If anyone has questions about mining in the Yukon from an environmental perspective please feel free to contact the YCS Mining Analyst at *mining@ yukonconservation.org* or 668-5678 ext 4.

Lewis Rifkind, YCS Mining Analyst

Publication Opportunity: Seeking Responses to the Land

The land in and around Tombstone Territorial Park, located in the traditional territory of the Tr'ondëk Hwëch'in, is a place of significant cultural importance, biodiversity and beauty.

Has the land in and around Tombstone Territorial Park spoken to you in some way? If so, how do you respond?

Some of us are relative newcomers and some of us have a deep ancestral tie to the land. Depending on how we experience the land—as hunter or gatherer, Elder or youth, scientist or artist, explorer or resident, gendered or non-binary, public servant or non-profit organizer, historian or journalist, BIPOC or settler, abled or disabled—we may respond differently. Like a biome's flora and fauna, there are places where these different human experiences can intersect and influence.

You are invited to contribute a landbased response that speaks to the importance of the area in and around Tombstone Territorial Park. The landbased responses will be collected in a large format print book and/or online exhibition.



Rock, lichen and Monolith photo: Clea Roberts

To give voice to the diversity of human response, the project is open to all perspectives, disciplines and forms of expression. Land-based responses suited to this project may emerge from:

- Traditional knowledge as well as oral or written histories
- The study of science (essays, illustrations, photographs, maps)
- Creative writing
- Sound and film
- Traditional or contemporary art and craft (all forms)
- Interviews, personal essays, journalism, recipes
- Interdisciplinary collaboration
- Any form of response inspired by the land

Indigenous and non-Indigenous contributors are welcome. If you would like to contribute, please get in touch with a brief description of your landbased response by November 15, 2020. Final artwork, text and recordings will not be required until late 2021.

Email: oferwintran@gmail.com

Phone: (867) 689-1760

Contributors whose works are selected for inclusion will be compensated based on available funding. Previously published or exhibited work will be considered.

Clea Roberts (www.clearoberts.ca) is an editor and writer based in Whitehorse, Yukon. She was an artist in residence at Tombstone Territorial Park in 2016.



Created at the Canyon 2020

If you've ever visited Miles Canyon on a sunny day you'll know that the angular columnar basalt walls are a beautiful contrast to the fast-flowing blue green waters of the Yukon River that run through it. This is the setting and inspiration of YCS' annual 'Created at the Canyon' art festival.

This summer was the ninth anniversary of the event, and we had six wonderful and diverse artists. Leighann Chalykoff did ceramics on the ledge by the bottom of the stairs. Martha Ritchie used the bridge and walls to inspire her print making. Selina Heyligers-Hare overlooked the canyon gaining inspiration for her song Waves from the river flowing below and the wind passing through the trees. Julia Cottle studied the lichen on the Miles Canvon walls and worked their colours and shapes into her punch needle pieces. The colours of the water, trees and rocks were beautifully represented in Jackie Irvine's water colours. Sean Smith used spoken word poetry and the traditions of the canyon to integrate the roots of his Kwanlin Dun culture with modern day society.

The event was lucky enough to miss the rain and had mixed sun and clouds on the evening of Friday July 24th, and beautiful sunshine for Saturday July 25th. 342 human attendees, over 70 dogs and two foxes visited the two-day event to speak with the artists and watch them as the created their works of art.

With the help of the Yukon Arts Centre staff, the artists final pieces were put on display in the Yukon Arts Centre and the exhibit launch marked not only the beginning of the public display of the pieces but also the first public event for the Arts Centre since it was closed due to COVID-19. The launch party occurred on a sunny Wednesday, August 18th and garnered a positive reception from the 39 attendees.



Leighann Chalykoff doing ceramics during the Created at the Canyon Art Festival



The artworks that were Created at the Canyon were displayed at the Yukon Arts Centre.

This year's Created at the Canyon marked another great event for YCS. The artists felt inspired and happy to be working in the outdoors and the event demonstrated the beauty of nature through the arts, hopefully encouraging the general public that visited the event or who viewed the pieces in the gallery to be encouraged to be a part of the conservation efforts around Whitehorse and the Yukon.

Galena Roots

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Thank you to the Trail Guides this season, Preet Dhillon, Micah Taggart-Cox and Wyatt Risby for their enthusiasm and dedication this summer. We also want to thank Annie Li who volunteered to help out with the Trail Guide program this summer. The Trail Guide Coordinator, Galena Roots, did a great job keeping everything running smoothly this summer, despite the challenges of COVID and the wet, wet weather.

Thank you to all our volunteers on the various committees for the work and expertise you provide to YCS.

Thank you to Tanya Handley for her continued work on formatting and preparing *Walk Softly* for publication, and for transplanting her beautiful sculpture 'Owlivia' into the YCS Garden this summer.

And thank you to our members, supporters and partners who make the work YCS does possible!



Fall 2020

Yukon Conservation Society 302 Hawkins St., Whitehorse, YT YIA IX6

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Did you know?

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You could be reading this newsletter online and in colour!

We are a conservation organisation and as such would encourage you to choose to receive *Walk Softly* by email in order to reduce our carbon footprint. If you want to switch from a paper copy to digital – please call us, or send us an email at *outreach*@ *yukonconservation.org*.



