

# Walk Softly

Newsletter of the  
Yukon Conservation Society  
Summer 2021



**Inside: Historic ETS • Yukon Mineral Development Strategy • Book Reviews**

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**Cover Photo:** Yukon's Mackenzie Mountains, Keith Lay

## Mountain Goats

Using supple willows like ropes to climb higher  
 Into their surreal sun-streaked realm of alpine life  
 Taking a ripe juniper berry in my mouth and sucking its fragrance  
 To breathe lighter  
 Along their narrow trail,  
 dotted with the previous night's perfectly cleaved tracks.  
 In single file,  
 In silence  
 They go up  
 These mystical white shapes  
 Finally molted into summer coats  
 Moving as if with invisible wings  
 To the far reaches  
 Until there's no more up.  
 I am transfixed  
 And would move glaciers for them.  
 May their wings not burn like Icarus's.



*Katarzyna Nowak*



### Upcoming Environmental Dates to Note

**May 20: World Bee Day** <https://www.un.org/en/observances/bee-day>

**May 21: Endangered Species Day** <https://www.endangered.org/campaigns/endangered-species-day/>

**May 22: International Day of Biological Diversity** <https://www.un.org/en/observances/biological-diversity-day>

**May 23: World Turtle Day** <https://www.worldturtleday.org/>

**June 5: World Environment Day** <https://www.un.org/en/observances/environment-day>

**June 7: World Food Safety Day** <https://www.un.org/en/observances/environment-day>

**June 8: World Ocean Day** <https://worldoceanday.org/>

**June 17: World Day to Combat Desertification and Drought** <https://www.un.org/en/observances/desertification-day>

**June 22: World Rainforest Day** <https://worldrainforestday.org/>

**July 29: World Tiger Day** [https://tigers.panda.org/news\\_and\\_stories/stories/the\\_world\\_celebrates\\_world\\_tiger\\_day/](https://tigers.panda.org/news_and_stories/stories/the_world_celebrates_world_tiger_day/)

**August 19: International Orangutan Day** <http://www.worldorangutanevents.org/events.php>



## A Green Opportunity

Canada is spending billions to help us get through this pandemic. This is a good thing; I support most of the initiatives our governments in Canada and the Yukon have taken. But, I do wonder how wisely we will spend this money

Only 12 years ago, in 2008, we spent Billions to get through a financial crash.

Back in 2008 we were invited to weigh in on what to spend those billions on. The Federal government at that time was a Conservative government led by Stephen Harper, a very different regime to the current Liberal government led by Justin Trudeau. Nonetheless, without much hope, I contributed my thoughts about how we could target these billions.

I thought we could transition Canada from a petro-state that relied on extracting raw resources as rapidly and cheaply as possible to sell overseas, to a country that treads lightly on the earth, one that takes its inspiration from the original inhabitants of the land and leverages the technological gifts of the industrial and agricultural revolutions towards a brighter, greener and more equitable future.

Yeah, yeah, I get it, I'm naive. I have to be, it's my job. You cannot be an environmentalist without an unshakeable vision that a better way is possible.

Well, we know what we spent the billions on in 2008 - on propping up the status quo. Canada is less equitable, we still pretend to be sustainable, we still funnel billions into fossil fuels and the list goes on.

This time, the government is not pretending to consult on how to spend the billions. Perhaps because instead of a few banks and plutocrats at risk, thousands of Canadians are dying, the government feels a greater sense of urgency. I get that.

But the other day I was asked, not by the government, about my opinion of Canada's latest economic statement. This statement indicates Canada's priorities, and it did nod towards planting trees to draw down carbon from our destabilizing atmosphere. But it is not really any different than the approach we took in 2008.

*You cannot be an environmentalist without an unshakeable vision that a better way is possible.*

We are still building massive pipelines to export some of the most toxic fossil fuels on earth to customers that are rapidly realizing that wind and solar energy are far cheaper and cleaner than oil, gas and coal.

We are still building massive dams to power faster fossil fuel development, ignoring the plummeting demand for these fossils, ignoring the destruction of some of the most climate resilient farmland in Canada.

We are spending millions on retrofitting homes to be more efficient, and that is not a bad thing, but millions of low income and Indigenous Canadians are homeless or living in substandard homes - we could be spending billions on building warm, dry homes that generate more energy than they consume.



We are spending a billion dollars on an effort to deliver safe clean water to Indigenous communities - and this is a very good thing. But these communities will continue to depend on fossil fuels for heat and light - we should also be installing massive solar and wind farms so that remote communities are as energy rich as southern Canada expects to be.

Because, ultimately, our civilization is all about energy. Without abundant high-quality energy, humanity would have to live as hunter-gatherers and subsistence farmers and there are simply too many of us now to live that way.

We live, billions of us, a very good life, far better than that of our forebears. If we want to continue to do so, we need to take concerted action in that direction. We need to completely rebuild our energy infrastructure away from fossil fuels to solar and wind power.

This is a massive transition, one that is underway. Massive transitions can be messy, with winners and losers. Good policy can reduce the mess and ensure sunset industrial workers such as oil and gas employees can find meaningful employment in a new economy.

*Sebastian Jones*

### Walk Softly

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## Editorial

Coral Voss

Happy Springtime . . . well almost! The spring and subsequent warming of the garden boxes have led to much excitement and planning of the gardens here at YCS. We have released our Annual Report 2020 and look forward to releasing our 5-year Strategic Plan in the coming weeks. YCS is delighted that plans are fully underway for the upcoming trail guide season. Watch for upcoming announcements for the Created in the Canyon, 10th Anniversary. The past few months have been busy here at YCS with YESAB, land-use planning, water board and electric submissions. Additionally, the ETS project has continued to be busy with registering participants and ongoing installations.

I am so pleased to welcome three new staff members to YCS; Tera Swanson who is stepping into the role of Membership & Communication Coordinator, Toshiba Govindaraj will be filling the inaugural Helmut Grunberg Conservation Summer Internship, and Lorijane Émond-Quéméré, our new Trail Guide Coordinator. We are also welcoming a new board and saying goodbye to some of last year's board members. Thank you to all board members who served last year, but a special thank you to those who served on the executive and have now stepped down – Jared Gonet, Denise Gordon and Ciaran Connolly. Welcome back to our board members that were reelected or elected for a continuing term; Dave Mossop, Jim Boyde, Mary Amerongen, Caitlynn Beckett and Lyndi Proudfoot. And a warm welcome to the new, incoming board members; Yuuri Daiku, Ghislain DeLaplante, Gerald Haase, Kim Melton, Richard Mueller, and Rebecca Rothgeb.

Finally, I want to take a moment to acknowledge the passing of Thomas Berger, while I never met him in person I was very aware of his incredible work and studied many of his writings and rulings during my own academic studies. Although I have been very fortunate to have had so many people share their incredible stories of him with me, and all of these stories spoke of his tenacity, great humor and genuine kindness. On behalf of everyone at YCS, I wish to pass on my deepest condolence to his family, friends and colleagues.

Welcome to Spring, may you enjoy the sun and time out in nature or in your garden!

Coral Voss

## Getting Involved with YCS

Moving to Yukon Territory was not something that I had planned when I first moved to Canada in 2018. But I was lucky enough to meet someone who lived, and still lives in the Yukon, when I was in Alberta. I then decided to move up here. And without hesitation, I can say that the decision was one of the best things that I ever made in my whole life! Outstanding landscapes which make you feel like you are just a tiny little animal on this earth, wildlife, northern lights, rich cultures, and all kinds of communities and groups. The first two years, I was a bit overwhelmed by work, but this winter has been, in some way, the best one even with COVID-19. It has been letting me have more time to sit back, do some self-reflection, have different perspectives, and enjoy this absolutely beautiful nature in the territory. And more time being outside, going on hikes, climbing, and meeting people who have been in the Yukon for a long time, made me feel something that I did not really feel in my first two years.

2020 was my first summer in the Yukon, since I needed to go back to Japan the summer before. Though I had such an amazing time going hiking, climbing, canoeing, and camping, I have heard a lot that 'it was not a usual summer.' My colleague who has been here more than 10 years told me, 'This is the coolest summer that I have ever experienced.' And obviously, the snow we have had so far this winter is a record. Also, it has been really "warm" weather, even though it motivates me to go outside more! I cannot help but feel the climate here is definitely changing as well.

Working in tourism, especially in the Rockies as well as here, made me witness the realization of climate change, such as melting glaciers, dead trees because of pine-beetles, unusual amounts of snow, and so many other things. That is why I started to get involved with the Yukon Conservation Society as a volunteer. Also, because I would like to know more about what is actually happening in the field that I have been involved in for the past 6 years. I cannot wait to learn more about this issue from many different aspects through YCS initiatives, and eventually contribute to it.

*Satomi Hara*





## Yukon Mineral Development Strategy

The Yukon Mineral Development Strategy (YMDS) has finally been released and it is certainly a mixed bag. There are some good, some bad, and some neutral recommendations. Before you read this article any further though, be sure to check out the final version of the Yukon Mineral Development Strategy and Recommendations. All 54 glorious pages are available online at <http://yukonmds.com/>.

Within those 54 pages are seven guiding principles, and underneath each principle are anywhere from 10 to 20 unique recommendations. All told there are 95 recommendations. Now the key is to remember these are recommendations by an independent panel to the Yukon Government. There is no guarantee any or all of the recommendations will be implemented. However, the general feeling among most parties involved in providing input to the YMDS process was that change to the Yukon mineral extraction legislation, regulations, and processes is required and very long overdue.

One thing to remember is that this is still a mineral development strategy, and not an environmental protection strategy. However, there are items contained within it that will protect, at least partially, the Yukon's environment. The Yukon Conservation Society is pleased to see the final recommendations of the Yukon Mineral Development Strategy, and while we might not agree with all of them, there are some that are most timely indeed.

In the YMDS there is an introduction that can generally be summed up as that unless the Yukon's future mineral resource extraction regime treats First Nations as true partners and, by extension, treats all stakeholders equally, mineral development will continue to be dogged by public opposition.

The YMDS came up with seven guiding principles that can be summarized as follows:

- **Collaboration:** Broad collaboration to ensure all Yukoners understand and benefit from resource development.
- **Honouring Our Ancestors:** All activities must reflect both the spirit and intent of modern treaties, bi-lateral agreements, transboundary treaties, the United Nations Declaration of the Rights of Indigenous Peoples, and the findings of Canada's Truth and Reconciliation Commission.
- **Sustainability:** Environmental impacts will be controlled with consideration of climate impacts and cumulative effects.
- **Future Generations:** The social, economic and environmental effects of development will be weighed against the needs of future generations.
- **Respect:** Respect for the natural and human environment using traditional knowledge and evidence-based decision making.
- **Transparency and Trust:** The sector will create social viability and durable economic prosperity for all residents.
- **Certainty and Clarity:** Legislative and regulatory certainty will be created for permitting, monitoring and enforcement processes.



Now under these principles are the 95 recommendations. There are way too many to go into detail, but here's some of the highlights:

- overhaul or replace the Yukon's century-old Quartz Mining Act and Placer Mining Act with new legislation
- ensure that First Nations can capitalize on resource development projects
- change royalty and tax structures to ensure more money comes to the Yukon
- implement a profit-based placer gold royalty
- introduce a payroll tax on out-of-territory workers in the Yukon
- implement a First Nation Resource Charge, to help cover the costs for First Nation's to review and monitor mining and exploration projects
- introduce a new tax for industrial water users
- accelerate the land use planning process across the Yukon

It is great to see acknowledgment that the Quartz and Placer Mining Acts need major overhauls or, even better, replacement. What form that could take will no doubt be the subject of much discussion between various governments, ENGO's, industry, and other concerned parties and individuals. It must be noted that the panel's recommendation to complete that work by 2025 might be a tad optimistic. And it is also worth noting that new mineral legislation is required, it is not optional, and will be a Yukon Government – First Nation Governments exercise per the Devolution Transfer Agreement.

A profit-based placer gold royalty is probably not a great idea. The current royalty of thirty-seven and a half cents per ounce of gold regardless of the current price of gold is widely considered a joke, but going to a profit-based system might not be any better. Smart accountancy can easily reduce any placer miners' profit to zero, thus negating any royalty to the Yukon.

Another bad recommendation is where it suggests that staking moratoriums in land use planning areas be capped at twenty percent. To arbitrarily pick a percentage and apply it to every future land use planning process seems wrong. Some land use planning regions could potentially require substantial if not complete staking moratoria.

For too long all of us (be it environmentalists, industry, First Nations, other levels of government, and industry) have been operating under a century old regime that does not consider modern Land Claims Agreements, heightened knowledge and awareness of the negative environmental impacts of mining, and the progression of land use planning. The YMDS recommendations, well some of them at least, will hopefully address that.

Many thanks to Randi Newton at CPAWS Yukon who did a line by line comparison of the draft YMDS versus the final YMDS. And thanks to the YCS Mining Committee members who provided copious amounts of comments and criticisms regarding our submission to the YMDS panel.

*Lewis Rifkind, YCS Mining Analyst*

## Remembering Thomas Berger (1933-2021)



Credit: NWT Archives/Native Communications Society fonds - Native Press photograph collection/N-2018-010: 2909

The Yukon Conservation Society was saddened to learn of the passing of Thomas Berger, QC OC OBC.

He will be remembered in the North for many things, but especially for his role as the Royal Commissioner of the Mackenzie Valley Pipeline Inquiry in the 1970s, and more recently for being the lead lawyer for certain Yukon First Nation Governments and Environmental non-governmental organizations on the Peel Watershed case.

The Yukon Conservation Society extends its deepest condolences to his family and colleagues. His legacy of environmental protection in the Yukon will long be honoured.

Members of YCS staff and from our Board of Directors attended a ceremony of remembrance held on April 4th at the Healing Totem in Whitehorse and shared their memories with those attending.

Christina Macdonald (former YCS Executive Director), Mary Whitley (former Board President) and Mary Amerongen (current Board member) also shared words with those attending.



Lewis Rifkind (Mining Analyst with YCS) speaking about the loss of Thomas Berger at the ceremony in Whitehorse.

## How Marine Protected Areas around Antarctica might be the key to restoring Yukon River Salmon

Yukon River salmon, particularly Chinook salmon have been in decline for years and have reached the point where they are commercially extinct - there have not been enough Chinook to support a commercial fishery for 20 years.

Yet, despite steadily more stringent restrictions on Yukon River fishers - in recent years, even the Indigenous fisheries have had to close - Chinook populations have not recovered.

Something else, in addition to decades of overfishing is going on. Chinook productivity has declined - the number of offspring salmon that return to spawn per parent almon is very low, indicating something is happening at sea.

In this article, I argue that establishing a circumpolar Marine Protected Area (MPA) around Antarctica, where no minerals development and no marine harvesting takes place, might just be the key ingredient to setting the stage for restoring Yukon River Chinook.

It all starts with the western obsession with maximum extraction rates, commonly called Maximum (or Optimum) Sustained Yield, our obsession with efficiency, that is at the core of these years of declines. There is of course room for people to harvest but it has to be done wisely, in balance with natural systems. These natural ecosystems are all connected, and marine ecosystems have global connections. Leaving the giant ecosystem of the Southern Ocean intact could be a start to restoring balance and, eventually Yukon River Chinook salmon.

A series of interdependent species, where changes in the population of one species has ripple effects on the population of another species is called a Trophic Cascade. [https://en.wikipedia.org/wiki/Trophic\\_cascade](https://en.wikipedia.org/wiki/Trophic_cascade)

One of the first trophic cascades worked out by science is fairly close to the Yukon, in the kelp beds off Alaska. Here, large forests of kelp, a type of seaweed, are grazed by sea urchins. Left to their own devices, sea urchins will graze the kelp down to nothing leaving the marine equivalent to a desert. However, sea urchins have tasty gonads, and they are a favourite food of sea otters. Sea otters eat enough sea urchins that the kelp forests thrive - and in turn support numerous other sea life. When fur traders in the 18th and 19th centuries harvested almost all sea otters, the urchin numbers exploded and they devastated the kelp beds. When sea otters were restored, so too were the kelp beds.

However, in recent years, sea otter numbers have plunged again, despite little or no hunting by people, and many kelp beds have been grazed down into desolate 'Urchin Barrens'.

So, what is the connection between an Antarctic Marine Protected Area and an Arctic salmon?

Well, it's complicated, because there are so many different species interacting, but there is a connection and, put simply, it goes like this: Once upon a time, giant whales, Baleen Whales, roamed the oceans in staggering numbers, feeding off vast schools of tiny shrimp-like creatures (krill) that thrive where cold, nutrient rich water rises to the surface, supporting microscopic plants that the krill grazes on. Whalers killed off most of the whales, and by the middle of the last century they were almost all gone, the whaling economy collapsed and so it became politically possible to start protecting whales, and their numbers are starting to slowly climb back up.

As the whale population grew, people began to notice something that had not been happening for years and years - large pods of Orca (whose name means 'Killer of Whales', now shortened to Killer Whale) have resumed hunting down giant Baleen whales like Blue whales.

However, several nations have outfitted fishing fleets that are targeting the same Antarctic krill that the whales depend on, and thus limiting whale numbers. Ending this fishery through creating a Marine Protected Area in the Southern Ocean would free up resources to further grow whale populations.







If whale populations continue to expand, Orca will be able to feed off the whales. Because whales, and Orca, travel around the world, these wolves of the sea will become much better fed, and will no longer need to eat the much smaller Sea Otters, which will then be able to resume eating lots of Sea Urchins. Kelp forests will be able to re-establish, restoring the habitat for numerous small fish that live and reproduce there and that in turn feed young growing Chinook Salmon.

Now, there are many more causes of salmon decline than just reduced kelp dependent prey - it is almost certain that the trigger was humans over harvesting, but simply reducing our harvest now is not restoring salmon numbers. Restoring the great kelp forests might be a key ingredient to increasing Chinook survival, and restoring Baleen Whales as Orca prey might be key to restoring kelp forests.

So, I literally just made all this up. It is barely even a hypothesis yet, let alone a robust theory or an action plan, but it is all based on established science, so it could be true. There is no down side to ending the rape of the Southern Ocean and restoring the vast free-swimming pods of giant whales.

And it just might bring back our Yukon River Chinook!

*Sebastian Jones*

#### Further reading:

The relationship between Kelp and Chinook: <https://esajournals.onlinelibrary.wiley.com/doi/full/10.1002/fee.2056>

The relationship between industrial whaling and the collapse in Sea Otters: [https://www.pnas.org/content/100/21/12223?ijkey=3c94abd32ccb73dd23d838a8809fac6e9285dd80&keytype=tf\\_ipsecsha](https://www.pnas.org/content/100/21/12223?ijkey=3c94abd32ccb73dd23d838a8809fac6e9285dd80&keytype=tf_ipsecsha)

A start to Antarctic Marine Protected Areas: <https://www.bbc.com/news/science-environment-44771943>

## Ode to Permafrost

By: Katarzyna Nowak

“We live reciprocally”

He told me

Pointing at the stilts

On which his house rose

So as not to warm the ground beneath

And thaw the permafrost

Then his town appealed to move

To give the land a rest

Elsewhere

The settlers

Built webs of industrial access roads

Pointing at the thermosiphons

Yet the ground spilled

Suddenly

Thousands of caribou lay dead

Anthrax

What gives

Eroding

Centuries-old relationships

For access to gold

Stored in far-off vaults

Not only that

The salmon did not run

Moose died, their antlers caught

in sagging powerlines

Instead of hibernating, bears entered towns to rummage in our trash

Rain-on-snow meant hunger

For muskox, growing small

Then smaller still

Their guts filled with emerging parasites

Walrus gathered on land instead of on ice

Scientists opened seals to find plastic bits and bobs

But! They cried: The Northwest Passage opened!

Bringing more stuff

Which Arctic sinkholes

Swallowed

At the Endmost.

Still and ever patient

He rose to gently say

“It is time for repair.”



## Welcome New Staff

We would like to warmly welcome the following new staff who have joined us since the last issue of *Walk Softly*.

**Tera Swanson** is the new Membership and Communications Coordinator (MCC), and joined YCS on March 15th.

Tera joined YCS with a background in communications, marketing, and community engagement and is currently completing her MA in Environmental Practice through Royal Roads University. With an undergrad in Journalism Communications from Mount Royal University, the first chapter of her career path focused on both freelance writing and content marketing strategy in the outdoor tourism industry within Banff National Park. Living there for the better part of a decade, she was exposed to various local environmental matters which eventually inspired her to shape her career path in communications towards a sustainability focus. Tera recently worked as an Editor for the Canadian Parks Collective for Innovation and Leadership (CPCIL), shaping stories around topics ranging from ecosocial justice to human-wildlife coexistence. Having grown up in rural southern Alberta, outdoor experiences were an integral part of her upbringing and were formative in developing a connection to nature. She's happiest spending time outside, whether trail running in summer or backcountry skiing in winter.



**Toshibaa Govindaraj** is the Helmut Grunberg Conservation Intern for the summer of 2021, and joined us effective May 3rd.

Toshibaa was born in India but has been in the Yukon since she was nine years old. She took a year off after high school to travel, but also spent some time working for a marine NGO in Honduras where she fell in love with marine biology. She is now currently pursuing a Bachelor of Science degree in Marine Biology from the University of Victoria. When she is not working, or in school she can often be found hiking, diving, or exploring. She is “super excited to be working towards conserving the treasures of the Yukon!”



On May 3rd, our new Trail Guide Coordinator (TGC), **Lorijane Émond-Quéméré** also started at YCS.

Lorijane is originally from the south shore of Montréal and moved to the Yukon in 2018 in search of adventure! She began her career by getting a Bachelor's Degree in Business from HEC Montréal and subsequently working in project management in various sectors including academic, recreational and non-profit. Upon arrival in the Yukon, she worked in schools as a French language assistant, as well as an instructor for adults, which she continues to do part time. During the winter of 2021, Lorijane continued her studies by beginning a Bachelor's Degree in Environmental Science at Université Laval, a subject she is very passionate about, and hopes to pursue in the future. In her free time, she can be found outside hiking, fishing, canoeing, and sometimes just relaxing with a book. She is also an avid yogi and is in the process of getting a yoga teaching certificate.



## We're sorry to see you go!

Three people have left the YCS Board, all of whom will be much missed.

Jared Gonet was treasurer for two years, and then board chair this past year. With grace, with care to include everyone in respectful consensus decision making, he led the board in training and orientation, in developing awareness of how conservation relates to Reconciliation with Indigenous peoples, in bylaw revision, into the complex process strategic planning, in new policies and more.

Denise Gordon has been treasurer this past year. She has always been willing to step up to the plate when needed, not just performing her board member and treasurer duties, but filling in when the secretary needed backup and helping with recruiting new board members.

Ciaran Connolly, besides being the board secretary, has been a guiding light on the personnel committee and a wise member of the board executive, a person one went to for advice. He has been on the board for two years. At the same time, he has been going to school, working at a job, and helping care for his young family!

*Mary Amerongen*



## Don't Let it Loose! A moss ball update

Invasive species are introduced organisms that can have massive impacts on ecosystems, health, and economies. In case you missed the news back in March, the invasive aquatic zebra mussel was found hitching a ride into Canada on aquarium moss balls. Zebra mussel-infected moss ball products were found in British Columbia, Alberta, and Saskatchewan.

Zebra mussels are an aggressive invader that take over freshwater habitats, threaten aquatic ecosystems, and cost millions to manage once established. We are lucky that we do not yet have zebra mussels in the Yukon, and we want to keep it that way! The moss balls were only available online in the Yukon, and so far, no infected moss balls have been detected in the territory.

This is an important reminder to never release aquarium (or any other) pets, materials, water plants, live food, or live bait into the natural environment! Though we might not expect imported pets to survive in the wild, several species have indeed been able to persist and expand their populations upon release in Yukon waterways; goldfish were introduced in the Takhini Hot Springs and Atlin Warm Springs, and cherry shrimp have been found in the Atlin warm springs. These invaders were likely released from personal aquaria and pose a threat to natural ecosystems should they spread into new areas.

If you purchased moss ball products in the last several months, the Yukon Invasive Species Council recommends that you dispose them properly. Follow the steps below and visit the Fisheries and Oceans Canada website for more information on disposal <https://www.canada.ca/en/fisheries-oceans/news/2021/03/information-on-the-disposal-of-moss-balls.html>.



- Destroy moss balls by freezing them in a plastic bag for at least 24 hours, or boiling them for at least one minute
- Dispose of the moss balls and their packaging in a sealed plastic bag in the trash
- If you had placed moss balls in your aquarium, use boiling water or a strong chlorine, bleach, and water solution to wash tank and all accessories.

Preventing the spread of invasive species is the best way to manage them, as they can be nearly impossible to get rid of once they establish themselves in a new area. Early Detection and Rapid Response is key to preventing the establishment of invasive species populations, and we encourage everyone to report any invasive species sightings using iNaturalist, or on our website at [www.yukoninvasives.com](http://www.yukoninvasives.com). Report any zebra mussels or possibly infected aquarium products to the Environment Yukon Fishing Branch at 867-667-5721. *#Don'tLetItLoose*

*Yukon Invasive Species Council*

### The Ted Parnell Scholarship

The Ted Parnell Scholarship Fund was established to honour the life and work of Ted Parnell (1947-1981). Ted was a sensitive and committed individual who contributed greatly to conservation in the Yukon. Ted's life and work reflected his keen environmental values and love of the north and its people.

The Yukon Conservation Society offers an annual scholarship of \$500 to a student of environmental studies who demonstrates outstanding interest and motivation in the environmental field. Interests pertaining to northern environments such as wildlife, ecology, renewable resources, energy, and environmental education are appropriate areas for eligibility.

For more information and applicant requirements check out this link on our website:

[http://yukonconservation.org/docs/The\\_Ted\\_Parnell\\_Scholarship.pdf](http://yukonconservation.org/docs/The_Ted_Parnell_Scholarship.pdf)

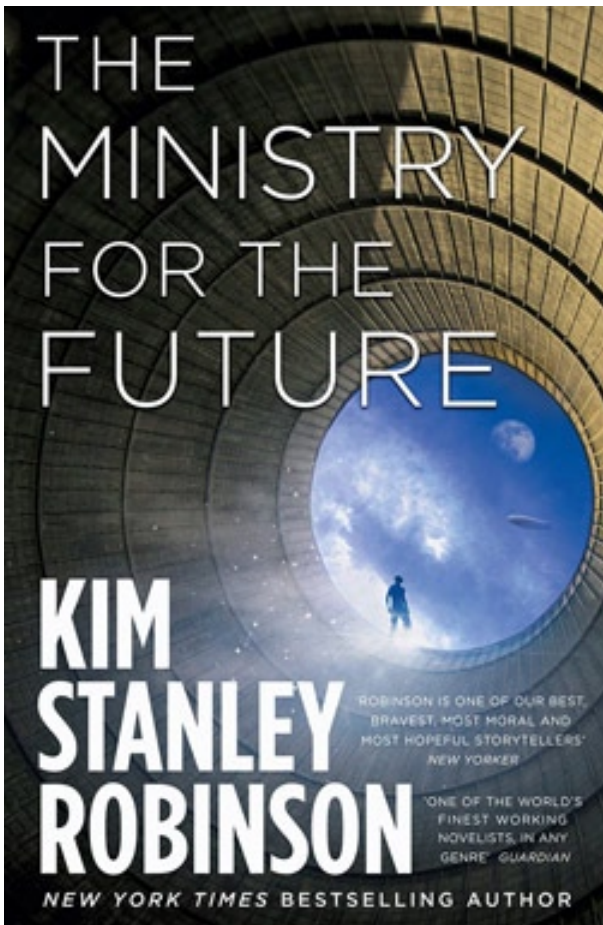
**Application deadline is June 30th.**

## 10th anniversary: Created at the Canyon

For the 10th anniversary of Created at the Canyon, Yukon Conservation Society is seeking applications from local artists to fill ten residency vacancies. Successful applicants will be invited to participate in a two-day live public art event at Miles Canyon. Artists will have two weeks to complete art pieces started on site at the event. Final works will be presented in an exhibit at the Yukon Arts Centre for the month of August, and open to the public to enjoy.

### Apply now!

Deadline for applications is June 12, 2021. For more information, contact [hikes@yukonconservation.org](mailto:hikes@yukonconservation.org).



### Book Review:

I took this book out of the Whitehorse Library because I heard an interview that said it was like a masterclass in the Climate Crisis. I feel that I am someone who is fairly on top of our impending doom but I learned a lot from this novel.

Kim Stanley Robinson takes us into the near future and gives us alarming views of the catastrophe at hand. But he also gives us a healthy dose of hope by laying out plausible solutions and how they could be implemented. More big picture stuff like giving future generations “standing” in world courts (so their lives have to be considered in what we do now). Creating an investment system that lets greed and bankers actually work for saving the planet. Various geoengineering successes and distractions. What happens when people turn despair into action. All written up in a way that is surprisingly page-turning.

It is a long, heavy book: you could knock yourself or your bedmate out if you fell asleep reading it. It is speculative fiction so not everyone’s cup of tea. Push past that though and get a glimpse of what lies ahead. The author has done a lot of research and presents it in a way that goes down pretty easily. The last third of the book does drag in my opinion but the first 2/3s are definitely worth reading. Lots of food for thought.

*Tanya Handley*



## Dally and the Dogs

Gardening in the north has always been a challenge. We not only have a short season, it is cooler than most garden vegetables prefer as well. But recently one of our more interesting challenges presented itself when we came home to find a Dall sheep playing in our yard with our dogs. Now to have a Dall sheep playing with dogs anywhere is very unusual but close to human habitation it is even more so. There is a bit of a back story to this and I will share it.

For years my husband and I market gardened and we really didn't have much problem with deer or sheep munching on the produce. Even though the gardens were quite a distance away from the house, and by default from the dogs as well. The wildlife seemed to give us a wide berth, which was fine with us. When we stopped market gardening we reduced our garden to a small area right in front of our house. It is easy to see how it is doing and a good reminder to go weed or water it. We have always had some problems with our dogs running across the gardens, especially in the spring. But they would quickly get used to going around after being scolded a few times. They do still like to hunt for mice and I don't mind them keeping that population in check.

A number of years ago, two Dall sheep came to live on the low mountain ridge behind our house. They were a pair, as one was a ram the other was an ewe. After that first season though, there was only one left. The ram was no longer there, and I don't know what happened to him. For some reason the ewe continued to live there even though it was now alone.



Now female Dall sheep aren't usually solitary animals but this one didn't seem to want to leave. We would notice her from time to time as we went about our day's work. She was usually quite high up, but being white, she was still quite visible. Our neighbours and even those who were just driving by would sometimes stop and watch her.

A few years back we were across the valley at a neighbours BBQ and someone noticed dogs chasing the Dall sheep. Shamefully I identified them as mine but then we noticed she was chasing them as well. We thought it was appropriate for her to put the run on them. Ever since then she has been coming closer and closer to our yard. The dogs would get very excited when she was near. At one point I noticed one of our dogs "leading" her closer to the house. Within a day or two she was looking in our kitchen window first thing in the morning, scaring my husband and herself when she saw him.

After that our sightings of her became more frequent with her closer to our house. We also noticed she would run and play with the dogs. We have even seen her "playing" with the dogs on our deck in the middle of the night.

A few weeks ago, our dogs and "Dally" (as I like to call her) were seen running and playing across the highway from us. We don't mind them playing with Dally but crossing the highway has never been allowed. Now during the day, we keep two of our three dogs tethered allowing the third to run free. With their ability to go and play with her on the mountain restrained, she has come to them.

But when we saw her in our yard we realized some changes would need to be made or we wouldn't be able to garden at all. With both of us loving to garden, a fence has been the first thing planted in our ground this year. Hopefully it works.

*Joan Norberg*



## Book Review: Two in the Far North

### Margaret (Mardi) E. Murie - 1902-2003

Mardi shares her experiences while travelling and living in Alaska and Yukon from 1911 to her passing in 2003, at 101 years of age. She includes early impressions of sternwheeler travel, first to Dawson City from Whitehorse at age nine to meet her dad, and then to Tanana on the Sarah, and finishing in Fairbanks on the Schwatka. She includes river impressions, stopping at wood fuel camps, as well as descriptions of fellow travellers. She discusses the coming of railroad service to Fairbanks from Tidewater in 1920, and her involvement at 16 years of age with the last run of horse-drawn winter sleighs and dog teams, and the personalities of caretakers from that era that were displaced by rail service along the trail south.

One month after her marriage in Anvik to Olaus Murie, a Norwegian wildlife biologist working for the American Wildlife Service studying caribou in Alaska in 1922, Mardi travelled with him up the Koyukon River to Bettles by sternwheeler and by poling boats, then after freeze-up by dog sled to Wiseman. Her dogsled travel was done with what were called 'traditional northern dogs' that included many dog fights along the way, a dog sled of style first seen among gold rushers and with the use of a gee pole on rough trails. It was Mardi's introduction to tussocks and snowshoe travel by dog sled, on river ice and off, living in smaller log cabins, supporting Olaus out on research trips, living out of a wall tent and meeting local Indigenous and non-Indigenous inhabitants.

While researching caribou Olaus contacted Indigenous and non-Indigenous hunters, and took and skinned out hundreds of bird and animal specimens, sketched them, as well as making many watercolour images - some seen in Mardi's book.

In 1926, Olaus took a contract to band Canada geese on the Old Crow River in Yukon, just upstream from the new trading community of Old Crow, and it took three of them a month to travel upstream with a small motorized boat to the study site from Fairbanks. By this time the family included a ten-month-old baby boy who travelled with them.

On their upriver travels she describes experiences in Fort Yukon, New Rampart House and Old Crow, and the growing presence of mosquitoes as summer arrived. Waving the party ashore in Old Crow as the first visitors of the season was a young RCMP officer, Jack Frost, senior member of the Frost family. Vivid memories of time spent with local First Nations women and children while visiting permeate Mardi's writing, particularly in New Rampart House and Old Crow.

In 1956 Mardi and Olaus were joined by a small group of fellow researchers and flew into the upper Sheenjek River, which is a tributary of the Porcupine River coming in from the West just upstream from Fort Yukon, landing on afeis and staying for a month of research, which in 1960 became the southern boundary of the Arctic National Wildlife Refuge (ANWR).

The upper Firth River starts, east and north out of these same Brooks Range mountains. Birdlife abounded; pipits, say's phoebes, white crowned sparrows, warblers, longspurs, wandering tattlers, arctic loons, ptarmigan, gulls and terns, and many more species were noted.

She and Olaus and many close friends had become tireless advocates for a significant portion of Alaska to be kept as wilderness with limited human presence. While camped here they were visited by Gwitchin wolf hunters from an Arctic village, who had walked into the area and would employ caribou skinned big boats on the Chandalar River on the way back.

During her stay on the upper Sheenjek River, Mardi and the group witnessed the multi-sensory sights and sounds of a large caribou herd passing by their camp and were instantly marvelled. Over the month they had similarly followed the many hill contoured trails, waiting expectantly for the trailmakers.

Those of you who have seen the many caribou trails along the banks of the Firth River in Ivavik, or may have been in the presence of a large herd passing, will know the depth and intensity of feeling upon witnessing such a passage. Mardi speaks well on their behalf from her own experience. She also speaks for other trailmakers like dall sheep and more recently musk ox, and the many other, otherwise voiceless species, who call this area home, permanently or temporarily.

Mardi Murie has become the spiritual grandmother to many wilderness status advocates to leave large portions of landscape to nature, understanding Indigenous cultural use and preserving the rights of all species.

*Jim Boyde*



## A Short Story on the Long History of ETS

One of the questions that the team running the Yukon Electric Thermal Storage (ETS) project here at YCS hears the most is, “Is electrical thermal storage a new thing? I have never heard of it.”

Nowadays ETS is typically a modern, computer-controlled system designed to release stored heat created with electricity. That form of ETS is relatively new – though still a few decades old – but humans have been storing heat in bricks for millennia.

The ETS units we’re installing are composed of heating element(s) which use electrical resistance to produce heat, iron-enriched bricks which store and release the heat, and a control panel to keep the units operating smoothly. Some units also have a fan to distribute the heat into the home, others allow the heat to be released by the bricks more gradually, without a fan. All in all, they are a pretty simple technology rooted in the age-old principle of thermal storage.

Using electricity to produce heat is quite recent (around 1890) but humans have been storing heat since time immemorial. Archaeological traces of heated beds have been found in ancient China as early as 7200 years ago. They used a fire lit under clay bricks to keep the bed and room warm overnight. By extension, floors and dormitories could be heated the same way. The fireplace or furnace would be located outside and is utilized as a cooking stove, with brick- or clay-lined air channels used to carry heat inside the home and slowly release it into the living space.

Hypocausts appears in Ancient Rome around 350 BC. They’re a central heating system created underneath a building’s floor. A central stove would heat pillars made of brick supporting the floors, which were made of layers of concrete and bricks. Some systems used hollow pillars and even basic piping within the floors to distribute and store the heat – a system similar to modern in-floor hydronic heating.

These fancier hypocausts were high maintenance and mostly used by wealthy citizens or bathhouses to heat thermal baths. Similar technologies were used by the Greeks and Hittites (modern-day Turkey) around the same time, all based around the principle of storing heat when it’s available for use throughout the day.

The challenge facing early forms of thermal storage was how to efficiently get heat from wood-burning stoves into the heated space without the smoke. Previously, only radiant heating was used – the fire warms up a dense material like bricks or clay, which then radiates heat into the space – but this new technology used radiation and convection, significantly boosting efficiency.

The earliest model of a convection prototype, still using wood as a combustible, featured a perforated “hot plate” above the pile of granite stones. While the fire was burning, the holes were closed to block the fumes, with smoke passing up a regular chimney and heat passing into the home primarily as radiant heat. Once the combustion was completed and the furnace cleaned, the chimney was closed and the perforations opened to let the hot air to go up from the pile of stones into the room – efficiently providing heat with convection and radiant heating. This method included more refined control, since the perforation could be closed, keeping the stones warm and ready to be used if the temperature of the room was dropping. Of course, control was still done entirely manually with series of dampers and plugs.



Roman hypocausts used their thermal mass to provide consistent heat to the building above from fires below. source: wikimedia.org



These days there are electronic controls, the ability to start and stop the furnace with no human interaction, and a variety of heat sources available (electricity, oil, propane, etc.), making our home's heating system something we don't need to concern ourselves with on a typical day. We've come a long way!

Using ETS in the Yukon in the 21st century provides all the benefits of thermal storage for the homeowner that the Romans enjoyed with their hypocausts – reliable, consistent heat throughout the day – but the benefits extend beyond the walls of the home.

The use of electricity by the ETS units can be restricted to off-peak times, when all or most of the power being generated is coming from renewables like hydropower. This reduces the Yukon's reliance on and consumption of fossil fuels, which are not only polluting and contributing to climate change but are also expensive and noisy to operate. ETS can also help Yukoners add more intermittent renewables, like wind and solar, to the power grid, further reducing the role fossil fuels play in keeping the heat and lights on for Yukoners. That's what the ETS project is all about – identifying and studying the benefits and challenges of using ETS in the Yukon.

Modern-day ETS units are improved versions of the early bricks heating storage which date back to ancient China and Rome; their capacity has been improved to provide better control, better storage capacity, better and cleaner heat production. But the founding principle remains the same; we're just heating up bricks when a good source of heat is available so we can use that heat later.

*Clément Richard and Eric Labrecque*

## Free Guided Hikes: Miles Canyon/Kwanlin

Guided hikes are back at Miles Canyon this summer! With our new Trail Guide Coordinator Lorijane Émond-Quéméré starting in May, planning for this favourite summer event is well underway. Despite lower visitation numbers from non-Yukoners last summer, Miles Canyon guided hikes continued to be a hit and saw an increase in local participation numbers.

We anticipate this summer to be no different, and are planning for a minimum of two hikes a day Tuesday to Saturday from June 8th to August 14th. Each hike to Canyon City and back will take approximately two hours. Transportation to Miles Canyon trailhead is not provided. Keep an eye out for a special hike programming this summer, too!

For updated information on guided hikes and special themed hikes check our website.

<http://yukonconservation.org/programs/get-outside/miles-canyon-hikes-summer-programs/>





## A Good War: Mobilizing Canada for the Climate Emergency



Seth Klein has produced something of a miracle: a book about the climate crisis which is genuinely inspiring, energizing and hopeful. He shows the possibility of a total mobilizing of society similar to the amazing feat Canada pulled off during the Second World War.

The book's style is down to earth English peppered with lively stories, engaging interviews, and accounts of people from a cabinet minister to sea captains who did not follow orders, who "threw out the rule book", and changed the course of history.

Klein, an economist, is the son of conscientious objectors who fled to Canada to escape the Vietnam War draft while his mother was pregnant with him. (Yes, he is Naomi's brother.) With that pacifist background, he resisted the war analogy for the book at first.

When Canada declared war on Nazi Germany, the situation was dire, with Hitler's forces taking over country after country in the European mainland, Britain being pounded from the air, and Japan's imperialist government rapidly advancing in the Pacific. Klein points out that for once, declaring war really was necessary, and a positive outcome for the Allied forces was very much in doubt.

Today's situation is similar: Canada's greenhouse gas emissions have basically stayed the same over the last 20 years. The effects of the climate crisis are rampant and worsening. We have now under ten years to drastically reduce emissions.

Canada had just 11 million people in 1939, but before the war was over, without conscription, a million Canadians were involved in the military full time, most of Canadian society was involved in the war effort in one way or another, enormous sums had been spent, but the economy was booming, and people were pulling together.

With fully documented detail, the book describes 20 lessons from the war, including the Federal Government:

- taking charge and mandating, not just incentivizing, needed changes;
- undertaking a wide and truthful public information campaign to bring people on board;
- taking an attitude of spend what it takes to win;
- creating new economic institutions where needed and
- ensuring that a rigorous just transition plan is in place.

He describes the kinds of leadership that are needed, and the importance of social movements. There are also lessons on what not to do.

Klein commissioned research which indicates that Canadians now are considerably ahead of their governments in willingness to adopt stronger measures to reduce GHG emissions and to accept a changed society.

He offers a society that is both possible and better than the one we have now. A central theme of the book is that equality, a reduced gap between rich and poor, is an essential prerequisite for people to pull

together in a common cause. No one can be left behind, no one be treated as expendable.

Klein describes Indigenous people's contributions to the war effort, and their crucial leadership now in many situations to protect the land. We see how observing Indigenous rights, the UN Declaration on the Rights of Indigenous Peoples, is essential in the climate struggle.

Klein offers insights on how we can handle the powerful oil and gas industry.

He coins the term "new climate denialism", a way of thinking which agrees there is an emergency, but then promotes and practices a politics and policy agenda that fails to align with what the scientific community says we must do". We've declared an emergency, but when stronger measures to curb emissions and change society are proposed, we hear that we must "move gradually", "people are not there yet", the measures would be "too disruptive to the economy" or "too expensive".

He concludes with these words: "To delve into the realities of the climate crisis is often to wrestle with despair. The more one learns, the more one fears what this world will look like for future generations. Yet as I dove into the research for this book, I did find hope. It became clear that the technologies and policies needed to tackle the interlocking ecological and social crises are not unknown or waiting for us in the future; they exist now, waiting to be picked off the shelf. And the story of the war woven throughout this book is a helpful reminder that we can do this because we have done it."

Go to <https://www.sethklein.ca/book> for more information and interviews with Klein. Mac's Fireweed is happy to supply this inexpensive paperback.

*Book Review by Mary Amerongen*

**YES! I want to help protect Yukon's environment by supporting the Yukon Conservation Society!**



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The staff at YCS would like to thank everyone who helped out or attended our Annual General Meeting and Special General Meeting.

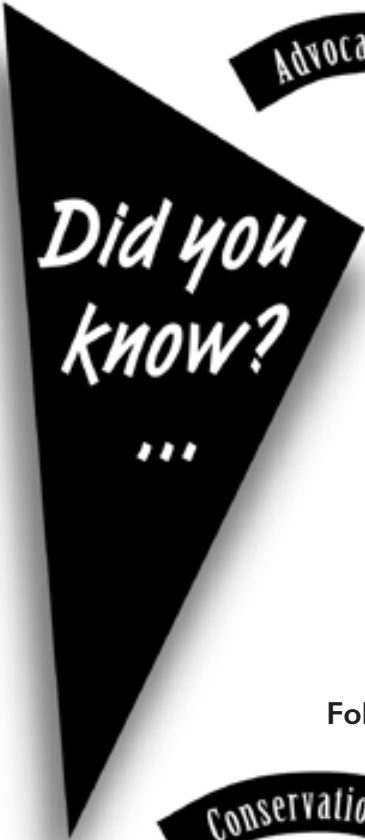
We would like to thank Satomi Hara for helping out posting photos on the YCS Instagram account.

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

As always, a big thank you to Tanya Handley for her amazing work on preparing *Walk Softly* for publication.

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

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