The Global Freshwater Biodiversity Crises: Insights from a two-eyed perspective to achieve novel approaches for freshwater conservation in the Yukon.

Yukon Biodiversity Forum

Keynote Presentation

Friday, March 1st

7pm

Yukon Beringia Interpretive Centre

Chrystal Mantyka-Pringle
Wildlife Conservation Society Canada
& University of Saskatchewan

Elizabeth MacDonald
Yukon First Nation Salmon Stewardship Alliance/
Council of Yukon First Nations

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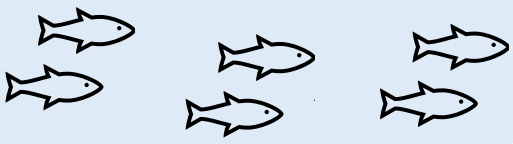
Abstract: The world's biodiversity is declining rapidly, with freshwater species impacted disproportionately in comparison to terrestrial and marine ecosystems. In the Yukon, we too are faced with population declines, particularly in chinook and chum salmon runs, and with significant changes in water patterns and melting glaciers that affect freshwater fish and their habitats. The global freshwater crisis is almost entirely caused by human activities, primarily those driving habitat loss and degradation, water extraction, flow regulation, climate change, and their interactions. These combined stressors or "cumulative effects" are a wicked challenge because having multiple different stressors makes it more challenging to focus on interventions as their impacts on biodiversity vary depending on the specific mixture of threats and other ecological factors. With these exacerbating impacts, we can learn from and work with Yukon First Nations who have been stewarding the land and water over a millennium. In this presentation, we draw on examples from both Indigenous and western science systems of knowledge to consider new and meaningful strategies to achieve freshwater conservation in the Yukon. This keynote will also present a mix of approaches and projects to gain insights into the interacting effects on freshwater biodiversity and how to translate research into meaningful conservation action and forward-thinking solutions in partnerships with First Nations. Together, the speakers will highlight the importance of bringing together multiple knowledge systems to inform and develop adaptive management solutions for the resilience and sustainability of freshwater ecosystems in Northern Canada.



Yukon · Yukon University · University of Alberta · Northern Systems Conservation Co-Lab

Chrystal Mantyka-Pringle
she/her/hers
Wildlife Conservation Society Canada & University of Saskatchewan

I work as a Conservation Planning Biologist and Co-Director for Wildlife Conservation Society Canada's Northern Boreal Mountain program, which is focused on wild regions in Yukon and northern BC. My passion for conservation science stems from my early childhood catching frogs in local wetlands and chasing prairie dogs on my families' farm in Saskatchewan. It was in these early years, that I learnt about the importance of curiosity and formed a deep connection with our natural world.

Today, I am privileged to work meaningfully with First Nations, governments and other NGOs to conserve biodiversity and wild spaces in the northwest for our future and my children's future.

In this work, I rely on my background in studying the impacts (and interaction) of climate change and land-use change (particularly human development) on biodiversity, and my commitment to reconciliation, to bring forward new ways of thinking and working together to better protect wildlife and wild places.

My work started in a much different environment: Australia. My PhD is from the University of Queensland's Centre of Excellence for Environmental Decisions and I later worked for the

Australian Government. After returning to Canada, my work has focused more on developing landscape planning approaches for conserving biodiversity, including working with Indigenous knowledge systems and combining this with scientific research data to try to drive better evidence-based decision making processes. I worked with the University of Saskatchewan's (U of S) Indigenous-community led research programs, focusing on the impacts of multiple stressors on river deltas. I also worked on planning processes for species at risk and climate change mitigation. I remain an Adjunct Professor with the School of Environment and Sustainability at the U of S, supervising a mix of graduate students and post docs.

I hope to share the curiosity and passion for nature and wildlife that I developed as a farm kid with the next generation and I am fortunate to work with a group of colleagues who share my passion for wildlife and conserving wild places.

Elizabeth MacDonald
She/her
Yukon First Nation Salmon Stewardship Alliance/Council of Yukon First Nations

I am the Manager of Fisheries at the Council of Yukon First Nations and support the work of the Yukon First Nation Salmon Stewardship Alliance in partnership with Yukon First Nation Governments with their aquatic priorities and a focus on Yukon salmon. My career has centered around Yukon salmon for over 15 years. In previous roles, I worked at Fisheries and Oceans Canada (DFO), mostly as a Yukon River salmon Biologist and then as the Executive Director at Yukon Salmon Sub-Committee. In these roles I learned a lot about salmon and the people living along the rivers within the Yukon and Alaska.

My education is in the western science world, and I have a Bachelors in Molecular Biology and Genetics. While I am extremely proud of my science accomplishments and work, I also can acknowledge the short comings of science and the scientific process. Most notably, the very short life span of western science in comparison to the data that First Nations have access to through Traditional Knowledge. Our understanding and knowledge of the world can be greatly increased by working in both these ways of doing and knowing. But, we have to make sure that we do it right. I hope to inspire more researchers to develop relationships with First Nations and expand their approaches so that we are better able to support wildlife and ecosystem diversity and of course, the people that are completely dependent and apart of these ecosystems.