

Session 8: Conservation Case Studies

Session Moderator: Kirk Safford

Location: TBC

Date/Time: Tuesday, December 13, 1:30 pm to 3:45 pm

- [Erica McClaren](#) - BC Parks and Gabriola Land and Trails Trust Collaborative Restoration Actions in a Garry oak ecological community in Drumbeg Provincial Park
- [Wayne Stetski](#) - A Critical Piece in Yellowstone to Yukon - Conservation Options in the Elk and Flathead River Valleys
- [Marc Edwards](#) - Regional disturbance mapping in SE Yukon and applications to conservation planning
- [Becky Edwards](#) - Satellite-based wetland mapping to support Indigenous Protected and Conserved Area in northern British Columbia.
- [Pierre Vernier](#) - Applications of disturbance mapping to conservation planning

Erica McClaren

BC Parks

BC Parks and Gabriola Land and Trails Trust Collaborative Restoration Actions in a Garry oak ecological community in Drumbeg Provincial Park

Abstract:

BC Parks and the Gabriola Land and Trails Trust (GaLTT) have been working collaboratively since 2018 to remove invasive species, inventory rare and unique species, and restore a Garry oak ecological community in Drumbeg Provincial Park. Meadows, which were once overtaken with Scotch broom, are now full of wildflowers including common camas. GaLTT volunteers have been working closely with BC Parks and Satinflower Nurseries to develop and implement seeding and planting prescriptions to enhance native species diversity and ecological resilience in the Garry oak meadows. Other collaborative restoration actions include: caging regenerating Garry oak seedlings; limbing Douglas-fir trees; using trail markers to control where park visitors walk; and using social media and installing interpretive signs to educate the public about the ecological values and work occurring in the park. Although rewarding, this work continues to present challenges such as dealing with ongoing persistent invasive species and treatment options on sensitive archaeological sites, threats from surrounding private property, as well as annual funding availability. The success of this project highlights the importance of strong relationships

between BC Parks staff and local community organizations such as GaLTT and the amazing work that can be accomplished through these partnerships and volunteer efforts. We endeavour to work more closely with Snuneymuxw and Lyackson First Nations on future restoration efforts in this area.

Contributors:

Libby Gunn, Gabriola Land and Trails Trust

Acknowledgements:

Drumbeg Provincial Park falls within the traditional territories of the Snuneymuxw (Nanaimo) and Lyackson First Nations. Funding for this work has been granted through BC Parks Park Enhancement funds to help support volunteer and community partnerships.

Wayne Stetski

Contractor

Former Regional Manager with BC Ministry of Environment; Former Manager of the East Kootenay Conservation Program; Former Mayor of Cranbrook; Former Member of Parliament for Kootenay Columbia.

A Critical Piece in Yellowstone to Yukon - Conservation Options in the Elk and Flathead River Valleys

Abstract:

The Flathead Valley is one of the most important natural areas for biodiversity in North America. It is a transboundary watershed shared with the United States, with much of the valley on the American side in Federal protection. While extractive activities such as oil, gas and mining are not allowed in Canada, logging continues and some roads remain open to motorized access year round. In the Elk valley, conservation is at a tipping point. The Elk Valley is home to several communities, a major highway and railroad, private land holdings that are being clear-cut and the largest coal mines in Canada. It is also home to relatively intact but unprotected wild places, rare high elevation grasslands, and important populations of iconic species like grizzly bears, Rocky Mountain Bighorn Sheep, westslope cutthroat trout, and dozens of plant and animal species of Conservation Concern. The two valleys have been called the most important wildlife corridor in North America linking large mammal populations in the USA with Banff National Park to the north. This report provides non-binding recommendations to the Federal government, the BC government and the Ktunaxa First Nation on options for securing critical core habitat and connectivity corridors key to furthering conservation in SE BC.

Acknowledgements:

Funding to produce the report came from Parks Canada. Information came from scientists, ecologists, biologists from the private sector, Federal Government, BC Government, Environmental Organizations, Recreational Organizations, Hunters, Fishers, Guide Outfitters. Release of the report was publicly supported by the Ktunaxa and Parks Canada. Financial support to come to the conference is being provided by Wildsight and potentially other conservation organizations based in SE BC.

Marc Edwards

University of Alberta

Regional disturbance mapping in SE Yukon and applications to conservation planning

Abstract:

The BEACONS Project at the University of Alberta (<https://beaconsproject.ualberta.ca>) has developed an open source surface disturbance mapping procedure, in collaboration with the Yukon Government, to support conservation area design with First Nations in southeast Yukon. Regional surface disturbance datasets provide important information for land relationship planning, Guardians' monitoring activities, and ecological analysis. The objective of this project was to develop a spatial-temporal database of surface disturbances, classified by disturbance type and date. Examples of surface disturbances in this region include mining activity, remote access roads and hunting/fishing camps and associated trails. The workflow involves collection and evaluation of available data, identification of gaps, and a digitizing procedure using satellite imagery to fill gaps in coverage. Disturbances can be dated using archives of older imagery. The surface disturbance database has multiple applications, including the development of human footprint maps to support conservation area design and connectivity analyses.

Contributors:

- Pierre Vernier, Research Assistant
- Kim Lisgo, Research Assistant
- Fiona Schmiegelow, Principal Investigator

Acknowledgements:

Wilburforce Foundation

Becky Edwards

Ducks Unlimited Canada

Satellite-based wetland mapping to support Indigenous Protected and Conserved Area in northern British Columbia.

Abstract:

Dene K'éh Kusān which means "always will be there" in Kaska is a proposed Indigenous Protected and Conserved Area (IPCA) in northern British Columbia which will protect their ancestral territory from biodiversity loss while creating economic opportunity for Kaska Dena and the surrounding communities. Ducks Unlimited Canada's (DUC) National Boreal Program has partnered with the Dena Keyah Institute and Dane nan yé dāh Kaska Land Guardian Program to support their IPCA management plan, by providing wetland maps to complement their planning and decision-making processes. DUC's wetland classifications use various multi-source Earth observation datasets, including optical, radar and topographic imagery, to create large-scale, detailed maps based on the five major classes of the Canadian Wetland Classification System (CWCS; open water, marsh, fen, bog, swamp) and then to the DUC's Enhanced Wetland Classification system (EWC; ~19 wetland classes). We use various types of reference data (helicopter-based vegetation surveys and high-resolution photo-interpreted sites) to train and validate our machine learning models to understand the different wetland types and complexes across the landscape. The results are a set of reliable and easy-to-read collection of spatial to support the on-going management of the Kaska region, a region we hope "always will be there."

Contributors:

- Corrine Porter, Dena Keyah Institute
- Tanya Ball, Dane nan yé dāh Kaska Land Guardian Program
- Michael Merchant, Ducks Unlimited Canada
- James Varghese, Ducks Unlimited Canada
- Lindsay McBlane, Ducks Unlimited Canada
- Kevin Smith, Ducks Unlimited Canada
- Alain Richard, Ducks Unlimited Canada

Acknowledgements:

Dena Keyah Institute, Dane nan yé dāh Kaska Land Guardian Program, Environment and Climate Change Canada (ECCC).

[Pierre Vernier](#)

University of Alberta

Applications of disturbance mapping to conservation planning

Abstract:

The BEACONS Project at the University of Alberta (<https://beaconsproject.ualberta.ca>) has developed a database of anthropogenic surface disturbances for the southeast Yukon region. The database includes mapped disturbances labeled by their disturbance type (e.g., mining, access roads, camps etc.). Here, we describe three conservation applications for the database, including a supporting Shiny App: 1) Human footprint / landscape intactness mapping - Users can explore the database within a Shiny App and export a custom human footprint or landscape intactness shapefile. Buffers of influence can be modified by disturbance type. 2) Resistance / permeability surface mapping - The database can be used to create custom resistance/permeability surface maps to support connectivity analyses. Resistance values can be modified by disturbance type. 3) Conservation area design/evaluation - The database can be used to support the design of conservation areas, as well as to evaluate the vulnerability of new and existing conservation areas to human disturbances upstream.

Contributors:

- Marc Edwards, Research Assistant
- Kim Lisgo, Research Assistant
- Fiona Schmiegelow, Principal Investigator

Acknowledgements:

Wilburforce Foundation