



Boreal Ecosystem Recovery and Assessment Stakeholder Engagement Workshop 2022

Date | time 12/9/2022 8:00 AM (MST)

Location Taylor Institute for Teaching and Learning (Forum), University of Calgary

Workshop Overview

Workshop Kick-Off

The workshop will begin with welcoming remarks from workshop co-chairs Greg McDermid and Julia Linke, who will frame the event by reviewing BERA's foundational principles and outlining the specific goals of our gathering.

Panel Discussion

Matthew Pyper (Fuse Consulting) will host a talk-show style discussion with a panel of experts from industry, consulting, research, and government. The panel will explore perspectives on boreal restoration, the role of research, and the panelists' hopes and wishes for the future.

Research Highlights

BERA researchers will provide 'lightning talks' (rapid-fire, two minutes each!) on their specific projects to date across two sessions: one before lunch and a second after lunch. Introductory talks from the PIs will provide the context for each session.

Interactive Poster Sessions

Participants will be given time to engage with BERA researchers in two interactive poster sessions: one following each round of lightning talks.

Plenary Reviews and Roundtable Discussions

Brief plenary review sessions will be held after each poster session to synthesize feedback from the group. The final session of the day will be devoted to round-table discussions designed to promote reflections and action-planning.

Workshop Goals

- 1) To highlight research activities underway within BERA
- 2) To provide engagement opportunities for partners, collaborators and interested stakeholders
- 3) To enhance connections among researchers and stakeholder groups
- 4) To promote discussions and actions that will benefit boreal restoration in Alberta

Program at a Glance

Time	Topic (Session Lead)
08:00 – 08:30	LIGHT BREAKFAST AND REGISTRATION
08:30 – 09:20	Workshop Opening, Welcome, & BERA Framing
09:20 – 10:20	Panel Discussion: Restoration Now and Into the Future
10:20 – 10:40	REFRESHMENTS
10:40 – 12:30	<u>Session I</u>: Promoting a Return to Forest Cover (Theme 1) and Restoring Natural Carbon Dynamics (Theme 2)
12:30 – 13:15	LUNCH
13:15 – 15:15	<u>Session II</u>: Maintaining Wildlife Habitat / Restoring Caribou Habitat (Theme 3) and Remote Sensing (Theme 4)
14:50 – 15:05	REFRESHMENTS
15:15 – 16:10	<u>Session III</u>: Reflections on Boreal Recovery Research and Mobilizing Knowledge Into Action
16:10 – 16:30	Action Planning and Concluding Remarks



Boreal Ecosystem Recovery and Assessment Stakeholder Engagement Workshop 2022

Detailed Agenda

Time	Topic	Presenter
8:00 – 8:30	LIGHT BREAKFAST AND REGISTRATION	
Workshop Kick-Off		
08:30-08:40	Workshop Opening	Julia Linke (BERA Science Coord.) University of Calgary
08:40-08:45	University Welcome	Rob Thompson (Assoc. Vice-President Research) University of Calgary
08:45-09:20	Workshop Framing and an Introduction to BERA	Greg McDermid (BERA PI) University of Calgary
09:20-10:20	Panel Discussion: Restoration Now and Into the Future <i>Jesse Tigner, SwampDonkey; Thea Carpenter, Environment and Climate Change Canada; Michael Cody, Cenovus Energy; Melanie Dickie, Alberta Biodiversity Monitoring Institute</i>	Matthew Pyper , Fuse Consulting
10:20-10:40	REFRESHMENTS	
Session I: Promoting a Return to Forest Cover (Theme 1) & Restoring Natural Carbon Dynamics (Theme 2)		
10:40-10:50	Theme 1 Overview: Promoting a Return to Forest Cover	Scott Nielsen (BERA Co-PI) University of Alberta
10:50-10:52	1. <i>Let it grow: Recovery trajectories of passive restoration of seismic lines (VG 1.1)</i> (Project Update ; Poster)	Colleen Sutheimer (PhD Student) University of Alberta
10:52-10:54	2. <i>Forest harvesting promotes seismic line regeneration in mesic upland forest (VG 2.1)</i> (Project Update ; Poster)	Leonardo Viliani (PhD Student) University of Alberta
10:54-10:56	3. <i>Planted seedlings and saplings have higher growth rates on actively restored seismic lines (RS 1b.1)</i> (Project Summary ; Poster)	Colette Shellian (MSc) University of Calgary
10:56-10:58	4. <i>Mounding effects on tree seedling survivability and growth along seismic lines (SY 3b)</i> (Project Update ; Poster)	Jennifer Fliesser (MSc Student) University of Waterloo
10:58-11:00	5. <i>Linear disturbances promote browse subsidy in peatlands and their ecotone with uplands (VG 3.1)</i> (Project Update ; Poster)	Spencer Quayle (MSc Student) University of Alberta

Detailed Agenda, Continued

Time	Topic	Presenter
11:00-11:10	Theme 2 Overview: Restoring Natural Carbon Dynamics	Maria Strack and Scott Ketcheson (BERA Co-PIs) University of Waterloo, Athabasca University
11:10-11:12	1. <i>Seismic lines in boreal peatlands increase methane emission and alter peat accumulation rates (SY 5.1 and SY 5.2)</i> (Project Summary SY 5.1 and SY 5.2 ; Poster)	Percy Korsah (PhD Candidate) University of Waterloo
11:12-11:14	2. <i>Assessing changes in peatland plant community function following seismic line disturbance (IN 3c)</i> (Project Update ; Poster)	Christina Bao (MSc Student) University of Waterloo
11:14-11:16	3. <i>Effects of seismic lines and their restoration on peatland carbon cycle (SY 4.1)</i> (Project Update ; Poster)	Nazia Tabassum (PhD Student) University of Waterloo
11:16-11:18	4. <i>Synthesis of soil properties on seismic lines in northern Alberta (SY 3d)</i> (Project Update ; Poster)	Marissa Davies (Post-doctoral Fellow) University of Waterloo
11:18-11:20	5. <i>The influence of seismic lines on soil properties and snow dynamics (SY 1.1 and SY 1.2)</i> (Project Update SY 1.1 and SY 1.2 ; Poster)	Lelia Weiland (MSc Student) University of Calgary
11:20-11:22	6. <i>Impact of seismic lines on boreal ecosystem water balance: evapotranspiration (SY 2.2)</i> (Project Update ; Poster)	Maryam Bayatvarkeshi (PhD Student) University of Waterloo
11:22-12:20	Poster Session I	
12:20-12:30	Plenary Review Session I	
12:30-13:15	LUNCH	

Session II: Maintaining Wildlife Habitat / Restoring Caribou Habitat (Theme 3) and Remote Sensing (Theme 4)

13:15-13:25	Theme 3 Overview: Maintaining Wildlife Habitat / Restoring Caribou Habitat	Erin Bayne (BERA Co-PI) University of Alberta
13:25-13:27	1. <i>Changes in boreal songbird communities and edge effects in response to linear features of varying width (HW 1.1 and HW 1.2)</i> (Project Updates HW 1.1 and HW 1.2 ; Poster)	Tharindu Kalukapuge (MSc Student) University of Alberta
13:27-13:29	2. <i>Small mammal feedback on linear features and well pads recovery (HW 3.1)</i> (Project Update ; Poster)	Alessandro Franceschini (PhD Student) University of Alberta
13:29-13:31	3. <i>LiDAR and Landsat spectral change metrics predict avian response to harvesting (Project from BERA Phase 1)</i> (Project Summary ; Poster)	Brenden Casey (PhD Candidate) University of Alberta

Detailed Agenda, Continued

Time	Topic	Presenter
13:31-13:41	Theme 4 Overview: Remote Sensing	Greg McDermid (BERA PI) University of Calgary
13:41-13:43	1. <i>Monitoring disturbance recovery using time series satellite data</i> (Project Update ; Poster)	Tanya Yeomans (MSc Student) University of Calgary
13:43-13:45	2. <i>Mapping seismic-line vegetation cover and species composition with remote sensing (RS 5.4)</i> (Project Update ; Poster)	Nicole Byford (MSc Student) University of Calgary
13:45-13:47	3. <i>Leaf-phenology and species influences seedling and sapling height predictions from remote sensing (RS 1b.2)</i> (Project Summary ; Poster)	Colette Shellian (MSc) University of Calgary
13:47-13:49	4. <i>Artificial intelligence for coniferous seedling detection (RS 1a)</i> (Project Update ; Poster)	Irina Terenteva (Post-doctoral Fellow) University of Calgary
13:49-13:51	5. <i>A drone-based approach for mapping plant traits on seismic lines (RS 4a.1)</i> (Project Update ; Poster)	Xue Yan Chan (MSc Student) University of Calgary
13:51-13:53	6. <i>Modeling solar irradiance on seismic lines – where do trees have enough light to grow? (RS 5.3)</i> (Project Update ; Poster)	Marlis Hegels (MSc Student) Ludwig-Maximilian University
13:53-13:55	7. <i>Measuring microtopography on seismic lines using LIDAR (RS 5.2)</i> (Project Update ; Poster)	Jasper Koch (MSc Student) Ludwig-Maximilian University
13:55-13:57	8. <i>Radar interferometry as a technique for mapping peatland surface deformation around energy development infrastructure (RS 3.1)</i> (Project Update ; Poster)	Niklas Heiss (MSc Student) Ludwig-Maximilian University
13:57-13:59	9. <i>Effects of 4D seismic activity on a boreal fen: a case study (IN 5a)</i> (Project Update ; Poster)	Xue Yan Chan and Lelia Weiland University of Calgary
14:00-15:05	Poster Session II	
14:50 – 15:05	REFRESHMENTS	
15:05-15:15	Plenary Review Session II	
Session III: Reflections on Boreal Recovery Research		
15:15-15:25	Opening Remarks and Breakout Process	Matthew Pyper , FUSE Consulting
15:25-16:10	Round-table Discussion & Synthesis: Mobilizing Knowledge into Action	
16:10-16:30	Action Planning & Concluding Remarks	Julia Linke & Greg McDermid University of Calgary

Registered Workshop Participants

Name by Organization	Position
<u>Alberta Government</u>	
Sarah Depoe	Director (Cumulative Effects Management, AEP)
Craig Dockrill	Director (Land and Environment Planning North – AEP)
Cynthia Chand	Integrated Resource Planner (Land and Environment Planning North – AEP)
George Duffy	Sub-regional Planning Lead (Land and Environment Planning – North, AEP)
Aaron Petty	Lead – Modelling Team (Cumulative Effects Management, AEP)
Chris Mallon	Land Change Modeller (Cumulative Effects Management, AEP)
Craig Mahoney	Wetland Scientist (Oil Sands Monitoring Branch, AEP)
Luis Fossi	EPO Wetland Specialist
Mina Nasr	Sr Geospatial Scientist (Watershed Sciences Branch, AEP)
Sara Barszczewski	Integrated Resource Planning Assistant
Shane Patterson	Science and Technology Specialist (Land Conservation/Reclamation Policy, AEP)
<u>Alberta Biodiversity Monitoring Institute</u>	
Cynthia McClain	Director (Geospatial Center)
Corinna Copp	Director (Information Center)
Monica Kohler	Director (Operations Center)
David Roberts	Co-Director (Science Centre)
Melanie Dickie	Caribou Coordinator (Application Center/RICC)
Jennifer Hird	Lead Scientist, Earth Observation Insights Unit (Geospatial Center)
Jiaao Gao	Research Coordinator (Geospatial Centre)
<u>Advisian</u>	
Chrissie Smith	Principal Environmental Scientist
<u>Alberta Data Partnership</u>	
Erik Holmlund	Executive Director
<u>Alberta Energy Regulator</u>	
Subir Chowdhury	Senior Remote Sensing Specialist
<u>Alberta Innovates</u>	
Dallas Johnson	Director, Integrated Land Management
<u>Alberta-Pacific Forest Industries, Inc.</u>	
Courtney Miller-West	Ecologist
Tom Habib	Ecologist
<u>Alberta Wilderness Association</u>	
Devon Earl	Conservation Specialist
<u>Arolytics</u>	
Cam Rollins	Senior Operations Manager
<u>Athabasca University</u>	
Scott Ketcheson	Canada Research Chair in Hydrological Sustainability
Jennifer Attema	Research Technician

**Name by
Organization****Position****Canadian Association of Geophysical Contractors**

Rod Garland	Manager Member and Safety
Mike Doyle	President
Doug Iverson	Consultant Geophysicist
Jason Lentz	Operations Manager

Canadian Forest Service/NRCAN

Matthew Wheatley	Science Director
Anna Dabros	Research Scientist
Caren Jones	Research Technician
Jaime Pinzon	Research Scientist
Guillermo Castilla	Research Scientist
Diana Stralberg	Research Scientist

Canadian Natural Resources Limited

Jeremy Reid	Environmental Coordinator
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Canadian Sphagnum Peat Moss Association

Peri Scheliga	Natural Resources Management Analyst
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Carson Integrated

Toni Anderson	Project Manager
Eric McMahon	Forest Technician

Cenovus Energy

Michael Cody	Lead (Regulatory Services)
Ted Johnson	Senior Manager (Environmental Operations)
Jennifer O'Brien	Senior Advisor (Regulator Services)
Ben Hale	Senior Advisor (Regulator Services)
Stephanie Kitchen	Senior Manager (Regulatory Services)

ConocoPhillips Canada

Robert Albricht	Supervisor Environmental Operations
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COSIA

Jack O'Neil	Director (Land EPA)
Tyler Veness	Director (Environmental Monitoring)
Vincent Yang	Senior Technical Advisor, Monitoring

Environment and Climate Change/ Government of Canada

Thea Carpenter	Wildlife Biologist
Shawn Morrison	Wildlife Biologist
John Headley	Senior Research Scientist

Foothills Research Institute

Laura Finnegan	Lead Caribou Program
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Fuse Consulting Ltd.

Matthew Pyper	Ecologist and Science Communicator
Terra Simieritsch	Project Manager

Name by Organization	Position
<u>Government of Saskatchewan</u>	
Amy Nixon	Landscape Conservation Specialist
<u>Heart Lake First Nation</u>	
Cameron Knutson	Regulatory Manager
<u>Matrix Solutions</u>	
Matt Wilkinson	Senior GIS Analyst
<u>NAIT</u>	
Bin Xu	NSERC Industrial Research Chair
Amanda Schoonmaker	NSERC Industrial Research Chair
<u>OGL Engineering</u>	
Sam Rondeel	VP Engineering
Brenden Birdsell	VP Business Development
<u>Optiseis Solutions Ltd.</u>	
Andrea Crook	CEO
Michael Hons	Geophysicist
<u>Lornel Group</u>	
Nathan Cicoria	President
<u>Ridgeline Environment</u>	
Serena Hohlbein	Project Manager
<u>University of Alberta</u>	
Erin Bayne	Professor (Biological Science)
Scott Nielsen	Professor (Conservation Biology)
Andy Crosby	Research Associate (Bayne Lab)
Lionel Leston	Research Associate (Bayne Lab)
Tharindu Kalukapuge	M. Sc. Student (Bayne Lab)
Colleen Sutheimer	PhD Student (Nielsen Lab)
Leonardo Viliani	PhD Student (Nielsen Lab)
Alessandro Franceschini	PhD Student (Bayne Lab)
Spencer Quayle	M. Sc. Student (Nielsen Lab)
<u>University of Calgary</u>	
Greg McDermid	Assoc. Professor (Remote Sensing)
Julia Linke	BERA Science Coordinator
Jan Ciborowski	Professor (Biological Sciences)
Mustafiz Rahman	Research Scientist
Claudia Maurer	Administrative Coordinator
Ksenija Crnogorac	Senior Financial Analyst
Kirstyn Dillon	Contracts Specialist
Maverick Fong	Geospatial GIS Technician
Richard Zeng	Geospatial Research Technician
Tanya Yeomans	M. Sc. Student (McDermid Lab)
Colette Shellian	M. Sc. (McDermid Lab)

Name by Organization	Position
Nicole Byford	M. Sc. Student (McDermid Lab)
Irina Terenteva	Research Associate (McDermid Lab)
Xue Yan Chan	M. Sc. Student (McDermid Lab)
Lelia Weiland	M. Sc. Student (McDermid/Ketcheson Lab)
Marlis Hegels (remote)	M. Sc. Student (McDermid Lab)
Jasper Koch (remote)	M. Sc. Student (McDermid/Ketcheson Lab)
Niklas Heiss (remote)	M. Sc. Student (McDermid Lab)
Yusif Abdullai	M. Sc. Student (McDermid Lab)
Hunter Jackson	BERA summer Research Assistant
Alejandro Caguao	BERA summer Research Assistant
Sara Heerema	BERA summer Research Assistant
<u>University of Lethbridge</u>	
Laura Chasmer	Associate Professor
<u>University of Waterloo</u>	
Maria Strack	Professor (Geography/Env. Management)
Marissa Davies (remote)	Research Associate
Jennifer Fliesser	M. Sc. Student (Strack Lab)
Christina Bao	M. Sc. Student (Strack Lab)
Maryam Bayatvarkeshi	PhD Student (Strack Lab)
Nazia Tabassum	PhD Student (Strack Lab)
Percy Korsah	PhD Student (Strack Lab)
<u>SwampDonkey</u>	
Jesse Tigner (remote)	Owner
<u>Sun Gro</u>	
Warren Walker	Director
<u>Westcore</u>	
Dale Kramer	Manager (restoration practitioner)
<u>Woodlands North</u>	
Bruce Nielsen	General Manager
<u>WSP Golder</u>	
L. Jack Yurko	Ecologist