

Conference Program

SERWOC

2018

RESTORATION  
*for*  
RESILIENCE

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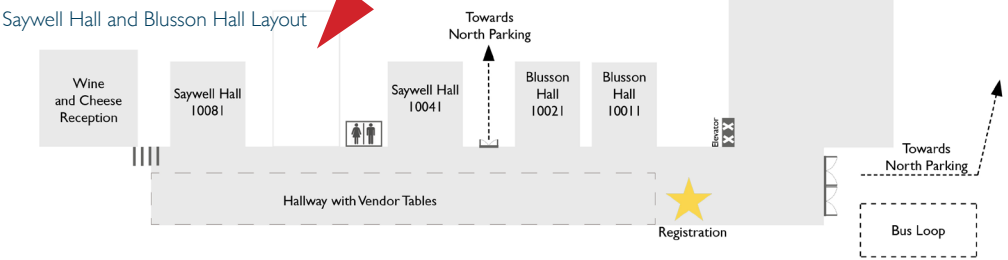
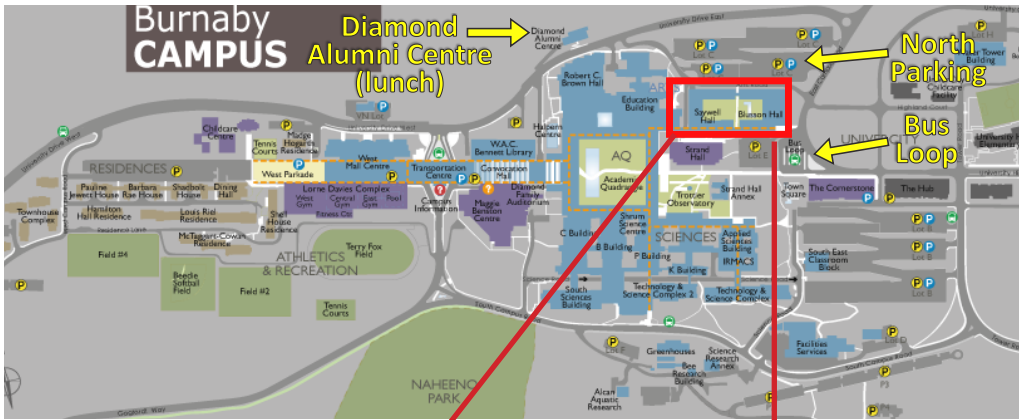


# NAVIGATION

Visit us online: [serwc2018.ca](http://serwc2018.ca)

<b>TABLE of CONTENTS</b>	Welcome to SERWC 2018 . . . . .	3
	Conference Schedule . . . . .	6
	Plenary Sessions . . . . .	10
	Panel Discussion . . . . .	14
	Concurrent Sessions . . . . .	15
	Poster Session . . . . .	18
	Our Sponsors . . . . .	19

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# WELCOME TO SERWC 2018!

## Society of Ecological Restoration - Western Canada Chapter, Chair

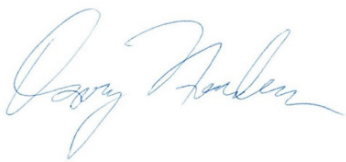
On behalf of the Society for Ecological Restoration – Western Canada, we welcome you to beautiful British Columbia!

We thank the Musqueam, Squamish, and Tsleil-Waututh peoples, on whose traditional territory we are privileged to gather for this conference. The joint Ecological Restoration program of British Columbia's Institute of Technology and Simon Fraser University partnered with us early on to help host this event. Thanks also to the North Growth Foundation, our other sponsors, and volunteers who helped make this event possible.

Our theme is Restoration for Resilience: Ecological Restoration in the 21st Century. We were drawn to "Resilience" given its relevance in global discussions surrounding climate change, community participation and collaboration, and biological diversity.

SER-Western Canada represents a diversity of regional environments, cultural traditions, professional backgrounds and practices. Some of us work with our hands and we sweat when practicing restoration. We might do this alone and far from others, or with groups of children and neighbours surrounded by laughter and smiles. Some of us sit around boardroom tables reviewing blueprints, budgets and regulations. Occasionally we leave the office to roam a work site in a hard hat, safety vest, and boots. Some of us do the work for free, because we are helping heal a place close to home. Some of us do the work for money, working within businesses, governments, consulting companies, not-for-profits, and research institutions. Some of us teach or study, from the perspective of the humanities in Victoria, social sciences in Winnipeg, forestry in Edmonton, or agriculture in Saskatoon. We have all come together here to learn from each other's perspectives.

The challenge I put to each and every one of you is to take some chances here. Go and see presentations you wouldn't normally consider seeing. Ask those questions that challenge assumptions. Talk to each other and debate in the hallways, at vendor tables, over a meal, during the poster session, or while walking the grounds. Seek out that expert you always wanted to meet, and don't be shy because you are really boosting their ego by approaching them, and they are here to meet you too. Continue your conversations and let us know what worked and what more we could do. And most importantly have fun!



Darcy Henderson

*Chair, Society for Ecological Restoration – Western Canada*



# WELCOME TO SERWC 2018!

## Minister of Environment and Climate Change Strategy, BC

Dear Conference Attendee:

As Minister of Environment and Climate Change Strategy for British Columbia, I would like to extend a warm welcome to the Society for Ecological Restoration's 2018 conference at Simon Fraser University.

It is an exciting time in British Columbia, as our new government is building a sustainable economy for future generations while taking meaningful steps to ensure our environment is protected. To this end, our government is working to strengthen our environmental processes – to make sure they are transparent, science-based, uphold the highest environmental standards, respect the rights of First Nations and reflect communities' best interests.

We have taken the first steps towards implementing a comprehensive climate action strategy that will reduce carbon pollution and help our transition to a prosperous low carbon economy. Included will be a new, legislated 2030 reduction target as well as sectoral targets for the built environment, industry and transportation sectors.

I look forward to your input when we commence consultations with the public and First Nations towards enacting new legislation to protect species-at-risk here in B.C. We need to properly protect endangered species, to ensure their habitats and ecosystems are not threatened as we generate economic growth.

Your organization's mission statement resonates with our commitment to protect our air, land and water in the context of a thriving, sustainable economy. The work you do is extremely valuable and I am pleased the priorities in my mandate letter closely align with your goals.

Ecological restoration and environmental protection are very important to me, and our government will be working collaboratively with everyone to ensure the natural beauty of our province is sustained.



Sincerely,

A handwritten signature in blue ink that reads "G. Heyman".

George Heyman  
Minister



# WELCOME TO SERWC 2018!

## Dean, Faculty of Environment, Simon Fraser University

Welcome to the 2018 SER Western Region Conference!

I am delighted to welcome you to a meeting that celebrates the inspiring theme of “Restoration for Resilience.”

Too often, the environmental challenges that we face worldwide, invite feelings of despair, hopelessness or even despondency. Ultimately, such sentiments only lead to inaction and often, to further environmental degradation.

A different approach to these challenges is required – one which, while grounded in realistic expectations, is also proactive, positive, optimistic and restorative, ensuring long-term resilience for ecosystems and diverse communities.

The group assembled at this conference promises to advance precisely such a constructive, affirmative agenda.

From urban to wilderness areas; oceans to inland waters; wildlife to plants and soils – living environments deserve our care and stewardship. That care emerges from evidence-based scientific research, traditional, indigenous knowledge, lived experience and critical engagement with the world in which we find ourselves.

Certainly, our sheer existence imparts a significant footprint upon the planet, degrading the environment from which we draw our sustenance. How we seek to restore the well-being and good health of those ecosystems that we impact is a true measure of our humanity and our moral integrity.

I am delighted that you are joining us at the SFU Burnaby campus to explore new opportunities for restoring our ailing world.

Good luck – and rest assured that the restorative, ecological solutions that you envision today and tomorrow are the keys to a more resilient future.



With best wishes,

A handwritten signature in blue ink that reads "I. Stefanovic".

Ingrid Leman Stefanovic,  
Professor and Dean

## Dean, School of Construction and the Environment, British Columbia Institute of Technology

Welcome to the SER-WC Conference: Restoration for Resilience: Ecological Restoration in the 21st Century

The British Columbia Institute of Technology is excited to partner with SER-WC and Simon Fraser University to offer this timely conference.

Ecological Restoration is a rapidly-maturing discipline in North America, evolving and gaining prominence within industry, government and academia. Thank you for participating in this conference and sharing the breadth and depth of your knowledge and expertise in this dynamic and growing industry.

The event showcases the latest advances in restoration techniques, highlights restoration projects from western Canada, and provides a forum for networking with practitioners, researchers, students, government representatives, Indigenous peoples, and industry representatives. Presentations include concurrent sessions in marine restoration, mine restoration, estuary and wetland restoration, cultural restoration, plant and soil restoration, wildlife restoration, and many more. As a field, ecological restoration is truly a multidisciplinary and community endeavour.

Throughout this conference, I ask you to stay engaged, keep us proactive and help us shape the future of ecological restoration in Western Canada.

Sincerely,

A handwritten signature in black ink that reads "Wayne Hand".

Wayne Hand P.Eng. MBA

# CONFERENCE SCHEDULE

TUESDAY, FEBRUARY 13

## Pre-Conference Workshops

\*Cost: Attendance fee is separate from Conference registration and must be paid in advance.

### Natural Processes for the Restoration of Drastically Disturbed Sites

Hosted by: David F. Polster  
Duration: 9:00am – 4:00pm (6 hours)  
Location: SFU Burnaby, Blusson Hall 1002 I

### Urban Restoration Design

Hosted by: James Godwin  
Duration: 10:00am – 12:00pm (2 hours)  
Location: SFU Burnaby, Blusson Hall 1001 I

### Peatland Restoration

Hosted by: Dr. Bin Xu  
Duration: 1:00pm – 4:00pm (3 hours)  
Location: SFU Burnaby, Blusson Hall 1001 I

## Pre-Conference Registration Mixer

### Wine and Cheese Reception (Cash Bar)

Time: 4:00pm - 6:00pm  
Location: Saywell Hall Atrium

## Field Trip

### Stanley Park

Location: Stanley Park Seawall, Lost Lagoon, Beaver Lake  
Logistics: Bus will depart from SFU Burnaby  
Duration: 1:30pm - 4:40pm (3 hours)



# CONFERENCE SCHEDULE

WEDNESDAY, FEBRUARY 14

Time	Event	Location
8:00 - 8:30	Registration	Saywell/Blusson Corridor
8:30 - 9:00	Opening Ceremony Chair SER-WC, Elder Margaret George	Saywell Hall 1008 I
9:00 - 10:00	Plenary - Resilience & Restoration Dr. Katharine Suding	Saywell Hall 1008 I
10:00 - 10:30	Health Break	
10:30 - 12:00	Plenary - Novel Ecosystem Restoration Dr. Emily Gonzales and Dr. Brad Pinno	Saywell Hall 1008 I
12:00 - 1:15	Lunch	Diamond Alumni Centre
<b>Concurrent Sessions</b>		
1:15 - 3:15	A - Burning Issues in Fire Restoration	Saywell Hall 1004 I
	B - Butterflies to Bison in Wildlife and Habitat Restoration	Saywell Hall 1008 I
	C - Tailings to Tamaracks in Mine Reclamation	Blusson Hall 1002 I
3:15 - 3:30	Health Break	
<b>Concurrent Sessions</b>		
3:30 - 5:00	A - Burning Issues in Fire Restoration	Saywell Hall 1004 I
	B - Butterflies to Bison in Wildlife and Habitat Restoration	Saywell Hall 1008 I
	C - Tailings to Tamaracks in Mine Reclamation	Blusson Hall 1002 I
5:30 - 8:30	Vancouver Craft Brewery Tour See Website for details. Advance ticket purchase is required.	Various

# CONFERENCE SCHEDULE

THURSDAY, FEBRUARY 15

Time	Event	Location
8:00 - 8:30	Registration	Saywell/Blusson Corridor
8:30 - 8:45	Announcements	Saywell Hall 10081
8:45 - 9:30	Plenary - Traditional Ecological Knowledge Dr. Jeannette Armstrong	Saywell Hall 10081
9:30 - 10:15	Plenary - Wisdom & Knowledge Transfer Michael Cody	Saywell Hall 10081
10:15 - 10:45	Health Break	
	<b>Concurrent Sessions</b>	
10:45 - 12:15	A - Rising Tides in Marine and Estuary Restoration	Saywell Hall 10041
	B - Innovative Standards, Metrics, and Approaches	Saywell Hall 10081
	C - Culturing Ecosystems and a Culture of Restoration	Blusson Hall 10021
12:15 - 1:30	Lunch	Diamond Alumni Centre
	<b>Concurrent Sessions</b>	
1:30 - 3:30	A - Rising Tides in Marine and Estuary Restoration	Saywell Hall 10041
	B - Innovative Standards, Metrics, and Approaches	Saywell Hall 10081
	C - Culturing Ecosystems and a Culture of Restoration	Blusson Hall 10021
3:30 - 5:00	Poster, Cocktails & Networking Session	Diamond Alumni Centre
6:30 - 7:30	Conference Banquet See website for details. Advance ticket purchase is required.	Listel Hotel



# CONFERENCE SCHEDULE

## FRIDAY, FEBRUARY 16

Time	Event	Location
8:00 - 8:30	Registration	Saywell/Blusson Corridor
8:30 - 8:45	Announcements	Saywell Hall 10081
8:45 - 10:00	Panel Discussion Am I Qualified to Practice Restoration?	Saywell Hall 10081
10:00 - 10:15	Health Break	
10:15 - 11:45	<b>Concurrent Sessions</b>	
	A - The Hype About Hyper-Abundant Herbivores	Saywell Hall 10041
	B - Rooting Around Plant and Soil Restoration	Saywell Hall 10081
	C - Saturate Your Thirst for Wetlands and Peatlands	Blusson Hall 10021
11:45 - 1:00	Lunch	Diamond Alumni Centre
1:00 - 3:00	<b>Concurrent Sessions</b>	
	A - The Hype About Hyper-Abundant Herbivores	Saywell Hall 10041
	B - Rooting Around Plant and Soil Restoration	Saywell Hall 10081
	C - Saturate Your Thirst for Wetlands and Peatlands	Blusson Hall 10021
3:00 - 3:15	Health Break	
3:15 - 4:15	Plenary - Bringing Back Bison to Banff National Park Karsten Heuer	Saywell Hall 10081
4:15 - 4:30	Closing Remarks of SER-WC Organizing Committee	Saywell Hall 10081

## SATURDAY, FEBRUARY 17

Time	Event	Location
8:00 - 5:00	Field Trip: Greater Vancouver Area Restoration Sites	False Creek, Brighton Beach, Seymour River Estuary, Stanley Park Forest Restoration

# PLENARY SESSIONS

## RESILIENCE AND RESTORATION

Wednesday, February 14, 9:00am-10:00am

Resilience has long been championed in ecological restoration as a strategy to sustain biodiversity and ecosystem services in the face of a rapidly changing and uncertain future. By identifying components and dynamics that bolster the system's ability to resist, recover or adapt to environmental changes, restoration can ensure sustainability in the coming century. But how can we actually manage for resilience? I focus on three possible strategies: we can manage drivers of change to enable historic states to persist; we can enhance a system's ability to adapt to changing conditions; and – particularly when anticipating catastrophic collapse – we can enable transformation to an alternative desired state. A key consideration is that processes which allow for ecological novelty (e.g., evolution, composition turnover) are necessary for ecosystems to adapt to change but actions which introduce “anthropogenic” novelty may often reduce adaptive capacity. While it may be difficult to predict how novelty will “naturally” emerge from complex ecosystem processes, attempting to emulate nature's response to environmental change may best embrace innovations critical for managing unprecedented environmental change.



### Katharine Suding

Katharine Suding is a plant community ecologist, and she is working at the interface of ecosystem, landscape and population biology. Her goal is to apply cutting-edge “usable” science to the challenges of restoration, species invasion, and environmental change. She and her research group are working with a range of conservation groups, government agencies and land managers to provide evidence-based solutions that take into account biodiversity, human well-being, and management opportunities. They employ a combination of long-term monitoring, modelling and experimental approaches in settings that range from alpine tundra to oak woodlands to grasslands. Common themes include plant-soil feedbacks, functional traits, species effects on ecosystem processes, and non-linear and threshold dynamics.

Katharine Suding is Professor of ecology at the University of Colorado in Boulder, Colorado, USA. She received her PhD from the University of Michigan and was on the faculty at the University of California Berkeley before moving to Boulder. She leads the Long-term Ecological Research Program at Niwot Ridge and is a Fellow of the Ecological Society of America. Her research is aimed at understanding the spatial and temporal dynamics of systems, why some systems change rapidly and others are surprisingly stable, and how this information can help us better meet conservation and restoration goals.



# PLENARY SESSIONS

## NOVEL ECOSYSTEMS RESTORATION

Wednesday, February 14, 10:30am-12:00pm

### Transformation Ecology: The Evolving Field of Restoration Ecology

Restoration ecology is poised to address global environmental challenges and benefit ecosystems, people, and economies. International policy has embraced this promise by setting ambitious restoration targets such as the Bonn Challenge, the 0x20 Initiative in Latin America, and the Convention on Biological Diversity's Aichi Targets. Will these investments in restoration live up to the promise? What exactly are we promising? Among the sciences, restoration ecology is unusually value laden, context driven, and prone to disagreement. In recent years, the novel ecosystems concept has emerged as a focal point of conflict in the field. Novel ecosystems are self-assembled ecosystems that have irreversibly changed and are self-sustaining in this new state. Opponents suggest recognizing the existence of novel ecosystems threatens to lower restoration standards and diminish the potential and promise of restoration. Others see novel ecosystems as a pragmatic path forward for highly altered sites given that restoration resources are limited and there are still ecosystem services and other benefits to be gained. Ultimately, achieving the promise of restoration requires the clear articulation of restoration goals and predicting those outcomes requires an understanding of the natural variability of ecosystem properties. Restoration is an inherently human endeavour and inclusive and participatory approaches are considered crucial to sustainable restoration. As these collaborative processes strive for consensus on goals and prioritization efforts, dialogue among restoration participants will continue to evolve concepts in restoration ecology.



#### Emily Gonzales

Emily Gonzales specializes in restoration ecology, conservation strategies, and species at risk management with Parks Canada in Vancouver. She has employment experience with government, non-profits, independent consulting, and academia. Emily is trained in facilitation, engagement and Indigenous awareness, and creates linkages among government, stakeholders, policy makers, researchers and Indigenous people.

### Learning from Novel and Natural Ecosystems in Oil Sands Mine Reclamation

Oil sands mine reclamation sites in the boreal forest of northeastern Alberta are clearly novel ecosystems given the new landforms, soils, species composition, and disturbance regimes associated with these sites. This concept of novel ecosystems is reflected in the regulatory requirement that reclaimed ecosystems have "equivalent land capability" to pre-disturbance conditions rather than being replicas of natural forests. However, there is still a strong desire to have functioning forest landscapes that are at least similar to natural boreal forests. So, what can be learned from natural ecosystems to help improve reclamation practices? To help answer this question, we established a multi-disciplinary study looking at the ecological responses to a variety of reclamation practices, including the use of different cover soils, fertilization, woody debris applications, weed control, and site preparation, in comparison to nearby naturally disturbed forests. The range of ecosystem components studied includes trees, plant community, soil physical, chemical and biological properties, arthropods, and microbes. Overall, it is relatively simple to determine statistical differences in ecosystem characteristics among reclamation treatments or between reclaimed and natural sites but it is far more challenging to quantify the ecological significance of these differences. For example, the use of upland-based cover soils results in plant communities more similar to natural forests but it is not known if the lack of certain species in early reclamation sites will be a long-term detriment to the ecosystem. The challenge now is to identify meaningful deviations from the desired ecosystem development trajectory and develop operational reclamation practices to help achieve the desired ecosystem outcomes.



#### Brad Pinno

Brad Pinno is a silviculture and forest ecologist working with Canadian Forest Service and Natural Resources Canada. Over the years, Brad and his team have studied how trembling aspen, and other environmental indicators, have responded to disturbances in Northern Alberta. Much of his research is aimed to help inform reclamation and logging projects.

# PLENARY SESSIONS

## RESTORING TRADITIONAL ECOLOGICAL KNOWLEDGE AND CULTURAL RESILIENCE: PRACTICING TMIXWCENTRISM

Thursday, February 15, 8:45am-9:30am

To the Syilx Okanagan, restoring TEK is vital as the foundational relationship to the environment. Cultural resilience is a concept central to the Syilx practice of enowkinwixw, a traditional ecological knowledge decision-making process placing outcomes in the context of a healthy and productive land. I use the term tmixwcentrism to discuss this imperative that remains fierce into the contemporary as evident by a strong intervention role in the assertion and exercise of caretaking of our territory. The Syilx Okanagan work of ecological restoration is an aspect of on-going Syilx cultural resilience through the practice and implementation of enowkinwixw. The undertaking of the Syilx Okanagan to return salmon to the Okanagan River examples the enowkinwixw process in revitalizing TEK as the framework by which the Syilx Okanagan engage in reclaiming culture through ecological restitution. Tmixwcentrism is about rebuilding the knowledge relationship to our traditional territories and has led to a reinstatement of practice based in sound ecological values in the modern Syilx lifeway as cultural resilience. The work to revitalize Syilx harvesting practice examples a method of ecological restoration and entails reintroducing Syilx food cultural protocols and ceremonies toward a conscious rekindling of Syilx harvest restoration as a daily norm. Cornthassel (2012: 89) reminds us, "These daily acts of renewal, whether through prayer, speaking your language, honouring your ancestors, etc., are the foundations of resurgence. It is through this renewal process that commitments are made to reclaim and restore cultural practices that have been neglected and/or disrupted."



### Jeannette Armstrong

Dr. Jeannette Armstrong, Canada Research Chair in Okanagan Indigenous Knowledge and Philosophy, aims to address existing barriers to research within this indigenous community by surveying, analyzing and categorizing Syilx captikwl (mythology) and smamay (legends) from a variety of published and unpublished collections.

She is also an award-winning activist, writer, poet and novelist, and professor of Indigenous Studies. Her research into indigenous philosophies and Okanagan Syilx thought and environmental ethics that are coded into Syilx literature has been recognized locally and globally, and she serves as an active member of the Okanagan Nation Alliance and the En'owkin Centre.



# PLENARY SESSIONS

## WISDOM AND KNOWLEDGE TRANSFER

Thursday, February 15, 9:30am-10:15am

Transfer of knowledge was essential for the rapid human development that occurred in the last century. Although transfer of wisdom and knowledge are in many ways instinctive among people, it also must not be taken for granted. With global complexity and increasing economic and environmental challenges, professionals are pressured to be responsive and continually improve outcomes. Key requirements for meeting this challenge include individual behaviours in the realm of curiosity, communication and passion for balanced, sustainable change. On a collective basis, we can develop communities of practice where learnings (from both research and applied practice) are shared and where mentorship, change management and knowledge transfer are core themes. Examples for discussion include learnings from agricultural extension in the enveloping world as well as industrial activity in the boreal. The Cenovus initiative in restoration of caribou habitat and specifically the LiDea project are profiled as an example for knowledge transfer with direct relevance to the global movement in ecological restoration.



### Michael Cody

Michael Cody works for Cenovus Energy Inc. as a Land and Biodiversity Specialist in the Corporate Environment, Sustainability and Public Policy Team. Michael's role at Cenovus involves the development and continual improvement of systems for improved environmental performance on forest land. Specifically, Michael is interested in methods for forest disturbance and recovery that facilitate managed, predictable outcomes and maintenance of forest goods and services while supporting oil and gas production. Michael's professional experience spans forest and energy industry as well as applied research and international development. Over the past ten years Michael has been involved in the development and operationalization of methods for forest restoration on legacy exploration disturbances in the boreal. Michael's work lead to the announcement, in 2016, of the Cenovus Caribou Habitat Restoration Project, the largest project of its kind in the world. Michael has an MSc In Agroforestry and a BSc in Forestry from the U of A.



## BRINGING BACK BISON TO BANFF NATIONAL PARK

Friday, February 16, 3:15pm-4:15pm

In February 2017, Parks Canada began a five-year pilot project to reintroduce North America's largest land mammal (bison) to Canada's first national park (Banff). Join us for some behind-the-scenes stories of the politics, biology, logistics and philosophy of trying to restore a large and sometimes threatening animal to a place where it's been missing for 140+ years.



### Karsten Heuer

Karsten Heuer is the Bison Reintroduction Project Manager for Banff National Park, a job he describes as the "most stimulating" in a 25-year career as a Park Warden and biologist in Alberta and the Yukon. He has taken a few leaves of absence in that time to follow endangered wildlife across the Arctic and along the Rocky Mountains on foot and skis. He has won many awards for the best-selling books he has written about those journeys and for the documentary films he co-created with his wife (e.g., Being Caribou, Walking the Big Wild, Finding Farley).



# PANEL DISCUSSION

## Am I Qualified to Practice Ecological Restoration?

Friday, February 16, 8:45am-10:00am  
Saywell Hall 10081

Moderator: Darcy Henderson

This question is often raised in meetings amongst our membership and, depending upon who is asking, the question can be slightly different. For example:

- How does a student know what program of studies to pursue if they want to be recognized as a professional in this field?
- How does a government regulator know if the report they are reviewing represents the work of a qualified professional in this field?
- How does a project proponent know if they are hiring a consultant who is a qualified professional?
- How do qualified professionals market themselves to prospective employers or clients?
- How do the public and media know to trust the advice of a restoration practitioner?

Members of the Society for Ecological Restoration – Western Canada represent students, regulators, industries, consultants, and community groups. Organizers of this conference wanted an opportunity to discuss the various options and roles of professionals, certification programs, outstanding challenges for collaboration, and opportunities for professional development.

This moderated discussion will introduce the concepts of professional reliance models of environmental and natural resource regulation, with an emphasis on British Columbia and Alberta. Each panel member will describe their experience developing these standards or their organization's professional scopes of practice, benefits of membership, application criteria, ethics and discipline, and on-going professional development requirements. Following questions from the moderator, the floor will be open for questions from the audience.

- **Chris Powter**, Enviro Q&A Services (Alberta Provincial Government (retired))
- **John-Paul Ellson**, British Columbia Institute of Agrologists <https://www.bcia.com/>
- **Michael Larock**, Association of British Columbia Forest Professionals <https://www.abcfp.ca/>
- **Peter Mitchell**, Association of Professional Engineers and Geoscientists, British Columbia <https://www.egbc.ca/>
- **Bethanie Walder**, SER Certified Ecological Restoration Practitioner <http://www.ser.org/page/Certification>



# CONCURRENT SESSIONS

WEDNESDAY, FEBRUARY 14

Every presentation is 30 minutes in length.

# A

## Burning Issues in Fire Restoration, Saywell Hall 10041

1:15 - 3:15

- Sophie Wilkinson** Did enhanced afforestation cause high severity peat burn in the Fort McMurray Horse River wildfire?
- Cameron Naficy** Unique spatio-temporal insights in mixed-severity fire regime forests using paired dendroecological and photogrammetric data
- Celeste Barlow** Garry Oak ecosystem stand history in Southwest British Columbia: Implications for restoration, management and population recovery
- Nicholas Hamilton** Resource patterns and fire disturbance in a dry Douglas-fir forest; Implications for restoration and management

3:30 - 5:00

- Raphael Chavardes** Altered mixed-severity fire regime has homogenised montane forests of Jasper National Park, Alberta
- Gabrielle Hindley** The effect of time-since-burning on the abundance and growth of *Linaria dalmatica* and *Centaurea stoebe*
- Marlow Pellatt** Bringing back fire to Garry Oak ecosystems in the Gulf Islands National Park Reserve: An ecocultural restoration project

# B

## Butterflies to Bison in Restoration, Saywell Hall 10081

1:15 - 3:15

- Pamela Zevit** Diversity by Design: A multi-species approach to mitigation and ecosystem restoration
- Carol Murray** Using adaptive management to reduce uncertainty and respond to changing management needs in ecological restoration
- Paula Bentham** Putting collaborative caribou habitat restoration into practice at the landscape scale
- Deanna MacTavish** Restoring endangered western painted turtle populations throughout the South Coast region of British Columbia

3:30 - 5:00

- Alan James** Road salt effects on an urban salmon stream
- Joanna Preston** Mine reclamation planning in high elevation caribou range advancing habitat restoration research through an academic partnership with the mining industry, First Nations, and scientists

# C

## Tailings to Tamaracks in Mine Reclamation, Blusson Hall 10021

1:15 - 3:15

- Amalesh Dhar** Effects of cover soil stockpile on plant community development in reclaimed boreal forest
- Katie McMahan** Rehabilitation of aquatic and terrestrial ecosystems following the Mount Polley Mine tailings dam embankment breach
- Sean Rapai** Evaluating the effectiveness of soil amendments in restoring boreal plant communities in a post gold mine environment
- Dean MacKenzie** Surface soil handling and stockpile impacts on plant propagules and establishment of native plant communities

3:30 - 5:00

- Estefania Milla-Moreno** Phytoremediation in a tailing of a Chilean Copper mine
- Amanda Schoonmaker** Hitchhiker planting: An alternative deployment strategy for ensuring the establishment of desirable native herbaceous species on disturbed industrial sites
- Amalesh Dhar** Effects of reclamation practices on plant community development after oil sands mining in boreal forest

# CONCURRENT SESSIONS

THURSDAY, FEBRUARY 15

Every presentation is 30 minutes in length.

# A

## Rising Tides in Marine and Estuary Restoration, Saywell Hall 1004 I

10:45 - 12:15

**Erin Roberts** Invertebrate, sediment, and blue carbon attributes within an estuarine ecosystem in relation to disturbance regime

**Marlow Pellatt** Blue carbon on the Pacific Coast of Canada: Measuring coastal carbon stocks in Pacific Rim National Park Reserve and the Clayoquot Biosphere Reserve

**Edith Tobe** Squamish Estuary Brownfield Restoration Project

1:30 - 3:30

**Eric Balke** Research into the cause of brackish marsh recession in the Fraser River estuary

**Scott Black** Deltaport causeway shoreline and intertidal saltmarsh rehabilitation project 2017

**Peter deKoning** Englishman River Estuary Restoration: A partnership approach to promoting climate change resiliency and restoring habitat through local knowledge and the development of hydrodynamic/wave models

**Nicole Sulewski** Cold water upwelling in coastal embayments of Lake Ontario: Implications for restoration

# B

## Innovative Standards, Metrics and Approaches, Saywell Hall 1008 I

10:45 - 12:15

**Bethanie Walder** Utilizing SER's International Standards to improve restoration outcomes

**Rene Lapointe** Forest landscape restoration in Canada. Opportunities and challenges in the international context

**Lisa Scott** Priority ranking project: An exercise in invasive plant treatment planning using land-based social values as a driver

1:30 - 3:30

**Valentin Schaefer** A qualitative assessment of urban ecosystem resilience using a habitat quality index

**Jennifer Barker** Minimal disturbance pipeline construction and habitat restoration practices in forested uplands and lowlands

**David Polster** Natural processes for the restoration of drastically disturbed sites

**Abimbola Ojekanmi** Applications of adaptable and quantitative soil quality assessment framework in land reclamation

# C

## Culturing Ecosystems and a Culture of Restoration, Blusson Hall 1002 I

10:45 - 12:15

**Michael Keefer** The Taku River Tlingit First Nation Otter Creek Wetland Development Project

**Trevor Williams** The context of the Taku River Tlingit First Nation Wetland Development Project

**Christopher Drake** It's a dirty job but someone has to do it: An environmental contractor's perspective on restoring wetlands on an old golf course on Salt Spring Island

1:30 - 3:30

**Beth Power** Using risk-based approaches to assess and manage contaminant risks during mine closure: Lessons learned

**Diego R. Pérez-Salicrup** Restoration of a process: Fire in the Monarch Butterfly Biosphere Reserve

**Kasey Moran** Community to community: Growing stronger together black cottonwood restoration project



# CONCURRENT SESSIONS

FRIDAY, FEBRUARY 16

Every presentation is 30 minutes in length.

# A

10:15 - 11:45

## The Hype About Hyper-Abundant Herbivores, Saywell Hall 10041

- Emily Gonzales** Ten years of hyperabundant wildlife management Parks Canada: policy, implementation, and outcomes
- Luise Hermanutz** A multitude of herbivores determine restoration strategies
- Luise Hermanutz** Panel discussion on hyperabundant herbivores in restoration
- Cora Skaien** Deer drive community and evolutionary changes in the threatened Garry oak ecosystem
- Sue Grayston** Deer Oh Deer: Investigating the cascading ecological effects of non-indigenous ungulates on Haida Gwaii
- Dylan Mendenhall** Futility of the hunt: How effective are deer culls and passive management for restoring the forests of Haida Gwaii?
- Robyn Irvine** Gained in translation: Distilling international expertise into local knowledge and support for the Llgay gwii sdiihlda - Restoring balance, Haida Gwaii Deer Eradication

1:00 - 3:00

# B

10:15 - 11:45

## Rooting Around Plant and Soil Restoration, Saywell Hall 10081

- Cindy Prescott** Restoration of soil organic matter on degraded sites: Important and surprising findings from recent research
- Alison Wilson** Rebuilding urban ecosystems to maximize stored carbon and water filtration
- Victory Coffey** Soil nematodes as bioindicators of restoration success in a northern fescue prairie
- Katherine Stewart** Opportunities and challenges for restoring northern ecosystems with locally sourced biological soil crust
- Rafael Otfinowski** Importance of species diversity in the revegetation of Alberta's northern fescue prairies
- Sascha Bachmann** Aspen parkland restoration in urban Alberta: Integrating native wetland, prairie, and forest ecotones to maximise ecosystem functions and services

1:00 - 3:00

# C

10:15 - 11:45

## Saturate Your Thirst for Wetlands and Peatlands, Blusson Hall 10021

- Carrie Nadeau** Flooding, Drought and Wetlands: How wetland restoration and long-term watershed planning can increase ecosystem resilience
- Katrina Napora** Considering the effects of hydrology treatments on peatland soil respiration
- Mark Adams** Ecological Restoration within the lower Pitt River, British Columbia, Canada
- Tara Bodeux** Pave Paradise and Put Up a Borrow Pit: A Case Study on Monitoring Constructed Wetlands
- Mallory Hazell** Zero to fen in the oil sands: Peat application and water sedge establishment in a constructed peatland
- James Michael Waddington** Mitigating wildfire carbon loss in managed northern peatlands through restoration
- Cody Thomas** Soil seed bank and above-ground vegetation composition on the Elwha River following dam removal

1:00 - 3:00

# POSTER SESSION

THURSDAY, FEBRUARY 15

3:30 - 5:00

Diamond Alumni Centre

- Jeff Anderson** Organic matter accumulation in reclaimed soils beneath different vegetation types in the Athabasca oil sands
- Jeannette Angel** Water ways design inquiry - Engaging in ecological restoration through creative collaboration
- Lydia Baldwin** Restoring carbon sequestration processes in a degraded wet meadow
- Landon Benson** The structural development of soil microbial communities in reclaimed sites of a metal mine; Implications to restoration of anthropogenic disturbances.
- Wesley Brookes** Mixed-severity fire history in a dry mixed-conifer forest reveals a drastically altered fire regime and supports the need for proactive management to reduce the potential of high severity fire
- Catriona Catomeris** Invasive deer alter soil microbial community structure and biomass in old growth forests
- Vanessa Comeau** Is climate change driving yellow-cedar decline on Haida Gwaii?
- Kelsey Copes-Gerbitz** Wildfire: Building social-ecological resilience at the Williams Lake Community Forest, BC
- Lynn Lee** Chiixuu tll iinasdll: Restoring balance in the sea with kelp forest restoration in Gwaii Haanas
- Morgane Maillard** Impact of introduced deer on nitrogen cycling in Haida Gwaii forests
- Sonya Oetterich** Spotted knapweed management: Restoring native host plants for the half-moon hairstreak (*Satyrium semiluna*)
- Isreal Ugochukwu Oshiojum** Effects of organic fertilizer (cow dung) amendment on phytoremediation of copper and iron-contaminated aquatic environment by water hyacinth (*Eichhornia crassipes* [Mart.] Solms)
- Sean Rapai** Examining the role of terrestrial lichen transplants in restoring woodland caribou winter habitat: A case study
- Tyne Roberts** Restoration potential of the Harrison Salmon Stronghold (Harrison River)
- Amanda Schoonmaker** Interim reforestation of soil stockpiles: Using nature to more effectively achieve future land reclamation goals in a forested landscape
- Christina Small** Validation of plant growth regulator products for the enhancement of germination, growth and development of native plants
- Heidi Strickfaden** Quantifying a novel method of grassland restoration using the Plug and Spread treatment in a shortgrass prairie system in Northern New Mexico
- Rebecca Tranmer** Restoring coastal sand ecosystems in the Gulf Islands National Park Reserve: An opportunity for partnerships and collaboration
- Brenley Yuan** Restoration of salmonid spawning habitat in the Upper Serpentine River

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