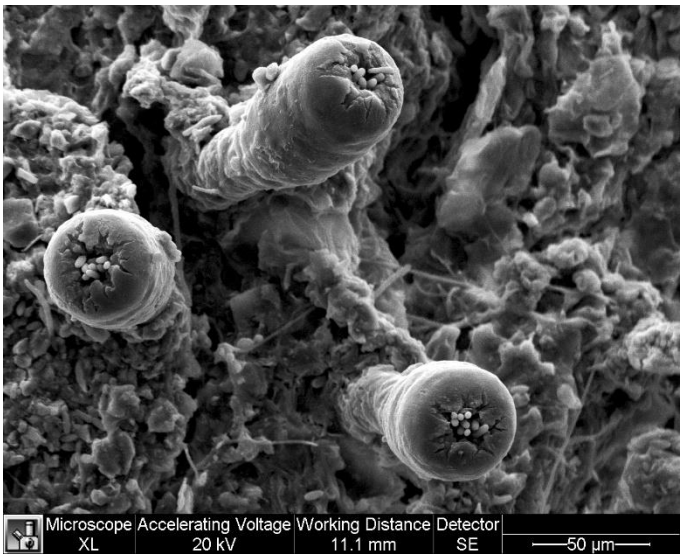
Diane Haughland

Diane is an adjunct professor and lecturer at the University of Alberta. From 2011-2025 she served as ABMI's lead lichenologist. She gave in to her love of lichens while completing her PhD on multi-taxa biodiversity monitoring with the ABMI. She is an ecologist by training, and taxonomist and teacher by nature.

Putting a pin in it: the incredible diversity of calicioid lichens and fungi in Alberta and a preliminary exploration of their indicator potential

Abstract: Calicioids are tiny stubble- or whisker-like lichens and fungi traditionally studied by lichenologists. They often are used as indicators of forest continuity or high conservation value habitat. This, however, requires a good understanding of their taxonomy and identification, something that Alberta lacked – until now! Our team recently completed a comprehensive calicioid flora for Alberta, documenting 72 species in total, more than doubling the previously known diversity of 31 species. We also describe three new genera and 13 new species to science, all from Alberta. The flora includes comprehensive descriptions, distribution maps and images of 93% of the species in the province. Here I will introduce some of those species, including some that can be found in and around Red Deer. I will discuss where and how to find them, as well as provide a preliminary assessment of their indicator value in Alberta, and what they tell us about habitat changes over space and time.



Recently described new calicioid fungus, "Brevicalicum roseum"

Jennifer Galloway

Dr. Jennifer Galloway is a research scientist and Chief Paleontologist with the Geological Survey of Canada. Her research focus is to reconstruct climate variability and its effects on terrestrial vegetation on various time scales, ranging from deep geological time to the Holocene (last ~10,000 years) to present through analysis of pollen and spores preserved in rocks, sediment, peat, and ice. She received a BSc(Hons) degree in Biology from Queen's University in 2002 and a PhD degree in Earth Sciences from Carleton University. She completed a post-doctoral fellowship position at the Geological Survey of Canada (2009-2011). She is former President of the Canadian Association of Palynologists (2023-2024), Editor-in-Chief of the Bulletin of Canadian Energy Geoscience (2020-2025), and Associate Professor at the Aarhus Institute of Advances Studies, Aarhus Denmark (2019-202). She is an Adjunct faculty member in the Department of Earth, Energy, and Environment, University of Calgary (2013-present) and Department of Earth Science, Carleton University (2013-present).

Holocene treeline migration rates in sub-arctic Canada

Abstract: Holocene climate change resulted in major vegetation reorganization in sub-arctic Canada near modern treeline, but little is known about the rate of those changes. We present a high-resolution vegetation history from two boreal sites in the central Northwest Territories, Canada, using pollen and spore analysis of lake sediments to elucidate how fast treeline moved in the past. The Danny's Lake record extends back to deglaciation of the region around 8000 years ago, and documents colonization by at least sparse trees beginning at ca. 7330 cal yr BP and an interval of rapid (50 m/yr) northward treeline expansion between ca. 4050 cal. yr BP and ca. 3840 cal yr BP in response to a 1–2 °C increase in temperature during the Holocene Thermal Maximum. Large scale reorganization of boreal vegetation can therefore be expected in coming decades.

Michelle Knaggs

Michelle Knaggs is a PhD candidate in the Applied Conservation and Ecology lab at the University of Alberta. Love for fieldwork brought Michelle to the boreal forest, leading her to complete her Msc. on boreal songbirds and wildfire through the University of Alberta. Her current research is in collaboration with the Canadian Forest Service and the Alberta Biodiversity Monitoring Institute, investigating the potential for boreal peatlands to buffer trees from drought.

Boreal trees through recent history: 60 years of subtle change

Abstract: Alberta's boreal forest is expected to experience increasing tree mortality as the climate warms and the region becomes more water limited. However, the common landscape feature of peatlands, which have amazing water holding capabilities, may potentially buffer trees from this water stress. My research uses dendrochronology to better understand how peatlands may buffer trees within and adjacent to peatlands from drought and an increasingly dry climate. In this presentation, I will discuss some changes in tree growth, as well as changes within the peatlands themselves, in response to climate over the past ~ 60 years in Northern Alberta.

Boreal Landscape

Sarah DeLano

Sarah DeLano is a mother, teacher, berry picker and researcher. She is a member of the Métis Nation of Alberta with deep ancestral roots in the City of Edmonton, where she also resides. Her research focuses on urban greenspace and community building; on the land, edible plants, and people of Edmonton and the connections that bind them together.

Visiting with plants through time: Tracing the suppression and survival of Indigenous and European women's plant knowledges

Abstract: Many feminist and Indigenous scholars point to the fact that Western understandings of nature, and humanity's relationship to it, relate directly to the oppression of both colonized peoples and women, while simultaneously contributing to present social and ecological crises. This presentation will trace the suppression of women's plant knowledges from the beginning of the Modern period in Europe and its exportation to the Americas by way of colonization and settlement. Examples of the reclaiming of women's plant knowledges will then be examined, with particular attention to the decolonial, feminist and environmentally healing potential of such projects. The role of both academic work and communities in the resurgence of plant knowledges will be highlighted.

Varina Crisfield

Varina is a plant ecologist and a conservation biologist from Alberta. While she spent most of her professional life in Alberta, she relocated to Quebec in 2020 to pursue a PhD focused on Key Biodiversity Areas and their capacity to support rare biodiversity in the long-term. She is currently a postdoctoral fellow at the Université du Québec in Abitibi-Témiscamingue (UQAT), where she is investigating the vulnerability of boreal bryophytes to environmental change. She has a long-term interest in rare species and their conservation, and this interest has shaped her career over the years, including her choice of doctoral and postdoctoral projects. She has also been an active member of the COSEWIC vascular plants subcommittee since 2021. In her spare time, she enjoys reading, running, botanising, and spending time with her cat.

The long-term conservation of rare plants and lichens in Key Biodiversity Areas

Abstract: Key Biodiversity Areas (KBAs) are sites with particularly high value for biodiversity, and their protection could contribute substantially to meeting biodiversity conservation commitments in Canada. However, climate change may erode the conservation value of KBAs, as their target species could be extirpated from these sites if climatic conditions in the site exceed the species' tolerances. We used niche models and climate projections to evaluate the climate change resistance—that is, the capacity to maintain climatic conditions conducive to the persistence of the target species—of KBAs in Canada designated for at-risk plant and lichen species. We assessed the relationship between climate change resistance and a suite of predictors related to the characteristics of the site or the target species. We found that KBAs located in the northern portion of their target species' range had high climate change resistance, as did KBAs targeting species with large geographic ranges. Climate change resistance was low for KBAs targeting Canadian endemics; however, this could be related to our modelling approach, and we caution against assuming that these KBAs have poor long-term conservation value.

Jenny McCune

Dr. Jenny McCune grew up on a small farm in southern Ontario. She completed her BSc in Biological Sciences at the University of Guelph, MSc in Ethnobotany at the University of Kent in Canterbury, England, and a PhD in Botany at the University of British Columbia. She joined the department of Biological Sciences at the University of Lethbridge in 2019. She and her students study long-term changes in plant communities and rare plant conservation in southern Ontario and southern Alberta. You can learn more about their work at jlmccune.weebly.com.

Plants through Time: from the distant past to the invisible present

Abstract: Academic ecologists have studied plant communities for well over a century, yet many mysteries remain. How do plant communities form? Why are some species in one place but not another? How will plant communities respond to ongoing global change? On one hand, the deep history of plants through time shows their remarkable resilience, propensity to evolve, and ability to survive catastrophes. On the other hand, many of the plants we know and love today are succumbing to habitat loss and alteration. In just the past few decades there have been tremendous shifts in the composition of plant communities, but these recent changes often go untracked and therefore unnoticed. In this talk I will argue that plants are both fundamental to life on earth *and* that each individual plant species is precious and fascinating in its own right. Using my own experiences studying plants and plant communities for more than two decades, I will highlight the challenges and intrigue involved in trying to understand the short- and long-term history of these enigmatic green creatures. Understanding the natural history of plants is of great importance, both for guiding plant conservation *and* for measuring the magnitude of our impacts on the planet.