

## Poster Board #1: Habitat and Restoration

<b>Poster Title:</b>	MHC's McEachran Property Restoration
<b>Poster Presenter:</b>	Kathy Murray, Habitat Conservation Specialist, Manitoba Habitat Conservancy
<b>Co-Authors:</b>	Dr. C. Emdad Haque, University of Manitoba
<b>Abstract:</b>	In 2016, Neil McEachran of Treherne, Manitoba, donated a quarter section of mixed-use farmland to the Manitoba Habitat Conservancy (MHC) for wildlife habitat protection. The land is primarily characterized as "go-back prairie," with several acres of wetland and woodland, and is located on imperfectly drained Black Chernozem soils. Since acquiring the property, MHC has worked to improve its health and productivity, starting with a wetland restoration in 2017 and the installation of a cattle grazing fence in 2018. After several years of rotational grazing, small patches of warm-season native grasses have emerged within a dominant non-native cool-season grass community. Forage utilization and productivity are inconsistent, with some areas heavily grazed and others accumulating substantial litter. To improve plant community composition, several transects were seeded in the fall of 2024 with a reclamation blend of eight native grass species. Future management will focus on enhancing plant diversity, nutrient cycling, and hydrologic function while maintaining high-quality habitat for wildlife.

**The NPRRW Poster Session is Sponsored By:**



<b>Poster Title:</b>	The Prairie Landscape Inventory: A wall-to-wall native prairie model for Saskatchewan
<b>Poster Presenter:</b>	Beth Dolmage, Saskatchewan Ministry of Environment
<b>Co-Authors:</b>	University of Saskatchewan
<b>Abstract:</b>	<p>Accurate mapping of the current extent of native grassland is needed to develop public policy and tools to conserve remaining native grasslands and direct restoration efforts. The Prairie Landscape Inventory (PLI) is a wall-to-wall landcover map for Saskatchewan’s prairies that separates native and tame grassland. The landcover classification maps were developed in different phases from 2019 to 2023 using machine learning algorithms and Google Earth Engine. Freely available 10-m resolution Sentinel satellite imagery was used as well as nearly 9,000 field samples from across all ecoregions that were collected using Survey123 through collaboration across the provincial government, and with partner organizations and volunteers.</p> <p>The PLI landcover map indicates that about 16% of the Prairie Ecozone is native grassland, compared to 55% cropland and 13% altered or tame grassland. The Mixed Grass Ecoregion and the Cypress Upland Ecoregion are the ecoregions with the highest percentage of native grassland (approx. 35% each). The Moist Mixed Grass and Aspen Parkland Ecoregions have the lowest percentage of native grassland (9% and 3% respectively). The accuracy of the landcover classification models ranged from 70% for the Moist Mixed Grassland to 92% for the Cypress Upland. The Government of Saskatchewan has published the landcover maps to view on HABISask and to download on GeoHUB.</p>

**The NPRRW Poster Session is Sponsored By:**





**NPRRW**

Native Prairie Restoration Reclamation Workshop



Saskatchewan

**Prairie Conservation  
Action Plan**

## Poster Board #2: Tools and Innovations

<b>Poster Title:</b>	How AI Empowers Everyone to Code, Analyze, and Innovate
<b>Poster Presenter:</b>	Jesse Lawrence, Good Lands Environmental
<b>Abstract:</b>	<p>"The advent of generative AI has revolutionized accessibility to coding and data analysis tools, breaking down barriers for individuals with limited or no programming experience. By leveraging tools such as ChatGPT, Replit, Cursor, and GitHub, I have successfully developed Python scripts and web applications to perform data analysis, image processing, and more—all without a traditional coding background.</p> <p>This poster will showcase practical examples of how generative AI can empower consultants, land managers, and other stakeholders to adopt open-source solutions for native prairie restoration and reclamation projects. By demonstrating how these tools can facilitate innovative, cost-effective approaches to data analysis and problem-solving, this presentation aims to inspire broader adoption of AI-enabled workflows."</p>

The NPRRW Poster Session is Sponsored By:





**NPRRW**

Native Prairie Restoration Reclamation Workshop



Saskatchewan

**Prairie Conservation  
Action Plan**

<b>Poster Title:</b>	Biochar Technology to Improve Soil Health While Achieving Net-Zero Emissions in Agroecosystems in Manitoba
<b>Poster Presenter:</b>	Natalia Daqui, Research Assistant, Assiniboine College
<b>Abstract:</b>	<p>"Biochar is one of the natural farm waste management products with the potential to help improve soil health while achieving net-zero emissions in agriculture production systems. Biochar applications in agriculture are not new to soil science across the globe. Several reviews, technical fact sheets, and technical papers have been published in the past focused mostly on laboratories, greenhouses, and small-scale experiments, however, information on field-based studies is limited, especially in Canadian prairies. Biochar is known for supporting carbon sequestration in the soil retaining up to 5 times its weight in moisture. Incorporating biochar into the soil has many benefits, including converting the waste material to soil amendments and improving air, water quality, and soil health while protecting the environment from hazardous and toxic chemicals.</p> <p>Field trials in Manitoba are needed to investigate the effects of biochar product types, application rate, and techniques of incorporation on soil health while measuring CO2 emissions from the treated field plots. Research studies are underway at the Russ Edwards School of Agriculture and Environment, the Assiniboine College, Brandon, Manitoba in collaboration with Jonique Farms Ltd. St. Laurent, Manitoba to investigate biochar product types (What form of biochar is most beneficial to Manitoba soils?), its application rates (How much biochar is enough for Manitoba soils?) and methods of application (How we can best apply the product while limiting losses?) to improve soil health and fertility of Manitoba soils while reducing greenhouse gas emissions and returning waste carbon into the soil ecosystem."</p>

**The NPRRW Poster Session is Sponsored By:**



## Poster Board #3: Plant and Seed Selection

<b>Poster Title:</b>	From nursery to native prairie: selecting species for supplementing seed collections
<b>Poster Presenter:</b>	Rachelle Lugar, Resource Management Technician, Parks Canada - Grasslands National Park
<b>Abstract:</b>	<p>"Restoration projects in Grasslands National Park (GNP) require large quantities of native seed from diverse species ideally genetically adapted to the local environment. Meeting these seed demands is often limited by the accessibility of commercial growers who supply seed with local genetics. Alternatively, in-house native plant nurseries can supplement seed collection efforts with a reliable and accessible source of locally genetic seed. GNP established a native plant nursery in 2017 and has been harvesting nursery-grown seed since 2018.</p> <p>By comparing the collection effort and seed yield for wild versus nursery-collected seed the strengths and weaknesses of implementing and utilizing native plant nurseries were examined. While collection effort and yield were considered key indicators for species selection, another aspect considered was the resource constraints throughout the season making certain species harder to collect in the park due to timing conflicts with other projects. Examining these factors will help understand the key considerations when selecting species for establishing in-house native plant nurseries.</p> <p>Due to the limited capacity of nurseries, intentional planning and species selection are necessary to optimize not only the amount and diversity of seed collected but also the resources dedicated to seed propagation and harvest. These considerations include the timing of seed maturity, collection window, accessibility of wild collection sites, labour limitations, and collection methods. This analysis of GNP's experience with our native plant nursery can provide insights to restoration practitioners seeking to establish their own native plant nursery as an alternative method of acquiring local genetic seed."</p>

**The NPRRW Poster Session is Sponsored By:**





<b>Poster Title:</b>	Applying landscape genomics tools to characterize Dalea (Prairie clover) adaptation in Western Canada
<b>Poster Presenter:</b>	Sean Asselin, Research Scientist, Agriculture and Agri-Food Canada
<b>Abstract:</b>	Dalea species (prairie clovers) are important nitrogen-fixing legumes in prairie ecosystems and are commonly employed in landscape restoration in Western Canada. Dalea candida (white prairie clover) and Dalea purpurea (purple prairie clover) are drought-tolerant, highly palatable, nutritious species for livestock and represent an opportunity to enhance the biodiversity of pastures and rangelands through the incorporation of novel native legumes. Work at Agriculture and Agri-Food Canada in Swift Current Saskatchewan has been focused on developing both source-identified and selection-track germplasm for prairie clovers to expand their use. We evaluated the population structure of both species using genotype-by-sequencing (gbs) to evaluate population structure and signals of local adaptation to climate to inform seed zones. Challenges and opportunities in the implementation of genomic tools for the development of native seed stock are discussed.

**The NPRRW Poster Session is Sponsored By:**





## Poster Board #4: Urban Restoration

<b>Poster Title:</b>	From Grassland to Wetland: The Ecological Impacts of Saline Runoff on Soil and Vegetation
<b>Poster Presenter:</b>	Fred Berry, University of Saskatchewan
<b>Co-Authors</b>	Malin Hanson and Eric Lamb, University of Saskatchewan
<b>Abstract:</b>	<p>Urban grasslands perform important ecosystem services and provide local opportunities for nature-based recreation, promoting human health and biocultural diversity. However, they face increasing threats from anthropogenic disturbances such as pollution. At the Peggy McKercher Conservation Area (PMCA) along the South Saskatchewan River in Saskatoon, Saskatchewan, highly saline runoff from a municipal snow storage facility (SSF) has caused annual seasonal flooding since ~2013. This anthropogenic flooding coincides with a marked shift in plant community from grasslands species to wetlands species. Recognizing that SSF runoff can impact abiotic soil conditions, I conducted a vegetation-soil interaction survey in a 1.2 ha study site encompassing the newly established wetland. I sought to investigate how SSF-altered soil conditions may be affecting the plant community at the PMCA. Wetland soil samples exhibited higher moisture content (+1.4x), electroconductivity (+3.0x), and soil organic matter (+1.5x), but lower pH (-0.2) and bulk density (-0.67x) (all <math>P &lt; 0.001</math>). The wetland plant community had reduced biodiversity and was dominated by salt-tolerant, hydrophilic species (<i>Typha x glauca</i> and <i>Phalaris arundinacea</i>). These findings suggest that SSF runoff has initiated an ecological cascade, where increased soil moisture and salinity have driven a shift from grassland to wetland plant species, and the plant species have further altered soil conditions to create an acidic wetland ecosystem with high soil organic matter. Management strategies at the PMCA should prioritize balancing the wetland's role in SSF pollutant filtration with efforts to mitigate further soil degradation, such as reducing litter accumulation, until long-term remediation measures can be implemented.</p>

**The NPRRW Poster Session is Sponsored By:**





**NPRRW**

Native Prairie Restoration Reclamation Workshop



Saskatchewan

**Prairie Conservation  
Action Plan**

<b>Poster Title:</b>	Prairie revival in the city: Ecosystem restoration and land-based learning at māmawêyatitân centre
<b>Poster Presenter:</b>	Julia Janicki, Restoration of Natural Systems Program, Continuing Studies, University of Victoria
<b>Poster Co-Author</b>	Jo Shepherd, māmawêyatitân centre
<b>Abstract:</b>	<p>Since 2023 māmawêyatitân centre (mc) has been converting a patch of school grounds into a native prairie garden. There are two main project goals:</p> <ol style="list-style-type: none"> <li>1. Replace underused lawn areas with native prairie plant communities on an urban site.</li> <li>2. Establish a land-based learning space for the largely Indigenous student body, as well as Elders, Knowledge Keepers, residents from North Central and beyond.</li> </ol> <p>To date, mc staff, Scott classes, summer garden employees and community volunteers have removed invasive species through various mechanical methods, including solarisation and occultation. The site was prepared by breaking up the soil, adding mulch pathways and installing edging. Over 1500 native prairie seedlings sourced from ALCLA, Prairie Originals and Nature Regina donations have been planted to date. Students have helped collect, clean and store seeds for future sowing and/or donation. In partnership with the North Central Community Association, 10 community garden gatherings brought students, volunteers and community members together from May-October 2024. During these gatherings participants learned about the garden and helped with tasks such as weeding and watering.</p> <p>Plans for 2025 include expanding the garden into an adjacent section, adding additional seedlings, sowing native seeds collected from fall 2024, working with a Scott media student to create an infographic pamphlet, and hiring a full-time Canada Works summer student employee. Additionally, a colleague at U of R is working on securing funds for a student to assist with planning and hosting cultural teachings in the garden which will be free and open to the public.</p>

**The NPRRW Poster Session is Sponsored By:**







## Poster Board #5: Restoration and Habitat

<b>Poster Title:</b>	Grass banking provides habitat for multiple species at risk in southwestern Saskatchewan.
<b>Poster Presenter:</b>	Diego Steinaker, South of the Divide Conservation Action Program Inc. (SODCAP Inc.)
<b>Co-Authors:</b>	Tom Harrison (SSGF), Krista Connick Todd (SODCAP Inc.), RJ Williamson (SODCAP Inc), Adrienne Tastad (SODCAP Inc.), Diego Steinaker (SODCAP Inc.).
<b>Abstract:</b>	<p>During the last 6 years, the South of the Divide Conservation Action Program Inc. (SODCAP Inc.), in partnership with the Saskatchewan Stock Growers Association (SSGA), Grassland National Park (GNP), and local ranches, developed and implemented grass-bank projects impacting 74,000 acres of public and private land, much of which is considered critical habitat for multiple species at risk. These grass-bank projects involve local ranchers from southwestern Saskatchewan and the Dixon community pasture, who utilize the prairie grass within the boundaries of Grassland National Park at a reduced rate, in exchange for achieving habitat targets for multiple species on the private lands and the community pasture they manage. Each year, a management team representing all the parties considers the outcomes of the previous season and discusses strategies to achieve objectives in the following season. One of the greatest challenges of the team is attempting to manage multiple habitats for the effective maintenance and recovery of multiple species. Habitat attributes preferred by species may overlap creating a competitive situation, and conflicting needs of species are difficult to address in multi-species approaches. Yet, multi-species management is desirable because single species management can reduce habitat quality for numerous other species. Overall, we found that grass banks provide meaningful benefits for both the environment and participating ranchers. Because the producers undertake conservation management on Park lands, Community pasture and privately owned lands, the conservation of habitat for multiple species is expanded more than GNP or the ranchers could achieve alone.</p>

**The NPRRW Poster Session is Sponsored By:**





<b>Poster Title:</b>	Restoring cultivated lands back to native prairie species in southwestern Saskatchewan.
<b>Poster Presenter:</b>	Diego Steinaker, South of the Divide Conservation Action Program Inc. (SODCAP Inc.)
<b>Co-Authors:</b>	Krista Connick Todd (SODCAP Inc.), Tom Harrison (SSGF), Mindy Anderson (SSGF), Adrienne Tastad (SODCAP Inc.), Maggy Cooper (SSGF), Diego Steinaker (SODCAP Inc.)
<b>Abstract:</b>	<p>For many grassland species, parcels of cultivated farmland beside native prairie create gaps in their movement patterns. Restoring prairie in these areas helps create habitat corridors, increasing grassland connectivity and allowing species to move freely. Reverting cultivated farmlands to more diverse and perennial plant communities also improve the resistance and resilience of the ecosystem to perturbations and recover important processes and ecological functions including nutrient dynamics, carbon sequestration, hydrological regulation and erosion control. In recent years, the South of the Divide Conservation Action Program Inc. (SODCAP Inc.), in partnership with the Saskatchewan Stock Growers Foundation (SSGF) and other organizations, and with the support of a variety of funders including the U.S. National Fish and Wildlife Foundation and the Weston Family Foundation, signed conservation agreements with nine landowners to restore 1,725 acres of cultivated parcels back to native prairie species. The agreements included payments made to the producer to cover the costs of native seed mixes, seedbed preparation and weed control, and lost opportunities associated with resting seeded area up to 2 years post-establishment. In all cases, producers provided in-kind support. The length of the agreements is 10 to 20 years, and grazing plans were developed for post establishment. Seeding back to native species is an expensive endeavor, and the returns to the producer via any additive sales of livestock are not always achieved in the short or medium term. Thus, appropriate incentives still need to be explored to encourage producers to restore the lands they are responsible for managing.</p>

**The NPRRW Poster Session is Sponsored By:**



## Poster Board #6: Woody Encroachment and Wild

### Fires

<b>Poster Title:</b>	Managing for Shrub Encroachment on Native Mixed-grass Prairie
<b>Poster Presenter:</b>	Carol Graham, Rangeland Extension Specialist, Manitoba Habitat Conservancy
<b>Co-Authors:</b>	Dean Brooker, Souris River Watershed District Scott Hainsworth, Souris River Watershed District
<b>Abstract:</b>	<p>"Native prairie in southwestern Manitoba is characterized as mixed-grass prairie, supporting a diversity of short and tall grass species. Mixed-grass prairie depends on natural disturbances such as fire and grazing to maintain the unique species richness, however in the absence of fire and/or in the presence of overgrazing, wolf willow (<i>Elaeagnus commutata</i>) and western snowberry (<i>Symphoricarpos occidentalis</i>) encroach onto the native prairie. As the shrub cover increases, plant species composition shifts to non-native species, most notably among the grasses, and biodiversity declines.</p> <p>Management for shrub encroachment to address declining biodiversity has included burning, however mowing has been a preferred strategy due to the flexibility it provides in accessing sites and timing applications.</p> <p>Multiple mowing applications at specific times of the growing season have proven effective at reducing shrub cover in the short term. Unfortunately, without ongoing management, shrub cover returns, and the restoration of native grasses becomes limited.</p> <p>Ongoing shrub management is ineffective for a landowner; therefore, mowing and herbicide application has been introduced as an alternate management strategy. Mowing reduces the shrub cover, while a directed herbicide application appears to reduce shrub presence for the longer term. In the absence of shrubs, growing conditions become favorable for native grasses, reestablishing the biodiversity unique to native mixed-grass prairie.</p> <p>Future implementation of the shrub management strategy will involve continued monitoring of plant community responses (native and non-native species) however initial applications suggest a viable means for addressing shrub encroachment."</p>

**The NPRRW Poster Session is Sponsored By:**

<b>Poster Title:</b>	A critical review of the Western wildfire management techniques: Reconnecting Indigenous Knowledge in building Community Resilience
<b>Poster Presenter:</b>	Somashree Chattapadhyha, Graduate Student, Natural Resource Institute, University of Manitoba
<b>Co-Authors:</b>	Dr. C. Emdad Haque, University of Manitoba
<b>Abstract:</b>	<p>According to literature published over the past century, the Indigenous people have experienced direct and cultural suppression because of their reliance on wildland fire for livelihoods (Ponce-Calder´ on et al., 2022). In the colonial and post-colonial states fire suppression policy, oftentimes the Indigenous communities were criminalized with fines, imprisonment, and relocation that systematically excluded them from fire management strategies. This led to a gradual marginalization of the Indigenous worldview of interconnectedness, beliefs, governance systems, and their fire knowledge that are critical to maintain forest sustainability (Inturias et al., 2023).</p> <p>Indigenous cultures around the world place a high value on fire by viewing it as part of mother nature. Indigenous communities have been using fire as a means of subsistence for ages (Lewis 1988a; Huffman 2013). Burning savannas to make farming and hunting easier in Brazil (de Melo and Saito 2013), burning tropical grassland for livestock in African continent (Kull and Laris, 2009), protecting families from animals in Australian continent (Biddle et al., 2020; Beggs &amp; Dalley, 2023) and burning Canadian boreal forest in the early spring or late summer to prolong the growing season (Lewis 1989) are all examples of the use of fire for landscape management and sustainable livelihoods.</p> <p>This poster paper will critically review how the existing fire management techniques are augmenting larger wildland fires and endangering the lives and livelihoods of the Indigenous communities, and how to respectfully reconnect with Indigenous and Western knowledge could be used as a tool to manage wildland fires.</p>

**The NPRRW Poster Session is Sponsored By:**

