

Newsletter of the Native Plant Society of Saskatchewan



# ROOTS

Vol. 29 No. 2

Summer 2024



*Opuntia polyacantha*

Prickly-pear Cactus

Photo credit: C. Neufeld

## Executive Director's Message Chet Neufeld

I hope everyone is enjoying these warm days and getting out to enjoy the natural world. This summer was another mixed bag of weather, from a cold and wet June to a smoky, hot July, but we persevered and got a lot of field work done. This was due in no small part to our amazing staff: Hilary Pinchbeck, Reed Lewko, and our summer students Cassidy Flasch and Obaida Elshamy. Thank you so much for all your hard work! In fact, as I write this, they are still in the field and will likely be out until the end of September. Stable funding is another factor which has helped us achieve success this summer, for which I am very thankful.

This year, we have received financial support for our projects from Environment and Climate Change Canada, Fisheries and Oceans Canada, Mosaic, the Nature Conservancy of Canada, Saskatchewan Ministry of Highways and Saskatchewan Ministry of Environment. We have also received generous donations from our members and the public, which have been instrumental in maintaining some of our initiatives. I will also be busy this fall writing funding proposals that will keep us active and impactful for the next several years.

Some of the highlights so far have been the discovery of new provincially rare plant locations, which you'll read about in the articles on the following pages, as well as gains against invasive species. It was also a pleasure to see many of you out on our field tours and volunteer days. 2024 has also seen some firsts for us; namely, the production of a video as part of our upcoming 30<sup>th</sup> anniversary in 2025. We have been busy all summer collecting footage, and will continue into the fall, with the debut scheduled for our annual general meeting this winter.

As always, please contact me with any questions about native plants or the society, and thank you for being a part of our merry band of botanists.

## Meet the Team – Obaida Elshamy, NPSS Project Technician

I studied at the University of Saskatchewan in the College of Agriculture and Bioresources. My degree is in Environmental Science with a certificate in Sustainability. I had a hard time picking a minor but ended up going for Applied Plant Ecology and didn't regret it, as it gave me loads of experience that I enjoy.

I've always liked being outdoors, and in the past year, I have discovered the richness of fieldwork and research. I had the opportunity to work on controlling a noxious weed here in Saskatchewan (Common Tansy), monitor wildlife in northern Manitoba, incorporate traditional knowledge with scientific knowledge, and identify different soil catenas deep in the boreal forest. These experiences shaped my principles regarding environmental science, especially in natural resources and economics. I learned how to connect humans to nature and how we are not so different from it. I discovered how Indigenous people around the world have created bonds with the land and how plants play significant roles in celebrations and sorrows.

I'm excited to work with the Native Plant Society of Saskatchewan, contributing to a good cause by helping to eliminate invasive species and learning more about native plants.



*Roots* is a quarterly publication of the Native Plant Society of Saskatchewan (NPSS) and is one of the benefits of membership. Members are invited to submit articles, news, views, photographs and comments. Views expressed by the authors are not necessarily those of the NPSS.

### Deadlines: Submission Publication

Winter Issue: November 1 December 15

Spring Issue: February 1 March 15

Summer Issue: May 1 June 15

Fall Issue: August 1 September 15

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### Membership Dues (Year End November 30<sup>th</sup>).

Individual \$30 Family \$45 Student \$15

Non-profit \$100 Corporate \$200

Life \$500 Please contact the NPSS office for info about the lifetime membership instalment payment option.

Get your photo on the cover of... **ROOTS**! Submit your Saskatchewan native plant photos for future cover consideration to: [info@npss.sk.ca](mailto:info@npss.sk.ca)

## Notes From the Field – Rare Plants and Ranchers Update

Obaida Elshamy – NPSS Project Technician

This field season, my team at NPSS and I had the chance to find rare, threatened, and uncommon plants around Saskatchewan. The areas we searched were either points where rare plants were previously found or unexpected areas. The hunt is ongoing, but in those specific areas, we search a little more. That's why we are always on the lookout. It's a good thing we are a team of four, so we are less likely to miss plants like these. Near Burstall, on private property, we found Plains Grape-fern (*Botrychium campestre*, S3). Finding a rare plant always makes our day a little more special, and this the first rare plant I have seen in southern Saskatchewan. This fern is small, only a couple of centimeters from the ground. Once we found one, we found plenty around, such as beside my coworker Hilary's bag and where I was sitting. This fern is found in coarse, well-drained glacial till or in thin loess over bedrock in plant communities that include dry prairies, dry hill prairies, dry bedrock bluff prairies, and sand-gravel prairies. Prairie habitats need



Plains Grape-fern (*Botrychium campestre*).



Lance-leaved Stonecrop (*Sedum lanceolatum*).

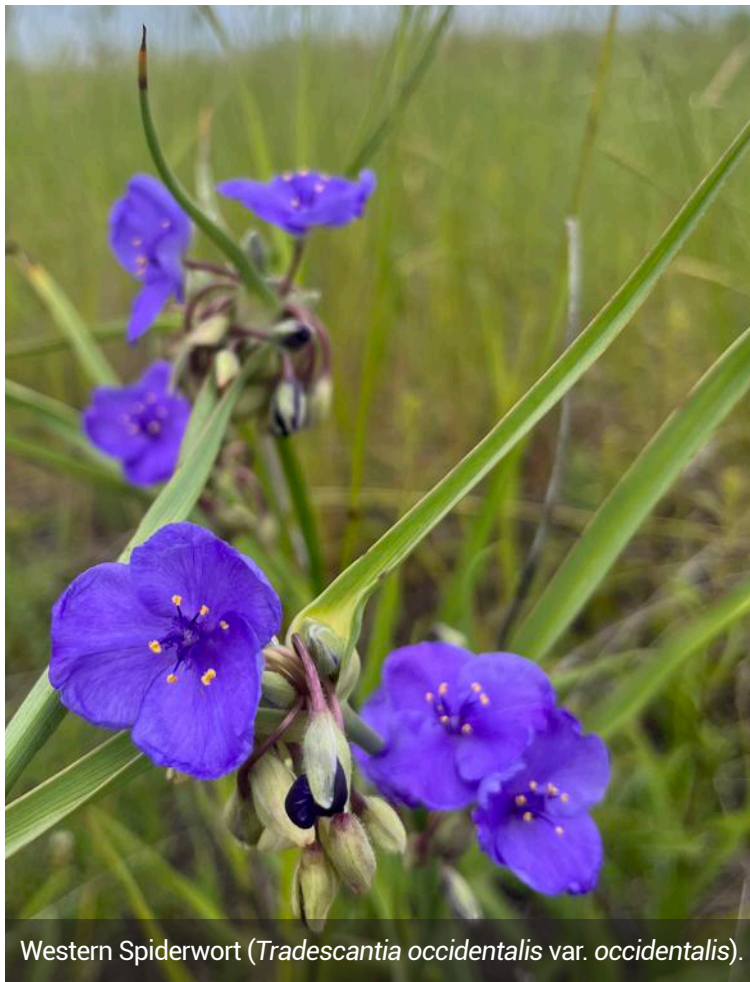


Gumbo Evening Primrose (*Oenothera caespitosa* ssp. *caespitosa*).

to be maintained in a healthy condition, especially the soil biotic environment, which makes me happy to see our prairies healthy enough to support this fern and many more plants!

We also had the chance to see Slender Mouse-ear-cress (*Crucihimalaya virgata*), which is listed as threatened, near Burstall. Thanks to Candace Neufeld of Environment and Climate Change Canada, we saw it in an area that was not on our search points for this year. On another private property near Burstall, we found Prickly Milk-vetch (*Astragalus kentrophyta* var. *kentrophyta*, S2), a rare prickly plant that is smaller than you would expect. The searches around Burstall and the plants we found were super exciting and rewarding for the whole summer.

Later, on Rose Creek Ranch, we found *Sedum lanceolatum* var. *lanceolatum* (Lance-leaved Stonecrop, S3) and the popular Gumbo Evening Primrose



Western Spiderwort (*Tradescantia occidentalis* var. *occidentalis*).



Blushing Scale Lichen (*Psora decipiens*).

(*Oenothera caespitosa* ssp. *caespitosa*, S3) after a long shift of mapping invasive Leafy Spurge (*Euphorbia virgata*). Finding these plants was exciting and made me even more satisfied with all the plants I have seen over those couple of weeks.

Around Elbow, we found the gorgeous Western Spiderwort (*Tradescantia occidentalis* var. *occidentalis*), which is very rare in Saskatchewan and ranked as S1 (as of 2021) by the Saskatchewan Conservation Data Centre. It was super exciting to see this vibrant purple plant on the side of a road. We also found plenty of Small Lupine (*Lupinus pusillus* ssp. *pusillus*), labeled as uncommon (S3), near Elbow and near Burstall.

Near Elbow, on another private property, we found Blushing Scale Lichen (*Psora decipiens*), *Cuscuta gronovii* (Dodder, S1), and plenty of Smooth Goosefoot (*Chenopodium subglabrum*, S3). We also found Small-flowered Sand-verbena (*Tripterocalyx micranthus*, S2), which is federally endangered and only lives on open sand in a few locations in Canada. Finding masses of them in this area brightened up our summer even more.



Small-flowered Sand-verbena (*Tripterocalyx micranthus*).

## Did You Know?

Grasslands National Park, in south-western Saskatchewan, represents one of the largest intact remaining native prairie areas in Canada.



Grasslands National Park.  
Photo by C. Neufeld

# Stopping the Spread in the Sandhills – Downy Brome Removal

Cassidy Flasch – NPSS Project Technician

Early this season, the NPSS crew spent some days managing Downy Brome (*Bromus tectorum*) in some of our Rare Plants and Ranchers properties near Burstall and Maple Creek. This invasive grass, found in southwestern Saskatchewan, is of concern since it is adapted to frequent fires (more frequent than our typical native prairie) and produces a very flammable litter that completely dries out by early summer, making it a fire hazard. It also spreads rapidly in sandy soils. The rough awns are also a nuisance and potentially dangerous to livestock as they can perforate the soft tissue of their mouths, noses, eyes and intestines. The crew got down and dirty hand-pulling the grass to contain the spread and hopefully control the infestation. Since Downy Brome is an annual species that only spreads through its relatively short-lived seed (remaining viable for 4 years), seed production must be eliminated and managed for multiple years to eradicate an infestation.

Pulling this weed was quite easy and satisfying as it is a slender plant with a small root system that was infesting quite sandy soils around dugouts and watering holes that cattle frequented. This delicate-looking plant is also easy to pick out due to its mature plants having red-purple stems and seed heads that droop to one side. One of the common methods of distribution, sticking to animals' hair, was quite evident as the infestations tended to congregate around a frequented watering hole and trail out, lining

the livestock trails. This was the NPSS' second year hand-pulling a dugout area near Burstall and we are happy to report that there was noticeably less Downy Brome compared to the same time last year, though we did find another patch on the property (which we pulled as well). We look forward to coming back next year and continuing to deplete the Downy Brome seed bank in our managed areas, improving the habitat for many species at risk.



NPSS Project Technician Reed Lewko hand pulling Downy Brome.

## Funding Available to Landowners in Southwestern Saskatchewan

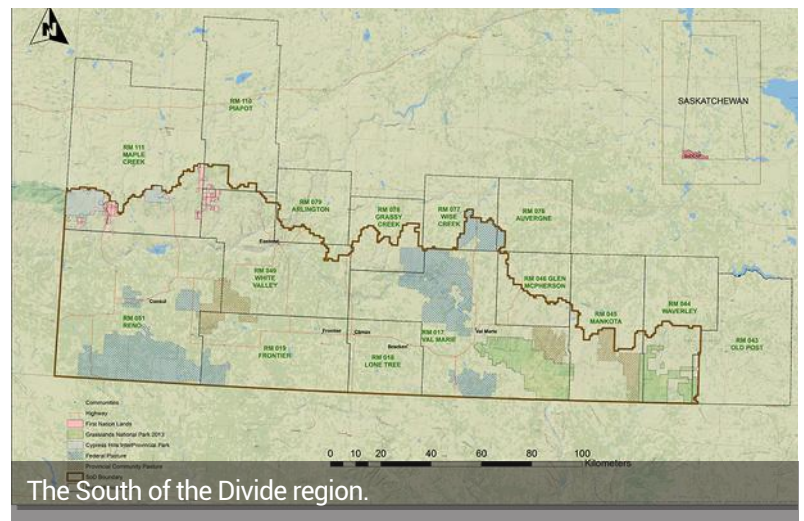
Now in its fourth year, the South of the Divide Invasive Alien Species Strategy aims to help landowners in southwestern Saskatchewan with weed management and support species at risk, in part by providing matched funding to support on the ground activities. The project is a collaboration between the federal government and the Native Plant Society of Saskatchewan.

*“Ranchers are key to conserving and managing native prairie and we know they’re doing a great job, but aggressive weeds like Leafy Spurge put a strain on farm families and the land, so we’re trying to help in any way we can”* says Chet Neufeld, Executive Director of the Native Plant Society of Saskatchewan.

Dollar for dollar matched funding is available for landowners with native prairie who have implemented or plan to implement weed control in 2024. Eligible costs include herbicide and application costs, costs for sheep or goat grazing, expenses from acquiring biocontrol (ie. beetles), and in some cases, fencing or mineral block costs, if it can be demonstrated that the fencing helps to control weeds or helps species at risk. Other costs may also be eligible if they can be proven to manage weeds or improve conditions for species at risk. Those who are approved for matched funding will simply need to submit bills for the total cost and a cheque will be issued for half the amount. Funding is limited and not guaranteed to everyone who applies.

The South of the Divide region, located in the southwest corner of Saskatchewan, is comprised of the rural municipalities of Reno, Frontier, Lone Tree, Val Marie, most of White Valley, and parts of Maple Creek, Piapot, Arlington, Grassy Creek, Wise Creek, Auvergne, Glen McPherson, Mankota, Waverley and Old Post. The 14,157 km<sup>2</sup> region is critically important to Saskatchewan’s ranching industry and contains some of the largest and best quality native prairie remaining in the province, home to many rare plants and animals.

To see if you qualify for matched funding, please contact the Native Plant Society of Saskatchewan at [info@npss.sk.ca](mailto:info@npss.sk.ca)



The South of the Divide region.

## Rose Creek Ranch Conservation Grazing Project Update

Obaida Elshamy – NPSS Project Technician

This spring, we had the chance to return to Rose Creek Ranch for another year of monitoring and to map out all the invasive Leafy Spurge (*Euphorbia virgata*) on the otherwise beautiful property. Mapping it took a couple of days as we wanted to be thorough and accurate in our final map. The NPSS has been working with the ranch for several years to protect the species at risk in the area. During our visit, we also found provincially rare plants such as Lance-Leaved Stonecrop (*Sedum lanceolatum*, S3), Gumbo Evening Primrose (*Oenothera caespitosa*, S3), and Low Larkspur (*Delphinium bicolor* ssp. *bicolor*, S3) on the property.

Goats have been grazing this land for a couple of years, and we observed a difference as the ungrazed areas had many more sprouting Leafy Spurge stems compared to the areas grazed by goats. The purpose of mapping this piece of land is to help guide the landowners in directly targeting the Leafy Spurge by having goats graze on specific areas. In the fall of 2023, the NPSS found that the Leafy Spurge plants were grazed down to stems and no sprouts remained, representative of how the goats were doing a great job.

We have high hopes for a continued decrease in Leafy Spurge numbers if the goats continue to graze. We are incredibly lucky to be able to work with and learn from the landowners' experiences, which guide us to better protect and help our species at risk and the health of our prairie lands.



One of the assessment areas on the Rose Creek Ranch.



Low Larkspur (*Delphinium bicolor*).

## This issue's COVER PLANT

### *Opuntia polyacantha*

From the cactus family (Cactaceae), Prickly-pear Cactus (*Opuntia polyacantha*) is common forb of Saskatchewan's prairies. It is native to North America, specifically western Canada, central and western United States, and Chihuahua (Mexico), with a disjunct population in the Thousand Islands (Ontario).



Prickly-pear Cactus and all cacti are known for their drought tolerance and resilience in heat, but the habitats across its range are diverse, including sagebrush, ponderosa pine forest, prairie, savanna, shrublands, shrub-steppe, chaparral, pinyon-juniper woodland, and scrub.

It is a perennial, low-growing cactus that reaches 10-30 cm in height. The spines grow in clusters, with each cluster having several, long (up to 4 cm) and minutely barbed spines and many short, stout to bristly spines, growing from flat, oval pads up to 12 cm long. The flowers are bright yellow and waxy in appearance, with the largest flowers being up to 8 cm in diameter, but commonly smaller. The species tend to form mats or clumps that can extend several meters in diameter. The roots of these prickly pears are shallow and laterally extensive to take advantage of sparse rainfall. Cactuses are widely known for their moisture retention capacity, and their aboveground tissues allow them to survive drought. Although drought-resistant, they are vulnerable to fires, as they typically inhabit fire-prone areas with high fire frequencies. Succulent mortality after a fire is often greater than 50%, but rarely total. Plants regenerate by sprouting from the root crown, by layering of stem pieces that are unburned or partially burned and in contact with the soil, and from seedling establishment. *Opuntia polyacantha* is known to be extremely cold-hardy, surviving temperatures as low as -46°C.

This cactus is palatable to humans and animals and, in some areas of its range, is still used today as food. The cactus pulp is eaten after boiling the pads and peeling back the skin. Prickly-pear Cactus is an important seasonal food for the black-tailed prairie dog, composing up to 58% of its winter diet, and is also a crucial food source for many animals like pronghorns and deer. Most research indicates that Prickly-pear Cactus is low in protein and phosphorus but high in energy, water, fiber, and ash. Prickly-pear Cactus have been utilized as a forage substitute for livestock in Texas and Mexico for at least a century, where ranchers burn stands to remove the spines so livestock can eat them. Prickly-pear Cactus flowers are a magnet for pollinators, as their relatively large and colorful blooms draw in pollinators, providing a nectar source in areas where these might be hard to come by. Some traditional, medicinal uses also exist for Prickly-pear Cactus; the pulp is known to treat lung problems, and poultices were applied to wounds and bruises. The juice of most *Opuntia* species is used for its anti-inflammatory and diuretic properties.

While Prickly-pear Cactus are not commonly used in landscaping, perhaps because of their spines, they would nonetheless make ideal candidates for rock gardens, as they are long-lived, virtually maintenance free, and provide visual interest even when not flowering. While Prickly-pear Cactus is common and it might be tempting to take some from the wild, this would damage the plant and its surrounding habitat. It is much better to buy this species, and you'll be supporting our native plant providers. The NPSS' Native Plant Material and Services Supplier List has two sources of Prickly-pear Cactus; both sell the plants, and one also sells the seed.

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