



The Prairie Conservation Forum Newsletter

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Native Prairie Restoration/Reclamation Workshop

I was fortunate to be able to attend the NPRRW in Regina, Saskatchewan in February. The Saskatchewan Prairie Conservation Action Plan did a fantastic job of organizing the workshop and bringing people from all three prairie provinces together to discuss prairie restoration/reclamation. At the workshop, we learned some of the basics of prairie restoration, some more technical aspects of restoration, and learned of many interesting restoration/reclamation projects being done throughout the prairies. One of the most important take-home messages is the need to plan, plan, plan if you intend to have a successful restoration project. Restoration of native prairie does not take place overnight, or even within a year. Site preparation is extremely important, right from deciding to crop and spraying or mowing out weeds, to deciding what and when to plant. Native seeds don't come cheap, so it is important to do your homework, even if you have to go to several different seed companies to get the seed mix you want.

A break-out session was held at the end of the workshop, and groups were asked to 1. identify the barriers of native prairie restoration/reclamation; 2. generate possible solutions for overcoming the barriers and 3. define the three top actions/priorities for native prairie restoration and reclamation. From this, three priorities were developed: 1. the development of an umbrella organization (through a website that functions as a one-stop shop for prairie restoration and reclamation); 2. holding another prairie restoration/reclamation workshop, and 3. establishment of a seed co-op as a mechanism to address several of the barriers under the theme of seed availability. Education was an underlying theme for all of these priorities. If you are interested in seeing the facilitators report detailing the session, please contact Katheryn at info@albertapcf.org.

In this issue of the newsletter, we have provided an excerpt from a research paper on the history of agricultural use of the prairies and some benefits to native seeding projects, and showcased a re-vegetation project here in Alberta.

Katheryn Taylor, PCF Coordinator



Our Vision:

The biological diversity of native prairie and parkland ecosystems is secure under thoughtful and committed stewardship of all Albertans.

Our Outcomes:

Maintain Large Native Prairie and Parkland Landscapes

Conserve Connecting Corridors for Biodiversity

Protect Isolated Native Habitats

Excerpt from: 'Re-evaluation of native plant species for seeding and grazing by livestock on the semiarid prairie of western Canada'.

Jefferson, P.G. , Iwaasa, A.D., Schellenberg, M.P., and McLeod, J. G.

European settlement of the Mixed Grassland eco-region of south-western Saskatchewan and south-eastern Alberta occurred in two waves. Corporate ranching based on very large tracts of native grasslands leased from the federal government followed the construction of the Canadian Pacific Railway in the 1880's, but inadequate cattle feed during extreme winters resulted in large death losses and subsequent bankruptcies. Despite concerns about low and variable precipitation and low organic matter soils that are marginal for annual crop production, the federal government's settlement policy was changed by 1900 to encourage the development of small farms and a supporting rural infrastructure such as railway branch lines. Immigrant farmers or "sodbusters" received 160 acres or a quarter-section of land in exchange for ploughing native grass for crop, mainly wheat production for export to Europe. This culminated in the ploughing of 80% of the native grasslands of this eco-region in Saskatchewan and Alberta. When the unsustainable nature of some homesteads became evident during the major droughts of the 1930s, introduced or exotic forage species such as crested wheatgrass, were used for reseeding millions of hectares. Introduced forage grass species from central Asia have been extensively studied since the 1950's for improved adaptation, forage yield, forage quality and persistence under ruminant grazing pressure. At the same time, *in situ* native species were considered to have low forage yield, poor seed production, low forage quality, and low carrying capacity for grazing by domestic livestock.



William H. Brown Land Company

Over the last couple of decades, however, there has been a renewed and growing interest in native plant species and this interest contributed to the formation of the provincial Prairie Conservation Action Plans, the popular Native Plant Summit conferences, and the formation of specialist groups such as the Native Plant Society of Saskatchewan. This revival can be attributed to several emerging trends and changes to the agriculture industry. These trends include increasing demand for wildlife habitat, an increasingly ecological perspective on grassland management by cattle ranchers, greater respect for the role of grasses in soil organic carbon sequestration, and a better understanding of the invasive characteristics of some introduced forage species.

For cattle, native rangelands in the mixed grassland eco-region can support good summer weight gains on yearling steers and are similar to some introduced grasses. Stocking rate, grazing rotation among paddocks, and grazing duration can be managed to improve range condition and maximize economic productivity. Seeded native species are important forage sources to complement existing native rangelands for improved grazing management and range condition. As changes to transportation and input costs make grain production uneconomical on some soils, the investment in re-seeding native species for summer, fall and winter grazing by cattle has grown. Fall and winter grazing of beef cattle, particularly pregnant non-lactating beef cows, is one strategy to reduce the cost of beef production in this region.

Lessons can be learned from the Conservation Reserve Program (CRP) in the United States. The CRP promotes the re-vegetation of land that is marginal for annual crop production and emphasizes native species. CRP not only increases soil organic carbon concentration on fragile soils in the Northern Great Plains, it also protects millions of acres of topsoil from erosion and is designed to safeguard the Nation's natural resources. By reducing water runoff and sedimentation, CRP protects groundwater and helps improve the condition of lakes, rivers, ponds, and streams. The program is also a major contributor to increased wildlife populations in many parts of the country.



Lorne Fitch

Native prairie is one of the most threatened ecosystems because major portions have been converted to annual and perennial crop production for export grains and forage production with introduced species. On a continental scale, there has been a 64% reduction of the mixed-grass prairie region of North America. In the Canadian provinces of Alberta, Saskatchewan and Manitoba, native prairie grasslands have declined 61, 81, and 99%, respectively. The Tall-Grass prairie of Manitoba has been completely converted to crop production and Saskatchewan has lost 6% of its Mixed-Grass prairie. Many native plants were used by the first peoples of Canada for medicinal purposes and there is renewed interest in such plants as a source of pharmaceutical and nutritional products. A market assessment of native plants in Saskatchewan commissioned by the Native Plant Society of Saskatchewan forecasted a 15% yearly increase in market size for native plants, including species with medicinal value. In urban settings, there has also been a growing demand for native plants for low-input xeriscaping.

To read the full article, please go to: [http://www1.agric.gov.ab.ca/\\$foragebeef/frgebeef.nsf/all/frg28/\\$FILE/nativesbackonrange.pdf](http://www1.agric.gov.ab.ca/$foragebeef/frgebeef.nsf/all/frg28/$FILE/nativesbackonrange.pdf)

The Right Mix: Native Seeds Bring Promise to the Prairies

By Paul F. Jones, Alberta Conservation Association

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In Alberta, it can be a tricky balance. With about 3.4 million hectares of grazing land used by livestock producers, it's vital that we plan cycles of harvest and renewal to not only protect our ranges as a resource, but also to maintain the many benefits that rangelands provide – like supporting Alberta's species at risk.

J BAR J Ranch is an admirable example of a landowner seeking to balance the aims of his ranch along with the health of our ecosystem. Together, MULTISAR and the owner developed a strategy that incorporates the needs of species at risk (and other wildlife) with grazing management goals.

To get started, Alberta Conservation Association (ACA) biologist Brad Downey completed a bird survey on a predominantly cultivated field at the ranch. He didn't have high expectations of finding native species and for the most part was right – the only species identified were horned larks and at the periphery McCown's longspur. But there was a glimmer of promise, "The fact that we heard McCown's longspur was encouraging," explains Brad, "as it means the pieces for a native wildlife complement are still there, *if* we can return the field back to native prairie."

This field is relatively small at 241 acres, with 140 acres cultivated. The area surrounding the cultivated portion consisted of a needle-and-thread, low sedge wheat grass community with a relatively intact native wildlife composition. As part of the partnership – or habitat conservation strategy – the cultivated area would become a test plot and be seeded back to its native prairie.

But home-grown doesn't come cheap: "Thanks to a grant from the Federal Government's Habitat Stewardship Program for Species at Risk, MULTISAR was able to purchase the native seed," says Brad. "It cost \$23,000 for just the seed – but it was money well spent." In 2008, the transformation back to native prairie began.

Now, two years later, surveys on the established grass have revealed how wildlife is responding to the reclamation. "We were shocked but very excited with what we found," says Darryl Jarina, biologist with the Prairie Conservation Forum. Typical of the prairies, horned larks, western meadow larks, vesper sparrows, chestnut-collared longspurs, sharp-tailed grouse and Richardson's ground squirrel were all recorded.

Pipits on Plot — The Sprague's pipit is a grassland-dependant species that has declined in all the Alberta range and most of the North American range since 1996. Sprague's pipit is threatened by habitat alteration and is currently designated as a "Species of Special Concern" in Alberta.

And so, the presence of Sprague's pipits at four of the five survey points is exciting. Darryl explains, "Although more charismatic species like the endangered ferruginous hawk were spotted, the Sprague's pipit is a species that was somewhat unexpected after only two years since seeding, especially at the levels that they were recorded. It's more about what the species tells us about the grassland, rather than the species itself."

Sprague's pipits are closely associated with native grasslands, and rarely found in cultivation and tame pastures. In fact, they are often associated with grasslands that are functioning well, where there is a solid structure and ample amounts of litter. "To hear the pipits calling and know these grassland birds are actively breeding on this piece of land gives us a sense of just how successful this reseed has been," Darryl sums up. "This 'new' native pasture is on its way to becoming a productive grassland."

With the success of the initial reseeding, the landowner is taking on the next phase of the project with MULTISAR – we'll tackle another 160 acres using a similar approach. MULTISAR is a partnership between Alberta Conservation Association (ACA), Alberta Sustainable Resource Development (ASRD) and the Prairie Conservation Forum (PCF). Visit www.multisar.ca.

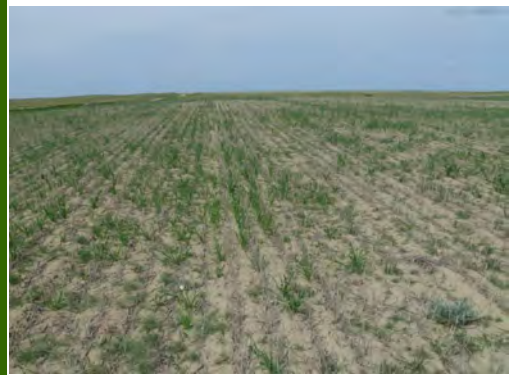


Photo 1 – Before

In May 2008, a seed mixture consisting of 17% needle & thread grass, 16% June grass, 27% northern wheatgrass, 20% western wheatgrass, and 20% blue grama grass was broadcast seeded at a rate of 9 lbs/acre followed by a light harrow. After seeding, the landowner added fencing to keep cattle out and allow the grass to establish. Nature pitched in too. "We were lucky – just after we seeded we received approximately 65 mm of rain," recalls Brad. By August it was evident the reseeding had taken hold. (photo by MULTISAR).

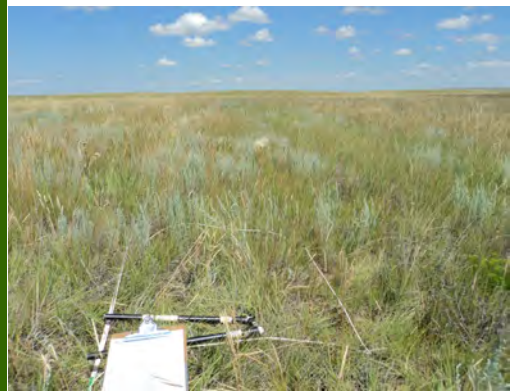


Photo 2 – After

Two detailed transects were surveyed by the MULTISAR range team in July 2010 with encouraging results: the transect on the west side of the reseeded area was determined to be in a high healthy range with a score of 72%, and the east, 64%. There was also 250 lbs/acre of litter (last year's growth) on the site – another good indicator of successful reseeding. "Hopefully over time the native grasses and forbs begin to fill in the bare soil and the pasture appears more natural," says Brad. (photo by MULTISAR).

Partnership Opportunity

Eastern Slopes Rangeland Seeds Ltd. (ESRS) is a family run company that specializes as reclamation consultants and contract growers of rangeland native plants. They also offer courses in plant identification, with the components broken down into 4 days – 1 day of forb identification, 2 days of grass identification, and 1 day of willow/sedge identification. These courses are currently only offered in Cochrane and Cremona, Alberta due to limited travel funds. ESRS also has an interest in developing and providing reclamation courses, which would add another component into their training/course schedule.

If your organization is interested in sponsoring courses in plant identification and/or reclamation, the needs are as follows:

- A function to get the information out to more people (public, professionals, land-owners).
- If the courses are to go on the road, travel expenses would greatly help this process and make them more affordable to the general public as well as to professionals.
- Partnerships with more people interested in developing new reclamation courses. The information on courses is under development within Alberta, but getting this operating on the ground with actual courses is urgently needed.

To check out the ESRS website, please go to <http://www.nativeplantproducer-esrs.com/About-Us.htm>. For more information about potential partnership opportunities, please contact Steven Tannas at: steven.tannas@easternslopesrangelandseeds.com.



Stipa viridula—Lorne Fitch



Thermopsis rhombifolia—
Lorne Fitch

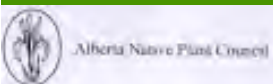


Amelanchier alnifolia—
Cheryl Bradley



Petalostemum purpurea—
Lorne Fitch

Thank-you to our contributing partners:



If you have any comments, questions or ideas, please contact the PCF Coordinator at:

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