



Grassland Gazette

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Calculating stocking rates is simple; even if you graze elephants!

By Emily Pollak

Ever wondered just how many cows you can put on your land to maximize grazing opportunity without harming the rangeland? It is a fairly simple calculation to determine how many animals can graze the available forage on the rangeland for the current grazing season, as well as leaving enough cover on the ground to provide forage for years to come. In fact, managing cattle grazing is one of the best ways to preserve the integrity of the ecosystem. Rangelands not only provide forage for herbivores but are prime habitat for many wildlife species.

The amount that one animal consumes is based on its body weight. Ruminants consume between 2.5% and 3% of their body weight per day. The term animal unit month (AUM) is used to express the amount that one animal consumes in one month. The definition of an AUM is the amount of dry matter or forage that a 1000 pound cow consumes with or without an unweaned calf up to six months of age. So the standard animal unit would consume between 25 and 30 pounds of forage per day or 750 to 900 pounds per month. However, not many people run 1000lb cattle any more so the value has to be adjusted to reflect the larger average cow (because a larger cow will consume more forage).

Let's say your pasture can support 30 AUMs. This means 30, 1000 pound cows can graze for a month. Or 25, 1200 pound cows can graze for 1 month; i.e. a 1200lb cows equal 1.2 AUMs, 1400lb cow = 1.4 AUMs etc. Heifers, bulls and yearling steers can also be adjusted the same way; for example an 800lb heifer would equal 0.8 AUMs or an 1800lb bull would be... you guessed it 1.8 AUMs.

Adjustments for other animals are not quite as simple. Sheep for example eat a higher percentage of their body weight per day and are calculated at 0.3 AUMs. Non-ruminants also consume a higher percentage of their body weight per day. A 1000lb horse is calculated at 1.5AUMs. The AUM equivalent for an elephant is Well, I don't know but it can be figured out and if I planned to graze elephants sustainably on Alberta rangelands I would do the research!

Managing stocking rates is not only important for the health of the rangeland but also for optimal cattle production. When the appropriate AUMs for a pasture are determined using a range health assessment, they represent 50 – 65% of the total available forage. Cattle are selective in the forage they eat. When forage is abundant cattle will search out the most nutritious diet possible. As the amount of forage in a pasture decreases, so does their ability to select and therefore their diet is poorer and weight gain decreases. Numerous research studies have documented that optimal weight gains in cattle occur when no more than 60% of the available forage on rangelands is removed before cattle are moved to fresh pasture. The optimal stocking rate will differ with the type of dominant vegetation on rangelands and especially in tame or irrigated pastures.

So when it comes time to graze your rangelands, keep in mind that sticking to appropriate number of grazing animals will not only benefit your pastures for wildlife habitat and future grazing years, but the animals themselves.



VALUE OF THE REMAINING MIXED GRASSLANDS

By Brad Downey and Paul Jones

Where has all the prairie gone...?

The Dry Mixedgrass subregion is the largest of the four grassland subregions and is located east of Milk River and from the Montana Border north to Hanna while the Mixedgrass subregion is the second largest and is located to the west of the Dry Mixedgrass stretching from Milk River through Lethbridge north to Gleichen. Smaller areas of the Mixedgrass subregion can also be found along the slopes of the Sweet Grass Buttes and around Cypress Hills. The Dry Mixedgrass covers an area of 47,000km² or 7% of Alberta's land base while the Mixedgrass covers 19,000km² or 3% of Alberta's land base. Over the decades this vast prairie has slowly been reduced to only 43% of the Dry Mixed Grassland and 24% of the Mixed Grassland remaining.



Adam Moltzahn

A Northern Leopard Frog

Mixedgrass prairies are home to an array of wildlife from common species (white-tailed deer and western meadowlarks) to species at risk (ferruginous hawks, plains spadefoot, burrowing owls, Sprague's pipits, and northern leopard frogs).

Dry Mixedgrass subregion is dominated by Dark Brown Chernozemic soils. Annual precipitation ranges from 291.5 to 407.2mm. Dominant grasses in the Dry Mixedgrass include Needle and Thread, Western Wheatgrass, June Grass, and Blue Grama with some Northern Wheatgrass and Western Porcupine Grass. Silver Sagebrush is a commonly found shrub throughout the Dry Mixedgrass. The Dry Mixedgrass contains the highest number of wildlife species of the four subregions and those associated with sand dune areas in the subregion are found nowhere else in Alberta. In addition to the species listed above for the Mixedgrass subregion the endangered greater sage-grouse, swift fox, and Ord's kangaroo rat can be found in the Dry Mixedgrass subregion which is also home to the greatest densities of pronghorn. Many species in these two subregions are considered at risk due to loss of habitat as they rely on native grasslands to breed, forage, and raise their young.

Mixedgrass Enhancement

In 2009 MULTISAR started a partnership with Ken and Nora Balog to enhance habitat for northern leopard frogs. Their pasture had one source of water which was a creek that the cattle used during the spring/summer months. MULTISAR in partnership with Alberta Conservation Association's Northern Leopard Frog Project purchased two portable watering units, one to pump water out of the creek and away from northern leopard frog breeding sites and the second to pump water from a dugout in an adjacent pasture onto the uplands to attract cattle away from the creek. Ken and Nora have been and continued to be great stewards of the land and MULTISAR thanks them for their support and partnership.



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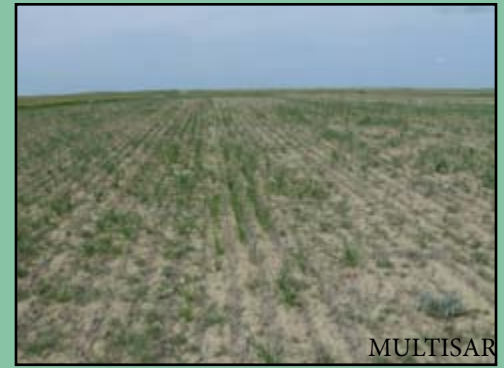
Ken and Nora's cattle enjoying their new waterers away from the creek.

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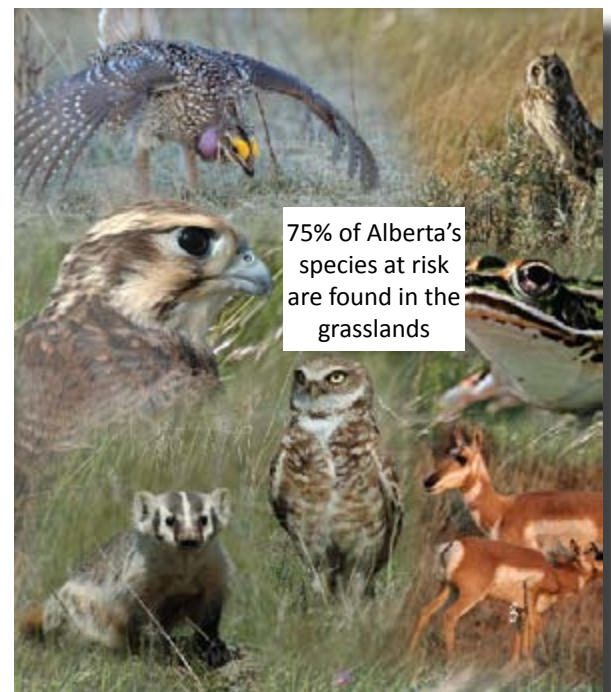
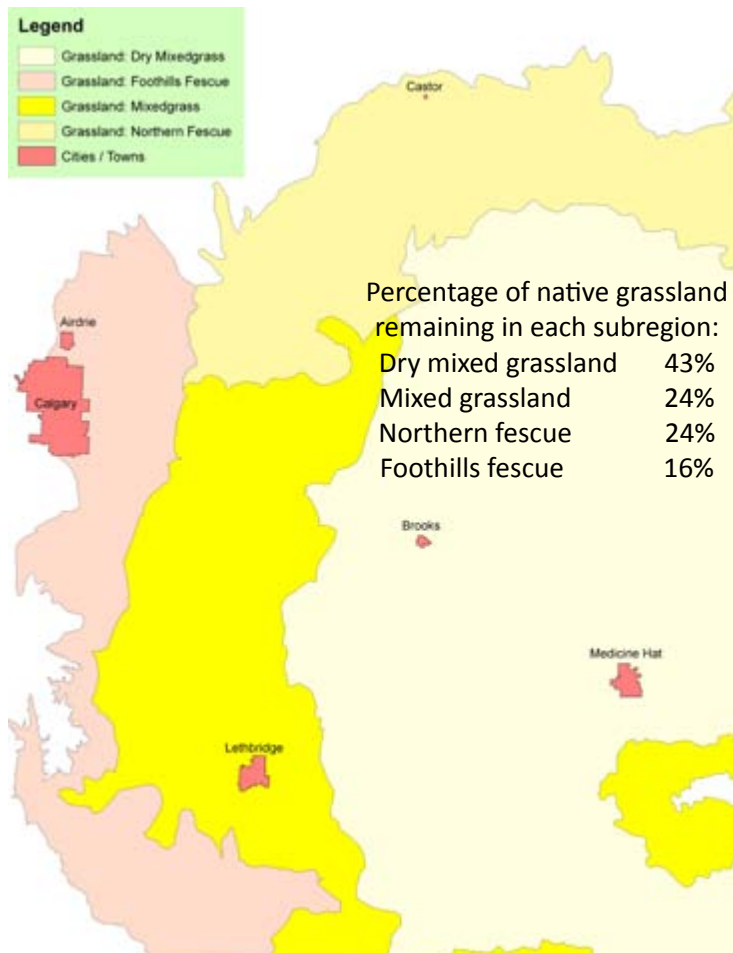
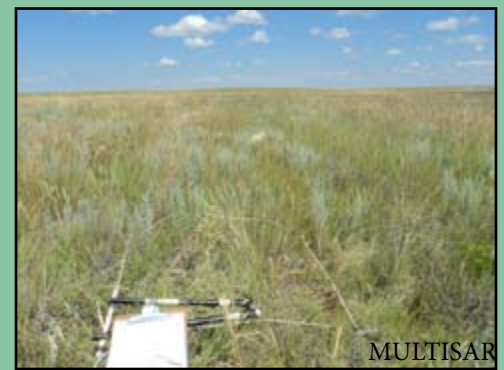
Dry Mixedgrass Enhancement

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 goals 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.

In May 2008, J Bar J Ranch, with the assistance of MULTISAR, re-seeded a 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 and low sedge wheat grass community with a relatively intact native wildlife composition. The seed mixture used for the project consisted of 17% needle and thread grass, 16% June grass, 27% northern wheatgrass, 20% western wheatgrass, and 20% blue grama grass, 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. Two detailed transects were surveyed by the MULTISAR range team in June 2011 with encouraging results: the transect on the west side of the reseeded area was determined to be high healthy with problems with a score of 74%, and the east, 61%. There was also, on average, 555 lbs/acre of litter (last year's growth) on the site – another good indicator of successful reseeded. Also wildlife surveys on the established grass have revealed horned larks, western meadow larks, vesper sparrows, Sprague's pipits, chestnut-collared longspurs, sharp-tailed grouse and Richardson's ground squirrels using the site.



Before and after seeding



Grassland Natural Region

MULTISAR pursues its stewardship work in the two “fescue” sub-regions

By Darryl Jarina

There are two sub-regions within the Grassland Natural Region (GNR) that are dominated by fescue grasses; the Foothills Fescue and the Northern Fescue natural sub-regions. The Foothills Fescue natural sub-region consists of nearly level cultivated plains in the north and cool, high-elevation grassy uplands along the mountain flanks to the south covering approximately 15,000km² of which only 16% remains as native grassland. This sub-region occurs primarily as a narrow band between the Mixedgrass and Foothills Parkland sub-regions and includes the towns of Cardston, Pincher Creek, Nanton, Airdrie and a part of Calgary. There is a higher frequency of Chinooks resulting in a milder winter climate when compared to the Northern Fescue sub-region. The average May to September temperature is 11°C to 13°C and average annual precipitation ranges from 500mm to 650mm. Soils consist primarily of Dark Brown and Black Chernozems. Dominant grasses include foothills rough fescue, Idaho fescue, and Parry’s oat grass while some common forbs include shrubby cinquefoil, balsam-root, sticky geranium, low larkspur, and western wild parsley. Forest and shrub communities can be found within riparian areas and sheltered sites. Wildlife is less extensive in comparison to other sub-regions within the GNR, but may include species like prairie falcon, sharp-tailed grouse, Sprague’s pipit, elk and grizzly bear.

The Northern Fescue natural sub-region is described as a mosaic of cultivated fields and moist native prairie on undulating to hummocky terrain covering approximately 15,000km² of which only 24% remains as native grassland. It represents a climatic transition between the Dry Mixedgrass natural sub-region and the northern Central Parkland natural sub-region. The average May to September temperature is 14°C and the region receives approximately 400mm of precipitation annually. Soils are dominated by Black and Brown Chernozems with some areas containing Brown Solonchic soils. Dominant grasses on lightly grazed sites include plains rough fescue, western porcupine, slender wheat grass and Hooker’s oat grass while some common forbs include prairie crocus, prairie sagewort, wild blue flax, fleabane, northern bedstraw, and three-flowered avens. Common wildlife species include Sprague’s pipit, Baird’s sparrow, sharp-tailed grouse, savannah sparrow, and thirteen-lined ground squirrel.

MULTISAR pursues its stewardship work in the two “fescue” sub-regions. In 2008, MULTISAR worked with local rancher Tony Bruder, who ranches in the Foothills Fescue sub-region near Twin Butte. During our meeting, Tony expressed concerns about his cattle’s access to the Drywood Creek and the potential decrease in bank stability, reduced water quality, and increased rates of erosion. Together we decided that installation of a riparian fence to reduce direct cattle access to the creek would be beneficial to the creek and surrounding riparian area. We also arranged for several watering sites to be installed to compensate for reduced access to the creek. MULTISAR helped fund this project through a grant provided by Greencover Canada, while Tony provided the time and manpower for installation of the fence and watering sites. Photo evidence has shown that there is a significant amount of vegetative re-growth along the stream banks, including less soil exposure and bank slumping when compared to the original visit.

Tony takes his pride for the watershed to the next level. He organizes a yearly riparian education day for local junior high and high school students at his ranch, which teaches the kids about the importance of riparian ecosystems. Throughout the day, the students rotate around different stations and learn from various conservation organizations about specific aspects of the riparian ecosystem. The day is always a success and has received good reviews from the teachers and students. It also provides a good opportunity for organizations like MULTISAR to get their stewardship message out to our future land managers. Thanks again Tony for allowing us to be a part of that day and thank you for your continuing efforts to educate our youth.

Students learning about riparian ecosystems



MULTISAR FOCAL SPECIES: SPRAGUE'S PIPIT

Sprague's Pipit *Special Concern (AB), Threatened (CAN)*

Description: The Sprague's pipit is a rather small (15cm to 17cm) plain brown bird that is very elusive as it is often heard, but seldom seen. They forage on insects and forbs by secretly moving around on the ground in a crouch making them difficult to see. Sprague's pipits have white sides on the tail, streaked back, pale face, and pale legs but the easiest way to identify them is by their call. Sprague's pipit's call is a rolling jingling cascade that is issued high above and is commonly heard when out hiking on large open grasslands in southern Alberta.

Status: Population size in Alberta is unknown but probably range in the tens to hundreds of thousands with the population declining rapidly. They are quite common on many native grasslands but their population is declining due to loss of habitat (native grasslands) and heavily impacted grasslands.

Habitat: They are most commonly found on native grassland that is either ungrazed or light to moderately grazed which provides higher structure and litter (previous year's growth).

Threats: 1) Loss of native grassland, 2) Over Grazing, 3) Burning (short-term effect), 4) Haying (adverse effect when conducted during the nesting season which can occur from May to August, however most birds have finished nesting by mid-July).



The presence of Sprague's Pipits is a good indicator that you are leaving enough carry-over to ensure a good supply of grass for the future.

BENEFICIAL MANAGEMENT PRACTICES FOR SPRAGUE'S PIPIT:

- Maintain native prairie in its natural state.
- Minimize pesticide use.
- Defer grazing on native prairie between March to late May or July 15th if possible. If a rotational grazing system is being utilized, try to allow at least one pasture to remain undisturbed between these dates.
- Pasture rotation should be based on forage utilization and availability, not a fixed schedule.
- Avoid long-term intensive grazing because this results in short, uniform grass heights and loss of litter and carry-over.
- Grazing management should employ light to moderate grazing which will maintain overall rangeland health.
- Fall or winter graze fescue grasslands instead of spring or summer.



Show me the money!



Shining the spotlight on financial incentives for environmental projects on agricultural land.

In the Spotlight: 3 project grants with upcoming deadlines:

Alberta Conservation Association Grant Eligible Conservation Fund (ACA) - January 31, 2012

Alberta Stewardship Network Watershed Stewardship Grants (ASN) - February 1, 2012

Oldman Watershed Council Watershed Legacy Program (WLP) - February 15, 2012

Summary: Fill out the application with project information and wait for a reply. If you are selected, a final report and receipts are required. Application forms aren't too lengthy and are similar for all 3 grants so apply for all of them.

Good to Know: If you live in the Oldman basin the WLP is less competitive than the other 2 because it is only available to landowners in the Oldman River basin whereas the other 2 are Alberta wide. The ACA grant is not only for landowners; organizations can also apply but ACA has more total funding available.

Tips: Be sure to contact MULTISAR or your County Conservation Coordinator for assistance.

Call the Grant Coordinator for the organization to discuss how to strengthen your application.

Apply as a group for multiple projects and make a big impact on your sub basin.

For more information:

ACA - www.ab-conservation.com/go/default/index.cfm/grants/grant-eligible-conservation-fund/overview/

Email: amy.mackinven@ab-conservation.com

Call: Amy at 1-877-722-4323

ASN - www.landstewardship.org/apply-grant/

Email: grant@landstewardship.org

Call: 1-877-727-5276

WLP - www.oldmanbasin.org

Email: leta@oldmanbasin.org for the application forms

Call: Leta at 403-381-5801

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