PRAIRIE BREEZE

THE LIVING PRAIRIE MUSEUM NEWSLETTER SPRING 2015

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SPRING INTERPRETIVE CENTRE HOURS

By appointment in April
Open **Sundays**
in May and June

Prairie Planting Workshops

Learn how to grow native species at home!

See p. 4 for details.

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What's New: Biofuel and Teaching Tools

Biofuel

In our previous newsletter, we were in the process of pelletizing our recently baled native grasses. We produced 40 bales (that was 14 000 kg!) of grass from a prairie restoration in Assiniboine Forest. Baling grass doesn't hurt the prairie; it mimics the effects of wildfires and grazing, and is often used in the management of prairie habitat.

We worked with our project partner, International Institute for Sustainable Development (IISD), to have our bales transported and ground into a fine mulch. Creating biofuel pellets required a lot of work and specialized machinery, so they helped us enlist the assistance of a Hutterite farming community in the Garson area. This community had already been using biofuel pellets to produce heat for their barns.

This winter was a bit of an experiment in production. We received sample pellets that were a mixture of grasses and other locally harvested materials. These pellets burned differently than grasses alone, and gave us ideas for other sources of biofuel. We'll be working to develop the best approach for heating our building in the most sustainable way in the coming years.

DinoLite: An Educational Tool

We purchased some excting equipment over the winter. Our new DinoLite microscope cameras will change how we're able to teach our students about soils, insects, seeds, and other tiny inhabitants of our prairie.

Long-horned bee. Photo: S. Semmler

The DinoLite allows us to see microcopic features in real time with macro video and photo capabilities. We can show extreme close-ups of butterfly wing scales, the beauty of bees, and the movements of worms as they travel through the soil.

We've used the DinoLite at trade shows and in the classroom, and it's been a big hit. We're looking forward to incorporating this camera into other educational programs and interpretive activities at the museum.

Monarch Concerns: Plant Native Milkweed

Monarch release at LPM. Photo: S. Semmler

The monarch butterfly is a species of national interest. Great efforts to conserve this butterfly and its extensive migration have been carried out by scientists and citizens alike. The best way to help: provide the milkweed plants that are the only food source for monarch caterpillars. But in the well-intentioned rush to get these plants in the ground, native species were overlooked, and this had some negative impacts on the butterflies.

Monarch butterflies travel from Manitoba to Mexico each year, with the round-trip taking about four generations to complete. During their return north, milkweed plants are necessary as food for developing larvae.

Severe population declines over the last decade have been directly attributed to the loss of larval food plants, mainly due to agricultural or landscape management practices that effectively remove milkweed from cropland and ditches. Concerned citizens, scientists, and conservation organizations began to encourage the public to plant as much milkweed as possible.

Tropical milkweed (*Asclepias curassavica*) produces bright orange flowers and does very well in warmer areas of the United States. But this species was not native to the region, so its biology did not match up with that of the monarchs. This species continued to grow during winter months, unlike native species that died off. This encouraged monarchs to continue to feed and reproduce which disrupted their migration.

To make matters worse, this created crowding for resources, which increased disease. A protozoan parasite (*Ophryocystis elektroscirrha*) resides on milkweed plants. When caterpillars feed on the leaves they consume the parasite. Spore-filled adults then spread the disease to more milkweed and butterflies during visits to other plants. The protozoan weakens the butterflies and they do not survive their migration.

Fortunately, the solution to the problem is simple: go local. When using milkweeds that are native to your area, the parasite is reduced and migration begins once this food resource is naturally depleted in the fall.

If you're interested in growing milkweed, contact the Living Prairie Museum. We have swamp milkweed seeds locally grown in our butterfly garden, as well as a variety of native seeds that provide nectar to many other butterfly species. We can work together to ensure that this much beloved butterfly continues to be a part of our natural world.

Sources:
1) Wade, L. 2015. Plan to save monarch butterflies backfires. http://news.sciencemag.org/biology/2015/01/plan-save-monarch-butterflies-backfires
2) Flockhart et al. 2014. Journal of Animal Ecology. doi: 10.1111/1365-2656.12253.

How Your Photos Can Help Science

Many of us take the time to appreciate nature through a camera lens.

To us, our photos show the beauty of nature, but to others, particularly biologists, they are an important point of data. Memory cards have become a storehouse of biological information, and sharing that information with the scientific community has become easier than ever.

When the public collects and shares data that is of use to a professional in a scientific field, it's called citizen science. Citizen science has been gaining momentum in North America in recent years, but the practice of gaining scientific insight through non-professionals has been occurring in Europe for decades. An excellent example is the United Kingdom Butterfly Monitoring Scheme (UKBMS). This group has organized butterfly surveys since 1976, with data collected by both professional Lepidopterists and butterfly enthusiast volunteers. This long-term data set has offered great insight into population trends, changes in habitat, and species responses to climate change that could not have been obtained without community involvement.

Citizen science has changed since the 1970s, with data collection moving from a paper and pencil to digital images. Now, every photo taken on a day out in the woods can become an extremely valuable part of species monitoring and conservation.

Getting involved in citizen science is simple: create a profile with a group online, photograph some wildlife, do some light record keeping, and upload the info.

If you lack experience in identifying what you see, you don't need to worry. Many sites have moderators that will assist in ID, or they provide user-friendly keys to species that will help you in the field.

Here are some sites to get you started:

www.bumblebeewatch.org
This site is a collaboration between multiple partners, including Wildlife Preservation Canada, the Xerces Society for Invertebrate Conservation, and the University of Ottawa. You can upload photos and provide habitat information that will improve our current records of bumble bee populations. An identification guide is provided, but you can also leave it to the experts.

www.e-butterfly.org
Developed in 2012 out of the University of Ottawa, this site seeks to compile information on the occurrence of butterflies worldwide, ultimately making this information available to international researchers. Experts are available to verify the records you provide.

www.ebird.org
eBird has been in operation since 2002, and is directed by the Cornell Lab of Ornithology and the National Audubon Society. This is a massive database of invaluable observations of migration and species populations provided by birders across the globe.

www.naturenorth.com/Herps/Manitoba_Herps_Atlas.html
The Manitoba Herps Atlas offers a way to report sightings of reptiles and amphibians within our province. Many of these species are at risk due to habitat loss, so providing information on their occurrence is extremely important for their conservation. This website makes herps easy to identify by sight and sound.

Now is a perfect time register in preparation for the spring and summer photo season. It's a great way to appreciate nature while contributing to science and conservation.

THANK YOU!!

Our 2015 Speaker Series was a great success! Topics included Canada lynx, parasitoid insects, polar bears, birds, and paleoethnobotany!

We would like to thank our speakers for their interesting and engaging presentations.

Thank you for attending, and for your generous donations. Your support is greatly appreciated.

MUSEUM STAFF

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Thank you for receiving your newsletter electronically.

UPCOMING EVENTS

Prairie Planting Workshops

Increase biodiversity in your backyard! Learn everything you need to know about native prairie plants; how they can be included in your landscape design and why using native plant material is so important from a conservation perspective.

The workshop includes a presentation, discussion, and wildflower seed planting demonstration.

Starter seeds will be available on site!

Call us to register for one of the following dates:

Saturday, April 11th, 10:00 to 1:00 pm
Tuesday, April 21st, 6:30 to 9:30 pm
Thursday, April 30th, 6:30 to 9:30 pm

Photo: C. Millns

Native Plant Sales with Prairie Flora

Interested in starting a prairie garden or looking for a green gift for a loved one? Prairie Flora will be at Living Prairie Museum this spring with a superb selection of native prairie plants for purchase.

Friday, May 15, 3:00-6:00 pm
Saturday and Sunday, May 16-17, 10:00-4:00 pm
Sundays: May 24, May 31, and June 7, 12:00-4:00 pm

Pre-order with Praire Flora before May 1st to recieve a 15% discount!

For more information and access to the Prairie Flora plant catalogue, check out Prairie Flora's web page **http://www.prairieflora.com.**

Support Caddy Lake Camp and the Girl Guides of Canada by purchasing a rain barrel! Visit **rainbarrel.ca/caddylakecamp** to order by April 23rd. Barrels can be picked up at Living Prairie Museum on May 3, 10:00 to 2:00 pm.

Winnipeg

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