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Mixed-grass Prairie Home to Rare Grassland Birds

Southwestern Manitoba Mixed-grass Prairie vital to threatened species

By Tim Poole

SECTION 29-1-29 NEAR LYLETON might not sound very important. But it happens to be one of the most picturesque remnants of mixed-grass prairie in the province, and one of the best places in Manitoba for rare grassland birds. This single square mile of crown-owned grazed prairie represents a window into the past and a haven for threatened species. It is also an example where active human intervention is critical to preserving the habitat and associated species, domesticated cattle graze in place of bison, and brush cutters are used to limit shrub and parkland expansion.

There are 42 species of birds in North America which are adapted to grassland ecosystems. Many of these species spend their entire life-cycle within the Great Plains, breeding in northern portions of the Plains and spending the winter further south. Many of these birds can adapt to changes to — but not the removal of — their entire ecosystem. A limitless prairie landscape has become unrecognisable following road and urban development and conversion to crop production and energy extraction. These factors in combination with an ever changing climate has altered natural systems and caused the decline or disappearance of many native species.

The first ever "State of Canada's Birds," published in 2012, made grim reading for all those who care about the future of grassland birds in Canada. It stated that across the prairie region, grassland birds had declined by 40 per cent since 1970. In a Manitoba context, the situation could not be much worse. Manitoba Conservation and Water Stewardship announced in 2015 that tallgrass prairie would, along with alvar habitats, be the first ecosystems anywhere in North America to be designated as endangered. Indeed, this pattern is not unique to Canada or North America. Bob Peart of the IUCN Temperate Grasslands Conservation Initiative recently said that:

"Temperate grasslands are one of the world's great biomes, occupying eight per cent of the earth's surface. However, after cradling human needs for centuries they are the most endangered, the most altered and yet the least protected biome on the planet."

The Manitoba Important Bird Area (IBA) Program has worked in southwestern Manitoba since 2014 to increase awareness of grassland birds and stewardship of their critical habitats. The Manitoba IBA Program is part of the largest network of important sites for biodiversity in the world, covering 12,000 sites in over 200 countries. Manitoba is home to 38 IBAs covering diverse habitats, from the shores of Hudson Bay, through lakes and forests and in the far southwest of the province, mixed-grass prairies. Each IBA has been designated due to its significance for birds and biodiversity.

Identified as protecting some of Manitoba's most threatened habitat, the Southwestern Manitoba Mixed Grass Prairie IBA is one of the few places in the province where you can still find

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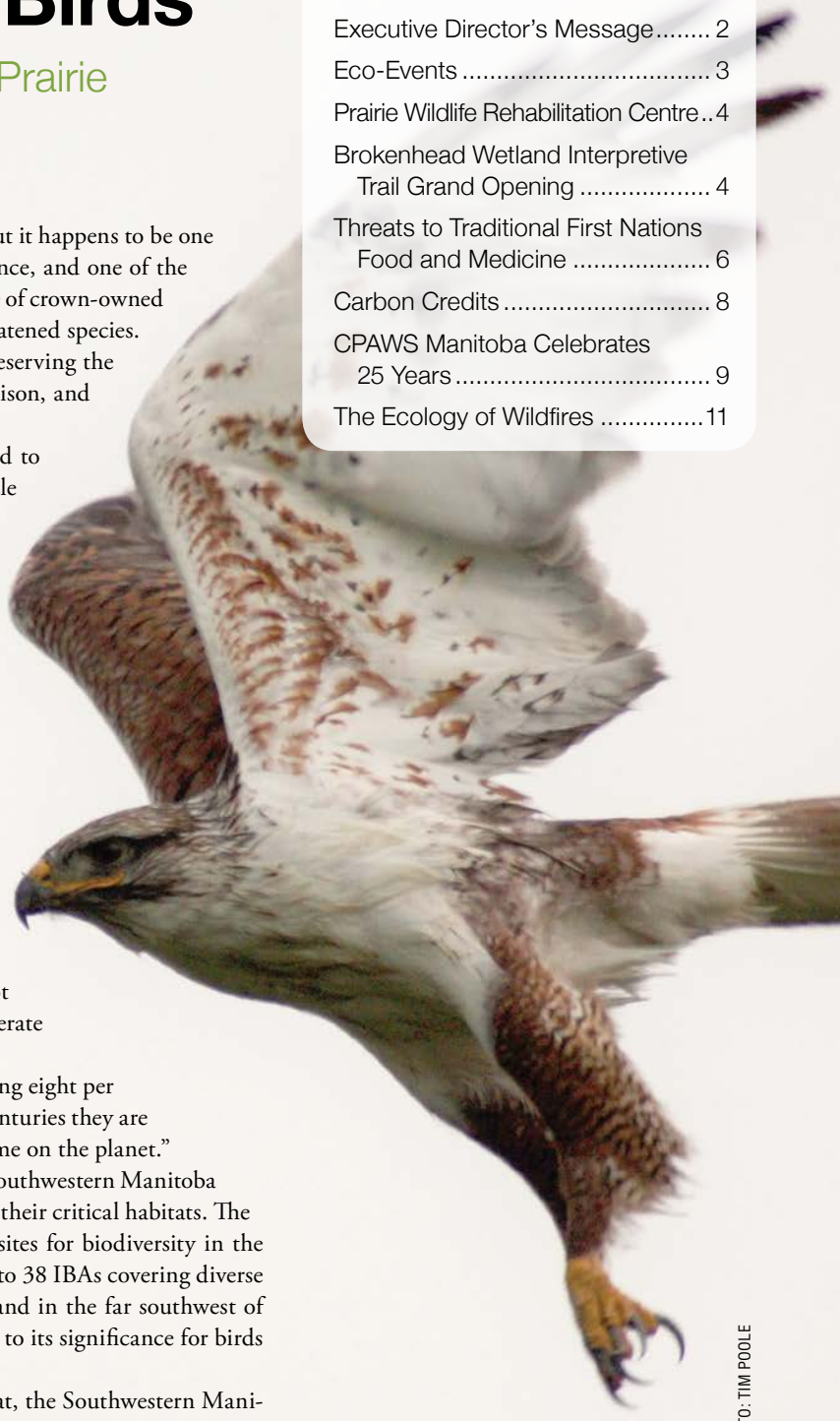

Ferruginous Hawk in flight.

PHOTO: TIM POOLE

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Executive Director's Message

By Curt Belton

PHOTO: LIANNE BELTON

MY TIME AS EXECUTIVE DIRECTOR of the Manitoba Eco-Network has gone by in a flash and I will definitely miss the work that I have been doing, the Eco-Network staff, and my colleagues who work for the other organizations of the Eco Centre. The synergy here is a good thing, connecting, collaborating, and working in a space where people share your sincere concern for the environment. This is affirming for the challenging work we do. The whole idea of the various groups from the environmental and social movements working together only gives strength to what we do, and helps to lighten the load. It doesn't matter whose logo is on the poster, it is getting the message out that is important. Our work in the environmental movement should not be a competition, but rather a collaboration.

The general public needs to understand that climate change has social, economic, and environmental implications that will affect all aspects of our lives. In my lifetime the change in climate has been astounding when you look at the data from the newly opened Prairie Climate Change Centre. Further to that, the possibility of Manitoba having a climate similar to that of Northern Texas in 50 years if we carry on our current course, is a disturbing scenario. How do we get the word out about the need to protect and restore natural systems, our total dependence on ecosystem services, and the very real and measurable impacts of climate change?

On May 25 Catherine McKenna, federal Minister of the Environment and Climate Change, held a town hall meeting to discuss mitigation of climate change, carbon pricing, clean technology, and adaptation. Citizens' comments ranged from concern about the effects of animal agriculture and consumer lifestyles, to the benefits of solar energy and outright climate change denial. The federal government appears to be listening, but we can only hope that in the end policies will be drafted that support the Paris Accord, and that Canada will be a leader in climate change mitigation.

At the provincial level we have a new government that stated in the throne speech, "We must preserve and protect this natural heritage for future generations to use and enjoy." In addition there is a pledge to create yet another made-in-Manitoba climate action plan. Once again we can only hope that with the strong emphasis the new government is placing on the economy, that the real threats of climate change will be recognised and addressed.

Hope is a key word here. We need to remain hopeful that the work that needs to be done, gets done, and we need to sow the seeds of hope. Our youth need to believe that striving for environmental justice, and working relentlessly on issues of climate change are worth the effort. The general public needs to know that supporting progressive policies and making sound lifestyle choices can make a difference. We must continue our collective work in the environmental community to provide a hopeful view of a just and dignified future for all, and help to find the path to get there.

Curt Belton is the out-going Executive Director of the Manitoba Eco-Network.

eco events in Manitoba

For more environmental event listings see our website calendar at www.mbeconetwork.org.

Organic Lawn Care Program – June to August

Keep your lawn and family healthy and happy this summer. The Eco-Network OLC program is in full-swing, offering a lawn tool lending library, workshops, and great resource materials. **Call 204-947-6511 or email organiclawn@mbeconetwork.org for more info.**

Niakwa Trail Rain Garden - a partnership of Manitoba Eco-Network's Water Program and Save Our Seine

It's the second year of the rain garden on St. Anne's at Fermor, so keep watch as the plants establish and dig their roots deep. **To learn more about the benefits of rain gardens, visit manitobawater.org or contact megan@mbeconetwork.org.**

Manitoba Eco-Network's Annual General Meeting – September

Connect with us and learn more about the organization and what we've been doing over the past year. **Stay tuned for the date - TBA.**

JULY

Green Drinks Update

We're taking a break from Green Drinks this summer – see you in the fall!

Guided Hikes with A Rocha

arocha.ca/manitoba-centre

Visit the beautiful Pembina Valley Interpretive Centre for guided hikes every Saturday and Sunday during the summer and fall. **For more info, call 204-246-2059 or email manitoba@arocha.ca.**

16 Field Trip with Native Orchid Conservation

Woodridge, MB, nativeorchid.org

Join NOCI for all day trip to Carrick-Badger and Woodridge Road, then Buffalo Point. We hope to see rattlesnake orchids, fungi, Indian Pipe, purple-fringed orchid and many other wildflowers. **For more info and to register, email NOCI at nocifieldtrips@gmail.com or call 204-223-8209.**

16 Goose Scavenger Hunt at Oak Hammock Marsh

There's a goose on the loose! Help find the missing goose during a family-oriented scavenger hunt throughout the marsh. Gather clues and participate in fun challenges to solve the mystery and be the first one to find the whereabouts of the goose on the loose. **More info at oakhammockmarsh.ca**

23 Family Foraging and Wilderness Skills Workshop

East Braintree, MB – South Moon Studio southmoonarts.com

The entire family will have a blast combing the forest for edible treasures, building fires, making rope, tea, shelters and more. **Call 204-918-5359 or email southmoonarts@gmail.com for more info.**

AUGUST

7 & 14 Cabin Yoga at FortWhyte Alive

Ash Bourgeois of Wild Path leads this unique experience combining nature, yoga and meditation. Designed for all levels to build a deeper connection with nature, create a space to relax, to calm the mind and practice self-care. **Register by calling 204-989-8355.**

18-23 Whales & Wonders of the Subarctic in Summer

Churchill, MB

Imagine hiking the coast of western Hudson Bay, an ancient and rugged landscape where boreal forest meets Arctic tundra, a land transformed by ice, wind and water. An afternoon of kayaking, and evening presentations on topics in northern ecology completes your sub-arctic adventure. **More info about this incredible trip at churchillscience.ca**

19-21 Quarry Days with REACT Inc.

Stonewall, MB

Learn more about this local environmental action group during Stonewall's Quarry Days. **For more info, check out reactinc.org**

24 Elk Island Hike with Nature Manitoba

Victoria Beach, MB

Come out for a beautiful guided hike and swim, followed by a potluck (and maybe berry picking!). **For more info, contact Roger Sutherland at 204-451-1219 or visit naturemanitoba.ca**

30 Geocaching Picnic

Assiniboine Park, 1 p.m.

Join the Manitoba GIS Users Group and the Manitoba Geocaching Association for geocaching and a potluck picnic. We meet up at Site 6 and then head out looking for caches! You do not need to have a GPS unit, or any previous experience geocaching. **Email info@mgug.ca to register and check out mgug.ca for more info.**

SEPTEMBER

Dates TBA Master Composter Course with Green Action Centre

An in-depth, hands-on, train-the-trainer composting course and volunteer program, allowing participants to provide compost education and outreach to the public. **Stay updated at greenactioncentre.ca, call 204-945-3777, or email compost@greenactioncentre.ca**

16-18 2016 Manitoba Nature Summit

Camp Manitou, MB

Join these winners of the Eco-Network's 2015 Earthie Award for a weekend of workshops which provide opportunities for educators to learn about nature and pass on a renewed sense of wonder on to the children in their lives. **Visit naturesummitmb.com for more info and to register.**

PWRC Offers Unique Opportunities

PRAIRIE WILDLIFE REHABILITATION CENTRE (PWRC) is a non-profit organization whose main goal is to treat injured, sick and orphaned wildlife, and to successfully release them back into their natural habitat. Established in 2007, PWRC is comprised of two Certified Wildlife Rehabilitators with over twenty years of experience, as well as a group of dedicated, hard working volunteers.

With the help of donations and community support, PWRC is able to help thousands of wildlife each year. PWRC also takes an active role in public education regarding wildlife issues, creating awareness and appreciation for wildlife conservation. PWRC offers educational programs and booths, with the unique opportunity to meet non-releasable Wildlife Educational Ambassadors. Some of the Wildlife Educational Ambassadors you may have the chance to meet during PWRC's educational presentations include a Great Grey Owl, Barn Owl, Burrowing Owl, Peregrine Falcon, American Kestrel, Garter Snake, Bull Snake, Domestic Rabbits, or an Arctic Fox!

PWRC's education team comes equipped with supplies, enthusiasm and fun-filled activities for an hour presentation. These memorable presentations are enjoyable for people of all ages and backgrounds. When people have the chance to meet these unique wild animals, they make special connections with them and learn about the ways they can help wildlife and the environment. If you are interested in a visit from wildlife, whether it's for a summer activity or a classroom lesson, contact Heather Mitchell, Education Co-ordinator, for more information at pwrcwilded@gmail.com or 204-806-8890. To do the work they do, they rely on support from the community through donations and booking of educational programs. If you would like to help wildlife, consider donating or booking a presentation by visiting their website at www.pwildlife.ca.

PHOTO: COURTESY OF PWRC

> "PWRC offers educational programs and booths, with the unique opportunity to meet non-releasable Wildlife Educational Ambassadors.

Brokenhead Wetland Interpretive Trail Grand Opening

PERHAPS ONE OF THE BEST KEPT SECRETS IN MANITOBA, Debwendon Inc. is pleased to announce that the Brokenhead Wetland Interpretive Trail, located just north of Brokenhead Ojibway Nation along Highway 59 near Scanterbury, is finally celebrating its completion with a grand opening. This self-guiding, wheelchair accessible trail features 1.6 km of cedar boardwalk that meanders through a balsam fir forest, a white cedar bog and a rare fen. Interpretation signs that are in English and Ojibway highlight the importance of the rare wetland, and the biodiversity of the area which includes orchids, carnivorous and many other rare plants. Four nodes feature the main theme of the interpretation which is the cultural significance of the wetland to the local Ojibway. All are welcome to attend the opening ceremonies set for June 22 at 10:00 a.m. There will be a drumming circle and tours of the boardwalk from 10:45 a.m. - 12:30 p.m.

After the opening, the trail will be open daily from 8:00 a.m. to dusk until October 31. For more information about the trail see the article in the Spring 2014 Eco-Journal. For more information about the grand opening please visit www.debwendon.org.

PHOTO: PEGGY BAINARD ACHESON

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Rare Grassland Birds...

threatened grassland birds, including Loggerhead Shrike, Ferruginous Hawk, Baird's Sparrow, Sprague's Pipit and Chestnut-collared Longspur. Created in 1999, this IBA covers almost 1530 km2, contains the towns of Melita, Lyleton and Pierson, and includes three significant birding hotspots: the Poverty Plains, the Souris River Lowlands and the Lyleton-Pierson Prairies. Within this IBA, grassland birds are concentrated in well-managed pasturelands and small remnant patches of native prairie. Only the largest patches are able to support viable populations of area-sensitive species such as Sprague's Pipit, Baird's Sparrow and Chestnut-collared Longspur.

A 2015 survey suggested that the Southwestern Manitoba Mixedgrass Prairie IBA has globally significant numbers of Sprague's Pipit (IUCN, vulnerable) and Chestnut-collared Longspur (IUCN, near-threatened). During this organized survey by volunteers, we found 40 Sprague's Pipits and 231 Chestnut-collared Longspurs. Further monitoring in 2015 by Christian Artuso of Bird Studies Canada and Ken

> "Most of the land in the Southwestern Manitoba Mixed Grass Prairie IBA is privately owned and therefore the birds depend on landowners to continue providing suitable grassland habitats to meet their needs.

De Smet of Manitoba Conservation found, over 200 Chestnut-collared Longspurs and 70 Sprague's Pipits in another area north of the IBA (a portion of the Ellice-Archie PFRA community pastures near St Lazare). These high numbers suggest that this area is another globally important site for grassland birds.

A long-term goal of the IBA program is to ensure that these local pockets of breeding birds receive sufficient protection through community engagement. Most of the land in the Southwestern Manitoba Mixed Grass Prairie IBA is privately owned and therefore the birds depend on landowners to continue providing suitable grassland habitats to meet their needs. As a result, the IBA has sought to actively involve and draw on the experience of landowners whose property supports prairie bird populations. In addition to engaging landowners, the program has been involved in delivering workshops and talks, and actively recruiting volunteer monitors and stewards.

In the context of managing for grassland birds, it is important to recognise the role of cattle producers as conserving key habitats for grassland birds, something that some conservationists might find surprising. The IBA Program also recently published a landowner's guide to grassland bird conservation in Manitoba. This guide aims to engage landowners and communities in conservation efforts and list some specific management techniques landowners can use to ensure their continued well-being.

Tim Poole is the Important Bird Areas Coordinator with Nature Manitoba. If you are interested in volunteering for the Manitoba IBA Program please contact Tim at iba@naturemanitoba.ca.

PHOTOS: CHRISTIAN ARTUSO

(TOP) Baird's Sparrow singing.
(MIDDLE) Chestnut-collared Longspur in flight.
(BOTTOM) Sprague's Pipit on fence post.

Traditional Foods and Medicine Threatened

First Nations researchers in Manitoba sound a warning

By Larry Powell

THEY CALL IT "The Standing Medicine People Project."

Researchers from three reserves in south-central Manitoba, Long Plain, Swan Lake and Rolling River, teamed up with "Food Matters Manitoba" (FMM) to collected samples of six wild plants – pin cherry, saskatoon, nannyberry, raspberry, grape and the medicinal herb, wiike (or sweet flag). Indigenous gatherers throughout North America have harvested them traditionally as both food and medicine, for centuries. The team submitted the samples to ALS Laboratory Group, a certified lab in Winnipeg. There, the samples were analyzed for 103 different pesticides and heavy metals.

The lab detected several of the contaminants in either the roots, the soil, or both. However, most of the readings were well below levels of concern. In other words, the risk of getting sick from environmental contamination is low. And, if certain precautions are taken, the berries and herbs are still considered safe to eat.

Still, concerns linger.

Using a Health Canada formula known as a hazard quotient (HQ), it was determined that average concentrations of contaminants in the wiike samples, "exceeded HQ thresholds." Nevertheless, the research team concludes, gatherers should continue to harvest and eat wiike, but only after taking precautions. "On average, harvesters should gather wiike from clean areas and use it moderately, brushing off the roots and each should consume no more than 20 grams (half a thumb's length), per week."

Wiike grows in woods, marshes and along shorelines. Throughout history, many Indigenous groups have dried its roots, either eating them directly or boiling them to make tea. It is a common medicine used to purify blood and many other ailments.

Dieldrin, the toxin detected in wiike, persists in the soil and was banned in Canada in 1984 because of its toxicity to both animals and humans. It was also found "in significant concentrations" in the nannyberry, grape and pincherry samples. But it only "exceeded the HQ threshold" in a single saskatoon sample.

PHOTO: LARRY POWELL

Dave Daniels, specialist in traditional plants, Long Plain First Nation.

Arsenic was found in six out of eight root samples of wiike. While arsenic occurs naturally in the environment, it has also been used widely in farm chemicals and lead batteries.

Other pollutants detected were two herbicides still in prolific use today; glyphosate (the active ingredient in Roundup) and 2,4D. These two chemicals, in particular, were "widespread, having been detected in all soil samples regardless of distance from agricultural areas."

But their concentrations are considered "too low to be significant and well below" that HQ threshold referred to earlier.

Fortunately, contaminants were found only in the roots or soil, none in the fruit itself.

Dave Daniels, an elder on Long Plain First Nation, says he believes he knows why.

PHOTO: STANDING MEDICINE PEOPLE PROJECT.

A deformed chokecherry, found in the study area.

> "If certain precautions are taken, the berries and herbs are still considered safe to eat.

"The plant has a mechanism to prevent poisons being transferred into the berries, so they are safe to eat," Daniels said. "The long-term impact of pesticides in the ground will eventually diminish the health of the plants. If it persists, the plant wills intake the chemicals into their system and its health will be severely affected. As we find now, the closer to agricultural fields, the more leaf damage you have and some of the trees are actually dead. But the further you get away from agricultural fields, the better the quality of the plant."

Distrust of the Nearby Farming Communities Still Lingers

For a long time now, members of the three First Nations have suspected that methods used by non-Indigenous farmers contribute to serious illnesses among their people. Both ground and aerial spraying of pesticides are said to be on the increase, either on crops adjacent to the reserves, or by farmers who lease land right on them. Meanwhile, as the report itself puts it, "Higher incidents of chronic illness, including diabetes and cancer, have led to diminished health and quality of life for many Elders and even young community members."

Recent statistics are hard to come by. But a study by the Manitoba Centre for Health Policy in 2002, is revealing. It points to particularly poor health outcomes on six reserves in this same general area of southern Manitoba, governed by the Dakota Ojibway Tribal Council. These include Swan Lake and Long Plain.

It showed people living there had the highest "premature mortality rate" of any Manitobans, Aboriginal or not! In other words, they had poorer overall health, a greater number of symptoms, more illnesses and were dying younger than anyone else in the province! The men, for example, were dying, on average, before 65 (compared to 76 for the general population).

Back in the '90s, the Food and Agriculture Organization, a division of the United Nations, published a book on how wild plants used by Canada's Indigenous communities were becoming more "vulnerable to destruction" than ever before. "Modern practices of clear-cut logging, strip mining, open range livestock production, and large-scale agriculture, have drastically depleted the extent of natural habitats and the plants and animals living within them," it read. "Urban expansion, industrial development, widespread use of herbicides and insecticides on forests and farmlands, and the introduction of aggressive weeds and animal pests have taken a further toll on native plant and animal resources. Because of all these pressures on wild biological populations, extreme care must be taken to conserve and maintain natural habitats and native species."

Daniels can testify to those conclusions. He also helped coordinate an earlier study on the same Manitoba reserves in 2012. It included berries not tested in this latest phase: chokecherries, Indian bread root, cranberries and hawthorns. It observed declines in the overall "abundance, quality, taste, potency and general appearance" of all of them.

Not many band members harvest the wild fruit and herbs any more. But those who do are now being urged to be even more cautious; to stay away from spray-fields or other places where chemicals are more likely to be used, such as busy roadways, hydro lines and places where fuel might spill, like boat launches.

But there's no doubt all of this presents challenges. "Communities are moving from a traditional sharing economy to one that is more market based and individualistic," states the report. And, in order to salvage traditional ways, "Community members must travel further and further outside of their community to gather foods and medicines. The distance increases the cost and reduces overall access. And, with less access, youth do not receive as much hands-on learning about those same plants."

Meanwhile, Daniels says his Chief and band council on Long Plain are drafting zoning changes to accommodate "safe zones where gatherers can have assurance that their traditional plants will be safe to consume." He says Swan Lake and Rolling River are doing the same.

Larry Powell is a veteran journalist living in Neepawa where he publishes www.PlanetInPeril.ca.

Carbon Credits

An Unsustainable Approach?

By Kevan Bowkett

ONE ELEMENT of the "new green bio-economy" is the international trade in carbon credits. Worth $144 billion in 2010, carbon credits, established at the Earth Summit in 1992, allow polluting companies to buy up biomass (crops or ecosystems) or conduct projects to offset or compensate for their carbon and other greenhouse-gas (GHG) emissions.

Carbon credits can be bought and sold on world money markets, notably the European Climate Exchange and, formerly, the Chicago Climate Exchange (which closed in 2010). Companies — or even individuals — can theoretically reduce their GHG footprint by buying shares in projects that will sequester carbon so it's removed from the atmosphere (like tree planting projects), or new renewable technologies which will prevent a given amount of carbon pollution. One carbon credit equals the removal from the atmosphere of one tonne of carbon (or equivalent in other GHGs).

Carbon credits are purchased by firms in connection with mandatory cap-and-trade standards. When a jurisdiction imposes a cap of GHG emissions, firms can either reduce their emissions down to the cap level or can "compensate" for their emissions above the cap by buying carbon credits. Essentially, they are buying the right to pollute, provided they're funding projects elsewhere that sequester the amount of carbon they're still emitting above the cap. In addition to mandatory standards, many companies and organizations purchase voluntary carbon offsets.

Responsible offset projects include the following features. They have to sequester GHGs over and above what would have happened without the project. GHG emissions must be sequestered for a reasonable length of time, so no trees planted this year that will be burned in five years. And, offset project results have to be clearly verifiable, and not cause "leakage" (ie. when preventing GHG emissions in one place simply causes them to increase elsewhere).

Carbon offset projects are rated by various organizations. A widely accepted rating is the Gold Standard, developed by the World Wildlife Fund. The WWF has been criticized by some researchers for its role in "greenwashing" the activities of corporate polluters. However, the Suzuki Foundation considers the Gold Standard one of the best ratings for carbon offsets.

A negative feature of GHG offset schemes is that they are fertile grounds for fraud and dummy companies. Even with a legitimate company it can be hard for it to tell whether their "offsetting" is being carried out. Because of this, some environmental organizations, like the Suzuki Foundation, advise that the best form of carbon offset is investment in renewable energy, where success is easier to track.

Another objection is that carbon offsetting can take agricultural land out of food production, which raises food costs. This is especially concerning when new biomass technologies, like biofuels, are already removing land from food production.

> "The best form of carbon offset is investment in renewable energy, where success is easier to track.

Another objection to carbon trading is that it's a fake solution to the GHG problem. Put simply, it doesn't work. Rather, it is a series of failed attempts to sequester carbon. It amounts to a greenwash of financial speculation.

This system (combined with the use of biomass for energy) potentially monetizes all of the planet's biomass, including the 76 per cent of it that is not now included in commercial economies. This is an enormous change and, like most large changes in contemporary technology, is one that is not being thoroughly debated before being implemented. But monetizing all Earth's biomass raises many issues. For one, it further subordinates ecological choices to money-market considerations, as well as extending the reach of corporations wealthy enough to buy up biomass for their carbon offsets. Because of carbon offsets there is a huge land grab now going on as corporations buy up biomass in the global south. Carbon offsets inflict a lot of harm in regions where they are implemented. They are driving farmers and aboriginal people off the land in South America, Indonesian Borneo, and various parts of Africa. The type of carbon offsets called REDD (Reducing Emissions from Deforestation and forest Degradation) have had especially horrific effects. For example, in Uganda in 2011, 22,000 farmers were forced off their land (often at gunpoint) to make way for a carbon offset project.

Until the last few years, Alberta has been the only North American jurisdiction with a mandatory cap-and-trade system. It has been voluntary elsewhere. But in December 2015, Manitoba premier Greg Selinger announced a cap-and-trade plan and signed a carbon-market agreement with the premiers of Ontario and Quebec. Offset projects within Manitoba include the 2014 Tundra Oil & Gas pilot project to sequester 25 tonnes of CO2 per day in the Sinclair oil field (their source for the CO2 was Koch Fertilizer in Brandon). Bison Transport was selling carbon credits derived from its energy-efficiency measures as early as 2011. But Manitoba is likely to be a small player in this market, at least for some time (and it remains to be seen what line the new Progressive Conservative government will take on this issue).

Alex Paterson of the Manitoba Energy Justice Coalition asserts that Manitoba should avoid emissions offsets if its aim is GHG reduction. "We think this system will be unfair and be to the benefit of large emitting industries if carbon credits and offsets are part of that system, so we categorically reject offsets and carbon credits as part of this system," he said in December 2015.

Driving people off their land and grabbing biomass cannot be part of the solution to GHG emissions. Carbon offsets, if pursued, need to be linked to the development of renewables or to energy-saving measures and technologies like Bison Transport's. This is yet another argument that genuinely green manufacturing needs to be developed in Manitoba.

Kevan Bowkett has been in the Canadian Reserves, washed dishes, planted trees, sold door-to-door, slept in an igloo, and run for Parliament, in addition to lecturing at universities on the international arms trade and helping draft an International Convention on Evaluating New Technologies.

Celebrates 25 Years

CPAWS Manitoba marks anniversary with series of events

By Joshua Pearlman

PHOTO: SANDRA RODKIN

In celebration of 25 years of conservation success in Manitoba, the Canadian Parks and Wilderness Society is looking ahead by highlighting the importance fostering the next generation of environmental leaders, something that starts with allowing young people to develop a relationship with the natural world.

1991 WAS THE YEAR THE WORLD WIDE WEB was introduced, the number of computers connected to the internet reached 1 million, *The Lorax* author Dr. Seuss died and the Canadian Biodiversity Forum was launched. It was also the year the Manitoba Chapter of the Canadian parks and Wilderness Society was established.

In 2016, CPAWS Manitoba is proudly marking 25 years of conservation success in this province. It's a time to look back at our accomplishments and how they have helped to assert a voice for nature through a quarter century of unprecedented global changes. During that time we have helped to achieve an end to logging in (all but one) Manitoba provincial parks, the preservation of important waters like the Manigotagan River and Little Limestone Lake and secured permanent protection for the Fisher Bay region in partnership with First Nations. Our efforts have also contributed to the creation of Kinwow and Sturgeon Bay provincial parks, the government commitment to protect 17 per cent of public lands in Manitoba by 2020, ensured strong provincial leadership in the effort to recover threatened woodland caribou populations and have helped to create the conditions for successful protections in the heart of the boreal on the east side of Lake Winnipeg.

As we're not getting any younger, we know full well that the future stewardship of the boreal landscape will be inherited by the youth of today so we're celebrating our milestone by looking ahead with a series of events aimed at fostering the next generation of environmental leaders in Manitoba.

To kick things off, CPAWS hosted an expert panel discussion on "Nature Deficit Disorder" to a full house at the Winnipeg Free Press café to amplify the conversation surrounding the challenge and importance of connecting young people to the natural world. Panelists Ruth Lindsey-Armstrong, Chloe Dragon Smith and Cam Collyer shared their insights, guided by moderator Mary Agnes Welch.

The term "Nature Deficit Disorder" was coined by author Richard Luov to describe the "human cost of alienation from the natural world." As Collyer explained, the term is not medically recognized and often contested but has served to bring into one conversation the suite of issues surrounding nature, societal changes, health and technology, particularly as they relate to children. From Lindsey-Armstrong's perspective, to label it a disorder is less fitting than looking at the issue from a rights perspective.

"Children are not meant to grow up indoors and depriving children of nature based experience is more so a breach of their rights rather that evidence of a disorder," she said.

Connecting to nature does not look the same to everyone. Dragon Smith highlighted cultural background as one area where those differences are rooted. The idea of nature as a venue for leisure and recreation might feel foreign to someone whose connection to nature is built through everyday tasks like firewood collection or berry picking or other forms of land based cultural practice.

"We need to be open to all kinds of different experiences in nature and how different people from different cultures want to experience nature on their terms," Smith said.

As parents and mentors, what can we do to foster a young person's relationship to the natural world?

"*Reflect*," Lindsay-Armstrong believes. One of the most powerful actions for older generations to do for young people today is reflect on the experiences of nature that we were afforded as young people and how they shaped our relationship to the natural world and our sense of self-reliance.

This reflection can guide us in creating similarly formative opportunities and experiences for children today. It's those experiences that help build children into compassionate adults with the tools to appreciate and steward the landscapes they have grown to be a part of.

By nurturing inspiration and opportunity for young people to develop a passion for wilderness, we are hopeful that the next 25 years can see Manitoba seize the opportunity to emerge as a world leader in collaborative, large landscape planning and conservation that balances the needs of people, wildlife and the long term viability of a Boreal-based economy. Stay tuned for further events on this theme hosted by CPAWS throughout 2016 and 2017.

Joshua Pearlman is the communications director with the Canadian Parks and Wilderness Society Manitoba Chapter.

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The Ecology of Wildfires

How wildfires impact the boreal forest in Manitoba

By Lynsay Perkins, Nature Manitoba

PHOTO: RICK SHONE

MORE THAN FIFTEEN YEARS AGO a bear started a wildfire in Alberta. His accomplice? Human activity. It was a very rare and strange case where a bear climbed a hydro pole, and while tampering with the power lines caused enough sparks to create a forest fire. Of course most wildfires aren't caused by curious bears, but this incident illustrates the point that we can't always jump to conclusions about how humans impact the natural world.

"Humans can cause a large fire. There's no doubt about that," says Dr. Brian Amiro, who has been studying land resource science (agrometeorology) since the early 1980s. "Usually a lot of really large fires are naturally caused."

When a wildfire passes dangerously close to homes and cabins, or when it devastates lives and families, a wildfire is scary and destructive. But when you look at wildfire's non-human, ecological impacts it's important to remember fire has always been around, and has always been an integral part of the forest ecosystem.

Amiro goes on to say humans do cause the majority of forest fires, but he reiterates that fire is important for forest regeneration and is a very natural part of the Canadian boreal forest.

"The average age of the boreal forest is only 100 years old," he says. "Woodpeckers and insects, for example, like new forest. Pine Martins and squirrels, on the other hand, really need mature forest."

The key to forest diversity is diversity of forest age – fire also helps achieve that.

"We need to have diverse age structures," says Amiro. "We don't know what the optimum mix is, just that a mix is needed. If we start getting into too many fires, if we started getting a fire in an area every 30 years, that would change the ecosystem." Amiro says he's not sure if we're there just yet.

Currently between one million and eight million hectares of forest burns every year in the boreal, but that varies greatly from year to year and region to region. Amiro says looking at a single year, like 2016 alone, can't give you accurate indications of wildfire trends. "The projections that we have made for the boreal forest in Canada into the future caused by warming temperatures, is that there will be an increase in the area burned."

Amiro's current research is trying to figure out how warming temperatures affect the amount of carbon a forest produces and absorbs, which is known as its carbon load.

"If we were not having any changes in our climate our carbon loads would be neutral," he says. "Our climate is changing and we are trying to figure out whether that changes our overall carbon loads."

During a fire a forest loses carbon into the athmosphere, and as the mature trees decompose they release carbon as well. According to Amiro, "You get a net carbon loss for the first ten years or so after a fire. By about twenty years that flips around so the forest is taking up carbon."

Amiro says a forest between 20 and 80 years old is the best at storing carbon. Older than 80 years and it becomes neutral. But exactly how warming temperatures and an increase in the area of forest burned will affect our climate is difficult to pinpoint. "We're trying to understand the dynamics of the forest and it's really complex," he says.

In the meantime you can help reduce the risk of human-caused wildfires by educating yourself and your family and friends about fire prevention. For more information about wildfire prevention visit the Government of Manitoba FireSmart website at https://www.gov.mb.ca/conservation/fire/Prevention/prevention.html.

Lynsay Perkins is the Web Communications Specialist for Nature Manitoba and has been reporting on nature and the environment in Manitoba for more than ten years.

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