

Bringing Research to LIFE

In brief

The impact of exercise on diabetes risk for overweight teenagers

Jonathan McGavock, assistant professor in the Faculty of Medicine and research scientist at the Manitoba Institute of Child Health, received the Cosmopolitan Foundation of Canada Inc.'s annual award for diabetes research. McGavock was presented with the \$98,000 award at a local Cosmopolitan Club of Winnipeg event last month.

McGavock will be studying the impact of rigorous physical activity on risk factors for Type 2 diabetes in overweight adolescents. The study titled "Physical activity for OverWEight youth at Risk for Type 2 diabetes" (POWER) will measure the role of regular aerobic exercise on insulin sensitivity, a predictor of Type 2 diabetes risk.

The study aims to find the optimal amount of time and intensity of physical activity required to improve insulin sensitivity and ultimately allow overweight Canadian youth to modify their lifestyles to avoid development of Type 2 diabetes.

"I congratulate Dr. McGavock on being awarded this funding from the Cosmopolitan Foundation and look forward to the results of this important study," said Gary Glavin, associate vice-president (research). "This research will improve the lives of Canadian youth who are increasingly at risk for development of Type 2 diabetes."

Type 2 diabetes mellitus in youth has increased by a factor of 20 across Canada in the past 25 years. The team of researchers at the University of Manitoba and the Children's Hospital of Winnipeg are one of the first groups in the world to recognize this trend in their patient population. Type 2 diabetes is the fastest growing chronic disease in Canada and costs close to \$5 billion annually.

Upcoming Event

Café Scientifique

Anxiety and Depression in Gen 'Y': Engaging Youth and Finding Solutions

Monday, May 17, 2010

7:00 p.m.

McNally Robinson, Grant Park

1120 Grant Ave.

Free Admission

For more information:
research_communications@umanitoba.ca

Saving Prairie Songbirds

Researcher calls decline in prairie species 'shocking'



Photo by Katie Chalmers-Brooks

Natural Resources Institute Prof. Nicola Koper and her research team are putting video cameras near songbird nests this summer to determine whether the number of cattle in the area affects the predators targeting these declining species. Inset: The Sprague's pipit population has dropped by roughly 80 per cent during the last four decades.

BY KATIE CHALMERS-BROOKS

Ecologist Nicola Koper wants to show her eight-year-old daughter all sorts of species when they go bird-watching. But the reality is: some types of birds are becoming increasingly rare.

An assistant professor at the Natural Resources Institute, Koper has made it her mission to help save endangered prairie songbirds. Studies she launched in 2008 showed just how grave the situation has become in Manitoba.

Two of Koper's graduate students travelled to remote regions in the province's south-west corner, where they surveyed various types of prairie songbirds, including Baird's sparrows. Their surveys included three of the same sites as a study done in the early 1990s by Stephen Davis and Spencer Sealy, also from the University of Manitoba.

Koper's jaw dropped when she compared the number of individual birds spotted today – six – with the number of nests found at the same sites 16 years earlier – a whopping 76.

"I was shocked, absolutely shocked by how many nests he found before. It blew me away how dramatic the decline of these grassland songbirds has been. The numbers are drastically lower," says Koper, who belongs to the Clayton H. Riddell Faculty of Environment, Earth, and Resources. "That is just an example of how extraordinary the declines are that have been recorded."

The number of Sprague's pipits, another species Koper studies, has

dropped by roughly 80 per cent during the last four decades.

"So when you think about that, for every 10 pipits that were there four decades ago, within our own lifetime, there are only two pipits left. So we are talking very substantial and dramatic declines, not just in the pipits but in other species as well," she says. "We become so used to what we see around us that we expect that this is natural and normal. In fact, that's completely untrue."

Koper says the species of birds most affected are those that live in untouched prairies and don't adapt well to changes in their habitat.

These days, if moist grasslands – such as those found in Manitoba – are left untouched they develop into forests. In the past, roaming bison and the occasional grass fire would keep that from happening. But bison have since been extirpated and we've become better at controlling fires.

We're losing grasslands to farmers growing crops. Grazing cattle also alters the birds' habitat. But some grazing is a good thing – since there are no longer wild bison and natural fires to keep grasslands from becoming forest.

Koper's latest research project aims to figure out how much grazing is the ideal amount to better preserve grasslands and the birds who call this habitat home. She and her collaborators at Grasslands National Park in Saskatchewan have put a varying amount of cattle in separate pastures so each piece of land is grazed to a different extent. They will compare the

songbird populations in these different areas over five to 10 years.

Koper believes the prairie agriculture community will be receptive to her suggestions on how to better preserve the prairie songbird habitat.

"I really think the ranching community and farmers are in favour of preserving grassland ecosystems. There is a lot of potential for collaboration and conservation," she says.

A change in the eco-system also means a change in the predator community. To better understand these changes, Koper's team will set up video cameras this summer at songbird nests found in isolated grassland areas in Grasslands National Park. They'll watch the recordings to figure out whether there are different predators targeting the bird nests, depending on the number of cattle in the field.

It's unclear how a shrinking prairie songbird population will impact the greater eco-system, but Koper says it should sadden Canadians who love our native wildlife. If we don't save declining species now, she insists, they won't be around in the future for subsequent generations to enjoy.

"I want to be able to bring my child out to wild areas and have her be able to enjoy birds and be excited when she sees birds nesting and singing, and I really don't think that I'm an exception in that way," Koper says. "I really think that most people appreciate that and even if they don't go out themselves they want those eco-systems to be intact."