University of New England researcher Noah Perlut, right, talks grassland birds with Lambton County farmer Chad Anderson, at a conference for scientists and farmers held earlier this spring in Guelph.

Researcher finds bird tales in the foliage

"Good science is about telling stories," says University of New England bird researcher Noah Perlut. "No matter how complicated it is, if you don't tell a good story, people won't pay attention."

So consider the bobolink: It weighs as much as three Oreo cookies, yet somehow makes a 20,000-km round trip migration to Argentina and back every year. In its lifetime, one bird can fly the equivalent of four or five trips around the globe, likely navigating by starlight and sensing the earth's magnetic field.

When it wants to, it can turn on the jets. Researchers fitted birds with tiny high-tech "geolocators" and Perlut says they were able to track marathon flights along the migration route. One bobolink winged 1,800 kms from Venezuela to the Bahamas. Another streaked from Connecticut to North Carolina, non-stop, in 24 hours.

Despite the long commute, bobolinks become homebodies when they return to area farms. They nest in the same neighbourhood, often in the same field as last year's nesting site. Even their young "aren't dispersing very far," says Perlut, who traps and bands the birds in Vermont's Champlain Valley. "They're almost all within three kilometres of where they're born."

"It shows the value of working collaboratively in small landscapes," he says. If your resident bobolink didn't return to your field this year, it or its offspring may well be nesting at the neighbour's place, across the fence.

Perlut has spent years peeling back the foliage in Vermont hayfields to follow five generations of avian births, deaths, and migrations. In the process, he's discovered a lot of bird tales amongst the clover and timothy. A guest speaker at a meeting of grassland bird researchers and farmers organized earlier this spring by the Ontario Soil and Crop Improvement Assn., he radiates enthusiasm for his subject.

BY RAY FORD
The writer farms near Powassan
rif@onlink.net

"As humans, we can build airplanes and fly around the world, but birds fly around the world as well," he says, his shirt untucked, arms and hand moving with increasing animation. "This is what makes my job exciting, to be able to appreciate things like this."

These days, the problem is there are

Regulations protecting grassland birds could be costly

Safeguarding grassland birds by forcing farmers to delay pasturing or hay cutting until mid-July would be costly and probably counterproductive, says a study prepared by the George Morris Centre.

Commissioned by the Ontario Soil and Crop Improvement Assn. for Ontario's agriculture and natural resources ministries, the 2013 report suggests restricting hay harvests and pasture turnouts until July 15th would add more than $250 million in costs to Ontario's livestock sector, while creating an "incentive for farmers to take existing hay/pasture acreage and convert it to field crops." The shift to crops would further diminish the habitat available to species including the bobolink and eastern meadowlark.

"These potential costs should caution against habitat management implemented in such a narrow and prescriptive manner," added authors Al Mussell, Claudia Scmidt, Danielle Ethier, and Doug Yungblut.

Instead, they recommend "farmers should be properly engaged as suppliers of habitat, and that combinations of incentives and voluntary measures should be explored with the farm community to support habitat management."

The study, discussed at a meeting of grassland birds researchers held by the OSCIA in Guelph earlier this spring, looks at the cost to farmers of three recognized bird-friendly practices, including later haying, later grazing, and clipping native pastures to prevent the encroachment of trees and shrubs.

Major impacts on pasture farmers included the loss of some high-quality early grazing, and increased costs for fencing and watering systems as alternate pastures are more intensively grazed.

Delaying the first cut of hay until July 15th would probably mean going from three cuts to two for many farmers, reducing both the quantity and quality of forage. The result would be higher costs as grain or corn silage is substituted for forage (especially in the dairy sector). Reduced forage yields could also force farmers to trim herds. The study team calculated 200 acres of forage could support 136 beef cows on a conventional haying program, but would only feed 105 if a bird-friendly haying schedule was enforced.

Admitting "some of the estimates of costs are crude," the report estimates decreased forage yields and quality would cost farmers and the equine sector $137-$151 a year, while pasture restrictions could add $118-146 million. Controlling woody vegetation - essentially keeping trees and shrubs out of native pastures - would cost about $1.2 million for additional clipping.

The report calls for additional research into maintaining pasture and forage productivity while providing grassland bird habitat, and maximizing the ecological goods and services grasslands provide. As for boosting those environmental benefits, "incentives and voluntary measures should be explored with the farm community."

About 80 per cent of bobolink nestlings are killed by machinery, the rest by predators. Surviving parents are unlikely to nest successfully again in the same year.

fewer bobolink "kids" being launched. Ontario's bobolink population has fallen by a third in just 10 years, and the bird is listed as a threatened species under the province's Endangered Species Act (ESA). Although farming activities are now exempt from the ESA – an exemption that expires this December – the act has the potential to restrict such basic agricultural practices as cutting hay and pasturing livestock.

Mowing hay in June, for example, is tough on grassland birds. "If you cut a field by June 11th, there's a 100 per cent chance the nests will fail," Perlut says. About 80 per cent of bobolink nestlings are killed by machinery, the rest by predators. Surviving parents are unlikely to nest successfully again in the same year. (Savannah sparrows, on the other hand, keep trying, laying up to six clutches of eggs during a season. "After a field is harvested, savannah sparrows are like: 'Oh, man, that was terrible. Let's just do it again." Perlut says.)

But delaying the hay harvest until young birds fledge is almost as tough on farmers and their livestock. Poor-quality forage from late-July first-cut hay won't fuel productive dairy cows, or ensure cows and ewes get the milk they need to nurse their young.

That's why researchers, including Perlut, are looking for ways birds and farmers can share the same turf. The goal is to help farmers find ways to harvest decent hay, yet keep birds on the landscape, where they're major consumers of forage and cereal pests, including armyworms, cutworms, and grasshoppers.

An option pioneered in Vermont is an early haying system focused on dairy farmers. By grabbing a first cut of haylage as early as mid-May, farmers can vacate the field for 65 days while birds nest and fledge their young. After that, the discbine returns for a second cut.

To sweeten the deal, qualified participants who sign up for a three-year, non-renewable contract received $135 per acre in compensation. The idea was to give farmers three years to experiment with the approach, in the hope they'll maintain it after the contract ends. Over 1,200 acres were hayed under the scheme. "We based a lot of our payment on the decrease in value in the second cut," says Toby Alexander, a biologist with the USDA's Natural Resources Conservation Service in Vermont. "I know that at least some of the farmers have continued with early haying."

"This program really works in Vermont," Perlut adds. Sparrows and bobolinks on those early fields produced almost as many young birds as their counterparts in the delayed-haying fields – about 2.5 birds per nest for sparrows, and 3 bobolinks per nest.

But when Trent University graduate student Kristen Diemer tried the approach in the Peterborough-Linday area in 2011 and 2012, fields were too wet to bear traffic. Even when fields were cut on May 30th and 31st, bobolinks didn't return for nesting. The Vermont approach "didn't apply in south-central Ontario, but it's still worth trying," says Joseph Nocera, an adjunct professor at Trent University and Diemer's thesis supervisor. "There's probably other models out there that we haven't tried yet."

Perlut adds another option is to cut early on fields birds don't like for nesting, (fields with a lot of alfalfa, or reed canary grass, or small, irregular fields bordered by forests and roads) and move onto the prime nesting fields later. Whatever the solution, "we can't solely rely on delayed harvesting," Perlut says. "Our model has been to keep agriculture on the landscape, because without agriculture, there would be no grassland birds."

"We often to talk to people who don't think about birds, and aren't very interested in birds," he adds. But after Vermont farmers hear the life stories of the birds in their fields, they start spotting the black and yellow birds with the twittering song.

It's a transformation familiar to Lambton County cow-calf producer, cash cropper and OSCIA director, Chad Anderson. After expanding his pastures and turning a wet spot in a field into a wetland, he began to recognize the bobolinks' twittering call. "I never paid attention to birds before, but now I notice them," he said after hearing Perlut's talk. "To me, the neatest thing is how they go back and forth to South America."

What is late-cut hay worth?

Round bales harvested under last year's bird-friendly program sold for 3.5-4 cents a pound – a level Eastman says is about 1.5 to 2-cents below the going rate for earlier hay. The price goes at least part way towards answering a key question in the farm community: just what is this hay worth?

While the CVC's bird-friendly program offered an economic benchmark, others are studying the nutritional value of late-cut hay. As part of her study of a range of haying dates and their impact on grassland birds in the Peterborough-Lindsay area, Trent University graduate student Kristen Diemer tested forage samples cut from the end of May through July.

Samples showed crude protein fell from 14.6 per cent on the 31st of May to 9.1 per cent on the 15th of July. Protein dropped relatively quickly until mid-June, when the decline slowed. It fell below the 10 percent threshold around the 28th of June.

Diemer concluded "for hay farmers that tend to take first harvest in late June... waiting until at least early July would translate to relatively small further declines in hay nutritional quality while greatly improving Bobolink reproductive success."

Meanwhile, OMAFRA is conducting its own survey, and hopes to carry out a second year of forage samples this summer. Provincial forage specialist Joel Bagg says the ministry plans to sample forage from late May through mid-August, working with cooperating farmers in about 15 locations from southwestern to northern Ontario.

Researchers will look at nutrient, mineral, and energy levels in the forage, and the potential intake livestock would need to meet dietary needs. Questions include "what can that late-cut forage be fed to, and still meet nutritional requirements?" says Bagg. "It's a complicated issue, and we need data to investigate the best compromise."

"Bird friendly hay" program expands

Credit Valley Conservation's "bird-friendly certified hay" program is expanding to the 250-acre mark this year, with hopes that it will eventually top 800 acres in the region.

With more farmers trending towards crops, and non-farm landowners likely to reforest fields rather than maintain hayfields and pastures, "We're trying to keep grass on the landscape," says Mark Eastman, program co-ordinator for agricultural extension with Credit Valley Conservation (CVC). "We need to start valuing these open country spaces, and that means not only natural open country spaces, but also the working landscape."

The bird-friendly program preserves grassland bird habitat by asking farmers to delay their first cut until young bobolinks and meadowlarks are ready to leave the field, typically in early or mid-July. Farmers can have their own hay certified, or the CVC will link farmers with local non-farm rural residents with hay land to offer. Although there are no payments under the program, qualifying non-farm landowners can receive a break on their property taxes, while farmers may get access to additional hay ground at no cost.

The program "is not just about delaying haying, it's providing opportunities to growers who want to expand their hay business," Eastman says. "Our pasture and forage-based agriculture is finding it hard to compete with grains and oilseed producers when it comes to renting land."

Last year the program covered 143 acres on nine parcels. Six parcels were owned by farmers, while three more were offered by non-farm landowners. Once the program is established, Eastman says it's relatively cheap to run, especially compared to the cost of reestablishing native grassland prairie and meadow. Most of the upfront cost involves building a website to promote the effort and act as a hub for farmers looking for hay ground, and landowners with fields to offer.

The CVC covers the Credit River watershed in parts of Halton and Peel Regions, Dufferin and Wellington Counties, but Eastman says this sort of voluntary program could likely work elsewhere, or be operated by other organizations, such as naturalist groups.