

Farmland and Wildlife

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Barn Swallows in Grassland Set-asides Olga Landsorp, Msc. Candidate, SFU

If you have spent time on the farmland of Delta during the summer, you have almost certainly encountered quick-flying, chatty Swallows. Based on my research this summer, it turns out that having horses and cows around is good for these birds, and so are Grassland Set-asides.

The unfortunate news is that these beautiful, iconic birds are experiencing population declines across North America. The good news is that there might be something you can do to help, whether it is tolerating the mess that Barn Swallows make, putting a piece of plywood or cardboard under nests to minimize the mess, or putting up nest boxes on your property.

In order to survive, these birds need lots of insects to eat and a place to build their nests. I am doing research about how to maximize these two things so that we will continue to see Swallows elegantly filling the air for years to come.

I spent the summer with my team visiting 11 breeding sites in the Metro Vancouver area, watching their nests and measuring the chicks. Half of the sites I am studying on farmland have livestock, and half do not. Based on this summer's research, I found that having horses or cows around leads to fatter, heavier chicks. This is probably because when there are more animals around, there is more poop, and where there is more poop there are also more insects, which is also what researchers in Europe have found. There are two main types of Swallows found in Delta, the orange-bellied


“Barn Swallow” and the white-bellied “Tree Swallow.” Some farmers have very close encounters with them when they drive their tractor on fields, with swarms of birds darting about hungrily snatching up insects stirred up by the tractor.

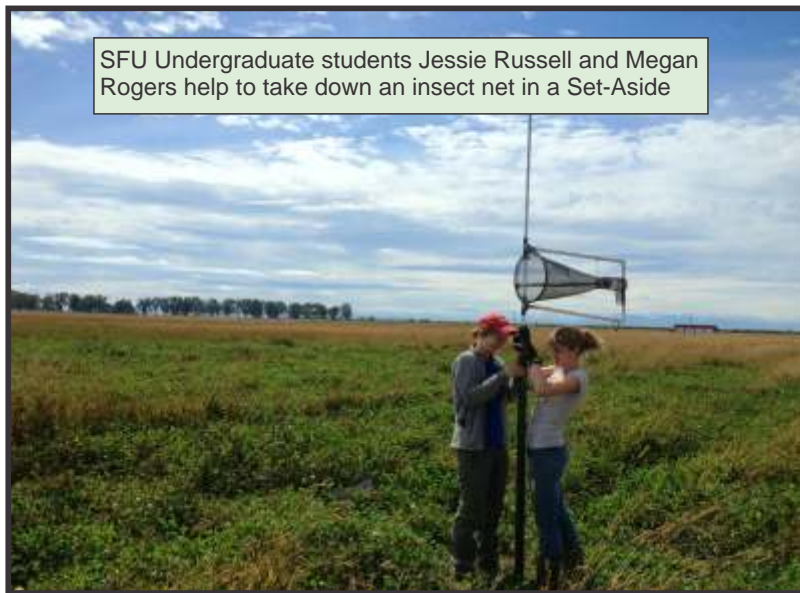


Swallows are hungry for insects, and much of their behaviour is related to this eating habit. During the breeding season, each adult brings back about 1000 insects per day to feed their hungry nestlings. While they fly about, they trap insect after insect in their wide mouths, and come back to the nest with several dozen insects. The insects are molded together into a tightly packed bolus, a protein treat that fuels the nestlings' growth. Where are there more insects around for the birds to eat? In order to answer this question I watched their feeding behaviour on the farmland of Delta. With the help of Delta Farmland and Wildlife Trust, I decided to see if there are more birds feeding over Grassland Set-aside fields compared to potato fields.

I also wanted to see if there were more insects on the

Grassland Set-asides. To do this we set out wind nets that have a little bottle of alcohol attached to the end. Any insects unfortunate enough to blow in get preserved, and later we look at them and count them. It looks like Grassland Set-asides benefit the insect-eating birds.

Not only did we find more insects over Set-asides than potato fields, but I also saw 7 times more feeding barn swallows. So it is not just hungry people who are influenced by our farmland choices; the fate of swallows is intimately tied to our choices as well. 



SFU Undergraduate students Jessie Russell and Megan Rogers help to take down an insect net in a Set-Aside

Nutrient Management Project Initiated in Delta

DeLisa Lewis, Centre for Sustainable Food Systems at UBC Farm

Can farmers reduce nutrient input costs and maintain overall crop yield and quality? Related to these basic economic goals, can they profitably reduce nutrient inputs while stewarding soil, water, and air quality for the next generation who will call the Delta-Ladner community and the Lower Fraser Valley home?

These questions lie at the center of decades of collaborative research between the University of British Columbia's (UBC) Faculty of Land and Food Systems, provincial and federal Agrologists, and Delta growers. Farming families and researchers have coordinated to provide field access, conduct cultivar trials, and carry out soil and tissue sampling and analyses for many growing seasons. Our incremental understanding of these complex soil-crop-environmental processes for Delta farms and fields has grown as a result.

The key finding from nutrient testing and analyses in recent decades is that phosphorus (P) levels in the majority of fields studied are very high. In practical terms, the most cost effective and environmentally sound practice a grower can adopt to improve the efficiency of nutrient inputs and reduce the risk of P pollution of surface waters is regular soil testing. Getting crops off to a good start in our typically cool, wet Delta-Ladner area soil in the spring can be a challenge, so if soil test results do indicate additional nutrients are needed, targeting the right nutrient, determining the right timing and method of nutrient



application are the next steps.


Another result of the ongoing collaborative research between Delta growers and regional soil nutrient specialists are nutrient management planning factsheets, tools, and manure spreading advisories. (<http://www.agf.gov.bc.ca/resmgmt/NutrientMgmt/>)

Information and nutrient management decision-making tools are provided to help growers meet economic goals and minimize environmental risks associated with excessive agricultural nutrients.

Initiated this September, the Nutrient Database Project was launched to determine the nutrient status

of a select set of commercially important crops grown in the Lower Fraser Valley, as well as to establish regionally calibrated information on the nutrient content of manures that are a regular part of cropping systems here. Delta growers are partnering with researchers from the Sustainable Agricultural Landscapes (SAL) Lab at UBC on this project, and sampled crops to date include blueberries, corn, beans, potatoes, and carrots. Lead researchers on the project are Dr. Sean

Smukler and Dr. DeLisa Lewis.

The sampling phase of the project will continue with manure and late season forage crops until the end of November, with initial laboratory results on nutrient status to be shared with cooperating growers in early 2014. In addition to establishing cooperative relationships with Delta area growers, the Nutrient Database Project will include sampling and results from crops and manures across the Lower Fraser Valley in an effort to provide baseline nutrient data with a solid geographic range representative of the intensive southwestern BC agricultural zone. 



For information regarding the Fraser Valley Nutrient Database Study, or if you would like to become involved, please contact:

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Or visit our website at: <http://sal-lab.landfood.ubc.ca>
Funding provided by Growing Forward 2—a federal-provincial-territorial initiative.

Bringing DF&WT's Grassland Set-aside Program to a National Stage

Dru Yates, Msc. Candidate, UBC

Dru is working in collaboration with DF&WT to study the effects of Grassland Set-asides on soil. This past summer, Dru presented her work on GLSA's at the Canadian Society of Soil Science Conference in Manitoba. Below is her account of the experience.

"Wow, the prairies are so...flat."

This was the predominant – and, admittedly, not very original – thought in my head as I sat in a plane in July, leaving the Rockies behind to attend the Canadian Society of Soil Science conference in Winnipeg, Manitoba. This annual conference provides an opportunity for scientists from across Canada (and the world) to come together, learn about projects, and share ideas and innovations about various types of land use under the umbrella of soil science. Winnipeg being this year's host-city, there was a remarkable representation of topics on agricultural land use. Not only was I able to attend multiple presentations each day about managing soil compaction, fertility, irrigation, drainage, and ecosystem services, but I was also able to have one-on-one conversations with various experts. In addition, I gave my own presentation on evaluating the impacts of the Grassland Set-aside Program on soil quality in Delta.

Throughout the presentations and conversations at the conference, I discovered that the set-asides sparked excitement in the people I was talking to. I found myself surrounded by other people – experts in agricultural extension, soil quality assessments, and agroecology – who were genuinely very interested in this environmental stewardship program being run out on the west coast by the Delta Farmland & Wildlife Trust.

I received a lot of valuable resources, insight, and general help related to my research on set-asides during the conference. I learned about similar environmental stewardship programs, both Canadian and otherwise. However, I did not come across anyone who was able to tell me about a grassland set-aside program in Canada administered in the same way as that of the Delta Farmland & Wildlife Trust. As I was leaving Manitoba, I became aware of one particular realization that had come from my experience in Winnipeg: the Grassland Set-aside Program in Delta truly is innovative and unique.

I had begun to suspect this was the case well before Winnipeg; in my literature searches for comparable programs around the world, I had struggled to find anything with the same objectives, timelines, and incentives as the program in Delta. The conversations at the conference simply reinforced to me how unique the Grassland Set-aside Program is in the way that it is



Photo credit: Novak Rogic

run through the Delta Farmland & Wildlife Trust.

To me, what makes the Grassland Set-aside Program stand out is that it is matchless in its objective, which is to provide wildlife habitat and improve soil quality on agricultural lands, while also trying to remain a viable management option to farmers. To accomplish all of this simultaneously is a tremendous challenge.

In my own study, I am specifically addressing the objective of improving soil quality under grassland set-asides. I have sampled from grassland set-asides and potato fields, for comparison between management types. I have also sampled from set-asides of different ages, for comparison between ages. I am currently working through the collected data, and the study results will be available in the coming year. As I compile the results, I will be thinking about my trip to Winnipeg, where I learned three important lessons:

- 1) There is still a lot that is unknown about the integration of short-term grassland management into arable systems;
- 2) The Grassland Set-aside Program in Delta is unique in its approach to this integration;
- 3) And, by working to improve the Grassland Set-aside Program, the Delta Farmland & Wildlife Trust is by default at the cutting edge of environmental stewardship on agricultural land in Canada. 



Dru Yates receiving an award from CSSS President, Frank Larney, for her presentation in Winnipeg on Set-asides

“Day at the Farm” Event Wrap-up


On September 7, 2013, DF&WT once again hosted its annual “Day at the Farm” community event in partnership with the Westham Island Herb Farm/Ellis Farm. New highlights from this year’s event included the attendance of the BC Cattlemen’s Association, Richmond-Delta 4H Club, as well as professional roping and farrier demonstrations. We would like to thank our event sponsors for their generous support, and also our volunteers who gave their time to ensuring the event was again a success. A big thanks to Ken Bates for bringing out his Clydesdales for a plowing demonstration, Mike Guichon for the antique tractor display, as well as to the many other farmers who brought equipment. 



Photo: Greg Fee



Wildlife Tidbits *by John Hatfield*

Can Ravens identify people? Apparently so. While downhill skiing at Cypress a few years back I noticed a group of five or six Ravens hanging out near the top of one of the chair-lifts. This was midweek, so there were no lineups for the lifts. As I was skiing up and down this lift throughout the day I saw this fellow on skis feeding the Ravens. It soon became apparent that these Ravens were ignoring me and other skiers. This individual was skiing up and down the lift as well, however as soon as he showed up on the lift the Ravens would start calling and gather around near the top of the lift in anticipation of being fed. This fellow would always give these Ravens a small snack after he got off the lift. So it sure looks like Ravens can recognize people, especially those who give handouts!

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