Farmland & Wildlife

The Delta Farmland & Wildlife Trust Newsletter

Vol. 13, No. 1 July 2007

Implications of the latest census results for Delta agriculture

by Art Bomke, UBC Faculty of Land and Food Systems

Local newspapers and other media outlets recently paid some long overdue attention to agriculture following the May 16 release of Statscan's 2006 Census of Agriculture. It was definitely a good-news/bad-news message. One problem with national statistics is that they are dominated by the massive agricultural regions of the prairies and central Canada, and BC often runs counter to national trends. How might we situate Delta agriculture with respect to the most recent census?

First the bad news: Canadian farmers' gross incomes have increased, but not as fast as their expenses, leading to further declines in net farm incomes. Nationally, this has led farmers to seek off-farm employment, seek more profitable crops and begin the transition to organic farming. Also, governments have assisted specific sectors, via subsidies. Much of this has gone to the livestock industries, buffeted by BSE and Avian flu, however, Delta farmers have benefited little from government subsidies and derive nearly 100% of their incomes from the marketplace.

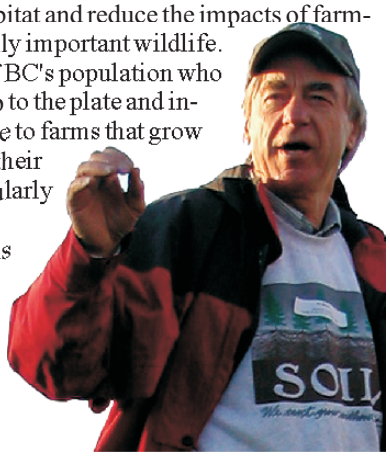
Changes in cropping: National statistics point to declines in the acreages of processing crops, peas (-4%), green beans (-9%) and sweet corn (-15%) and a 17% increase in blueberries. These trends are strongly reflected in Delta and may have implications for farmland use, wildlife habitat and land stewardship programs that have been designed to fit processing crop rotations.

Going Organic: Another striking trend across the country is the increase in organic farming, with BC leading the way. The GVRD now has 16% of its farms producing organically, second in the country only to the Victoria metropolitan area at 30%. Again, Delta is in the vanguard of this change, with perhaps the largest area in organic vegetables in Canada. Although the conventional farms in Delta use relatively few dangerous chemicals, this trend will likely make a positive contribution to sustainable agriculture and wildlife habitat.

Land Use Changes: In addition to the increase in blueberry acreage, Delta leads another national trend, that is the 20% increase in greenhouse production area. While both land uses occupy a relatively small percentage of the land base in Delta they add to the overall impact of other significant land development projects currently in the works. One has to wonder what the aggregate effect will be on the ability of traditional land-based Delta farmers to ply their trade.

The 2006 Census of Agriculture gives us a good snapshot of trends in Canadian and local farming. Delta, in fact, leads the trends in increases in organic farming, greenhouse vegetable production and blueberries and decreases in processing vegetables. These land use changes are logical responses to market demands and the challenges of farming on one of Canada's largest metropolitan areas. The declining profit margins of many farmers emphasize the futility of expecting farmers to produce environmental services such as wildlife habitat without support from the general public. The Delta Farmland & Wildlife Trust represents a good start towards improving farm financial viability by providing programs that enhance wildlife habitat and reduce the impacts of farm-land use by internationally important wildlife.

It's time for the 99.5% of BC's population who are not farmers to step up to the plate and increase the flow of income to farms that grow agricultural products in their communities and particularly for those that participate in conservation programs like the Trust's stewardship programs which provide important environmental goods and services beyond crops.



A Day at the Farm!

Attend our second annual "Day at the Farm" and experience agriculture! The event, funded by Vancity, Delta Agricultural Society, Ducks Unlimited Canada, and Farm Credit Canada, gives people an opportunity to connect with the land that feeds them and to learn about how these same lands provide environmental benefits to the community including habitat for many wildlife species. Agricultural commodity groups will be present with information on locally grown products. Kids (and adults) can play in a massive hay pile, add to the farmland graffiti wall, fill in our event passport, learn from the interactive displays and look at antique and unusual farm equipment on site. Its not often that a kid can sit in a tractor that is almost 15 feet tall! Make sure you mark your calendar, it's going to be a hoot! See page 4 for more details.

The Greenfields Bulletin

DF&WT's Winter Cover Crop Program

Inclement weather, extremely high tides and high waterfowl population densities resulted in the upland areas on the Fraser delta being heavily used by waterfowl during the winter of 2006/07. By the end of winter 82% of 2,870 acres of cover crops showed evidence of grazing and 75% were either extremely or completely grazed.

Late planted winter wheat crops appear to be particularly vulnerable to waterfowl grazing with 85% of the total area planted showing evidence of grazing by March. Of 27 winter wheat fields planted, 16 were completely grazed by the end of winter. Likewise, timothy fields were grazed off early in the season, although little was planted (52 acres) and all of this was in the Brunswick Point area of Delta. Brunswick Point is traditionally heavily used by Snow Geese throughout the winter and it is apparent that this species grazed the timothy fields relatively early in the season. In many instances, there was little wheat or timothy cover crop left to plough down at the end of the season although one wheat field survived the winter and was harvested this year.

As can be seen below, a wide range waterfowl species use and benefit from winter cover crops planted under our program. Farmers also benefit through soil conservation effects and by luring birds away from economically important overwintering crops such as hay fields.

A. Swans on winter cover crop. This field was a relay crop of Italian rye grass planted between corn rows. Flocks consist primarily of Trumpeter Swans but sometimes include Tundra Swans (red circle).
B. Advancing edge of a Snow Goose flock on a winter cover crop found on Westham Island.
C. American Wigeon and Mallards feeding on an already short winter cover crop. Some fields are repeatedly grazed over the winter.

In search of Barn Owls

by Sofi Hindmarch, SFU Centre for Wildlife Ecology

The start date for my first field season was set; March 1, 2007. My mission: Find Barn Owl nest sites in Delta and Surrey, and monitor 20 nest sites throughout the breeding season.

Based on previous studies, I expected to see the first barn owl chicks at the end of March. As my surveys progressed, driving from farm to farm I found many adult Barn Owls, but no eggs and certainly no chicks were to be seen. My first concern was whether I was searching hard enough. Upon hindsight I realized that the late start all made sense. The cold winter and the wet spring had taken its toll, dead Barn Owls, light as a feather were found at some of the sights. They had also been seen hunting in full daylight, something they would only do if they were really hungry.

As Spring progressed into Summer the fields dried up and it seemed that the surviving owls began to recover. Consequently, eggs started to show up at various places, with Surrey being 2-3 weeks ahead of Delta.

In order to minimize disturbance, our surveys were conducted in the evening when we checked nest sites for eggs or possibly chicks. Barn Owls lay their eggs asynchronously, on average one every day or so, this also dependent upon the weather. The most we recorded was 7 eggs in one clutch, which can lead to over 250g weight difference between siblings once they are all hatched. Typically when this happens, the youngest ones have a hard time competing for food and will in most cases die of starvation. Nothing is wasted though; the female will feed any dead chicks to those that survive. The chicks grow tremendously the first five weeks, almost doubling their weight every week, exceeding the average weight of an adult when they are between 38-45 days old. Of the nestlings we have measured to date the heaviest was 647 g, almost 200g more than the average weight of an adult.

The chicks lose this baby fat when they develop their wings and their primaries and prepare for flight. Mastering flight doesn't come without lots of practice and it is not unusual to see the parents doing quite a bit of coaching before the young Barn Owl decides to leave the nest box and try its wings for the first time. Having survived to this stage is an achievement in itself for any Barn Owl chick. Although the next stage; finding its own territory and mate may be an even bigger challenge.

I am happy to say that Barn Owls are still relatively common in the agricultural lands of the Fraser delta; so far I have monitored 22 nest sites. The project has given me the great pleasure of meeting and talking to a lot of interesting people, some of which have been working and cultivating this land for over a half a century, and have without a doubt some great stories from the past. Thanks so much to everyone who has allowed me to access Barn Owl nests on their property; I greatly appreciate your co-operation. Stay tuned for updates.

What's the dirt on recent regional soil surveys? *by Orlando Schmidt, BC Ministry of Agriculture and Lands*

Earlier this year, the results of the 2005 Fraser Valley Soil Nutrient Study were released.

The first phase of the study involved excavation of soil pits which allowed soil profiles to be precisely classified according to soil survey methodology. These samples, together with their well documented characteristics were used to develop analysis methods and interpretations for testing soil's agronomic and environmental properties.

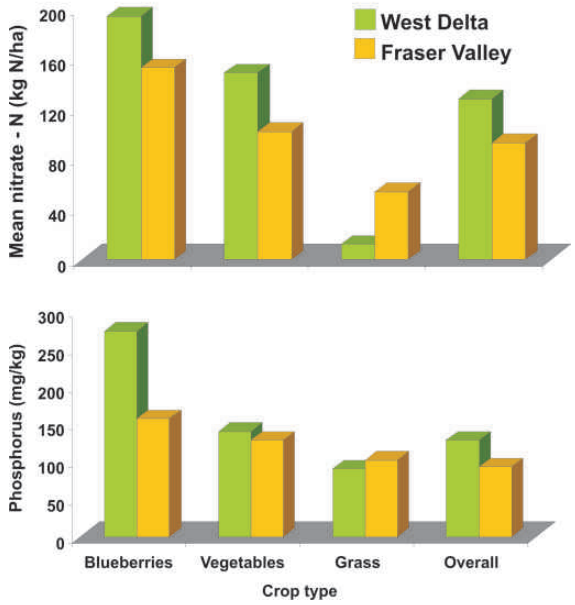
The second phase used conventional soil test core sampling to establish a snapshot of soil nutrient status for major crop groups and agricultural production zones within the Fraser Valley. West Delta was selected because it represents an area with substantial vegetable and potato production, and is also an area that uses a lot of poultry manure.

The phase two analyses focussed on post-harvest nitrate-nitrogen and phosphorus which are two of the most important nutrients in crop production. So how did West Delta fare?

For nitrate-nitrogen, results were reported as the content of nitrate on a unit area basis (kg N/ha) in the top 60 cm (two feet) of the soil. Any values greater than 100 kg/ha were considered high and greater than 200 were considered very high. For the most part, nitrate in the soil after harvest is lost from the root zone over the fall and winter. For the whole Fraser Valley, 31% of fields were high to very high. In West Delta, 43% were high to very high. The fields with high N contents were generally planted to blueberries or vegetables. The five grass fields in the study (including one grassland set-aside) tested very low. This was expected as the grass fields had less intensive management and grass by nature is very efficient at absorbing nitrate throughout the growing season. Other crops take up large amounts of nitrogen early in the season but are not efficient at recovering nitrate that becomes available from the soil later in the season.

Andrew McGowan sampling soil in one of the soil pits excavated in a grassland set-aside field

Phosphorus results were reported as a concentration (mg P/kg, which is parts per million) in the top 15 cm, based on the Kelowna soil test. Concentrations greater than 50 and 100 mg/kg were considered to be high and very high, respectively. This



Post-harvest soil nitrate-nitrogen content and phosphorus concentrations for west Delta and the Fraser Valley (2005)

interpretation holds for both agronomic and environmental risk assessment purposes. For West Delta, 91% of soils tested high to very high compared to 80% for the entire Fraser Valley. The average concentration was 158 mg/kg with blueberries ranking higher than vegetables which in turn ranked higher than grass.

What do all these numbers mean? From a soil fertility perspective, it means Delta soils are very fertile. While deltaic soils are naturally quite fertile, additions of chemical fertilizers and animal manures over the years have increased the fertility even more. However, from an environmental risk perspective, these results raise a caution flag. The soils are now enriched to a point where there is an elevated risk of nitrate and phosphorus being lost from the soil and contributing to pollution of ground and surface water. The economic opportunity here is that in many cases, farmers can likely reduce costly applications of fertilizers and organic amendments without risk of yield loss. The Ministry of Agriculture and Lands will continue working with industry to identify win-win solutions that improve nutrient use efficiency while minimizing environmental risks.

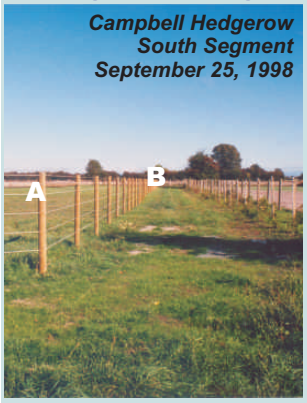
The 2005 Fraser Valley Soil Nutrient Study was funded by Agriculture & Agri-Food Canada, Environment Canada and the BC Ministry of Agriculture and Lands, in partnership with the BC Agriculture Council. The project steering committee is grateful for the tremendous cooperation from farmers in Delta who volunteered their fields for this study.

The complete report is accessible on the internet at: http://www.al.gov.bc.ca/resmgmt/EnviroFarmPlanning/index.htm

Wildlife Tidbits *by John Hatfield*

There are man-made "weed-whackers" and there are natural "weed eaters". To the farmer and gardener, thistles are weeds when found in gardens, grain and hay fields. Each thistle plant can produce an abundance of seeds which can distribute very quickly over a field the following years. The use of herbicides can easily keep thistles in check however, there is a natural way. American Goldfinches will feed on ripe thistle seeds. Even though the small yellow and black finches can not possibly eat all of the available thistle seeds they are a big help. At about the same time as the thistles ripen, the Goldfinches are building their nests. Besides eating the seeds, the finches will utilize the thistle down to line their nests to make a cozy bowl for their eggs and their youngsters.

Spotlight on Hedgerows



Campbell Hedgerow South Segment September 25, 1998

Campbell Hedgerow South Segment July 24, 2007

In September of 1998 DFWT installed a 600-m hedgerow at Campbell Stables on 64th Street near 65B Ave. Included in the design were 4 hedgerow segments around the property with an ephemeral pond in one corner. Now, almost 9 years later, the installation has blossomed into a dense hedge humming with bird life.

During the first breeding season after planting (Spring 1999), the affected field margins were used by 7 bird species based on three bird surveys. This year (Spring 2007), 21 species (including 5 warblers) were detected within the field margins dominated by the lush, dense and vertically diverse green growth during 6 surveys. The plant species diversity has remained high with exceptional survival of planted stock. This is a prime example of how quickly carefully managed field margins can develop into attractive habitat for songbirds. The close proximity of other hedgerows and wooded areas also adds to the overall habitat value. Unfortunately, new hedgerow installations have been suspended until funding for our other programs stabilizes, however, work on maintaining our existing hedgerow inventory continues. *(note: The white letters on the images above are reference points to correct for differences in the viewpoints.)*

Thank-you!!! A number of local businesses responded to our campaign for funds to support the expansion of our grassland set-aside program. The campaign's ultimate goal is to increase the amount of tall grass habitat within the lower Fraser delta by 15% over the next decade. We are grateful for a total of $11,000 that was pledged in support of the program by Shato Holdings, Century Group, Lehigh Northwest Cement and Westshore Terminals. This will fund 37 additional acres of grassland set-asides over the next year. Thanks go out to all.

Electronic Newsletter

If you would like to help us conserve resources by receiving an electronic version of this newsletter, send an e-mail to us (dfwt@dccnet.com) with **"electronic newsletter"** in the subject line. If you would like the best of both options use **"both newsletters"** in the subject line. In the body of the e-mail include your name as it appears on the mailing label on your newsletter envelope.

A Day at the Farm

Saturday September 15th, 2007
10:00 am - 4:00 pm
Westham Island Herb Farm
4690 Kirkland Road, Delta, BC
for info call our office (604 940 3392)

Directors & Staff

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Mary Taitt
Vice-chair
Noel Roddick
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John Hatfield
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Delta Farmland and Wildlife Trust is a non-profit, charitable society whose mission is to promote the preservation of farmland and associated wildlife habitat in the Fraser delta through sustainable farming and land stewardship.

Your donation will work for Farmland and Wildlife in Delta

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