Great Blue Heron in Grassland Set-aside

Delta Farmland & Wildlife Trust

Promoting Farmland & Wildlife Habitat Conservation

Annual Report 2007-08

Delta Farmland & Wildlife Trust

Annual Report for the period of
April 1, 2007 to March 31, 2008

Delta Farmland & Wildlife Trust

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Message from the Chair

The Delta Farmland and Wildlife Trust (DF&WT) was established in 1993 and provided farmland stewardship programs to Delta farmers for the last fifteen years. Over this period, farmers participating in our whole field and field margin programs have chosen to both conserve vital farmland soils and provide habitat for the wide diversity of wildlife that uses Canada's most significant Important Bird Area, the Fraser River Estuary.

Over the 2007/08 fiscal year, the Trust spent a total of $259,250 in cost shared programs with Delta farmers that conserved 3,378 acres (1,367ha) of soils and provided important wildlife habitat. The stewardship project that benefited the largest acreage of farmland was the highly successful Winter Cover Crop program. Fall planted cereal crops covered a total of 2,143 acres (867ha) and helped feed swans, geese and ducks over the winter at a cost of $96,422. Another whole-field program is the Grassland Set-aside; this both rejuvenates soils and provides important oldfield habitat to a wide diversity of wildlife species from voles to our signature bird, the Northern Harrier. This year, farmers provided 519 acres (210ha) of grassland at a cost of $123,725 for the Trust. Land laser leveling was done on 139 acres (56ha) and lime was spread over 567 acres (230ha) for a combined farmland improvement cost of $38,286. Field margin projects totaled 6.91 acres (2.8 ha) of hedgerows and 2.72 acres (1.1 ha) of grass strips for a total of $816 of vital shelter, food and nesting habitat for a large diversity of wildlife.

None of this work or our educational events could take place without the generous support of our funding partners. On behalf of the Board, many thanks the Delta Agricultural Society, the BC Waterfowl Society, Ducks Unlimited, Habitat Conservation Trust Fund and VanCity as well as many corporate and private donors who continue to finance the Trust's programs.

Along with the farmers, many people are partners in this model stewardship enterprise. The Trust is guided by the informed leadership of its Directors who represent the two founding sectors, farmers and conservationists; thank you John Hatfield, John Malenstyn, Don Mark, Anne Murray, Hugh Reynolds, Noel Roddick, and Edward van Veenendaal. The daily operations of the Trust are taken care of by our reliable, professional staff; thank you: Markus Merkens as Wildlife Coordinator, David Bradbeer as Agriculture Coordinator and Margaret Paterson as the Office Coordinator.

What is the future of local food production, wildlife habitat and the Trust in the Lower Mainland? Gateway projects including port expansion on Roberts Bank, the new South Fraser Perimeter Road and railway infrastructure will remove at least 1,000 acres (405 ha) of Delta farmland and fragment many farm properties. The cumulative impact of this loss and other farmland conversion developments on the future viability of farming and the Trust's ability to conserve habitats has not been assessed.

The Trust faces hard times in the immediate future. Financial market downturns will directly impact Trust funding from endowments and the ability of our funding partners to continue to contribute. In spite of this, the Trust will continue to work towards the continued preservation of farmland and enhancement of soils and wildlife habitat through research, education and stewardship incentive programs. Thank you everyone for being partners in farmland stewardship.

Dr. Mary J. Taitt, Chair

Delta Farmland and Wildlife Trust

Board of Directors 2007/08

Mary Taitt, Chair
Mary is a tutor with Thompson Rivers University, a naturalist for Vancouver Whale Watch and an ecological consultant. She is interested in conserving Delta's ecosystem and is a director of the Boundary Bay Conservation Committee. She is a founding Director of the Trust and returned to the Board in February 2005.

Anne Murray, Treasurer
Anne is a lifelong naturalist with a keen interest in birds, and a background in education and has recently published A Nature Guide to Boundary Bay. She is a volunteer board member with Nature Canada and BC Nature and returned to this Board after a brief hiatus.

John Malenstyn
John is a second generation Delta farmer initially operating a dairy operation. He now grows row crops. He is member of the Delta Farmers Institute. He completed a 6 year term as a Board member in 2003 and returned in February 2005 to serve again.

Hugh Reynolds
Hugh is a fourth generation vegetable farmer. He is dedicated to the economic sustainability of farming in the Fraser Valley and has been studying the changes to Delta's geography and the effects on the environment. He is a founding Director and returned to the Board in 2006.

Noel Roddick, Vice Chair
Noel is a founding director of DF&WT and has been active on our Board on numerous occasions over the past decade. He has worked in agriculture on the delta for over three decades as the owner of an agricultural supply and services company. He rejoined the Board in 2002.

John Hatfield, Secretary
John is a retired biologist who spent most of his career as a land manager for the Canadian Wildlife Service. He is a founding director of the Delta Farmland and Wildlife Trust and has filled his current position on the Board since 2000.

Don Mark (as of February 2007)
Don Mark is a retired lawyer and a long-time member of the Boundary Bay Conservation Committee. He completed a 6 year term as a Board member in 2005 and has returned to the Board after a brief hiatus.

Edward van Veenendaal
Edward is the owner/operator of a landscape business offering environmentally friendly garden services. He is a member of the Delta Naturalists. Local ecology and sustainability issues hold his interest. He joined the Board in February 2005.

What is the Delta Farmland and Wildlife Trust?

The Delta Farmland and Wildlife Trust (hereinafter DF&WT or the Trust) is a non-profit organization that is committed to developing and financing innovative and cooperative solutions to farmland and wildlife management issues on the Fraser River delta. Guided by a voluntary Board of farmers and conservationists, it has developed into a model for farmland and wildlife habitat conservation. The Trust values the farm as a basic unit of conservation and works with farmers to maximize yield potential and enhance wildlife habitat on local farms. This report summarizes the work of DF&WT during the 2007/08 fiscal year and outlines goals, concerns and priorities for the coming years.

OUR VISION

A vibrant and extensive agricultural area where good farm stewardship contributes to soil conservation and the production of diverse economically viable crops that are maintained in a sustainable rotation while supporting and enhancing wildlife habitat so that future generations can value, enjoy, and benefit from locally grown foods and the great diversity of wildlife present today.

OUR MISSION

DF&WT promotes the preservation of farmland and associated wildlife habitat on the Fraser River delta through sustainable farming and land stewardship.

OUR METHODS

Management of farmland is controlled and constrained by ecological, socio-economic and political factors, often within short time horizons. Under these conditions it is difficult to ensure that agricultural resources are conserved in a manner consistent with long term sustainable agricultural and maintenance of wildlife habitat capacity. DF&WT supports land stewardship practices that contribute to long-term agricultural sustainability and enhancement of wildlife habitat. The Trust does this by: 1) identifying appropriate farm management practices that will benefit soil and/or wildlife habitat conservation through review of local and international research programs, 2) providing information to local farmers with respect to the benefits and operational requirements of these practices, 3) raising funds to cost share the wide-scale implementation of these programs with local farmers, and 4) evaluating the programs to ensure that they are effective. This approach has allowed farmers and conservationists to come together as “Partners in Stewardship.”

Background

Farmland is a precious, finite and irreplaceable resource. It can not be generated at whim, and, in many cases, may not be reclaimed once significant degradation due to non-agricultural development or poor farm management occurs. World-wide, farmland is under great pressure to be converted into urban, sub-urban and/or industrial developments. This is particularly evident in close proximity to large urban centers. It seems that society is becoming further disconnected from our food source and losing sight of the benefits of retaining farmland within our communities.

The importance of conserving the rich farmlands of the Fraser River delta should not be understated. Although today's local farms occupy land that was once an expanse of native grasslands, shrub communities and bogs (North and Teversham 1984); they continue to be capable of providing internationally important wildlife habitat while being utilized for agricultural production. In fact, Canada's densest winter populations of shorebirds, birds of prey and waterfowl, as well as important year-round habitat for an extremely diverse wildlife community continue to be found on the delta (Butler and Campbell 1987, Butler 1992). As a result, Delta's farmland is now considered part of Canada's most significant Important Bird Area. Much of the area is also considered amongst the most productive agricultural lands in Canada and provides significant environmental services to the greater community. What's more, these important resources continue to be present within 25 km of downtown Vancouver.

Good stewardship of the Fraser River delta's fertile soil is becoming more and more vital to the overall health of the human and wildlife communities that occupy the delta and beyond. The conservation of these resources is also becoming more and more difficult to sustain as the human population in the Greater Vancouver Regional District grows. Between 1974 and 2006 the Agricultural Land Reserve (ALR) within the GVRD has shrunk by close to 9% relative to an overall Provincial net increase of 2.8% over the same period (BC Provincial Agricultural Land Commission 2006). This reduction in ALR will continue into the future, putting more and more pressure on the remaining agricultural resources.

Delta contains one of Greater Vancouver's last regions of extensive open and productive farmland of which approximately 10,000 hectares remain within the ALR. Management of the land is controlled and constrained by balancing ecological, socio-economic, and political factors, frequently within short time horizons. Under these conditions ensuring that agricultural resources are conserved in a manner consistent with long term agricultural sustainability and wildlife habitat capacity can be difficult. By sharing the cost of land management to facilitate soil and wildlife habitat conservation, land stewardship programs available to farmers through DF&WT work to conserve the important resources which support productive agriculture and diverse wildlife communities. Strategies and tactics employed by DF&WT are built around an integrated program of research, education and financial incentives that promote land stewardship activities directly contributing to soil and wildlife conservation in Delta.

Failure to provide wildlife with suitable habitat in this internationally significant "ecological hotspot" can have dire consequences over the short and long term. Migratory birds that depend on productive staging areas spread at appropriate intervals along the Pacific Flyway will suffer increased mortality as they lose important stop-over and wintering areas. The Fraser River delta has been identified as one of the most important staging areas on the west coast of Canada. A reduction in the capacity of the delta to support 300 bird species that use a combined geographic range spread across 20 countries along the Pacific flyway has the potential to negatively impact many ecosystems internationally.

The DF&WT has proven itself to be a valuable model to facilitate the improvement of agricultural productivity while simultaneously enhancing wildlife habitat. Its multi-faceted and results oriented approach has allowed farmers and conservationists to work together in improving the capacity of the land to produce high quality food and support wildlife. The key to the program's widely recognized success has been its focus on cooperative partnerships with farmers, other conservation organizations, funding partners, three levels of government (municipal, provincial and federal) and private sector interest groups. Essential to the wide-spread coverage of DF&WT's programs has been the willingness of local farmers to embrace these programs and establish best management practices to implement them on their farms.

Farmland Stewardship as Compensation for Lost Habitat

YVR Wildlife Stewardship Agreement

Construction of the third major runway and associated developments at the Vancouver International Airport between 1992 and 1996, contributed to reducing the value of approximately 350 ha of agricultural habitat. Some of this was developed and some was made inaccessible through airport bird scaring programs. A series of environmental impact assessments determined that a wide range of wildlife species would be impacted by the proposed airport expansion that was well under way at the time. These habitats supported a significant number of breeding passerines (31 species); wintering birds (78 species, including at least 13 raptor species and 12 species of waterfowl); as well as a diversity of resident wildlife (Cooper 1993, Searing and Wiggins 1993).

Approval of the airport expansion was contingent on a mitigation/compensation strategy that addressed the loss of wildlife habitat and displaced wildlife. At the time, the Federal Government committed itself to a compensation program that was to result in no net loss of habitat capability. The Wildlife Habitat Advisory Committee on Compensation (WHACC) was established in 1993 to explore means of achieving the goal of no net loss. The recommendation from the WHACC was to allocate compensation funding between three main program categories: 1. Securement of land; 2. Enhancement of secured properties; and 3. Land stewardship.

As a result of the WHACC recommendations, a Wildlife Compensation fund (YVR Wildlife Compensation Fund or YVR Wildlife Stewardship Fund (YVR WSF)) was established to finance land stewardship activities on private lands in perpetuity. This fund ($2.25 million) was granted to DF&WT which subsequently transferred it to the Vancouver Foundation as an endowment fund. Yearly returns from the fund are used to support core programs administered by DF&WT under the guidelines of the Memorandum of Agreement between Environment Canada and DF&WT established in 1995.

The agreement identified hedgerow and oldfield habitat as critical habitat features that need to be compensated for. The DF&WT grassland set-aside and hedgerow programs contribute to offsetting some of the habitat capability lost as a result of airport expansion.

Boundary Shores Compensation Agreement

During the early 1990's the development of the Boundary Shores Golf Course just southwest of the Boundary Bay Airport covered 153 acres of farmland. As a result, the course removed approximately 39 acres of old-field and 90 acres of waterfowl winter grazing habitats. In 1990, the developers of the Boundary Shores Golf Course agreed to pay $531,720 to the Corporation of Delta as part of a mitigation and compensation package. These funds were to be used as a conservation fund to purchase, lease, or manage land for wildlife habitat. Both the Canadian Wildlife Service (CWS) and British Columbia Ministry of Environment (MOE) suggested that the funds be used for the "replacement" of lost old-field and waterfowl grazing habitat. The comments of both government agencies were the basis of the Habitat Compensation Trust Agreement between the Corporation of Delta and the developers of the Boundary Shores Golf Course. Under the Habitat Compensation Trust Agreement, the developer and the Corporation of Delta agreed that the Municipality would transfer the funds to an existing or yet to be established entity whose objectives related generally to the conservation of the Lower Fraser delta ecosystem. Five specific objectives were identified. They were:

1. to compensate for and repair damage done to wildlife habitat resulting from land alienation in the delta floodplain by securing important habitat for wildlife in perpetuity through acquisition, easement, lease and other mechanisms;

2. to contribute to the permanent viability of the Boundary Bay ecosystem through co-operative habitat management programs with land owners, farmers, private citizens, non-government and government organizations;

3. to promote the long-term viability of agriculture in the Lower Fraser delta by developing programs that demonstrate and promote the compatibility of wildlife and agriculture;

4. to act as a catalyst for wildlife habitat conservation by developing links, agreements, programs and wildlife areas with groups and entities such as Agricultural Research Development Corporation, The Nature Trust of British Columbia, North American Waterfowl Management Plan, Delta Farmer's Institute, Ducks Unlimited Canada, Pacific Estuary Conservation Program and others; and

5. to serve as a repository and administrator of funds received from various sources that are intended for the conservation of the Lower Fraser delta ecosystem.

After submitting a Boundary Shores Compensation Management Plan Proposal to the Corporation of Delta in 2000, DF&WT received the initial compensation fund and transferred it to the Vancouver Foundation as a perpetual endowment. Yearly returns from the fund are used to support core programs administered by DF&WT under the guidelines of a written Agreement between the Corporation of Delta and DF&WT established in 2000.

Land Stewardship Programs

DF&WT has completed its 15th year of providing local farms access to cost share payments in support of soil and wildlife habitat conservation. The collective objectives of these programs were to: 1) contribute to soil and wildlife habitat conservation in the Lower Fraser River delta, 2) mitigate the damage that wildlife can do to economically important agricultural crops and 3) to potentially compensate for habitat capacity lost through human development in the greater ecosystem. Some of these practices increase habitat capability on farmland while others work to improve the capacity of the soil to produce crops, for agriculture and for wildlife. A variety of specific land stewardship programs have been developed, implemented and evaluated over the last 15 years. This year 6 specific land stewardship programs were supported.

Currently, the Trust offers cost share incentives for Grassland Set-asides, Winter Cover Crops, Land Leveling, Field Liming and establishing new Hedgerows or Grass Margins. Under these programs landowners enter into formal agreements with DF&WT which lay out management practices on fields or field margins. In return farmers receive a cost share for managing identified fields or margins over the period of the agreement. This period is dictated by the particular field use or habitat enhancement being carried out as well as the farmers plan for crop rotations. During 2007/08, the Trust was able to fund a total of 3,378 acres (1,367 ha) of wildlife habitat and field improvements at a total cost share of $259,250 excluding hedgerow maintenance, staff time and administration costs (Figure 1, Table 1).

The following pages will give a more detailed account of our programs over 2007/08 as well as summaries of related monitoring, evaluation and research projects conducted by our organization. DF&WT believes that it is important to continue to study the impacts of these stewardship practices in an ongoing research program to ensure that objectives are being met and to provide information important to the adjustment of programs over time. These programs are not meant to become stagnant. Strategies and tactics used for soil, farm and wildlife conservation will need to be altered as agricultural systems and land-use patterns in the area change. There is no doubt; agriculture of the future will be different – different from that of today and that of the past.

Table 1. Summary of stewardship program area and cost share transferred to farms for all DF&WT Land Stewardship Programs during the 2007/08 fiscal year.

Program	Acres	Hectares	Program Cost
Winter Cover Crops	2,143	867	$ 96,422
Grassland Set-asides	519	210	$123,725
Land Laser Leveling	139	56	$ 12,852
Field Liming	567	230	$ 25,434
Hedgerows	6.91	2.8	$ 1,031
Grass Margins	2.72	1.1	$ 816
Total	**3,378**	**1,367**	**$259,250**

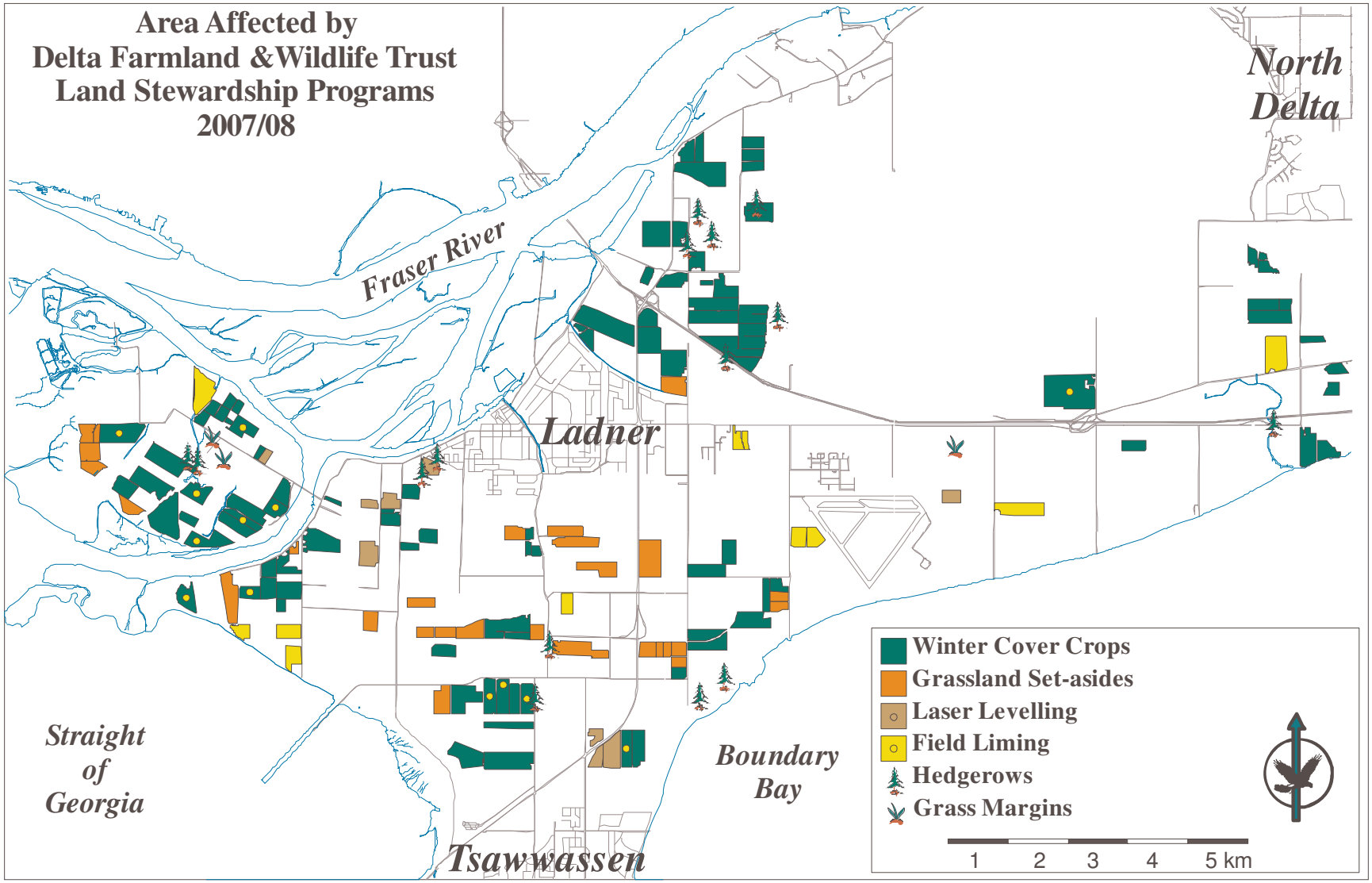
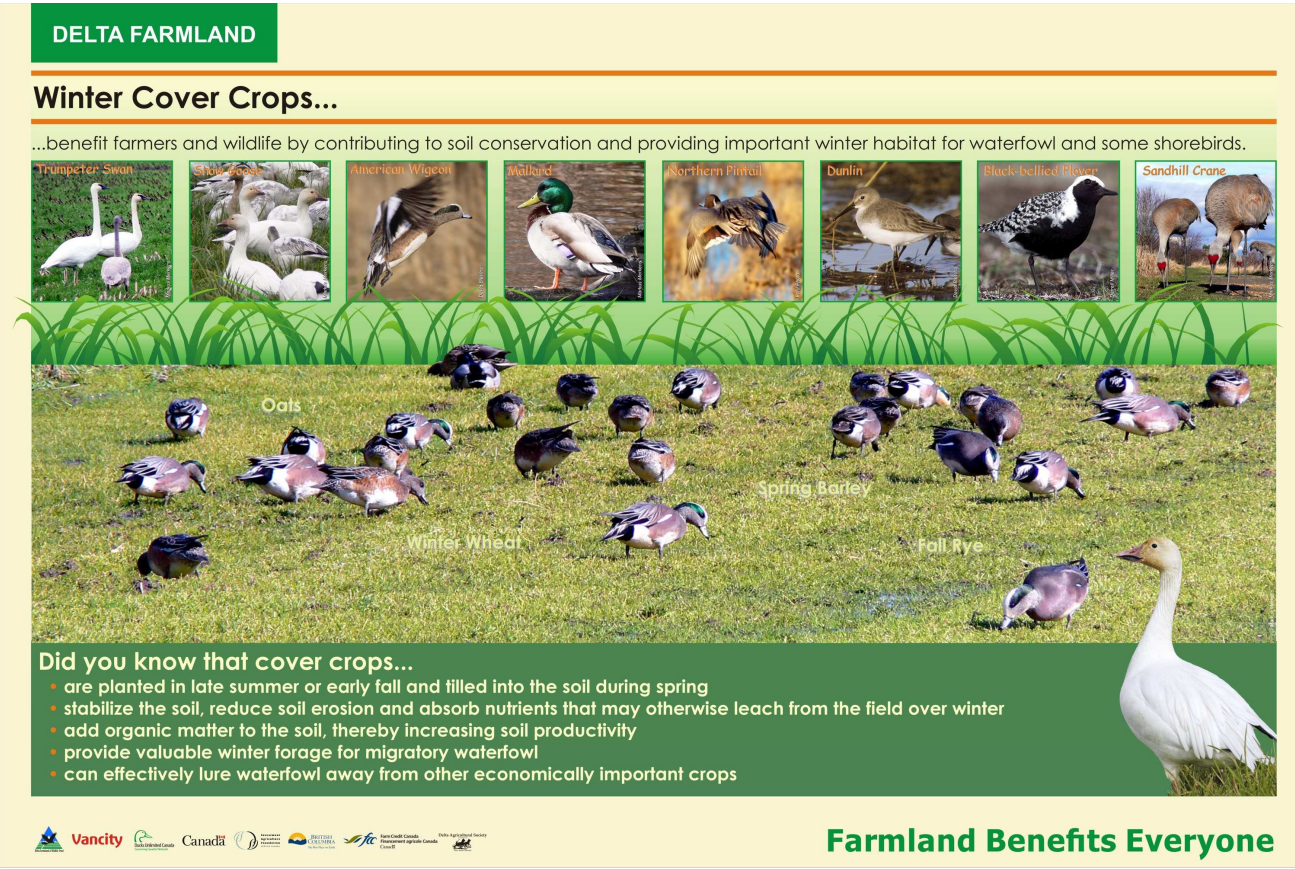


Figure 1. Area affected by 6 land stewardship programs through Delta Farmland and Wildlife Trust for the 2007/08 fiscal year.



Winter Cover Crops

Background

Cover crops are an important component of farm rotations on the Fraser delta. They improve soil fertility and provide winter habitat for wildlife while mitigating waterfowl damage to perennial forage crops. Most cover crops consist of cereal grasses (winter wheat, barley, oats, and spring wheat) which are usually planted after commercial crops are harvested in late summer and early fall.

Cover crops benefit soil fertility in many ways. Bare soils are prone to erosion and compaction from heavy winter rains; cover crops provide a canopy that slows the force of falling rain and retards the runoff of water from fields, reducing erosion. Heavy rains also cause nutrients to leach from the upper soil profile; growing cover crops can trap these nutrients in plant tissue until it is reincorporated into the soil. The roots of the cover crop can breakup compaction and increase porosity allowing more air into the soil. When incorporated into the soil in spring, cover crops increase organic matter, improving the soil's ability to hold water and bind nutrients and providing habitat and food for a host of beneficial soil micro and macro-organisms. Dense stands of cover crops also shade weeds and keep them from establishing during fall and early spring.

Cover crops also provide benefits to wildlife conservation by providing foraging habitat for a variety of waterfowl species. Lesser snow geese, American wigeon, northern pintail, mallard, and trumpeter swans all frequently feed on winter cover crops while Canada geese, cackling geese, greater white-fronted geese, tundra swans, and green-winged teal feed on them to a lesser extent. Upon arrival to the delta, waterfowl begin foraging on cover crops starting in early October and continue to graze on the nutrient rich vegetation until it is depleted or until they return to their breeding grounds to the north during spring migration.

Winter cover crops can mitigate damage to economically important crops like perennial forage crops. Perennial forage grass (grown for hay, silage or livestock pasture) attracts wintering waterfowl which depress spring yields by overgrazing the grasses. When yields are reduced, farmers may have less forage to sell or, in the case of livestock operations like dairies, may have to buy supplemental feed for their herd. Both scenarios can impact farm economics negatively. Cover crops are alternative feeding areas which can divert waterfowl away from perennial forage fields. In this capacity cover crops are important, especially as several winter waterfowl populations are increasing.

Program Summary

An average of 2,800 acres of winter cover crops has been planted across Delta annually since the inception of the Greenfields (Winter Cover Crop) Program in 1990. This year, due to wet conditions in both spring and fall, the acreage of cover crops was well below average at a total of 2,143 acres. Wet spring weather delayed the planting of vegetable crops, which in turn delayed harvest. Harvest was made difficult by extensive and untimely rainfall late in the growing season. Extremely wet fields prevented many farmers from accessing their fields during harvest season. As a result, some crops (in particular, potatoes) were not harvested resulting in fewer fields available for planting cover crops. Given that more than 50% of cover crops are typically planted late season, the wet conditions severely reduced this component of our program.

The majority of the acreage was planted to barley (1,067.5 acres) and winter wheat (430 acres). The remaining acreage was planted to oats (265 acres), spring wheat (182), annual ryegrass (124 acres), and mixed species (74 acres).

Monitoring and Evaluation - Grazing Surveys

Grazing surveys were conducted four times during the fall and winter of 2007/08 (November, December, January and March). During each survey, an observer walked each cover crop field and recorded the intensity of grazing as either lightly grazed (foliage clipped, approximately 75% of above ground plant remaining), moderately grazed (foliage clipped of most leaf, approximately 50 to 25% of above ground plant remains) or heavily grazed (foliage completely removed and stalk grazed, less than 25% of above ground plant remains).

The progression of area grazed throughout the winter period can be seen in Figures 2 and 3. Barley and winter wheat were the most extensively planted cover crops but a higher proportion of winter wheat acreage was grazed relative to barley.

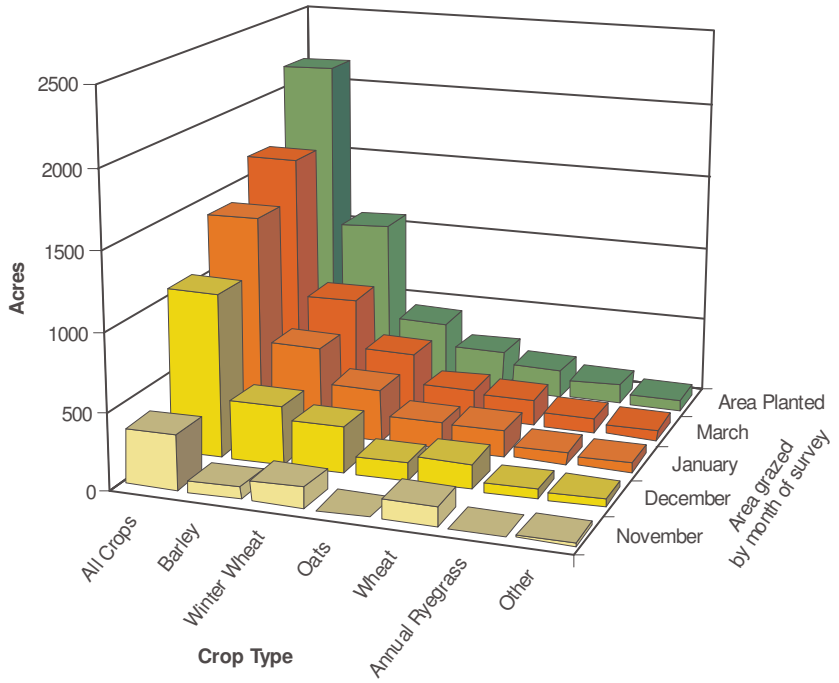
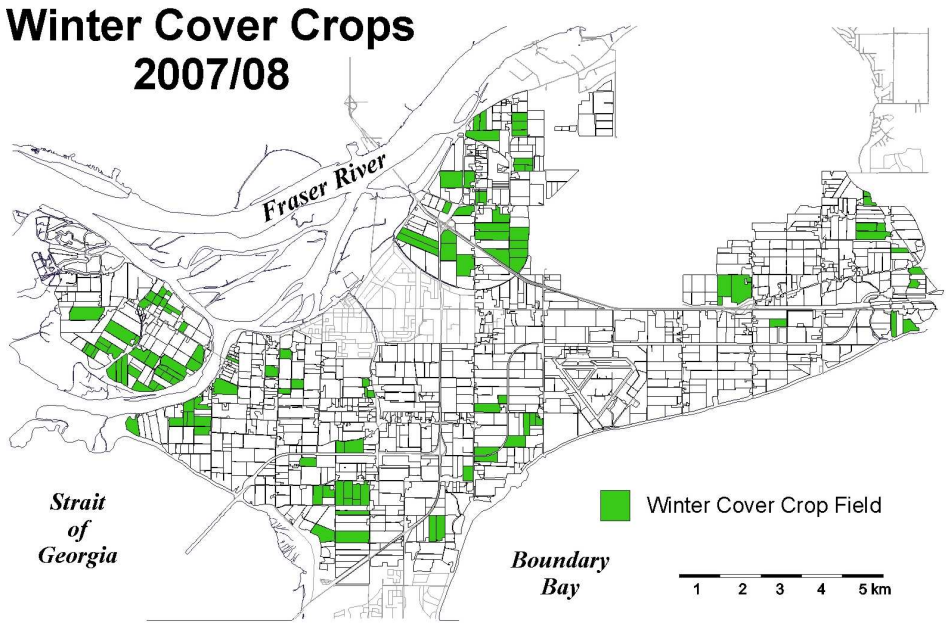
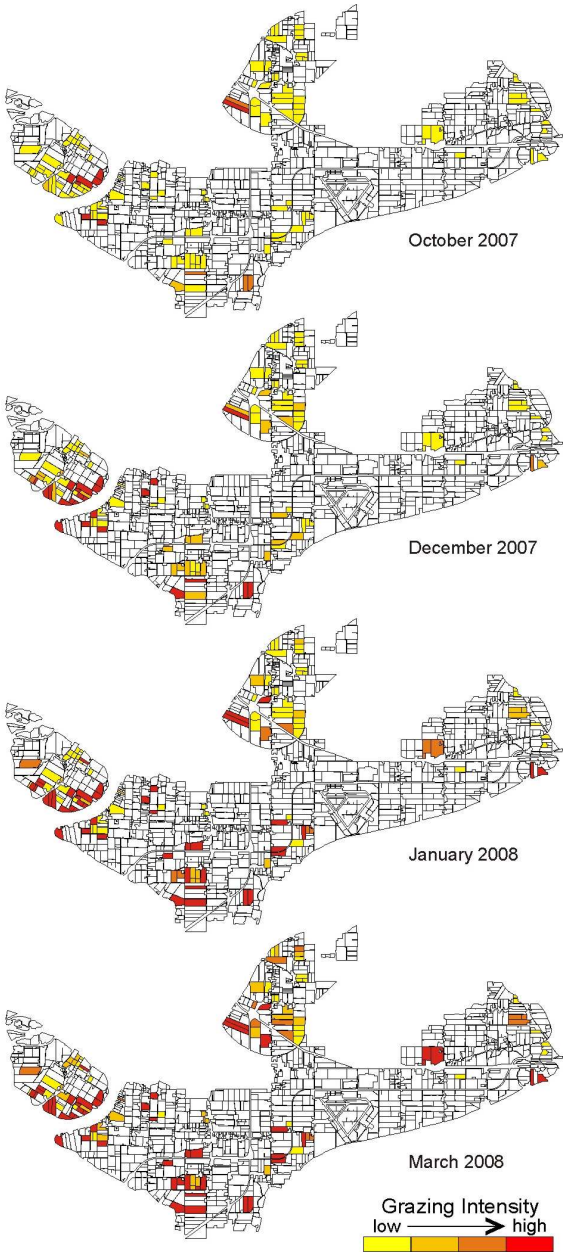


Figure 2. Total winter cover crop area compared to grazing extent measured during 4 winter surveys.

Figure 3. Geographic variation in grazing intensity across all fields planted with cover crops during the winter of 2007/08. Field polygon arrays on right show increase in grazing extent over 4 surveys.





At end of winter, 92% of all winter wheat had been grazed relative to 68% of barley. Winter wheat tended to be used more intensively earlier in the winter with 69% of the planted area being grazed by December compared to only 35% of barley. Overall, 17% of all cover crop acreage was grazed by mid-November. By December 50% of the acreage had been grazed, followed by 65% in January. At the end of winter a total of 77% of all cover crops showed evidence of having been grazed.

The geographic variation in grazing intensity over the course of winter shows definite patterns of waterfowl use (Figure 3). Early season grazing appears to be localized in several foci which tended to expand as winter progressed. Cover crops in all regions of Delta experienced some level of waterfowl use with the initial foci receiving the highest intensity of grazing by the end of winter.

Waterfowl Use of Grass Habitats

A study of waterfowl habitat use was piloted during winter 2007/08 to develop cost effective methods for assessing waterfowl use of agricultural grassland habitats. Monitoring field use by waterfowl can be difficult because some species, such as American wigeon, feed on upland areas primarily during night. DF&WT biologists used waterfowl fecal pellet counts to estimate relative use of alternative field types by wintering waterfowl. The objective of the study was to determine if pellet counts are an appropriate method for quantifying waterfowl use of several grassland types in Delta. Due to low grass field use by snow geese, the study focused on dabbling ducks (American wigeon, mallard, and northern pintail). Five replicate winter wheat, perennial forage and grassland set-aside fields were monitored throughout the winter of 2007/08. Permanent plots were setup on each field and the number of waterfowl fecal pellets was counted during each survey (about once a week). Two different circular sample plot sizes were compared to determine what size was needed to accurately determine waterfowl field use. Pellet counts were averaged across all permanent plots in each crop type to determine temporal patterns of use by waterfowl.

Winter wheat cover crop use by dabbling ducks was very high in the period before December 31 (Figure 4). Many of the forage fields were not used to any great extent during this period although one pasture, which had been grazed short by cattle, was heavily grazed by ducks. After 31 December, use of winter wheat cover crops declined, while many of the other perennial forage fields within our study were used by ducks. This study shows that wintering ducks used winter wheat cover crops intensively early in the season and likely switched to other food sources such as

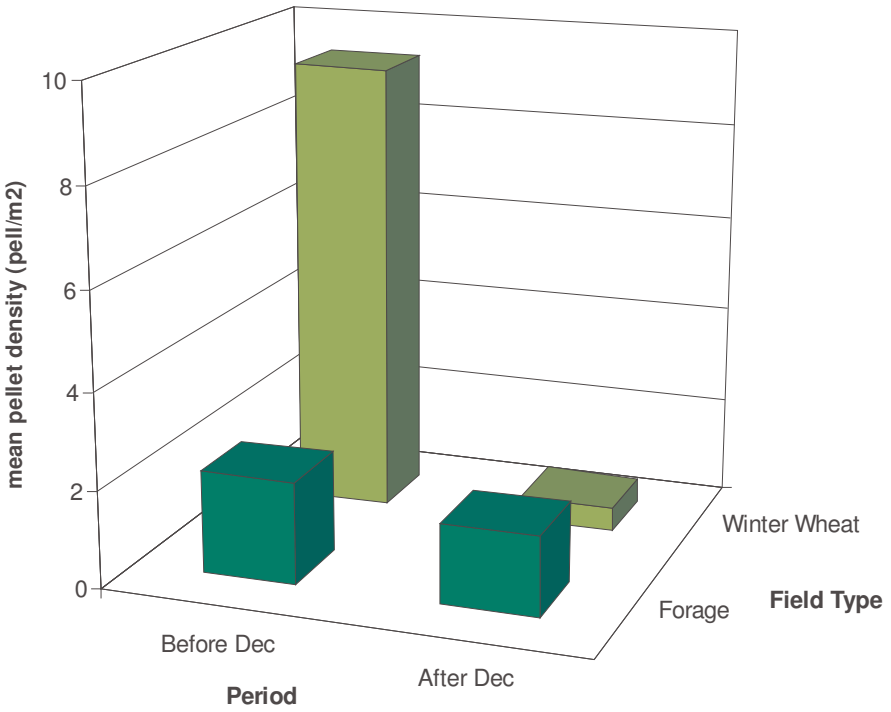


Figure 4. Dabbling duck pellet density on winter wheat and perennial forage fields located on Westham Island and Brunswick Point in Delta. BC.

other cover crop varieties or unearthed potatoes when winter wheat was depleted.

Based on this study, measuring the accumulation of fecal pellets on fields appears to be a cost effective method for assessing waterfowl use of agricultural fields. Furthermore, this study showed that smaller sampling plots were as effective as larger plots for measuring pellet variability. Fecal pellet counting will be a method that can be used in the future to study patterns of habitat use by wintering waterfowl and could be used to estimate absolute duck-use of field types.

Swan Habitat Use Study

Trumpeter Swans have made a remarkable recovery after being driven to near extinction in the early 1930s. In 2000, it was estimated that the continental population had reached 23,647 individuals. The Pacific Coast subpopulation represents over 70% of all Trumpeter Swans on the continent and a significant proportion of these winter on the south coast of BC. Midwinter counts of swans on southern Vancouver Island and the Fraser River delta have shown that the winter population in the area grew from 947 in 1970 to 7,570 in 2005 (Andre Breault, Environment Canada, Canadian Wildlife Service, Delta, BC). It is suspected that, as the population continues to grow, medium to large estuaries associated with agricultural lands will likely continue to be important in supporting wintering swans in the future (Sean Boyd, Environment Canada, Canadian wildlife Service, Delta, BC). Accommodating these large grazers on agricultural lands can be difficult as they are capable of causing significant damage to economically important fields. The planting of cover crops can provide alternative feeding areas that have the potential to draw swans away from important crops such as perennial forage.

A study was conducted over the winter of 2007/08 to determine habitat preferences of trumpeter swans across 3 regional areas (Figure. 5) containing mixed field cover. The goal of the study was to gain more insight into the relative importance of cover crops in supporting wintering swans. Surveys conducted between end of October and mid-March observed swan flocks in all three areas and documented crop type, swan numbers and which fields they fed in. This use was compared to the availability of different field types to determine if swans had particular habitat preferences in each location.

The study revealed that within the surveyed areas swans used only winter cover crops and both harvested and unharvested potato fields (Figure 5). These field types represented less than half of the combined survey area with cover crops, harvested potato and unharvested potato fields accounting for 25%, 15% and 3% of the total area, respectively. The greatest proportion of all swans detected (41%) used harvested potatoes. The remaining swan counts were split roughly evenly between cover crop and unharvested potato fields.

A crude index of habitat preference for swans can be obtained by calculating the ratio of relative use of

habitat to availability of habitat. Using this method, a habitat preference index of lower than one indicates a tendency to avoid a habitat and a value higher than one indicates a tendency to select the habitat type (field type) in question. Habitat preference indices (HPI) equal to or nearly equal to one indicate neither a preference for the habitat nor an avoidance of the habitat. It must be noted that although indices may indicate a trend in either direction, actual preference or avoidance can only be shown for habitat types whose availability is significantly different from their use by a species. This year swans showed a strong preference for unharvested potato fields (HPI = 11.0). Harvested potato fields were the next most preferred field type (HPI=2.8) and swans showed little preference for cover crops (HPI=1.2) although they still used them extensively early in the season and during periods cold weather (Figure 5b). Subsurface potatoes are made inaccessible during extended periods of freezing because grubbing through frozen soil is, presumably, energetically too expensive for trumpeter swans. Our data further indicate that swans tended to use harvested potato fields early in the winter and then generally switched to unharvested potato fields late in the winter. This could be explained by gradual over winter harvested potato residue depletion, a change in the nature of the subsoil tubers making them more easily detected or accessed by swans or a combination of both factors.

These data clearly show that crop residue and cover crops play an important role in supporting wintering Trumpeter Swans on the Fraser River delta and that economically important perennial forage fields are likely not significant habitat for swans at this time. Should the relative availability of cover crops and potato residue decline in future years, it is likely that swans will switch to perennial forage fields.

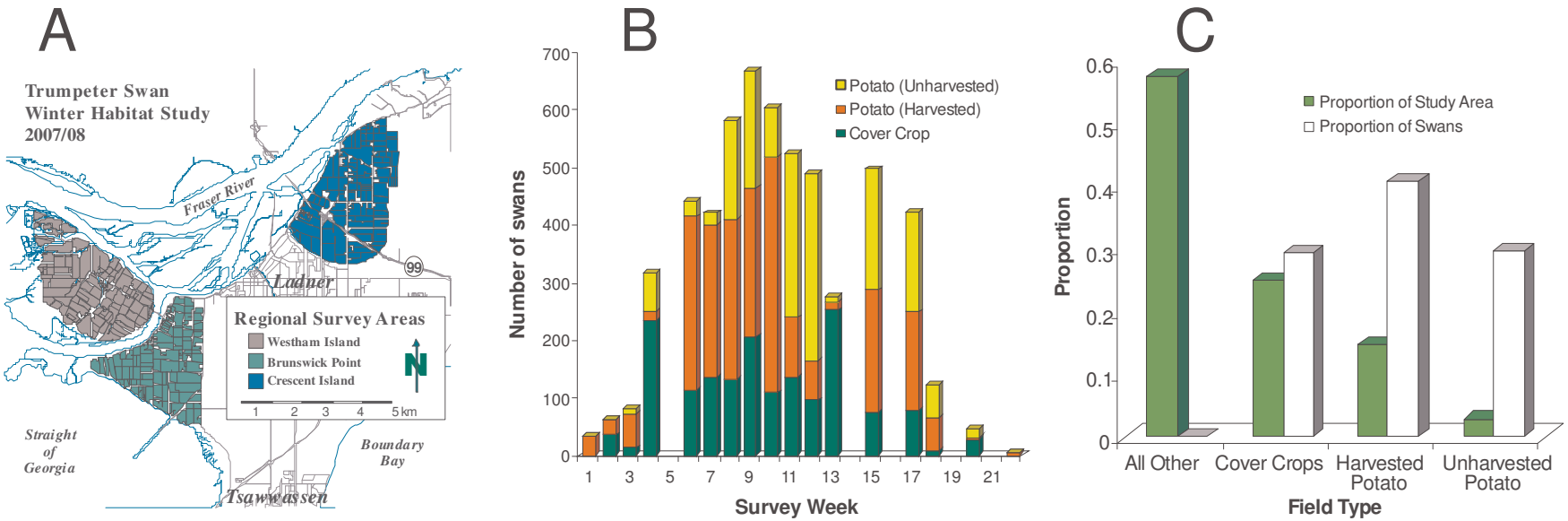
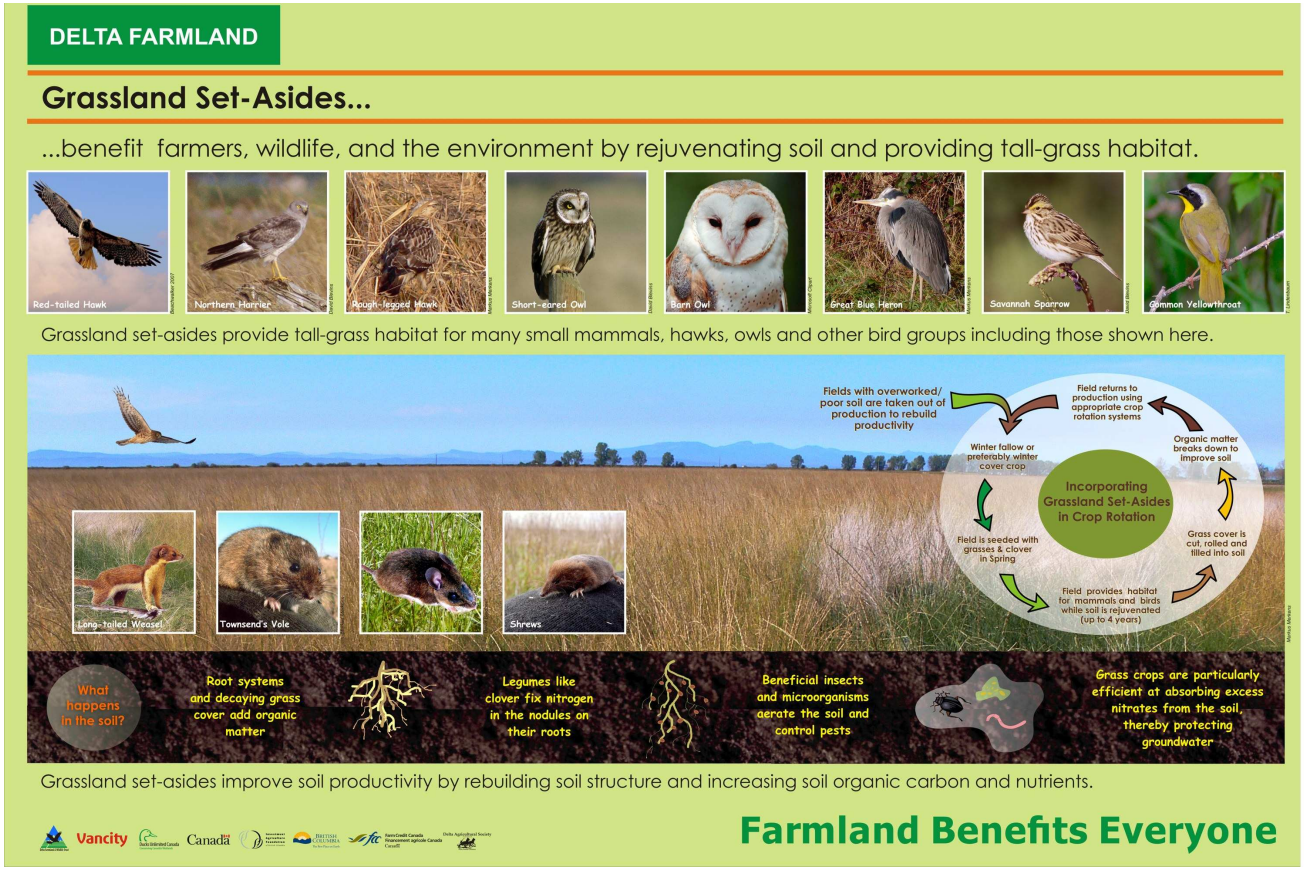


Figure 5. Summary of farmland habitat use by swans during the winter of 2007/08. A) Study area showing three regional survey areas, B) Trumpeter swan population trend and changes in habitat use on farmland over the winter, and C) overall availability and use of habitat types on farmland by swans.

Grassland Set-asides

Background

The nature of grasslands within Delta's landscape has changed over the last 150 years. Before European settlement most of the lowlands of Delta were covered in a grass or grass/shrub vegetation community (North and Teversham 1984). Conversion to farmland still provided medium- to tall-grass habitats in the early years when the majority of farmers produced primarily grain and forage grass crops. Since 1950, intensification of agriculture on the delta has resulted in a reduced area committed to grass and grain crops. Today, less than 35% of farmland in Delta is used for grass and grain crops and contemporary perennial forage fields are managed under highly intensive production schedules. Whereas hay fields would be cut once or, rarely, twice a year up until the middle of the last century, modern intensive silage and hay production systems yield up to 5 cuts a year resulting in short grass habitat for wildlife that require tall-grass or old-field habitat at critical times of the year.



Over the same period, urban and industrial development throughout the Lower Mainland has resulted in a reduction in old-field habitat and agricultural habitats containing old-field characteristics (Sullivan 1992, Moore 1990). Grassland dependent species in the lower mainland have been declining over the last 30 years as a result of changes in agricultural practices and conversion of habitat. It is recognized that old-field habitat is used preferentially by many raptor species that reside within or visit the delta (Butler and Campbell 1987, Sullivan 1992, Merkens 2005). Many of these species need the protective cover provided by tall grass as well as grassland dwelling small mammals as prey. The Townsend's vole, a relatively large-sized native rodent, is an important component of grass-land habitats in the Fraser lowlands and can reach high densities in grassland areas (Taitt and Krebs 1983, Sullivan 1992, Merkens 2005).

Our grassland set-aside program has shown that the re-introduction of short to medium term grassland rotations into farmland management plans can provide valuable habitat for a variety of grassland hawks and owls particularly during winter months (Merkens 2005). The provision of these surrogate habitats is meant to benefit wildlife by providing some of the values encountered in old-field habitat. Grassland set-asides contain relatively dense populations of Townsend's Vole, which are utilized by many birds of prey, some of which are listed as being of conservation concern. These species are just some examples of the many grassland dependent species world-wide that have in recent years been declining in numbers, presumably due to intensification of agricultural systems (Newton 1998, Murphy 2003, Vickery *et al.* 2004). Among the factors contributing to the decline of bird habitat on farm grasslands are: spring ploughing, early season harvest, loss of mixed farms, and general declines in pasture and hay field area.

Increasing the relative value of some fields in an agricultural landscape for short periods can partially offset the effects of intensifying agricultural production systems. Some grassland raptor species use 2nd year or older set-asides on the Fraser River delta as their most preferred foraging and/or roosting habitat during winter months. Although literature suggests that old-field habitat is important to short-eared owls (British Columbia Ministry of Water, Land and Air Protection 2004) relatively short-term grassland habitats provide dense prey populations and suitable cover for wintering hawks and owls (Merkens 2005).

The use of grassland set-asides in crop rotation provides benefit to farming as well. The large-scale disappearance of livestock from the agricultural landscape and the increase in cultivated row crops has resulted in fewer opportunities to keep grass crops in rotation. By incorporating grassland set-asides into the rotation farmers have the opportunity to rebuild soil structure and fertility while receiving a cost share for providing important habitat. Improvement in farmland productivity following the set-aside fallow period can be significant, particularly for severely degraded soils.

In recent years, local farmers have been subscribing to the Grassland Set-aside program to bridge the transition period required for organic crop production. A three-year set-aside qualifies a field for organic certification provided that no prohibited substances or management practices were used during that period. In a recent analysis of set-asides over the last 8 years it was determined that between 15 and 20% of the area in set-asides is converted to organic systems after being ploughed under. The transition to organic agricultural production further benefits wildlife by reducing the degree of pesticide use that is potentially harmful to both wildlife and humans in the delta.

Program Summary

Fourteen farming operations co-operated with DF&WT to maintain 25 fields totalling 518.5 acres (210 ha) of grassland set-asides for the 2007/08 fiscal year at an average cost share of $239/acre ($590/ha) (Table 1, Figure 1, Appendix 2). Although the acreage for set-asides increased this year relative to last, we did not meet our target of 544 acres (220 ha). The shortfall in acreage is a result of increased cash crop production across the delta. Processing crops such as corn, peas, and beans as well as grain crops and silage corn increased in acreage over the last few years. Also, a considerable area of land has been converted to blueberry crops since last year, thereby further reducing the area available for short-term grassland rotations. Until this year set-aside acreage has been limited by funding. This year, although 494 acres (200 ha) were on the waiting list, farmers in the region could only establish 176 acres (71 ha) of new plantings which was 26 acres short of our target. We are now faced with the prospect of having the set-aside program possibly limited by available land. Future considerations will have to consider how to increase set-aside acreage under this scenario.

Monitoring and Evaluation

Winter surveys of small mammals and raptors continued within selected grassland set-asides and forage fields this year. The objectives of these surveys were to quantify: 1) relative densities of small mammals within these field types and 2) measure relative use of selected grass field types by wintering raptors.

Three replicates of first, second, third and fourth year set-asides as well as forage fields were selected between 64th Street and the western edge of Westham Island for monitoring. Trap lines consisting of 20 live-traps placed at 10-m intervals were placed in each field to establish relative density of small mammal species using mark-recapture techniques. Two traps per station were set in fields that exhibited high capture rates. Only one complete 2-day trapping session was conducted on all fields due to cold and wet weather constraints. This spanned a two-week period at the end of January. One additional partial trapping session was completed early in the season for first- and third-year set-asides. In an effort to reduce shrew mortality, traps were set and checked twice between 8:00am and 4:00pm on two consecutive days and locked open over night. All captured animals, except shrews, were identified to species in the field. Weight, sex and breeding condition were determined at each trapping event for all vole and mouse captures. All captured mice and voles were further tagged using serially numbered ear tags.

Capture rates for Townsend's voles was low for forage fields and most first year set-asides (Figure 6). Second and third year set-asides

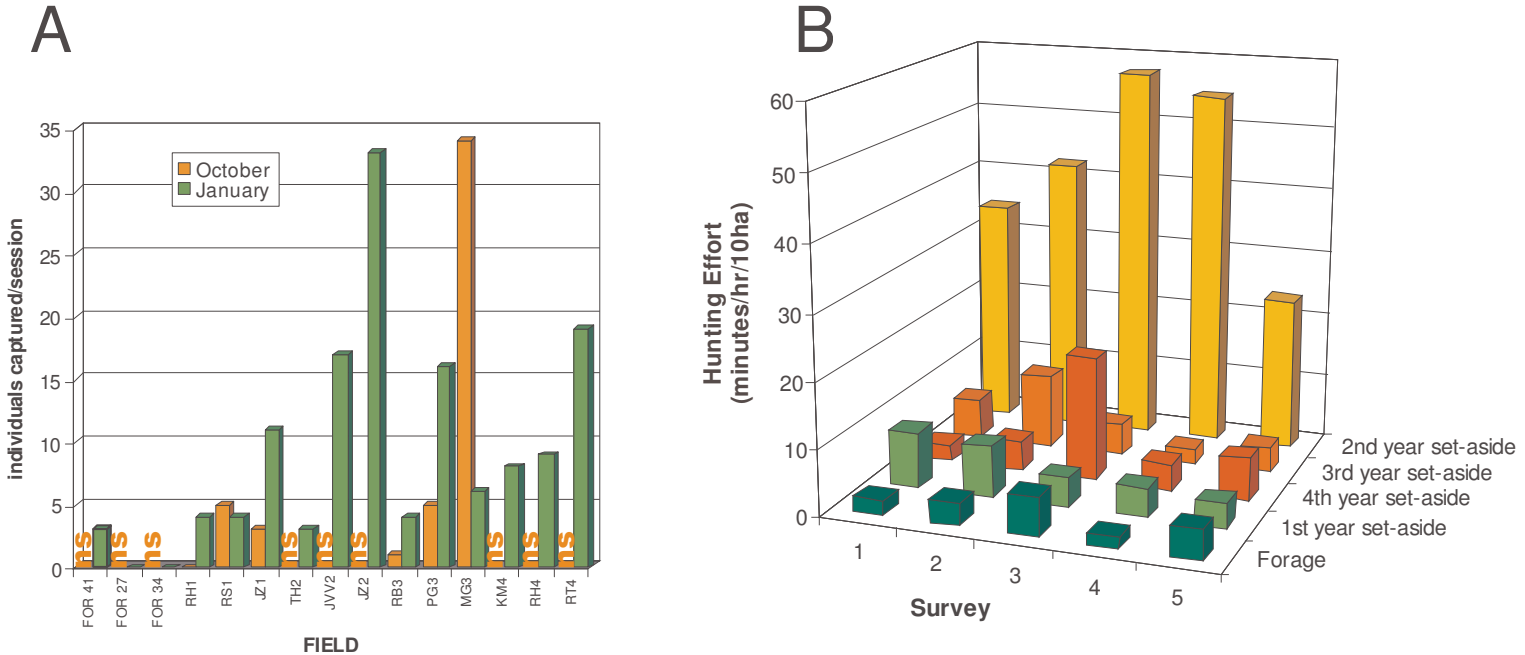


Figure 6. (A) Townsend's vole capture rates for grassfields surveyed during winter 2007/08. FOR fields are hay fields, the remaining fields are set-asides. The numbers at the end of set-aside field codes refer to year in program. (B) Northern harrier hunting effort within selected grass fields as measured during 5 winter surveys during 2007/08.

showed high variation in relative density between replicates. Differences in grass canopy and thatch layers between replicates within these age classes were apparent. Some of the third year fields experienced intensive waterfowl grazing during their first and second winters. The impact of this grazing reduced the amount of thatch and continuous grass canopy layer over much of these set-asides thereby degrading the habitat for voles.

Raptor use was assessed within the same fields using five 60-minute field surveys over the winter months of 2007/08. During these surveys, all raptor movements within the field areas were observed, characterized by location and behaviour and timed to the nearest second. Eight raptor species were recorded during surveys of with northern harriers accounting for 81% of all detections. Other raptor species included bald eagle, red-tailed hawk, rough-legged hawk, American kestrel, peregrine falcon, merlin and short-eared owls. Overall, harrier use of fields surveyed was low relative to data collected in some previous years but very similar to last year. Second year set-asides once again showed highest hunting effort for harriers.

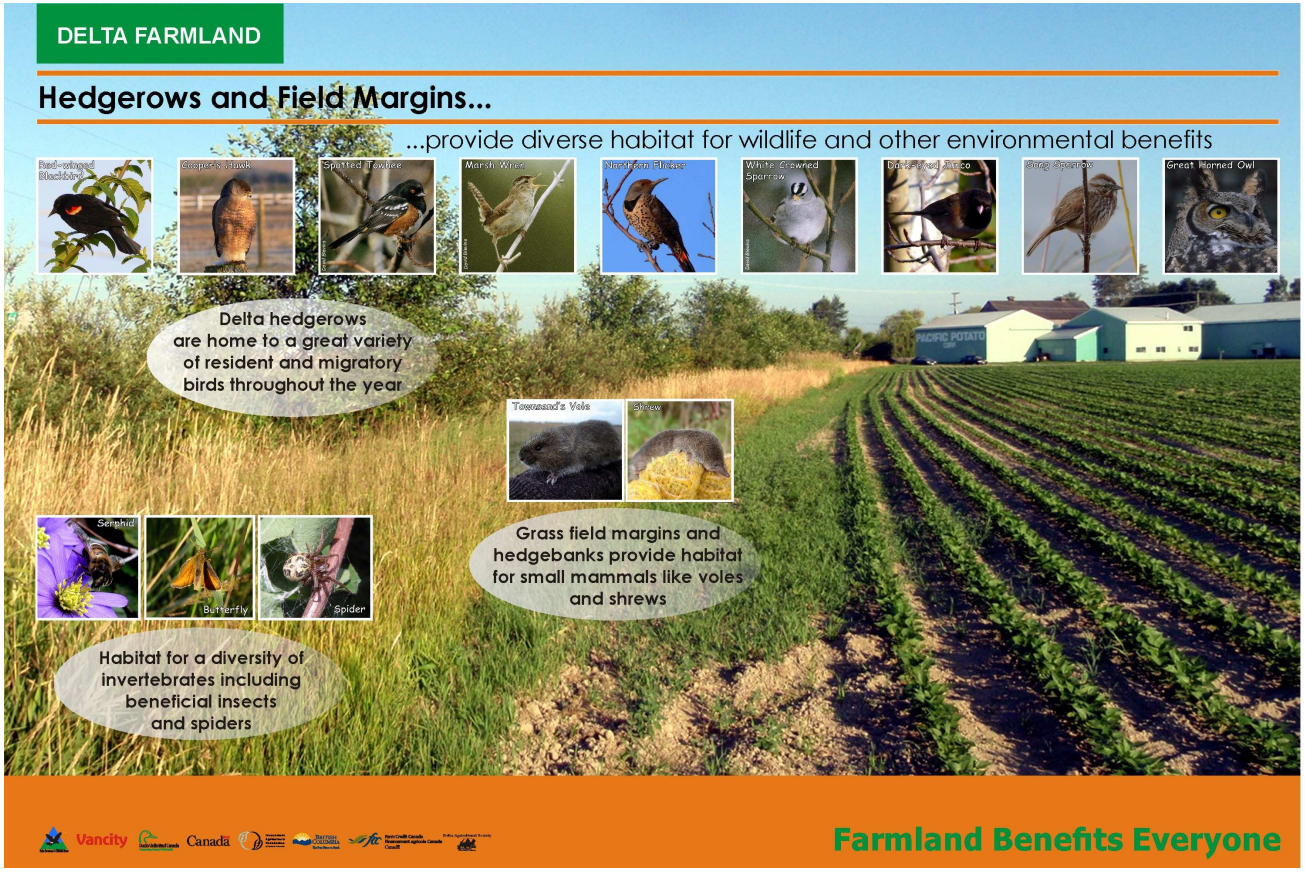
Data collected from grassland set-asides during the winter of 2007/08 continue to show that these habitats are populated by Townsend's Voles and are used by raptors, particularly the Northern Harrier. Winter raptor habitat capacity of the Fraser River delta has undoubtedly been improved through implementation of the grassland set-aside program. During most winters grassland set-asides provide adequate cover and food resources for at least three species of grassland raptors based on data collected over the last decade. Were it not for the financial incentives provided to farmers by DF&WT, these fields may have remained bare or would have potentially remained in crop production instead of long term set-asides. Short-term set-asides (1 year) do not provide good wintering raptor habitat. It would be fair to say that the average habitat capacity has likely increased as a result of implementing the grassland set-aside program.

Although set-asides are primarily managed for grassland raptors, they do provide high quality forage for wintering waterfowl, particularly in their first year. Over the last two winters we have noted that waterfowl grazing has degraded set-aside quality to such an extent that vegetation structure can be impacted for multiple years. Future studies should examine the effect of waterfowl on set-aside succession so that waterfowl damage to set-asides can be mitigated.

Waterfowl such as these snow and greater white-fronted geese can extensively graze first and second year set-asides

Hedgerow and Grass Margin Programs

Background



Hedgerows are linear barriers of trees, shrubs, perennial forbs and/or grasses usually associated with field boundaries. This simplistic definition fails to include the many functional roles that hedgerows can play in a landscape. Within an agricultural landscape hedgerows provide food, offer concealment and thermal cover, provide breeding sites and can function as travel corridors connecting habitat fragments (Tischendorf *et al.* 1998). In some areas, habitat provided by these structures has become extremely important in supporting wildlife communities, particularly breeding birds (Sparks *et al.* 1996). World-wide, intensification of agriculture has resulted in significant loss of these important ecosystem components and many countries, particularly in Europe, have implemented agri-environment schemes to rebuild hedgerows. Under these programs, landowners receive payments for creating and maintaining hedgerow habitat on their farms.

Like hedgerows, linear patches of grass habitat around cultivated fields can also provide benefit to wildlife and farming interests under certain situations. Grass margins will be used by small mammals, songbirds, raptors and insects. Some forms of agriculture (organic crop production) require field margins around cultivated areas and, if maintained as grass, these can choke out agricultural weeds and provide refuges for beneficial insects. Grass margins can also provide a transition between the agricultural field and the hedgerow or ditch habitats. They also improve the filtration of field run-off reducing the amount of soil, silt and excess nutrients that leach from a field. Farmer interest in this program has been limited to date; however, with the increase in organic production within the delta the area covered by grass field margins may increase.

Program Summary

DF&WT has been funding the establishment of new hedgerows and grass margins within Delta since 1995. The ultimate goal of this program is to build hedgerows that provide valuable year-round habitat for songbirds, raptors and other wildlife groups. New hedgerows typically consist of 1-5 m wide vegetation strips that include a diversity of native shrub and tree species that are intensively managed to develop into a structurally complex and species diverse hedgerow. Likewise, grass margins can be up to 5 m wide and of indefinite length.

Building hedgerows can be an expensive undertaking. Construction costs in Delta range from $40,000 - $60,000 per km. These costs include preparing the field margin for hedgerow placement, building a hedgebank or berm, purchase and planting of all plant material, installation of 3-4 year battery-operated, programmable irrigation systems, placement of a sawdust or bark mulch layer and a limited warrantee of 1 or 2 years for replacement of dead planting material. No new hedgerows were established during this year due to funding constraints.

Existing DF&WT hedgerows did require significant maintenance to ensure the survival of the planted stock and thereby maximum benefit to wildlife. The greatest maintenance objective is the control of competing vegetation until the hedgerows become well established and shade out competing vegetation. A total of $2,982 was used to support maintenance of DF&WT hedgerows during this year.

A combined area of 9.6 acres (3.89 ha) was affected by the program this fiscal year, consisting of 6.91 acres (2.8 ha) of hedgerow and 2.69 acres (1.1 ha) of grass margin (Figure 1, Appendix 5). There are now 16 distinct hedgerow sites and 3 grass margin sites within the program.

Monitoring and Evaluation

Continued monitoring of hedgerows created under the DFWT Farmscape Program will provide data necessary to document changes in bird use over time and, ultimately, measure the success of the hedgerow program. Several DFWT hedgerows have passed their first decade milestone and are beginning to develop the complex structure and habitats that some mature hedgerows in Delta have. Canopy closure and high plant species diversity are providing valuable song bird habitat in many of these well established hedgerows. Some of the intermediate aged hedgerows (5-8 year-old) are beginning to develop distinct vegetation layers and have partial shrub canopy closure in the 0-3 m height category. Spring breeding bird surveys conducted in 2006 continued to assess the development of the hedgerows, particularly with respect to increases in bird species richness.

Bird surveys were conducted along 18 field margins found throughout Delta between April and early June 2007. These field margins were stratified into 4 basic groups: those having no “hedgerows” (control), those having young hedgerows established under the DFWT Farmscape Program (1-4 years old (new)), those having 4 to 10 year-old hedgerows developed by DFWT (old) and those having mature hedgerows, likely 20 years old or older (mature). A total of 6 early morning (5:00 am to 9:00) surveys were completed over a six-week period at each site during breeding season. Encounter transects were used to establish presence of species and rough estimates of relative abundance. For each bird detection, the species, detection type (call, song or visual), number of individuals, location within hedgerow and perching substrate were recorded. Surveys were discontinued if heavy rain, strong wind or excessive traffic (or farm machinery) had the potential to significantly reduce detectability of birds.

A total of 45 species were detected along surveyed field margins for all surveys combined during the 2007 breeding season. Species richness (number of species) (Figure 12) as well as overall relative abundance (Table 2) of birds was highest in some mature hedgerow

margins relative to all other margin types. The increased structural and plant species diversity of the mature hedgerows obviously attract a greater diversity of songbirds than the simpler control, new and old margin types although the "old" hedgerows are beginning to increase in both richness and density relative to the "new" and "control" margins. Two of the mature sites had relatively low richness. These were short, isolated segments that were well developed but had low plant species diversity. One additional mature site was sampled once before being removed by a new landowner.

Many factors contribute to the habitat value of hedgerows. Floristic composition and diversity, size (height, width, and volume), fragmentation, management practices, and nature of adjacent habitat all contribute to the relative value of individual hedgerows (Arnold 1983, Yahner 1983, Burel and Baudry 1990, Green et al. 1994, Parish et al. 1994, MacDonald and Johnson 1995, Parish et al. 1995). All of these factors likely have a larger combined effect than just hedgerow age considered here.

Although some of the mature hedgerows surveyed here are less than 30 years old years old, they have developed into structurally complex hedgerows with a well developed shrub layer, often in excess of 2 m, and an intermittent tall tree canopy (6-10m tall). Densely planted DF&WT hedgerows have been designed to develop relatively quickly into hedgerows exhibiting these characteristics. Increased density and diversity of trees and shrubs have been shown to increase density and diversity of songbirds in hedgerows. In accordance with these studies more recent DF&WT hedgerow installations have increased both the density and diversity of trees and shrubs to provide a diverse habitat for songbirds using hedgerows.

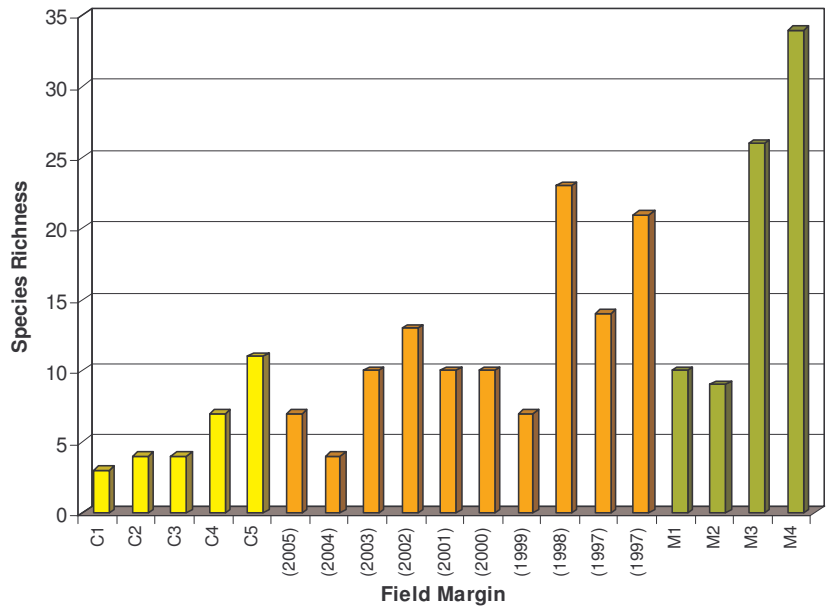


Figure 7. Bird species richness along 18 field margins during the 2007 breeding bird season. C site are controls, numbered sites are DFWT hedgerows indicating year of establishment and M sites are mature hedgerow sites.

Factors extrinsic to the hedgerow, such as connectivity with other hedgerows, adjacency of grass strips, ditches, nearby woodlands, and the nature of bordering fields all potentially influence the bird communities that will use specific hedgerows (Hinsley and Bellamy 2000). These can not be controlled for in the relatively small sample size that we have used here.

The continued monitoring of bird use of DF&WT developed hedgerows will provide added data on the impact of these structures on the songbird habitat capacity of the delta over time. A more detailed study on hedgerow characteristics within the delta could provide information on how to plan and install more valuable bird habitat specific to the area in the future. The guidelines derived from assessing habitat models in the general literature are likely a good starting point, however more refined hedgerows could be developed with additional data on how they function specifically in the agricultural landscape found in the lower Fraser River delta. Intensive and extensive hedgerow surveys including many more variables than explored thus far would allow for bird community or species specific hedgerow management.

Table 2. Relative encounter rates for birds (detections/visit/100m) found along field margins surveyed in Delta during the 2007 breeding season

	Control					DF&WT Hedgerows										Mature			
Year of Construction⟶						2005	2004	2003	2002	2001	2000	1999	1998	1997	1997				
Site ⟶	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
Great Blue Heron			0.48		0.75														0.51
Green-winged Teal				0.72											0.93				
Gadwall				0.43	0.15														
Mallard			0.24	3.23	0.81					0.39					0.42		0.13	0.79	0.15
Wood Duck										0.19								0.93	
Northern Harrier															0.46				
Red-tailed Hawk															0.93			0.46	0.51
Merlin															0.46				
Ring-necked Pheasant																		0.46	
Killdeer				0.72														0.46	
Rufous Hummingbird										0.12	0.23		0.27		0.19			0.14	0.24
Wilson's Snipe				0.72					0.12										
Warbling Vireo													0.55						0.18
Northwestern Crow								0.35					0.27	1.42		0.53			0.12
Tree Swallow								0.69		0.62			0.27		0.46				0.26
Violet-green Swallow																			0.26
Barn Swallow		0.57			0.30				0.36			0.11	0.82	0.14	0.93	0.14		0.19	0.18
Black-capped Chickadee												0.57	0.82	0.28	0.46	0.28			0.77
Bewick's Wren													0.27					0.46	
Marsh Wren									0.12			0.57						0.46	0.51
Golden-crowned Kinglet																		0.46	
Ruby-crowned Kinglet																		0.93	0.51
American Robin					0.75				0.73	0.62	0.36		0.36	0.42	1.19	0.14		1.53	0.54
Eurasian Starling					0.75	0.32		0.28	0.49				0.74	0.14				0.28	0.51
Cedar Waxwing													0.19		0.28		0.13	0.28	0.33
Orange-crowned Warbler					0.75						0.76		0.27			0.14			0.26
Yellow Warbler													0.55		0.46			0.46	0.26
Yellow-rumped Warbler											0.46		0.27					0.23	0.12
MacGillivray's Warbler													0.55						0.26
Common Yellowthroat	0.74	0.57	0.48			0.22	0.43	0.28	0.85		0.76	0.57	0.19	0.31	0.93	0.42	0.13	0.28	0.46
Wilson's Warbler								0.69	0.12		0.15		0.19		0.46		0.13	0.93	0.12
Spotted Towhee					0.75			0.69						0.31				0.14	0.13
Savannah Sparrow	0.74	1.27	2.65	0.72	0.96	1.45	0.85	0.56	3.28	0.62	0.76	2.69	0.55	1.25	1.65	1.88	1.98	0.79	0.79
Song Sparrow	0.37			0.72				0.28		0.62			0.52		0.97	0.28	0.64	0.37	0.51
White-crowned Sparrow								0.28					0.19					0.42	0.51
Golden-crowned Sparrow								0.42		0.12			0.82	0.14	0.23			0.46	0.26
Dark-eyed Junco										0.62		0.57						0.46	0.51
Black-headed Grosbeak																			0.26
Red-winged Blackbird					0.15	0.38			1.46			0.57		0.14			0.25		0.26
Western Meadowlark		0.11																	
Brewer's Blackbird						0.32											0.64		0.26
Brown-headed Cowbird						0.32			0.36		0.15		0.55	0.14	0.28			0.28	0.18
House Finch					0.75	0.95	0.21		0.36		0.85		0.19	0.63	0.46	0.28			0.24
American Goldfinch							0.14		0.24	0.25	0.15		0.25	0.42	1.39	0.14	0.64	0.46	0.37
House Sparrow									0.12					0.14	0.46				0.26
TOTAL	0.85	1.44	2.42	4.23	2.81	2.25	1.63	2.50	8.64	1.85	3.21	2.47	3.80	5.28	6.57	3.85	2.86	6.85	5.39

Laser Levelling

Drainage is an essential component of productive agriculture, especially in areas that experience periods of heavy rainfall. On the Fraser delta, heavy rains occur during the winter months and poor field drainage can lead to soil erosion, soil compaction, and salt accumulation. Field topography plays an important role in how water is drained from a field. Water pools in low areas and is unable to drain, and the weight of water in these areas is significant enough to cause compaction and concentrate salts in the soil. Furthermore, these areas take longer to dry in spring, delaying farmers' access to portions of their fields. Steeply sloped fields can loose significant amounts of topsoil as fine particles are washed away by water runoff.

Delta farmers have access to laser levelling services which can recontour their fields to maximize drainage, and minimize water ponding and soil erosion. Using GPS, stationary laser towers, and sophisticated computer software, a laser levelling plough can accurately recontour a field in real time. The plough fills in low areas and removes soil from high points, and fields can contoured to be dead level, sloped, or crowned, depending on the field's characteristics.

DFWT has been offering its Laser Levelling cost-share program to farmers since 1996. Through the program, cooperators are eligible to recieve up to 50% of the cost of levelling, up to a maximum cost-share of $125/acre ($309/ha) and a maximum of 50 acres (20 ha) levellled. All levelling agreements recieved prior to the end of October are included in the program in any given year. At the end of October, the approved budget is allocated so that every farmer who has submitted an agreement and has compelted the levelling work will recieve cost-share support. In 2007/08 a total of 139 acres (56 ha) were levelled across 9 sites in Delta. Total cost share of $12,852.25 was provided to the program co-operators.

Field Liming

In Delta the soils have a tendency to acidify relatively quickly. Farmers must work to maintain soil pH in a range that allows important plant nutrients to be available for their crops to absorb. Soil chemistry can be complex and must be matched to the crops to ensure optimum growth. The application of lime to fields allows farmers to adjust soil pH to approach a level that maximizes yield potential, particularly for vegetable crops. While many factors, such as the kind of crop, soil type, and climate, influence the effect of liming a field, it can be generally stated that the application of lime on all moderately to strongly acid soils will improve and maintain productivity.

At a cost of over $70 per tonne, lime is an important investment in the stewardship of agricultural soils. In an economic climate of increasing farm input costs and high land values, the application of lime has become challenging for many farms in Delta. Forgoing lime application can result in declining productivity over time. The effect of lime is not always immediate. Often as much as six months is needed before pH changes significantly and long-term effects may be realized over as many as 10 years.

To ensure productive agricultural soils on the Fraser delta, farmers can participate in DF&WT's Field Liming stewardship program. This is the fifth year that DF&WT has offered the field liming cost-share program, which is designed to encourage soil productivity, especially on rented agricultural fields. Cooperators are eligible to receive a maximum of $30/ton for lime, with a maximum spreadable amount of 100 tons per farm. Application rates vary by field, with a maximum allowable application rate of 2 tons/acre. In 2007 field liming acreage was down from previous years, with 918 tons spread over 567 acres. The total cost share provided to farmers through the program was $25,434.00.

Application of lime to acid soils increases soil productivity

Collaboration, Education and Communication

As a community based Society, DF&WT's activities are not limited solely to promoting land stewardship programs. DF&WT continues to work with other organizations to develop solutions to the conflicts between urban-, agricultural- and wildlife-use on the delta. In this regard, DF&WT participates in important programs outside of the Trust's core programs. During 2007/08 we continued to participate on the Delta Forage Compensation Program Steering Committee; the BCIT Fish, Wildlife and Recreation Advisory Committee as well as relevant workshops and conferences as they arose. We offer access to applied lessons in land management to BCIT and UBC students through coordination of field exercises showcasing some of our land stewardship programs. DF&WT also provides advice and shares data with organizations involved in the management of land in Delta as well as individuals or companies involved in conducting land development impact assessments. Data and expertise are also shared with undergraduate and graduate students working on theses at local colleges and universities.

DF&WT recognizes that public education and communication are valuable to the successful implementation of farm stewardship programs and wildlife habitat conservation. DF&WT actively participates and co-operates with government and non-government agencies to communicate the benefits of supporting farmland in our community as well as the importance of farm stewardship practices that contribute to sustainable agriculture and wildlife habitat conservation. A variety of extension materials are maintained and updated, such as a regular newsletter (Farmland and Wildlife), a static display, program fact sheets, a regularly updated information pamphlet and, most recently, a website (www.deltafarmland.ca).

Public outreach organized by the Trust during 2007/08 included the second annual "Day at the Farm." The event, funded by Vancity along with sponsorship from Ducks Unlimited Canada (DUC), The Delta Agricultural Society, Farm Credit Canada and BC Investment Agriculture Foundation, was a continuation of the Farmland Awareness Campaign now in its 3rd year. The overall goal was to give people living in the Lower Mainland an opportunity to reconnect with the land that feeds them and to learn about how these same lands provide habitat for many wildlife species and many other environmental goods and services. The message was clear: "Farmland Benefits Everyone."

Delta's agricultural community provided produce give-aways, livestock and farm machinery displays, hay baling demonstrations, and beekeeping information. Gordon Ellis' hay wagon farm tours were particularly popular. DUC's "Mini Wildlife Theater" provided details on many of our stewardship programs and a dozen other agricultural and environmental groups set-up displays showcasing their work. It is estimated that between 1,000 and 1,500 people came out to the event and feedback was very positive. This year a series of posters were designed that depict DF&WT programs as well as other farmland elements and benefits. Some of these posters can be found on pages (4, 10, 16 and 20). Each poster outlines some of the important connections between community, farmland and wildlife and underlines the fact that farmland does benefit everyone.

DF&WT staff continued to present lectures, slide shows and brief mini tours to local, regional and international organisations as well as post secondary institutions upon request or on DF&WT's suggestion. The Trust also set up a display at the Pacific Agriculture Show in Abbottsford (February 2007).

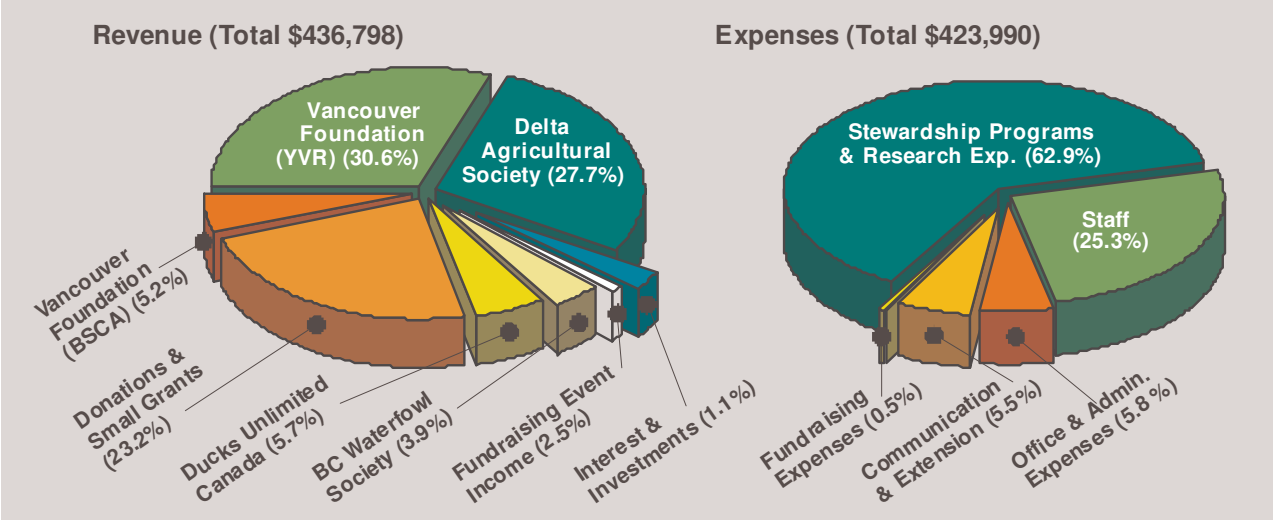
A broader audience has access to "Farmland and Wildlife" DF&WT's official newsletter. Two editions were produced in this last fiscal year (July and December 2007) and mailed to over 900 people on our main mailing list. Some are now sent out in electronic form. Other means of dissemination are press releases and publication of information in local newspapers articles.

Financial Highlights

Revenues totalling $436,798 during 2007/08 were 7.1% lower than last year (See Appendix 6 and 7 for detailed financial statements). Once again, the Delta Agricultural Society provided the greatest single contribution to our programs accounting for almost 29% of revenue. Our two endowment funds held at the Vancouver Foundation provided total dividends of $142,314 representing 27% of total revenue. The endowment income increased by 10% over last year. The increase in dividends was a result of a change in the value of the YVR Wildlife Stewardship Fund and the Partners in Stewardship Funds during 2007/08. See Appendices 10 and 11 for details on the endowments including budget projections for the 2007/08 fiscal year.

Other major funding partners included BC Waterfowl Society and Ducks Unlimited Canada accounting for 9.6% of revenue. Their combined contribution was instrumental in supporting the winter cover crop program. The Corporation of Delta provided a grant of $15,000 to support both the cover crop and grassland set-aside programs accounting for 3.4% of revenue. Our third year of support from the Habitat Conservation Trust Fund ($15,000 or 3.4% of revenue) and an Envirofund Grant from Vancity ($35,000 or 8% of revenue) was important in meeting Winter Cover Crop and Grassland Set-aside commitments. A core group of long-term individual private donors and some new supporters provided over $16,000 over the year.

Once again, the majority of expenses went directly to Land Stewardship and Research Programs. Close to $260,000 (62.9% of total expenses) was used to share the cost of land stewardship with farming operations. Staff and office costs accounted for 25.3% of expenses. Our staff provide administration, coordination, extension, fundraising and re-search services important to the smooth operation of the steward-ship programs. Fundraising costs include special event costs, donor stewardship costs, and advertising costs.



The Future

Concerns

Worldwide, rising demand for agricultural crops for both food and energy are putting great pressure on farmland. The benefits of grassland set-aside programs initiated in various regions around the world in the 1980s and 90's are now in jeopardy of being lost due to changes in political priorities. For instance, as new subsidy programs for biofuel production displace Conservation Reserve Program lands in the United States and the UK set-aside program comes to an end, we may see a further decline in farmland birds and soil organic matter in the absence of proper crop rotations. These programs should not be abandoned but should be retained in new long-term rotations where temporary (4-10 year) set-asides are maintained in the landscape.

Agriculture in Delta is at a point when change is inevitable. New crops, new farmers, changes in the market place, increasing regulations and impending changes in land use are all impacting the way farming is carried out in this Important Bird Area. Current developments in the planning and implementation phase have the potential to significantly impact the capacity of farmland to produce crops and support wildlife. In the next few years we will likely see the Agricultural Land Reserve in Delta shrink by at least 1,000 acres (4%). New transportation infrastructure will cover some of this and negatively affect the ability of some farmers to access their fields and move produce. The intense pressures on urban shadow agriculture continue to force land values up making conventional farming less and less sustainable. In response, farmers may be forced to change their operations further to emphasize higher-value products, more intensive production and a transition, in some areas, to more urbanized farm models. Although these farm models have been shown to be sustainable in other areas worldwide, the shift to small plot farming will be detrimental to many of the wildlife species that benefit from large field agriculture as it occurs in integration with DF&WT land stewardship programs.

Through our experience in developing on-farm wildlife and soil conservation techniques for the Fraser River delta ecosystem we have identified a set of practices that specifically addresses some of the soil and wildlife habitat concerns related to upland farmland management. Although these appear to be providing the benefits that we anticipated at this point, changes in land-use and agricultural crops in the future may affect the magnitude of these benefits. As a greater area of crops that are incompatible with grassland rotations is established in the landscape, it will become difficult to expand our programs. It is imperative that society as a whole recognize the value of Delta grown vegetable crops not only as a source of high quality locally grown food, but also as a means of supporting other environmental benefits linked to diverse crop rotations.

Goals

The primary goal for the upcoming years will be to maintain or increase current stewardship programs. The greatest barrier to this objective is a shortfall of funding. In fact, it is likely that funding from current supporters will, temporarily, continue to decline over the next two years. Accordingly, DF&WT will be focusing expenditures on specific priority programs where possible as well as pursuing new funding sources.

Increasing public awareness of the benefit of farmland conservation will remain an important objective for the Trust. DF&WT will continue with its awareness campaign and search for funds to support the development of additional extension materials such as brief farmland related field guides and educational material for inclusion in school curricula. An important component of the extension programs will be

introducing the public to farms through tours and open houses. "A Day at the Farm" will likely continue as part of this given the positive response during this year. The Trust will also be exploring the possibility of working with local farms and produce distributing organizations to develop a Buy Local brand that will be linked to the environmental benefits of supporting diverse agriculture within Delta.

DF&WT will be looking to develop new programs in response to agricultural change in the landscape. The Partners in Stewardship model will be used to identify new management tools, perhaps, for some of the crops that have become more economically important in recent years. New programs may include carbon sequestration, improved upland habitat for shorebirds, additional lure crops for wintering waterfowl, berry crop management systems and integrating programs within farms to maximize on-farm biodiversity. Identifying new crops and developing crop rotations that work for agriculture in Delta will be at the forefront in the coming years. Crop rotation is one of the cornerstones of sustainable agriculture and a key tool in maintaining the wildlife habitat capacity of farmland over the long term. This will be a relatively long term process and new programs, once identified, may not be implemented immediately.

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Appendix 1. Details of Winter Cover Crop Agreements for the winter of 2007/08

		Area (Acres)								
Contract	Farm Name	barley	clover	winter wheat	oats	rye	mix	timothy	Total	# of fields
WCC07-01	Canoe Pass Farms Ltd.	41		39.5	40		16	10	146.5	9
WCC07-02	Delta Pride Farms Ltd.				18				18	2
WCC07-03	Martiann Holsteins Ltd.					22			22	1
WCC07-04	J.A. Nottingham Co. Ltd.			108					108	4
WCC07-05	Burr Farms Ltd.	120							120	5
WCC07-06	Felix Farms Ltd.		11		160				171	8
WCC07-07	Del Cory Farms	114.5							114.5	8
WCC07-08	Jowkema Enterprises Ltd.	100							100	4
WCC07-09	Westcoast Instant Lawns			25					25	1
WCC07-10	Zellweger Farms	121		44.7					165.7	10
WCC07-11	Emma Lea Farms Ltd.	44		48					92	14
WCC07-12	Fraserland Farms	323							323	14
WCC07-13	R&D Sherrell	38							38	2
WCC07-14	Seabreeze Farm Ltd.					32			32	2
WCC07-15	Dhaliwal Farms Ltd.			112	37				149	7
WCC07-16	Grove Crest Farms	65		98					163	6
WCC07-17	Gordon Ellis Farms	5							5	1
WCC07-18	R.Newman and Sons Farms				10	92			102	3
WCC07-19	Kamlah Farms Inc.	35							35	4
WCC07-20	Hothi Farms Inc.			127			15		142	6
WCC07-21	Reynelda Farms	40							40	1
WCC07-22	Brent Kelly Farms Inc.	14							14	1
WCC07-23	Ed McKim Farms Ltd.	17							17	2
Grand Total		1077.5	11	602.2	265	146	31	10	2142.7	115

Appendix 2. Details of Grassland Set-aside Agreements for 2007/08

Agreement	Farm Name	Est. year	Measured area	Harvested	Mowed
GLSA04-02	Fraserland Farms	2004	25	-	-
GLSA04-03	Canoe Pass Farms	2004	6	-	-
GLSA04-05	Tecarte Farms	2004	20	-	-
GLSA04-06	R&M Townsend	2004	40	-	-
GLSA05-03	Mike Guichon	2005	20	-	-
GLSA05-05	Burr Farms	2005	28	-	-
GLSA05-05	Burr Farms	2005	10	-	-
GLSA05-06	Hothi Farms	2005	30	-	-
GLSA06-01	Zellweger Farms	2006	15	-	-
GLSA06-02	Reynelda Farms	2006	40	-	-
GLSA06-03	Burr Farms	2006	12	-	-
GLSA06-04	Hothi Farms	2006	10	-	-
GLSA06-05	John van der Velde	2006	20	-	-
GLSA06-06	Fraserland Farms	2006	11	-	-
GLSA06-07	Felix Farms	2006	10	-	-
GLSA06-08	W & A Farms	2006	10.5	-	-
GLSA06-10	Grove Crest Farms	2006	35	-	-
GLSA07-01	Rod Swenson Farms	2007	40	-	-
GLSA07-02	Fraserland Farms	2007	14	-	-
GLSA07-03	Felix Farms	2007	40	-	-
GLSA07-04	Tecarte Farms	2007	27	Yes	-
GLSA07-05	Mike Guichon	2007	20	-	-
GLSA07-05	Mike Guichon	2007	10	Yes	-
GLSA07-07	Hothi Farms	2007	10	-	-
GLSA07-08	Zellweger Farms	2007	15	-	-
Grand Total			518.5		

Appendix 3. Details of Land Laser Levelling Agreements for 2007/08 Fiscal Year

Agreement	Farm name	Total acres eligible	estimated cuyd moved	estimated cuyd/acre
LL07-01	Port Guichon Farms Inc.	14.0	8360	597.1
LL07-02	Euston Farms	16.0	2000	125.0
LL07-03	Tecarte Farms	8.0	2000	250.0
LL07-04	Triple Blueberru	41.9	7314	174.6
LL07-06	Fraserland farms	34.8	6993	200.9
LL07-07	Gordon Ellis Farms	9.6	2000	208.3
LL07-08	Eagle View Farms	15.0	1898	126.5
Total		139.3	30565	
Average				240.4

Appendix 4. Details of Field Liming Agreements for the 2007/08 Fiscal Year

Agreement	Farm name	Acres applied for	Eligible Acres	tonnes/ac applied	tonnes/ac eligible	total eligible tonnes
FL07-01	Del Cory Farms	50	50	2.18	2.00	100.00
FL07-02	Canoe Pass Farms Ltd.	62	62	0.99	0.99	61.34
FL07-03	Neveridle Dairy Farm Ltd.	35	35	1.73	1.73	60.50
FL07-04	Felix Farms Ltd.	58	58	1.75	1.75	100.00
FL07-05	Emma Lea farms Ltd.	53	53	1.97	1.97	100.00
FL07-06	Eagle View Farms Ltd.	32	32	1.88	1.88	60.13
FL07-07	Reynelda Farms	90	90	1.55	1.55	100.00
FL07-08	Snow Farms Ltd.	18	18	2.24	2.00	36.00
FL07-09	Dhaliwal Farms Ltd.	43	43	1.11	1.11	47.85
FL07-09	Dhaliwal Farms Ltd.	18	18	1.14	1.14	20.46
FL07-09	Dhaliwal Farms Ltd.	13	13	2.94	2.00	26.00
FL07-10	Gill Farm	43	43	1.95	1.95	83.67
FL07-11	Ed McKim Farm Ltd.	52	52	1.00	1.00	51.85
TOTAL		567.00	567.00	1.72		847.80

Appendix 5. Details of Grass Margin and Hedgerow Agreements for the 2007/08 Fiscal Year

	COOPERATOR	year est.	WIDTH (m)	LENGTH (m)	AREA (ac)	FIELD LOCATION	Tree Species	Shrub Species
Grass Margins	Ian and Micheline Cameron	1996	4	225	0.22	Tamboline Rd.	N/A	N/A
	Don Cameron	1999	3	290	0.22	Tamboline Rd.	N/A	N/A
	Fraserland Farms	2005	8	1140	2.25	3643 64th Street	N/A	N/A
	SUBTOTAL				2.69			
Hedgerows	Jack Van Dongen	1996	3	50	0.04	4769 112 St.	4	0
	Casey Houwelling	1997	10	185	0.46	2776 64th Street	12	14
	Casey Houwelling	2002	3	230	0.17	2777 64th Street	5	7
	Don Campbell	1998	7	615	1.06	6432 64th Street	6	10
	Donald and Beryl Cameron	1996	3	225	0.17	Tamboline Rd.	4	0
	John and Maureen Malenstyn	1995	varied	varied	1.15	6556 60th Ave.	9	4
	Ian and Don Cameron	1999	2	300	0.15	Tamboline Rd.	6	12
	Ian and Micheline Cameron	1996	3	560	0.41	Tamboline Rd.	5	0
	Laurence Guichon	1997	12.5	470	1.45	4302 River Road	17	20
	Laurence Guichon	2001	5	270	0.33	4302 River Road	5	7
	Laurence Manning	1999	2	620	0.31	5280 64th St	6	8
	Nottingham Farms Ltd.	1997	3	188	0.14	6720 60th Ave	1	2
	Roland and Sharon Embree	1997	2	460	0.23	6466 68th St.	2	0
	Stuart and Naomi Evans	2004	3	228	0.17	2680 52nd Street	8	10
	Bob and Marilyn Townsend	2003	1.5	190	0.07	3028 Arthur Drive	5	7
	Grove Crest Farms	2005	5	150	0.19	5628 64th Street	2	5
	Grove Crest Farms	2006	5	330	0.41	5628 64th Street	2	5
	SUBTOTAL				6.91			
	TOTAL				9.60			

Appendix 6. Detailed Financial Statement for the Delta Farmland and Wildlife Trust for the 2007/08 Fiscal Year

	Projects Fund (restricted)								General and Capital Asset Fund (unrestricted)						
Schedule	Farmscape Program	Grassland Set-asides	Winter Cover Crops	Laser Levelling	Field Liming	Monitoring and Evaluation	Wildlife Coordinator	Agriculture Coordinator	Administration	IAF Debt	Communication and Extension	Special Events	Donations	Capital Assets	Total
Revenue															
Vancouver Foundation (YVR)	6,681.21	70,820.84				2,004.37	31,401.69	6,681.21	13,362.40		2,672.49				**133,624.21**
Vancouver Foundation (BSCA)		9,130.11	9,130.11				2,282.53	1,506.47	776.08						**22,825.30**
Delta Agricultural Society (DAS)		34,964.00	37,749.75	12,852.25	25,434.00				10,000.00						**121,000.00**
B.C. Waterfowl Society (BCWS)			17,000.00												**17,000.00**
Ducks Unlilmited Canada (DUC)			25,000.00												**25,000.00**
General Funding							1,250.00		440.44						**1,690.44**
Donations													8,697.93		**8,697.93**
Restricted Donation		14,080.00	33,580.00				6,000.00	13,474.09	3,199.60		18,300.00		2,400.00		**91,033.69**
Interest Income									4,926.81						**4,926.81**
BBQ Sponsorship												11,000.00			**11,000.00**
Total Revenue	**6,681.21**	**128,994.95**	**122,459.86**	**12,852.25**	**25,434.00**	**2,004.37**	**40,934.22**	**21,661.77**	**32,705.33**	**0.00**	**20,972.49**	**11,000.00**	**11,097.93**	**0.00**	**436,798.38**
Capital Asset Acquisition														**1,372.00**	**1,372.00**
Expenses															
Remittance to Co-operators	1,846.59	123,725.00	96,421.50	12,852.25	25,434.00										**260,279.34**
Accounting									2,348.52						**2,348.52**
Newsletter											3,367.47				**3,367.47**
Website Maintenance											132.87				**132.87**
Bank Charges									35.88						**35.88**
Postage									489.22						**489.22**
Courier, Delivery, Freight									44.47			17.50			**61.97**
Memberships (LTA, DCC)									228.77						**228.77**
Meetings									321.51						**321.51**
Advertising											202.24				**202.24**
Capital asset depreciation														1,702.00	**1,702.00**
Event Participation											256.67				**256.67**
Insurance									3,139.00						**3,139.00**
Legal (incl. Annual report subm.)									25.00						**25.00**
Program Materials and Supplies						254.00		26.23			1,593.45	4,114.85			**5,988.53**
Office Services (water, internet)									871.85						**871.85**
Office Co-ordinator (Wages)									20,010.32						**20,010.32**
Office Supplies									2,959.47						**2,959.47**
Wages							59,889.02	21,174.40							**81,063.42**
Rent									11,756.94						**11,756.94**
Board Recognition									712.40						**712.40**
Farmland Awarenewss Campaign											13,374.95				**13,374.95**
BBQ Cost												2,131.48			**2,131.48**
Telephone									1,301.20						**1,301.20**
Travel/Mileage	10.59	4.86	467.10			1,279.26		100.98	148.86		270.04				**2,281.69**
Farmscape Maintenance	2,981.85														**2,981.85**
EI contributions							1,046.31	492.15	495.81						**2,034.27**
CPP contributions							2,089.82	857.74	813.31						**3,760.87**
WCB									139.27						**139.27**
Total Expenses	**4,839.03**	**123,729.86**	**96,888.60**	**12,852.25**	**25,434.00**	**1,533.26**	**63,025.15**	**22,651.50**	**45,841.80**	**0.00**	**19,197.69**	**6,263.83**	**0.00**	**1,702.00**	**423,958.97**
Net Income (Loss)	**1,842.18**	**5,265.09**	**25,571.26**	**0.00**	**0.00**	**471.11**	**-22,090.93**	**-989.73**	**-13,136.47**	**0.00**	**1,774.80**	**4,736.17**	**11,097.93**	**-330.00**	**14,211.41**
Interfund Transfers	30,000.00	-1,000.00	-33,071.26				22,090.93	-210.27	14,207.47	10,000.00		-17,809.40	-14,207.47		10,000.00
Fund Balances - Beginning	**6,989.03**	**49,243.90**	**0.00**	**0.00**	**0.00**	**1,323.62**	**0.00**	**0.00**	**-1,071.00**	**-38,000.00**	**0.00**	**30,400.61**	**92,264.47**	**3,262.00**	**144,412.63**
Fund Balances - End	**38,831.21**	**53,508.99**	**-7,500.00**	**0.00**	**0.00**	**1,794.73**	**0.00**	**-1,200.00**	**0.00**	**-28,000.00**	**1,774.80**	**17,327.38**	**89,154.93**	**2,932.00**	**168,624.04**
Accounts Receivable			**7,500.00**					**1,200.00**							**8,700.00**

Notes for Detailed Financial Statement –
Revenue Sources :
Vancouver Foundation (YVR) – Revenue from endowment held at the Vancouver Foundation. The rresult of habitat compensation funds from Transport Canada for the development of the third runway at Vancouver International Airport.
Vancouver Foundation (BSCA) - Revenue generated by an endowment held at the Vancouver Foundation originally awarded to DF&WT was the result of habitat compensation funds from Ahoy Industries for the development of a golf course on farmland adjacent to Boundary Bay.
Delta Agricultural Society - Annual contribution based on proposal submitted by Delta Farmland and Wildlife Trust
BC Waterfowl Society - Annual contribution based on proposal submitted by Delta Farmland and Wildlife Trust
Ducks Unlimited Canada - Annual contribution based on proposal submitted by Delta Farmland and Wildlife Trust
Program/expense Schedules:
Farmscape Program – Stewardship program consisting of hedgerow and grass margin installation.
Grassland Set-asides – Stewardship program consisting of the establishment and maintenance of grassland set-asides
Winter Cover Crops - Stewardship Program consisting of the establishment and maintenance of winter cover crops
Laser Levelling – Land Laser Levelling Stewardship Program
Field Liming - Cost share program to support field liming in Delta
Monitoring and Evaluation – Expenses related to conducting Wildlife Monitoring and Evaluation activities. These activities consist of scientific studies on the effect of DF&WT's land stewardship programs on wildlife communities. Expenses do not include staff time. These are reported under schedules Wildlife Coordinator and Agriculture Coordinator.
Wildlife Coordinator – Wages paid to DF&WT's full-time wildlife biologist. Covers administration and coordination of stewardship programs, extension activities, wildlife research (monitoring and evaluation), fundraising activities and participation in various steering and advisory committees related to DF&WT's activities.
Agriculture Coordinator – Wages paid to DF&WT's agriculture coordinator who, at the moment, is on part-time contract to DF&WT. Covers administrative duties related to selected stewardship programs and research into waterfowl use of winter cover crops.
Administration – Costs related to the administration of DF&WT's activities. These include office rent, office supplies, computers, accounting, insurance, legal costs, general office expenses and the wages for DF&WT's part-time office coordinator.
Investment Agriculture Foundation (IAF) Repayment – This schedule was set up to repay a grant given to DF&WT by the IAF to establish a formal fundraising program in 1999. The formal program was discontinued in 2000 due to inadequate return.
Communications and Extension – All costs linked directly to extension (education and outreach) programs. These include newsletter costs, display costs, and expenses related to attending conferences or activities where DF&WT's display is set up.
Special Events Fundraising – On occasion DF&WT will organize special events for the express purpose of fundraising. Revenue and expenses for these activities are tracked under this schedule. Funds generated from these events are also reallocated to other Schedules when necessary.
Donations- this schedule tracks "unsolicited" donations that come, usually by mail, into DF&WT's office. Funds generated here are reallocated to other Schedules when necessary.

Appendix 7. Summarized Statement of Financial Position – March 31, 2008

ASSETS	
Cash	*18,149*
Term Deposits	*106,884*
Contribution receivables	*7,500*
GST Receivable	*1,479*
Investments – at cost	*66,932*
Equipment	*4,477*
TOTAL	*205,421*
LIABILITIES	
Accounts payable	*0*
Payroll liabilities	*3,694*
Grant repayable – current year	*0*
Grant repayable – long term	*28,000*
TOTAL	*31,694*
NET ASSETS	*173,727*

Appendix 8. YVR Wildlife Stewardship Fund Update

Vancouver Foundation - Statement of Fund Activity
Established: April 5, 1995

Statement for January 1, 2007 Through December 31,2007

YVR Wildlife Stewardship Fund	*Market Value*	*Contributed Principal*	*Income*
Beginning Balance as of January 1, 2007	*$2,804,895.15*	*$ 2,250,000.00*	*$ 32,564.89*
Contributions Received		*$ -*	*$ -*
Income (See Schedule C below)			*$133,624.21*
Distribution (See Schedule D below)			*($132,553.09)*
Ending Balance as of December 31, 2007	*$2,643,910.38*	*$ 2,250,000.00*	*$ 33,636.01*

No. of units @ December 31, 2007: 151,288.68

Unit Value @ December 31, 2006: $18.5400

Unit Value @ December 31, 2007: $17.4759

Schedule C – Income

Date	*Description*		*Amount*
03/31/2007	*Income Allocated to Fund*	*$*	*33,038.42*
06/30/2007	*Income Allocated to Fund*	*$*	*33,386.39*
09/30/2007	*Income Allocated to Fund*	*$*	*33,563.39*
12/31/2007	*Income Allocated to Fund*	*$*	*33,636.01*
	Totals:	*$*	*133,624.21*

Schedule D – Distribution

Date	*Grantee/Purpose*		*Amount*
02/01/2007	*Delta Farmland and Wildlife Trust Endowment Income*	*$*	*32,564.89*
05/01/2007	*Delta Farmland and Wildlife Trust Endowment Income*	*$*	*33,038.42*
08/01/2007	*Delta Farmland and Wildlife Trust Endowment Income*	*$*	*33,386.39*
11/01/2007	*Delta Farmland and Wildlife Trust Endowment Income*	*$*	*33,563.39*
	Totals:	*$*	*132,553.09*

Use of YVR Wildlife Stewardship Fund Endowment Income and Net Assets for Fiscal year 2007/08
Note: Reporting period different than for YVR Wildlife Stewardship Fund Statement of Fund Activity on previous page

	Budget 2007/08	% of Budget	Actual 2007/08	% of Actual
Revenues:				
Vancouver Foundation - YVR WSF	*$128,500.00*		*$133,624.21*	
Revenue Total	*$128,500.00*		*$133,624.21*	
Expenses:				
Farmscape	*$ 6,425.00*	*5*	*$ 6,681.21*	*5*
Grassland Set-asides	*$ 68,105.00*	*53*	*$ 70,820.84*	*53*
Newsletter	*$ 2,570.00*	*2*	*$ 2,672.49*	*2*
Monitoring and Evaluation	*$ 12,850.00*	*10*	*$ 13,362.40*	*10*
Co-ordination	*$ 25,700.00*	*20*	*$ 26,734.79*	*20*
Administration	*$ 12,800.00*	*10*	*$ 13,362.40*	*10*
Total	*$128,500.00*		*$133,624.21*	
Revenues Minus Expenses	*$ 0.00*		*$ 0.00*	
Net Assets - Beginning	*$ 0.00*		*$ 0.00*	
Net Assets - Ending	*$ 0.00*			

Anticipated Budget for 2008/09 for use of YVR WSF Income
Reports from the Vancouver Foundation indicate that the usable income from the YVR WSF would be approximately $125,000 for the 2008/09 fiscal year.

	Budget 2008/09	% of Budget
Revenues:		
Vancouver Foundation - YVR WSF	*$125,000.00*	
Revenue Total	*$125,000.00*	
Expenses:		
Farmscape	*$ 6,250.00*	*5*
Grassland Set-asides	*$ 66,250.00*	*53*
Newsletter	*$ 2,500.00*	*2*
Monitoring and Evaluation	*$ 12,500.00*	*10*
Co-ordination	*$ 25,000.00*	*20*
Administration	*$ 12,500.00*	*10*
Total	*$125,000.00*	
Revenues Minus Expenses	*$ 0.00*	
Net Assets - Beginning	*$ 0.00*	
Net Assets – Ending	*$ 0.00*	

Appendix 9. Boundary Shores Compensation Agreement Fund (Partners in Stewardship Fund) Update

Vancouver Foundation - Statement of Fund Activity

Established: December 6, 2000

Statement for January 1, 2007 Through December 31,2007

Partners in Stewardship Fund	Market Value	Contributed Principal	Income
Beginning Balance as of January 1, 2007	$479,123.99	$ 531,720.00	$ 5,562.64
Contributions Received		$ -	$ -
Income (See Schedule C below)			$ 22,825.30
Distribution (See Schedule D below)			($ 22,642.33)
Ending Balance as of December 31, 2007	$451,625.04	$ 531,720.00	$ 5,745.61

No. of units @ December 31, 2007: 25,842.69

Unit Value @ December 31, 2006: $18.5400

Unit Value @ December 31, 2007: $17.4759

Schedule C - Income

Date	Description		Amount
03/31/2007	Income Allocated to Fund	$	5,643.53
06/30/2007	Income Allocated to Fund	$	5,702.96
09/30/2007	Income Allocated to Fund	$	5,733.20
12/31/2007	Income Allocated to Fund	$	5,745.61
	Totals:	$	22,825.30

Schedule D - Distribution

Date	Grantee/Purpose		Amount
02/01/2007	Delta Farmland and Wildlife Trust Endowment Income	$	5,562.64
05/01/2007	Delta Farmland and Wildlife Trust Endowment Income	$	5,643.53
08/01/2007	Delta Farmland and Wildlife Trust Endowment Income	$	5,702.96
11/01/2007	Delta Farmland and Wildlife Trust Endowment Income	$	5,733.20
	Totals:	$	22,642.33

Use of Partners in Stewardship Fund Endowment Income for Fiscal year 2007/08
Note: Reporting period different than for Partners in Stewardship Fund Statement of Fund Activity on previous page

	Budget 2007/08	% of Budget	Actual 2007/08	% of Actual
Revenues:				
Vancouver Foundation – Partners in Stewardship Fund	*$ 21,900.00*		*$ 22,825.30*	
Revenue Total	*$ 21,900.00*		*$ 22,825.30*	
Expenses				
Grassland Set-asides	*$ 8,760.00*	*40.0*	*$ 9,130.11*	*40.0*
Winter Cover Crops	*$ 8,760.00*	*40.0*	*$ 9,130.11*	*40.0*
Delivery, Co-ordination, M&E	*$ 3635.40*	*16.6*	*$ 3,789.00*	*16.6*
Administration	*$ 744.60*	*3.4*	*$ 776.08*	*3.4*
Total	*$ 21,900.00*		*$ 22,825.30*	
Revenues Minus Expenses	*$ -*			
Net Assets - Beginning	*$ -*			
Net Assets - Ending	*$ -*			

Anticipated Budget for 2008/09 for the use of BSCA Fund Income

Reports from the Vancouver Foundation indicate that the usable income from the BSCA would be approximately $21,500 for the 2008/09 fiscal year.

	Budget 2008/09	% of Budget
Revenues:		
Vancouver Foundation – Partners in Stewardship Fund	*$ 21,500.00*	
Revenue Total	*$ 21,500.00*	
Expenses		
Grassland Set-asides	*$ 8,600.00*	*40.0*
Winter Cover Crops	*$ 8,600.00*	*40.0*
Delivery, Co-ordination, M&E	*$ 3,569.00*	*16.6*
Administration	*$ 731.00*	*3.4*
Total	*$ 21,900.00*	
Revenues Minus Expenses		
	$ -	
Net Assets - Ending	*$ -*	

Appendix 10. Details of North Growth Management Funds

(Funds held in Schedule13 (Donations) on Detailed Financial Statement–Appendix 9)
North Growth Management Ltd. - Statement of Fund Activity

North Growth U.S. Equity Fund
Established: October 31, 2000
Statement for March 31, 2007 Through March 31, 2008

North Growth U.S. Equity Fund	Book Value (contributed principal)	Unit Balance	Unit Price ($)	Market Value
Opening Balance as of March 31,2007	$ 37,526.33	1,720.817	$ 25.4937	$ 43,869.99
Distribution (Income)	$ 0.00	0.000		$ 0.00
Ending Balance as of March 31, 2008	$ 37,526.33	1,720.817	$ 21.2550	$ 36,575.97

North Growth Canadian Equity Fund
Established: December 16, 2004
Statement for March 31, 2007 Through March 31, 2008

North Growth Canadian Equity Fund	Book Value (contributed principal)	Unit Balance	Unit Price ($)	Market Value
Opening Balance as of March 31,2007	$ 29,405.94	2,294.601	$ 12.7099	$ 29,164.15
Distribution (Income)	$ 0.00	0.000		$ 0.00
Ending Balance as of March 31, 2008	$ 29,405.94	2,294.601	$ 10.3785	$ 23,814.52