Intern Report
Presented to the Canadian Wildlife Service
From Ducks Unlimited Canada

The Greenfields Project
1991-92

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EXECUTIVE SUMMARY

The goal of the Greenfields Project is to develop a strategy that allows agriculture and wildlife to coexist on farmland in Delta. The program is a cooperative venture between farmers and wildlife agencies to address issues related to crop damage, land productivity and habitat.

The main component of the project is a cost sharing program that supports winter cover crops, an important soil conservation practice that also provides habitat for waterfowl. Greenfields paid for the seed and farmers contributed the planting costs to establish cover crops in the fall. Fields were monitored throughout the winter to find out the extent of waterfowl grazing. From November 1991 to March 1992, 1,368 acres (554 hectares) of cover crops, clover and grass fields were used by wigeon. This was 50% of the total acreage monitored by the Greenfields Project. Approximately 423 tons of biomass was removed from these fields, not including any regrowth that was also grazed.

Factors influencing wigeon grazing were identified through analysis of 52 winter wheat fields sampled in late November 1992. The planting date of a crop was the best indicator of whether a field was susceptible to grazing. Plant-date also has a direct influence on biomass and protein content. Results support the hypothesis that the stage of growth or maturity of a cover crop has more influence on grazing use than the actual crop type.

Another important factor influencing wigeon use was the surrounding landscape. This factor termed "edge effect" is the percent of dominant structures surrounding a field. There was a strong negative correlation of edge effect to the total percent of a field grazed. This may indicate that the more buildings and trees surrounding a field, the less likely it is to be grazed.

The relationship between water and wigeon grazing illustrates the complexity of interactions occurring. The distance of fields to water bodies did not correlate to grazing. The measurement used in the analysis was the shortest distance of a field to Boundary Bay or the Fraser River. However in the multiple regression analysis tests revealed that distance, was a significant factor in November when wigeon grazing began. In an analysis of variance test results revealed that there was no difference in the percent grazed between fields with and without persistent ponds, even though ponds were a significant factor in November, January and February.

The information gathered over the past two years suggests that the best options for reducing crop damage is to avoid late planted cover crops and use alternative management practices for soil conservation. There are few other options. Farmers cannot easily change field characteristics and have little flexibility in their management practices. To date there are no proven scare tactics that can be used at night, when grazing predominately occurs.

Trying to reduce crop damage and support soil conservation is not the only solution. Part of the overall strategy must include improving the cooperation and communication between the agricultural community and wildlife agencies. Farmers need to play an active role in decision making regarding the community they live and work in. Wildlife agencies need cooperation from land operators to secure habitat for the long term.

An alliance of farmers and wildlife supporters offers new opportunities to retain Delta's farmland for food production and wildlife habitat. Together groups can continue to meet the challenge to sustain the landbase for the long-term.
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THE COVER CROP PROGRAM

In the second year of operation the Greenfields Project monitored 2,405 acres (974 hectares) of cover crops. Most of this acreage (2,020 acres) was supported by reimbursing seed cost to farmers at $15/acre, for a total sum of $30,306. Fifty-five percent of the 90 fields registered with the project were winter wheat (Figure 1) with an average size of 26.7 acres (10.8 ha). Plant-date ranged from August 19 until October 10, 1991.

The extent of grazing over winter was determined by monthly observations of field use. In the fall of 1991 wigeon started grazing around mid November, two weeks later than the first study year. A comparison of the two years shows more use in January and much less grazing in February and March (Figure 2) during the 1991-92 study year. Final field conditions were much better in 1991-92. More fields survived the winter with greater than 50% spring cover (Figure 3).

The variation in grazing and crop survival is partly explained by weather. In 1991-92 overall warmer winter temperatures (Figure 4) allowed cover crops and grass fields to grow during milder periods, therefore increasing the amount of forage available. Cold temperatures in the first year may have increased the wigeon's energetic requirements and demand for forage.

Forty-eight percent of the total cover crop fields planted (1147 acres) were used by wigeon. Fields planted after September 15 comprised 78% of the acreage grazed.

These numbers do not fully illustrate the extent of grazing because Greenfields did not monitor all the fields in Delta. Map work identifying winter land use estimated that a total of 5,872 acres of cover crop were planted in the fall of 1991. Greenfields, therefore, monitored approximately 40% of the total cover crops planted in Delta (Appendix A).
Biomass samples collected in late November were used to estimate the quantity of forage available and grazed. From these samples the amount of biomass consumed by wigeon was estimated to be 325 tons (dry weight), 29% of the total 1110 tons estimated to be available (Figure 5). In addition 97 tons of biomass was removed from grass and clover fields monitored in the study. Overwinter growth or regrowth after grazing is not included in these figures.

Baldwin & Lowvorn (1991) estimated that Delta’s uplands need to support 4.38 million wigeon days. Mayhew's (1988) research, using perennial grasses, found that wigeon require 91.6 grams of forage per day. The total 423 tons removed from Greenfields accounts for 4.19 million wigeon days. This suggests that our figures are within the same ball park. Any discrepancy in these numbers can be attributed to variation in metabolizable energy of different cereals and grasses.

Field observations during the 1991-92 mild winter revealed that regrowth plays an important role in providing forage for wigeon. Despite ideal conditions for regrowth several fields appeared heavily grazed each time the field was visited. On field AS3, fall rye was planted Oct. 5/91, and exclosures were placed before grazing (Nov. 15), after the initial grazing (Dec. 2) and again in late winter (Feb. 14). On March 25/91 the exclosures were sampled. There was a significant difference in the quantity of biomass between exclosures and the remaining field that was bare (Figure 6).

This experiment proves that regrowth was repeatedly grazed, but does not provide an accurate estimate of the quantity regrazed. If the difference in the biomass between exclosures is used as an estimate of regrowth removed, then 426 kg/ha would be considered an additional loss, which is substantially more than the original November biomass measurement of 188 kg/ha. This is not a fair assessment because this method assumes that the rate of growth between ungrazed and grazed plants is the same.

More importantly, the biomass from the exclosure revealed that the youngest regrowth had the highest protein levels (Figure 6). This could explain why wigeon return to a previously grazed field, to forage again, rather than use another ungrazed area.
The data from 52 winter wheat fields were used to determine which factors contribute to field use. In a Spearman rank correlation several relationships were significant. Factors relating to plant-date, such as fall biomass and protein showed strong correlations with the percent of a field grazed from November to January as well as the total percent removed (Table 1). The susceptibility of late planted fields is confirmed by the significant relationship between of the quantity of biomass removed (lbs.) in November and plant date.

<table>
<thead>
<tr>
<th>FACTORS RELATED TO GRAZING</th>
<th>TOTAL % USED</th>
<th>NOV %</th>
<th>DEC %</th>
<th>JAN %</th>
<th>FEB %</th>
<th>MAR %</th>
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<tr>
<td></td>
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<td>* -.458</td>
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<tr>
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Table 1: Correlation results showing significant relationships * between wigeon use and associated factors (r, 0.05 = .275).

Biomass and protein data came from samples taken in late November 1992. The fact that protein correlated with the percent removed in February and March reveals that high initial protein levels may be useful as an indicator for winter use. Protein content of forage is dependent on several factors including the amount of nitrogen available in the soil.

Evidence that field location was an important factor related to wigeon grazing first appeared when comparing grazing use of the same fields in the two consecutive years of study. Of the 21 fields monitored by Greenfields in both years, 70% were grazed or not grazed to the same extent as the first year. The remaining 30% had a significantly different planting date.

The results of the correlation analysis suggests that the surrounding landscape of each field, called the edge effect, is related to wigeon grazing. Edge effect, estimates the percent of the field perimeter having dominant structures (houses, barns & trees). Seventy-seven percent of the fields monitored by Greenfields had less than 25% edge effect. Table 1 illustrates that edge effect was correlated to the total percent of a field used and December grazing. Therefore the more buildings and trees surrounding a field, the less likely the field will be grazed.
An unexpected result was that the distance of fields to water did not relate to grazing use in the correlation. The shortest distance of the field to Boundary Bay or the Fraser River was used in the analysis. In retrospect the distance to daytime roosting sites or feeding areas would have been a better measurement to use, because not all water bodies are used by wigeon.

Multiple regression analysis further isolated the extent each factor influenced field use. Plant-date, fall biomass, edge effect and distance to water could explain 62% ($r^2 = .62$) of the variance in the total percent grazed (Table 2). Note that only 'P' values less than .05 are considered significant. When each month was analyzed separately different factors were significant for each month. In November, fall biomass, distance to water, ponds and plant-date were important, which is in contrast to December where fall protein and edge effect gave similar $r$-square values. In January and February the presence of persistent ponds was significant.

Surface water on fields is difficult to quantify. The presence or absence of persistent ponds was used in the analysis. This description was used because persistent ponds are not dependent on recent rainfall. The critical factor to consider is the length of time water sits on the field, not that water is present, because most fields in Delta have surface water after heavy rains.

The role ponds play in wigeon grazing was further analyzed through a Kruskal Wallis one way analysis of variance test. Results revealed that there was no difference between groups with and without persistent ponds. Ponds are renowned as important for attracting waterfowl. However, in this study, ponds were just one factor of several that influenced a field's susceptibility to wigeon grazing.

The analysis completed in 1991-92 will be repeated in 1992-93 to further test these results. This information is presented to provide insight into the complexity of interactions influencing a field susceptibility to wigeon grazing.

In another study, seventy of the fields registered with the Greenfields Project were surveyed for waterfowl once a week, both day and night, from January to March 1992, by CWS Biologist Andre Breault. During day surveys wigeon were sighted in only one field (MG4). This confirms the theory that wigeon use farmland predominantly at night. The night survey results were compared to Greenfield's fields use observations (Appendix B). The percent of fields out of the total 70 surveyed that had grazing and wigeon observations were 38%, 34%, 25% in January, February and March respectively. This illustrates the limits of detecting wigeon grazing by bird surveys alone. It also became apparent that Greenfield's observations may be underestimating use by wigeon. In February and March wigeon were seen feeding on 8 fields that had no recorded grazing use.

<table>
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<td>r-squared = .067</td>
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Table 2: Multiple regression analysis results.
THE SCARE TACTIC PROGRAM

An extensive literature search was conducted to find methods that could be used to deter wigeon on perennial grass fields (Appendix C). From this search it became clear that many tested techniques on birds are not useful for our circumstances.

Scare tactics must work within certain constraints if they are to be effective in deterring wigeon. The most difficult criteria to overcome was that a scare tactic must be operable at night. All trials found in the literature were tested during the day. Deterrents also need to be effective over a large area since most fields are at least 20 acres (8 hectares).

The major problem in scaring birds is how quickly they habituate. Bangers, poppers, crackers, sirens and electronic noises are initially effective in deterring geese, starlings and blackbirds. However, habituation often occurs after a week of use. The same problem can also occur with ultrasonic devices.

Further limitations exist in populated areas because neighbours often complain when noise making devices are used at night. In some instances animal sounds have proven to be effective, particularly distress calls of starlings, blackbirds, gulls and geese.

In this study scare tactic methods were tested on wigeon using grass and clover fields. Newly seeded grass fields are particularly susceptible to damage when repeatedly grazed which can cause serious economic losses to farmers. Clover is also desirable forage. Sixty-one percent of the 331 acres of grass and clover monitored by Greenfields was used by wigeon.

Methods Investigated

Several visual deterrents were set up in grass fields to deter wigeon from grazing. Scarecrows built with reflective apparel, bells and pie plates were ineffective at deterring ducks. Ten 20-meter lengths of reflecting or metallic tape was placed throughout fields. At first we tied the reflecting tape directly to the four foot stakes at two heights. Problems arose when heavy winds would break the tape. A better method was to tie string to the stakes and then wrap strips of reflecting tape onto the string like fringes. Although this method is used to protect blueberry fields from starlings, it proved to be ineffective with wigeon using grass fields.

Other visual deterrents tried included nets and flags. Netting was strung up in a field to act as an intimidating barrier, but only proved both labour intensive and an eye sore. Flags on strings, similar to what is used at new car lots, also did not appear to deter wigeon grazing.

Electronic deterrents are potentially better methods because they are easy to use. Av-Alarms and taped distress calls of wigeon were placed in the fields. These noises seemed effective only for a limited time span. Our recorded wigeon distress calls were not very clear when broadcasted across a field which contributed to the ineffectiveness of this method.

To increase scaring effectiveness revolving lights were used with reflecting tape and noise makers. Strobe lights were also tried but appeared to have a limited range of illumination. The effectiveness of using sound and light to deter wigeon is inconclusive because the testing done was in February when little grazing occurred.
To date there are no proven methods of scare tactics that can alleviate crop damage in Delta. Methods to be further investigated include predator or distress calls on tapes, revolving lights with noise and the Phoenix Wailer (an ultra sonic device with a light). It is crucial that scare equipment is set up before duck grazing. Wigeon are more likely to ignore a scare tactic if they have already settled on a field. Habituation can be avoided by changing tapes (noises), frequencies of sonic devices or relocating equipment in the fields.

THE COMMUNICATION PROGRAM

The Greenfields Project directed extension efforts to informing people about the extent of wigeon grazing in Delta. Minimal time was allocated for this endeavour, but the level of communication was favourable.

The pilot study report entitled, "An Investigation into Field Grazing by Wigeon in Delta, B.C.", proved to be a useful document for illustrating the complexity of the wigeon grazing problem. The extensive time commitment given to the report was worthwhile. Several people with little knowledge of crop predation found the report easy to comprehend.

A newsletter was produced every two months to update participants and other interested parties on topics related to the Greenfields Project. There are over 170 names on the mailing list plus copies are available at the local library. Although the newsletter was widely distributed, it is difficult to determine whether the information was extensively read. Balancing the need for interesting, topical articles with the necessity of reporting on issues related to Greenfields presented a challenge in publishing the newsletter.

Participating in local meetings or workshops was another avenue of information exchange that improved awareness of the Greenfields Project. These events were particularly valuable because they provided an opportunity for people to ask questions. The following is a list of meetings and events that Greenfields participated in since the beginning of the Project:

B.C. Institute of Agrologist
Delta Naturalists
Delta Farmers Institute Meeting
Delta Farmers Conservation Group's Field Day
Cover Crop Workshop sponsored by BCMAFF
PCJV Bus Tour
Delta Environmental Committee
Delta Agriculture Study Forum
White Rock Western Wilderness Committee
Fraser River Festival
Boundary Bay Wildlife Study Forum
The Provincial Problem Wildlife Management Advisory Committee

April 23, 1991
May 13, 1991
September 17, 1991
November 5, 1991
January 15, 1992
March 5, 1992
April 7, 1992
March 25, 1992
May 25, 1992
June 8, 1992
June 9, 1992
June 10, 1992
Media coverage is also a good avenue for public awareness. Greenfields was fortunate to attract attention from the media with little solicitation. Several articles were published on the Greenfields Project in the local Delta Optimist newspaper (Appendix D). The B.C. Agriculture Magazine did a feature on Wildlife Crop damage, including the Greenfields Project in November 1991. Ardcorp, a former sponsor of the Project, also published information on Greenfields in this magazine.

The Greenfields Project was also involved in two programs that aired on television. Country Canada, a CBC television show did a clip on Delta’s crop depredation problems that aired in February 1992. Kid’s Zone, from the Knowledge Network, aired a Sustainable Development program on Greenfields on August 28/92.

Communication also includes discussions and input from farmers. Conversations, which frequently occur during field work provide an opportunity to discuss new ideas and talk about agriculture and wildlife issues. A farmer survey was mailed out in May, 1992. A 30% response rate from participating farmers was fair, but reasonable considering it was sent out during their busiest season. Twelve of the 13 survey respondents felt agriculture & wildlife could coexist on Delta’s farmland. Many comments reflect a desire for better communication between agriculture and wildlife agencies. More importantly farmers want to be involved in decisions affecting the local community.

Although the benefits of a Communication Program are difficult to quantify, resources should not be spared. Good communication between agriculture and wildlife advocates will only help in realizing habitat enhancement objectives on farmland.
DEVELOPING A STRATEGY

Developing a long term strategy to deal with wigeon grazing is the most challenging component of the Greenfields Project. On one hand the project is trying to prevent crop damage. At the same time Greenfields supports the planting of cover crops for soil conservation. Finding an acceptable balance between preventing losses and promoting cover crops that enhance habitat requires ongoing cooperation and communication between farmers and wildlife agencies.

There are few options to prevent crop damage. The planting date of cover crops is limited by the harvest date of preceding summer crops. Over half the vegetable crop land in Delta, planted to potatoes and corn, is often not harvested before mid-September. The surrounding landscape cannot be easily altered, except for planting trees, but that would take years to have an effect. Removing ponds is no guarantee of reduced grazing, although it may decrease crop losses.

A more realistic goal is to focus on reducing crop losses, since many waterfowl rely on farmland for food and shelter. Cover crops planted before mid-September, even if grazed, provide some benefits to the soil because of the well developed root system. The question is whether to encourage cover cropping after late harvested vegetables. Most crops seeded after late September, no matter what type, are susceptible to heavy grazing and provide minimal benefit for the land.

If Greenfields intends to continue the strategy of supporting practices that sustain agriculture through soil conservation, then alternatives are required. Other initiatives that provide winter cover and supplement soil organic matter should be promoted through the program. Potato farmers may have to rely on the rotational years to improve their soils, rather than planting winter cover crops that end up grazed by wigeon.

Finding methods to reduce grazing on grass fields is more difficult because both newly planted and well established fields are used by wigeon. The way in which grass is managed and the varieties planted appear to influence a field’s susceptibility to grazing. The problem is that farmers are aiming for a high quality product, which is also desirable to waterfowl. To date there are no proven scare tactics that can be used at night when grazing predominantly occurs. Therefore, ways to alleviate pressure on grass fields still need to be identified.

There will always be uncontrollable factors that will influence the extent of field use. Weather is unpredictable and affects both plant growth and duck behaviour. There is also uncertainty on whether population levels respond to an increasing acreage of cover crops. Delta’s farmland can be more heavily impacted if other habitat on the Pacific Flyway is lost.

In addition to reducing crop damage and promoting soil conservation, cooperation and communication complete an overall future strategy for the Greenfields Project. Farmers need to be involved in decisions regarding local wildlife management activities. Wildlife agencies faced with an difficult task of protecting habitat from continual development pressures with limited resources need community support.

An alliance between farmers and wildlife agencies is no longer an option, but a necessity. Groups should focus on common goals and share decision making. This will build trust and enable people to
work together more closely. The long term benefits are significant, especially since cooperation will become increasingly important as pressure on farmland surmounts. In addition associated benefits of improved communication can open up new opportunities in public education.

Old remedies to reduce conflict between agriculture and wildlife are losing effectiveness. Raster (1988) found that financial incentives tied to hunting are limited due to restrictions in hunting season, bag limits, and the total cost of participating in the sport. Compensation programs do little to control crop damage, secure habitat and are expensive to administer.

The ultimate goal of securing farmland requires a comprehensive strategy. Continuing to help farmers reduce crop damage and support soil conservation is the right approach. However, further effort must go toward promoting an alliance between the farmers and people who want to see the landscape remain available to wildlife. Cooperation and better communication gives flexibility to adapt to new issues that threaten to sustain the land base for the long term.
Literature Cited


APPENDIX A - Land Use Figures

Estimate of land use in Delta - November 1991

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<tr>
<th>LAND USE IN DELTA'S AGRICULTURAL LAND RESERVE</th>
<th>ACREAGE</th>
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Note: Greenfields total acreage includes 2,405 acres of cover crops, 331 acres of grass fields and 58 acres of clover.

Delta Agricultural Study Figures (Klohn Leonoff Ltd et al 1992)

* Delta's Agricultural Land Reserve (ALR) consists of 25,165 acres (10,192 hectares).
  In the ALR the Delta Municipality has zoned 23,200 acres (9,396 hectares) agricultural while the remaining 1,965 acres (796 hectares) is zoned non-agricultural (Atasken National Wildlife Area, Deas Island Park, Boundary Bay Airport).
* 51.6% of Delta's land base is zoned agricultural.
* The total estimate of land actively farmed is Delta is 17,845 acres (7,227 hectares).
* The area surveyed in the Delta Agriculture Study was 15,169 acres (6,143 hectares).
Comparison of Estimates of Land Use

<table>
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### APPENDIX B - Wigeon Survey Results

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APPENDIX C - List of Scare Method Literature


Brown, R.G.B. (Date unknown) Bird damage to fruit crops in the Niagara Peninsula. C.W.S. Report Series No. 27.


Not everyone happy with Green Fields project

This winter the birds in the Fraser delta and Boundary Bay area may not all be as happy with the Farmers' fields Project as farmers. But not all farmers are happy about the new winter feeding grounds.

The Green Fields project is an alliance of farmers and local organizations. The Delta Farmers' Institute, local farmers, Ministry of Agriculture, Canadian Wildlife Service, Ducks Unlimited and others have pooled their resources for this experimental project.

"We are conducting research on the effectiveness of winter feeding strategies for winter feeding birds and how they are affected by grassland management," said Gerry Wensel, chief of wildlife conservation at the Canadian Wildlife Service on Westham Island.

In an attempt to try and increase the concentration of birds in one area, the project hopes to disperse the birds through the winter months.

"Currently 30 farmers throughout Delta have agreed to participate in the program and about 1,000 acres have been planted in cover crops," said Jim LeMaître, deputy municipal director of planning for Delta council.

The project uses various crops planted in the fields to attract and feed birds through the winter months.

"In each farmer's field, a portion of the planted area will be protected from the winter feeding birds," said LeMaître.

The project results should be available in March at which time those involved will decide if it's worth while to continue with the project.

"We have to look at all the factors, both positive and negative," said Reynolds. "I don't think this will be the be all and end all to the damage that's been done to our fields."
COUNCIL LISTENS

Local farmers voice concerns

Irrigation, crop damage top agenda

Local farmers were given the opportunity Tuesday evening to educate Delta council members on issues ranging from irrigation problems and crop damage to high taxes and environmental action plans.

Members of the Delta Farmers’ Institute participated in a discussion with aldermen during the special meeting, a first between the new council and Delta farmers.

The topic topping the farmers’ list was irrigation needs.

“We want council to ensure the farming community is enhanced by irrigation,” said DFI president Albert Weaver.

Weaver says Delta is in need of more pumps to assist farmers with proper drainage.

Delta MLA John Savage, who also attended the meeting, agrees with Weaver.

“The area south of the railroad tracks in Ladner needs some vast improvements. In Richmond you have pumps every half a mile. You can go a long way in Delta before you find a pump. They’re too sparse to help farmers with drainage.”

Weaver referred to 1986 statistics for the cost to install extra pumps throughout Delta. He quoted a figure of $4.5 million for four pumps.

But the farmers’ complaints didn’t stop at irrigation.

They claim they’re having problems with Harbours Board Land because they’re charging unreasonable rental rates for the land.

Jack Bates, a third generation farmer, claims the taxes and leases for farmland in the area of the Roberts Bank Superport are outrageous.

Because rent and taxes are so high, farmers in that area can’t afford to level their land property which in turn causes the land to deteriorate rapidly.

“These things could be accomplished with longer lease options, lower rent and lower taxes,” said Bates.

Currently the farmers have a three to five year lease with a further three to five year option. “If we don’t accept what’s offered, we can’t farm the land.”

Each year farmers in that area pay $150 per acre for rent and a further $140 per acre for taxes.

Bates says the farmers would like to have a 20 year lease with a 20 year option.

Along the same lines, Robert Savage complained about the onerous amount of taxes farmers have to pay.

“Our land taxes are $33 to $70 per acre. In Alberta they only pay $.25 to $3 per acre and in Ontario they pay land taxes but they can then apply for a rebate,” Savage alleged.

He added: “We are in direct competition with these areas and are suffering for it.”

John Savage informed those in attendance that many farmers asked for relief of rent and taxes last year because of the heavy rains and

Continued on page 3
Taxes too high, farmers claim

Continued from page 1

When Mayor Beth Johnson asked John Savage if the government was any closer to considering giving farmers a tax break, he replied: "The government hasn’t made a decision on how it’ll handle farmland taxation."

Chief administrator Bob Colliver says Delta collects well over $200,000 a year in taxes from farmers.

"We’re looking for a break in any way; be it taxes, subsidies or whatever," stated Robert Savage.

But taxes and irrigation weren’t the only things ruffling farmers’ feathers.

The farmers are up in arms about the extensive damage being done to their fields by wildlife.

"In the past years farmers have noticed more and more damage being done to their crops. Soil compactions, soil erosion and thin wheat fields are the results of feeding birds," said Clarence DeBoer.

"It’s heartbreaking to watch the birds destroy our hard work."

DeBoer says the farmers are long past the number of birds they can handle. He would like to see compensation from the wildlife groups for the damage that’s done by the ducks, geese and swans.

"Wildlife groups must pay their fair share in farm operating costs. If the birds consume one third of the crops, these groups should pay for the losses. It’s high time these environmental groups have gotten involved and contributed to the cost of farming."

DeBoer also claims the Green Fields Project, which involves feeding the winter birds to assess the damage they do to the fields, is useless.

"If this project (Green Fields) was to continue things would have to change because Green Fields serves us no purpose this way."

Hugh Reynolds, whose family has farmed in Delta for 100 years, says the bird population has to be controlled.

"Most of the time, ducks and farmers can live side by side. The farmers can stand some grazing, but these geese and ducks stay all year and eat all year, and the ministry is still trying to increase the bird population," said Reynolds.

Ald. Ann Claggett asked Reynolds how the farmers would stand up against the government’s Pacific Coast Joint Venture program. The half billion dollar project would have the government buying farmland and then turning it over to the birds.

"It sickens me. How can you fight those dollars? How are you going to stay farming when land is being sold and used to enhance the bird population?" questioned Claggett.

"We’re going to have to work our butts off to help you," she added.

But Reynolds and others are confident the program won’t come to fruition.

The more reserved issues left for the end of the meeting included farm roads and the construction of the North Delta athletic complex.

John Malenstyn says farmers shouldn’t be driving their farm implements down public roads because the streets are narrow and dangerous.

He also mentioned "farm roads" should be closed to the public.

John Gourley says in order for other drivers and farmers to be safe on the roads, an overpass must be built at 34th Avenue over Highway 17.

Though the farmers walked away from the meeting with no concrete answers, they were satisfied knowing their concerns were listened to by council and staff.

The barn has been part of the land for years. It remained when the land was used as a golf course before Highway 91 was constructed.

Delta Optimist  February 1, 1991
Greenfields project targets grazing birds

Cover crops, the answer, says local farmer

Farmers and wildlife officials are working together to find solutions to migratory bird grazing on Delta's farmlands.

The aim of the Greenfields project is to promote the widespread use of cover crops in Delta. But first, the problem of migratory bird use of farmers' fields must be addressed.

"One goal is to get wildlife people and farmers working together," said Theresa Duynstee, Greenfields project coordinator. "The more direct goal is to address the problem.

About 30 farmers and 7 fields are involved in the project which began last fall.

"It's going well, most of the farmers are addressing a problem that has been a sore thumb to them. We're not necessarily trying to feed the birds," Duynstee said.

"That's not what farmers want to do. That's not the purpose. That's not the goal," he stressed.

Hugh Reynolds, a farmer on Westham Island, has high hopes for the Greenfields project. If the results are positive, he hopes farmers will receive funding for cover crops.

"A good cover crop is just about the best thing we can do for ourselves," he said. "We're going to see if we can help the farmers and wildlife together.

Drumstick Swan, congregated by the Willows II, a field on Westham Island last Friday. Crop damage caused by grazing wildlife has long been a complaint of area farmers and is one of the focuses of the Greenfields project. (Photo by Jane Smith)

Migratory bird populations are increasing and are an extension of the estuarine forest that we're hoping to see restored. The locations of Greenfields are distributed throughout Delta in areas that might not have had the crop damage caused by grazing wildlife.
Greenfields not sole solution

A program to rejuvenate fields and feed wintering waterfowl may be beneficial to the farming community, but it isn't the solution to all the problems farmers are facing, according to the president of the Delta Farmers' Institute.

"We don't view Greenfields as the answer to our problems," explains Albert Weaver, calling the project "a good start."

Outlined in a report to Delta council Monday, the federal-provincial Greenfields Project allows agricultural experts and wildlife agencies to examine the effects of migratory birds on winter cover crops. Almost 30 farmers in Delta participated in the pilot program last winter. A total of 75 fields were monitored, ranging from Westham Island to 96th Street.

Farmers were to be paid for the seed, but were expected to do the planting themselves.

Greenfields Project coordinator Theresa Duynsee says the feedback from farmers on the project has been generally positive. She added that final research results will not be available until summer.

"I would say the project was a success," she commented. "We collected quite a bit of information. The farmers are happy to see someone actually working on addressing their concerns."

Weaver says cover crops do benefit the land, and the Greenfields Project proposes an avenue for farmers to plant cover crops and at the same time receive financial assistance from the government (purchase of the seed). However, he says cover crops are wasted if the birds ravage the fields, leaving nothing but mud in their wake.

He adds that the Greenfields Project doesn't solve all the problems of the agricultural community, nor does it claim to. He wonders if provincial and federal governments could take a few lessons from their European counterparts on supporting farmers.

Dairy farmer Clarence DeBoer agrees more government support is needed. He says if farming is to remain a viable industry, help is desperately needed, especially in the areas of irrigation and land-leveling.

And he says the most sensible way of going about helping the farmer is to look at methods of prevention rather than an after-the-fact remedy.
Ducks continue to wreak havoc on crops

Farmers and ducks, just ask members of the Delta Farmers Institute, what they think about that combination.

The farmers, some aiming double-barrel animosity at the canard nuisances, told Teresa Dynstee of the Greenfields Project Tuesday night, "You say spray the fields, we say spray the ducks" with shotgun pellets.

Farmers said that they could become so overrun with ducks that four or five guys can just stand there firing away and get 20 of them in no time. They could keep on shooting, but it gets dark too soon.

The farmers are allowed to shoot ducks year round in order to protect their crops.

The Greenfields Project is a cover crop program supported by the Canadian Wildlife Service and Ducks Unlimited. The project is seeking ways of keeping the ducks from grazing on and destroying farmers' crops -- and ending up as the soup course on farmers' tables.

Dynstee emphasized that Greenfields wasn't a solution to the duck grazing problem, only a way of finding solutions.

But she also conceded that the farmers' losses were extensive. Last winter, some farmers suffered losses as high as 500 bales per acre as a result of duck grazing. No estimate was given as to the losses inflicted on the ducks by farmers.

Dynstee suggested a number of techniques to distract or scare the ducks away. Lure crops, voice activated recorders or strobe lights all had merit, she said, and needed further study as to their effectiveness.

Greenfields is in its second year of operations. Funding is guaranteed only to the end of the fiscal year. Presently it shares offices with the Canadian Wildlife Service in Delta.
Protection of Winter Crops
from Migratory Waterfowl
Damage by Waterfowl Grazing

(1989-91)
Delta Farmers' Institute, Delta

This ARCOP project was a part of a larger project known as "Greensfields" involving co-operation between farmers, the UBC Soil Science Department, the Canadian Wildlife Service, and Ducks Unlimited.

The Greensfields Project was initiated to assess the problem of waterfowl grazing of overwintering cover crops. In an attempt to spread out crop damage, 1,000 acres of winter wheat was planted in the fall of 1990 in Delia, BC. Other crops such as fall rye and perennial grasses were also monitored for grazing throughout the winter.

The data collected was used to document the location, time and amount of biomass loss through waterfowl grazing. In addition, analysis of forage quality and observations on surface water flooding were made in order to determine which fields were more susceptible to depredation.

Wigeon (a species of migratory waterfowl) started to utilize the agricultural fields in November and continued until the following April. Seventy percent of the total 75 fields monitored were grazed (30% of the field) by wigeon in either the fall or spring. Due to excellent growing conditions which prevailed in Delta, many of these grazed fields regrew in the early spring. In March a second wave of grazing occurred on seventy-five percent of the fields. It appeared that perennial grasses were being preferred over cover crops in the spring.

Grazing intensity could not be the only criteria used to determine the direct impact of wigeon grazing. A combination of climatic factors also had an influence on crop survival. Losses due to poor soil conditions, drought and winterkill influenced the condition of the crop in the spring.

Towards the end of the field season, Greensfields need a wide range of conditions. While some fields, although grazed in the fall, looked as well as if no utilization occurred, other fields had very little plant growth present indicating a loss to the farmer. The most serious economic loss occurs in the livestock producers whose fields, especially newly seeded, can be significantly degraded.

Fall-planted crops were most susceptible to waterfowl grazing because of their high nutritional quality relative to other vegetation. Results from the forage analysis showed that winter wheat fields sampled in Dec-Jan had an average protein content of 27%. This declined to 16% by the following spring for the same fields. In contrast, perennial grass samples had an average protein level of 20%, both in the fall and spring, which may account for the preference in March.

Soluble sugars as identified by neutral detergent fibre (NDF) analysis (NDFP) was relatively consistent for the cover crops but showed overwinter increases averaging 4% for the perennial grass fields. Fibre content by NDF analysis was usable for all crops except during the freezing weather in Dec-Jan where it is increased slightly.

The initial grazing in November occurred around the same time as heavy rains flooded many fields in Delta. Surface water on each field was estimated throughout the season. The information recorded confirms that surface water attracts ducks, for other initial grazing began around ponded areas. But this does not mean that no water meant no grazing, because 12% of the most heavily impacted areas had less than 5% water on the field at any one time.

The main factors affecting field utilizations by grazing waterfowl are suspected to be influenced by these conditions. The obvious is the crop quality, which includes the plant species, economic condition, and biomass produced. Winter wheat and fall rye appeared to be equally preferred over spring cereals.
Lure Crops
Offer Solution to Problem Wildlife

For more than 100 years, farmers and wildlife shared British Columbia's farmland. They coexisted peacefully, each in their own life-sustaining niche.

In recent years, however, that peaceful coexistence has become strained. Farmers throughout B.C. are finding it more and more difficult to withstand wildlife eating, trampling and nesting in their crops. For many farmers, the situation has turned desperate. Their crops are being devastated — and with them the income they need to support their families and keep their farms solvent.

Environmental and wildlife enthusiasts insist wild animals and waterfowl be protected and preserved.

Farmers have no desire to harm nature's animals. But few can afford to lose their crops year after year.

Consider the predicament of Comox dairy farmer Edgar Smith. Smith's farm is located under the Pacific Flyway, the migratory path trumpeter swans take to and from Alaska. In fact, the Comox valley is home to one tenth of the world's trumpeter swan population (1,100-1,200 birds) each winter.

Once on the verge of extinction, trumpeters owe their survival to an aggressive campaign mounted by the American and Canadian governments. They signed a treaty and imposed steep fines for shooting the birds in order to save the swans from extinction.

Efforts to protect the swans are an example of a government initiative that worked — perhaps too well. The birds have flourished beyond civil servants' wildest expectations. North America's trumpeter population soared from about 1,000 in the 1930's to 14,000 today.

But neither government has allocated any funding to feeding the ever-increasing number of birds, laments Smith. That responsibility has fallen onto farmers' shoulders. Their fields have become the birds' supper table.

Swans have voracious appetites, he says. Weighing in at 20 to 30 pounds, these beautiful birds consume 10 pounds of grass per day — about the same as a mature sheep or 25% of what it takes to feed a cow.

Swans raid farmers fields — and profits.

Imagine "1,500 of these birds on the fields from Thanksgiving to Easter" and you can understand the severity of the problem, advises Smith.

Not only do they devour farmers' crops, the swans "literally eat the roots right out of the ground."

Each year swans damage 2,000 acres of cropland that would otherwise provide fodder for cattle and sheep or vegetables for consumers, estimates Smith. The crop damage Valley farmers suffer totals $200,000 to $250,000 each year.

With the Pacific Coast Joint Ventures program (PCJV) pumping $500 million into waterfowl preservation over the next 15 years, the number of birds wintering in the area will likely rise. The damage they do to farmers' fields only promises to get worse.

Across the Georgia Strait, lower mainland farmers aren't much better off.

Each year 300,000 to 1.4 million birds, among them mallard, pintail, green-winged teal and wigeon ducks, Canada Geese and trumpeter swans stop over in the Fraser River delta area, making it the highest density waterfowl resting spot in Canada.

The Boundary Bay and Reifel migratory bird sanctuaries are visited by birds on their flight south each fall and north each spring.

Owing to Delta's mild climate and plentiful supply of feed, many birds stay the winter. At first they feed on weeds, grass and sedges in the bay. When they run out, the birds move onto farmers' fields in order to stay alive.

Over-wintering wigeons are the worst. Like swans, one of their favorite treats is the tender shoots of farmers' cover crops — fall-seeded winter wheat and fall rye.

When birds descend it's by the thousands. Soon, all that's left is a barren field.

Winter vegetable growers face the same larceny.

A flock of birds can finish off an entire field in a few sittings, says vegetable grower Hugh Reynolds. He grows corn, potatoes, peas, beans, wheat, strawberries and cover crops on 200 acres located right next to the Reifel Bird Sanctuary.

To protect his cover crops, Reynolds tried a variety of scare tactics, including hunting, but the birds fed at night when hunting is illegal. Wigeons and swans have helped themselves to Reynolds' crops for decades.

His neighbours are suffering a similar fate. Collectively, Delta farmers' losses run into the thousands. In addition to losses sustained as a result of crop damage, there are lost opportunity costs.

Many farmers have stopped growing high-value crops, like winter cauliflower, says Reynolds. They can no longer grow them. Their financial losses are too great.

Instead they're seeding second rate hay because clover and alfalfa are too attractive for ducks.

Rather than taking drastic, publicly unacceptable measures, farmers are piloting an innovative program they hope will restore the agriculture-wildlife balance.

They're investigating the use of special crops to reduce waterfowl damage.

At first glance, planting crops that might attract wildlife and waterfowl sounds crazy. But preliminary results obtained by farmers
participating in the year-old Greenfields Project indicate the timing is right. "Our vegetable
crops use the bulk of the land for 70-120 days
in the late fall, winter and early spring."
That means farmers can plant crops the
birds like to eat.
Last fall, with $50,000 from the Ducks
Unlimited, Canadian Wildlife Service, Wildlife
Habitat Canada, the University of British Columbia
and Arocoor, 30 Delta Farmer's
Institute members planted 1,600 acres to
winter wheat, spring wheat and fall rye grass.

The B.C. Ministry of Environment’s
Youth Corps helped monitor the fields last
winter under the supervision of Greenfields
project co-ordinator Theresa Duynstee.

Properly managed fields with a good soil
structure and drainage can withstand a fair
amount of grazing, explains Duynstee.

While planting bare crops helps, Delta
farmers would like to install irrigation and
tile drainage systems and laser level their
fields to get excess moisture off of them so
farms aren’t sitting in a pool of water
throughout the winter, attracting birds and
delaying farmers’ spring work. But they’re
afraid their land might be pulled out from
under them before they have enough time to
reap their investment.

Right now farmers leasing land can only
obtain short-term agreements. Even more
disconcerting is the possibility that land may
be pulled out of the Agricultural Land
Reserve (ALR) for a golf course or residential
development.

If farmers had some assurances that the land was going
to remain agricultural, they’d make the improvements, she
says. But they don’t know if the land will be designated for
farming in two or five years.

Taking farmland out of production only makes the
problem worse, says Duynstee.
The reason wigeons have
become such a problem isn’t that
their numbers have increased
dramatically. The real reason is
that the number of acres available to support the birds has
decreased, Duynstee explains.
Prime farmland is being lost to
golf courses, urbanization and
other developments. That means
more intensive grazing of
remaining land.

Before any real progress can be
made, wildlife preservationists
and environmentalists must stop
attacking farmers.

Instead, the two sides need to start
communicating, says Duynstee.
A basic understanding of farmers’
predicament on the part of environmentalists
would be a big step in the right direction,
says Delta dairy farmer Clarence DeBoer.

It’s not that farmers dislike wildlife. Quite
the reverse. Seeing wild game is one of
the benefits most farmers enjoy about their
occupation. All farmers want is to be able to
run their farms.

A case in point: Despite the tremendous
losses he has suffered, Reynolds doesn’t want
to see the birds dropped from winemaking or
feeding in the Delta area. He just wants to
restore the balance and resume producing the
crops he used to grow.

"The Greenfields Project, permanently
established, would be a way to do it," he
says enthusiastically. Planting lure crops to feed
the birds would give farmers greater control
over where the birds feed.

With lure crops, wigeon damage could be
minimized and farmers could go back to
growing winter crops profitably, says Reynolds.

All that’s needed is someone
to help pay the bill.
Farmers, wildlife enthusiasts
and environmentalists, observes
Duynstee, want essentially
the same thing — balance and
harmony. "That’s what gives
me optimism." DeBoer shares
Duynstee’s view and predicts the Greenfields Project will
engender some much needed communication between farmers and
wildlife preservationists.

"Greenfields is bringing
these problems out into the
open," says DeBoer, who runs
400 cattle on 320 acres
and must often reseed his grass in
the spring and purchase supple-
mentary feed to make up for
what the wigeons ate. "It’s
educating groups that, before
now, didn’t listen to farmers’
problems. It’s getting the
communication going."

Wildlife enthusiasts need to understand
what’s at stake. Total crop production grown
in Delta is worth $45 million. The issue is
too important to ignore because agriculture
contributes so much to Delta’s economy.

For some Delta farmers the gravity of the
situation is acute. DeBoer says. Compensation
must be provided before it is too late. If
producers go broke, birds (and consumers)
will go hungry.

Wildlife preservationists and environ-

B.C. Agriculture Magazine November 1991
Over-wintering wigeons in the Boundary Bay area devour the tender shoots of farmer's fall-seeded winter wheat and fall rye.

ment program, Comox Valley farmers are requesting funding for a lure crop program like Greenfields.

Farmers are willing to seed their fields purely to sustain swans through the winter, says Smith. But at $100/acre, financial assistance is needed. Money used to seed lure crops will boost farmers' overwinter productivity and enable them to stew and their land better, Reynolds points out.

Alternatives to the proposal are few, says Smith. With reseeding costs running at $500/acre, farmers can't bear the cost of feeding the birds much longer.

The government has to decide if it wants agriculture to continue in the Comox Valley, Smith says.

If government doesn't act on farmers' recommendations, they will either have to physically transport the swans to a new area or allow farmers to take appropriate action, says Smith, who remains optimistic that government will seize the opportunity to solve a wildlife problem in a way that keeps both farmers and non-farmers happy.

Getting environmentalists and farmers to work together would help alleviate almost every wildlife problem, opines chairman of the East Kootenay Trench Agriculture/Wildlife Committee John Murray, who was given $350,000 out of the Sustainable Environment Fund to look into Kootenay castlemen's complaints about elk vying for the same vegetation as their cattle and predators preying on both.

In addition to assessing the situation and developing solutions, part of Murray's goal is to reduce tensions caused by "50 years of fighting and distrust."

According to producers, haystacks are being torn down and eaten in the least, winter months and hay fields are being heavily grazed during the spring and early summer. "They're going to go where the ice cream is," Murray says of the 28,000 elk residing in the East Kootenays. Making matters worse, the elk are growing increasingly resistant to leave farmers' fields after the winter because feeding is so easy, he explains.

Wildlife preservationists, however, are opposed to letting farmers take action to reduce the damage.
Wintering birds find many friends

Cover crop program feeds birds, replenishes fields

Stacy Armstrong

Winter is often a time when the grass is scarce for food. This winter, Delta’s feathered friends will find plenty to eat in winter fields.

Normally, fields are the last thing farmers want to feed birds. This season is different, however, and many farmers are planting their fall cover crops and allowing birds to eat away.

A total of 40 Delta farmers have land over 1,000 acres with various types of wheat, rye, barley and alfalfa — delicacies for wintering birds.

The planning initiative is called Greenfields project, a cooperative venture between local farmers, Ducks Unlimited and the Delta Wildlife Service.

The project’s set to be a landmark project which will enhance crop production and provide overwintering habitat for migratory birds, explains Therese Dyndiste, project coordinator.

How it works is simple. It pays farmers to plant cover crops on their own land, and then allows birds to feed on the crops.

"This isn't really to feed the birds. The farmers are planting the crops because they're good for replenishing the organic matter in the soil. The crops are also being grazed because the more cover crops, the less damage to specific crops," says Dyndiste.

By planting cover crops, these farmers are helping birds and other wildlife.

Eiel Madsen, a farmer from Delta, believes the initiative is a step in a right direction.

"It's a nice start, it's helping to spread the bird population out. If we don't have these cover fields, the land would be as bare as mud. This is a benefit to us and the birds," says Madsen.

This is actually the second year for Greenfields. Last winter, farmers also planted cover crops. The damage to fields appeared to be much less than previous years when cover crops weren't planted.

To get the farmers involved with the project, Greenfields pays each of them $15 per acre. The money, however, doesn't cover the full cost of the seed and man hours involved.

Robert Savage, who farms vegetables in East Ladder, the cost of caring for a winter crop is about $50 per acre. Since he benefits from the project, he doesn't worry about kicking in some of his own time and money.

This is the second year Hugh Reynolds, a Westham Island farmer, has participated in Greenfields. Last year he plowed his winter cover crop field, but this year he's got wheat, barley and red clover. He says he's glad to be a part of the solution and is confident the program will be successful.

While the land is being replenished and the birds are eating well, Greenfields volunteers are keeping a close eye on the birds and how much they're consuming.

"We're gathering a great deal of information on wintering grazing. There's probably tens of thousands of migratory birds coming to these fields. What we don't know is whether they're staying only in Delta," says Doyndiste.

The sites of the Greenfields project for this year and next year is about 23,000 acres, in which comes from the federal government and the Canadian Wildlife Service.

The program is expected to continue as long as the farmers are willing to participate.

Scare tactics being tested

Westham Island farmer Hugh Reynolds is participating in the Greenfields project cover crop for the second year. He believes the idea of planting cover crops to feed birds and revitalize fields is a positive move.

Photo by Jeff Vlasak

If you can't beat them, scare them.

That's one of the alternatives to the Canadian Wildlife Service is opting for in its attempts to get birds off farmers' fields.

Thousands of birds flock to the fields in Delta every winter to graze. When the birds finish their feed, the grass and clover fields are often nothing but a muddy puddle.

To deter such activity, the CW Scare Tactics...
There's more than one way to pluck a duck

It was encouraging to see the article in Friday's Optimist on the success of the winter cover crop program. This project sees a reimbursement to local participating farmers from Ducks Unlimited and the Canadian Wildlife Service for planting winter crops of wheat, rye, barley and oats. As well as providing a source of food for wintering waterfowl, the winter crops replenish the organic materials in the soil. The Greenfields project is a cooperative project which benefits both the farmers and the wildlife.

For a long time, environmentalists and Delta farmers have been in conflict over issues such as land use and bird habitat. The environmental lobby was interested in retaining all farmland and protecting all wildlife. The farm community didn't want to be restricted in the use of their land if farming proved unprofitable. As well the large congregations of birds in the Boundary Bay/Fraser Delta area was costly to them as the birds caused severe damage to their crops. The Greenfields project has managed to bring the two sides together on some common ground which has helped both sides achieve some of their objectives.

This project should serve as an example to the community that taking a rational cooperative approach to disagreements can lead to solutions which are beneficial to all concerned. A "win-win" approach is much preferable to the "win-lose" approach which is too often taken. Hopefully, the business community and the environmentalists can also start to find some common ground. The day is long past when business and industry can ignore environmental concerns. Paving over the countryside and polluting the rivers and ocean are becoming unacceptable and businesses must learn to survive in an environmentally concerned society.

However, in the midst of our collapsing economy, it is obvious that economic activity is necessary if we are to maintain our living standards. At some point we have to stop mortgaging our children's futures and start paying our own way. A sense of environmental responsibility as well as financial responsibility is necessary if we are to leave our children and grandchildren something other than a bankrupt ecosystem. To prevent this occurrence we will need more communication and cooperation and less conflict and closedmindedness.

Delta is ideally placed to make cooperation work. Situated close to a major metropolitan centre and on the route from that centre to the next two largest cities in the region, Delta can expect a great deal of development pressure over the next decade. Fortunately the South Arm of the Fraser River formed an impediment to growth for many years and Delta still has options open to it as to how it is going to develop. Delta has a concerned and active populace. We have the ability to see what has happened in neighbouring municipalities such as Richmond and Surrey and decide if we wish to emulate them.

My feeling is that most of the population wouldn't wish to follow the path those municipalities have blazed. The small town feel and the surrounding rural area is very important to Delta residents. However residents also require some level of services and employment opportunities. To satisfy these needs and make Delta a truly "livable community", some level of development is necessary. The moderate majority has to work together to achieve these objectives. Cooperation and communication, not grandstanding, will eventually bring about satisfactory solutions. The Greenfields project is a good start and a beacon for others to follow.
Proposed bird sanctuary does not fly with farmers

Madam Mayor & Members of Council:

This letter is being written regarding comments made by Ald. (Lois) Jackson at the Feb. 3 council meeting. Ald. Jackson has the misconception that the farming community could benefit from a 2,000-acre wildlife reserve being formed on marginal farm land along Boundary Bay. She based her comments on the Greenfield’s Project currently taking place in Delta.

The farmers are only allowed to plant a maximum of 20 acres each and are paid $15.00 for each acre planted. The total budget for Greenfield’s is $150,000 a year and the farming community only receives a total of $30,000. The Greenfield’s Project was established as a research program to determine the types of crops being damaged, the amount of damage taking place and the areas most affected by the birds.

The program is also to explore ways to lessen the amount of damage taking place. The only benefit the farming community has received so far, is the fact that the research has demonstrated that the birds do eat a substantial amount of our crops and the damage is on the increase. The money the farmer receives for planting the cover crop is far less than the actual cost. We are limited to a maximum of 20 acres per farm and often the cover crop is eaten so there is no benefit to the soil. The program has only one more year of funding and there is no indication at this time that additional funding will be available to continue the program.

Theresa Duynstee has spent a lot of time and energy promoting the program and has accumulated a lot of data on the issues discussed above. I hope her efforts will bring about a much improved program and a substantial amount of money for crops lost during the growing season along with increased payments for cover cropping in the winter season.

I would like to take this opportunity to thank Ald. (Ann) Claggett for her support on behalf of the farming community. She realizes the serious problem the Reifel Bird Sanctuary has caused for the farming community on Westham Island. If 2,000 acres of farmland in the Boundary Bay area is used to replace habitat lost because of the third runway expansion at Vancouver Airport, agriculture as we know it today, will cease to exist in Delta.

I thank you for your attention regarding this matter and hope my comments will clarify the farming community’s position.

Albert Weaver
President of The Delta Farmers Institute
Greenfields seeks solutions to wildlife/farming problem

Mayor Beth Johnson & Delta council:

After reading Albert Weaver's letter (South Delta Today, Feb. 16) I feel compelled to clarify the wildlife crop damage situation and aspects of the Greenfields Project.

First of all, it is true farmers are feeding thousands of birds. Potatoes, corn and other unmarketable vegetables which remain in fields after harvesting are extremely popular with waterfowl. Other wildlife benefit from the abundance of insects, invertebrates, seeds and rodents which inhabit farmland.

Unfortunately, among all this, there are a few problem species which cause significant economic loss to some farmers. The most notorious is the American wigeon, a duck that overwinters in Delta and is renowned for its vegetarian diet. They eat cover crops such as winter wheat and perennial grass fields grown for livestock.

Farmers have tried several methods to prevent losses with little success. The Waterfowl Crop Damage Compensation Program, which exists in the Prairies, is not available here. A few years ago the province turned down an offer by the federal government to participate in this 50-50 cost sharing program.

The Greenfields Project is looking for alternatives to deal with the wigeon grazing problem. A report from the first year entitled 'An Investigation into Field Grazing by Wigeon in Delta, B.C.' is now available and can be obtained by calling 546-7820.

The other significant crop damage problem is with Canada Geese. They seek newly seeded corn and have been found feeding on peas and beans. Unlike wigeon which forage extensively at night, hunting is still effective in alleviating the goose problem.

The Greenfields Project has chosen a cost sharing program because there are some benefits for the farmer. Many cover crops still provide green manure in the spring. Difficulty does arise however, because not all farmers are affected to the same degree, some will end up with bare fields. It is not a perfect situation, but it is an improvement over last year, and things will continue to evolve as changes are needed.

The reimbursement of $15 covers the cost of the seed. A limit of 50 acres per farmer ensured that all farmers had the opportunity to participate. Once the deadline passed, several of the larger landholders were able to double their allotment.

The real benefit of this project to the farming community is that it provides an opportunity for wildlife agencies and farmers to work cooperative to resolve a difficult situation. Only through education and communication can problems such as this be appropriately addressed.

Almost $40,000 of the budget has gone directly into the farmers' pockets. In addition Greenfields has spent considerable time and money investigating and setting up a scare program on the high value perennial grass fields.

The rest of the money pays for the wages and operating costs for myself and an assistant who monitor over 100 fields in Delta throughout the winter. Much of our time is also dedicated to extension activities which focus on educating people about local farming/wildlife interactions.

An event which should not be missed is the Greenfields Field Day, Friday, Mar. 20th, which will include a comprehensive bus tour looking at the wigeon grazing situation. Details will be in the next Greenfields newsletter.

On a final note, I would like to emphasize that the last thing wildlife agencies want to do is negatively impact a farmer's ability to run a viable business. The alternative to agriculture is urbanization, which is wildlife's biggest threat to existence here in the Fraser River delta.

Theresa Duyvestee
Greenfields Project Coordinator
Seeking solutions for farmer-wildlife conflicts

Greenfields project measures success of cover crops

by Stacy Armstrong

As the group made its way through the damp fields it was obvious thousands of weeded feet had also been there for a visit. The triangular footprints belonged to the aggressive wigeon which had mopped the field to graze. As graze they did, leaving nothing but a mowed covered plot of land in their wake.

That’s the name of many fields which are the growing grounds for the Greenfields project. Last Friday, co-ordinator of Greenfields, a program created to find a way in which farmers and wildlife can successfully co-exist, conducted a field day. The purpose was to give those who were interested a first-hand look at the project.

A handful of people from Canadian Wildlife Services, Ministry of Environment, Ducks Unlimited, Delta’s planning department and many more, took up chairs in the field and made their way through the tall fields on Wheat Island, Ladner and East Delta.

The tour began at Rod Swenson’s farm on Wheat Island. From there everybody piled into a school bus and were off to have a look at what Greenfields and the farmers were up to. "If I’ve learned anything from this project it’s that you can’t predict the behavior of wigeon," said Thomas Dymusko, Greenfields co-ordinator and tour guide.

As the tour bus left the island, Dymusko pointed to various fields. One of these was a 30-acre plot planted with a winter wheat cover crop. The field had never been touched by wigeon. That wasn’t the case for a field on the street which had been completely wiped out by the birds.

"The area left Westham Island, Dymusko provided a refreshing contrast to the rest of the day. Farmers and the wigeon are normally at war. Farmers are paid for every acre they plant. The program involves testing various cover crops. Some techniques include seed mixtures, lights, flagging and decoys.

The first stop of the tour was the farm of the Dobbs farm on the Neuse River. The land is farmed by Duncan and his partner Ken Montgomery. The fields grow cotton, corn and beans. The arrangement is planted with cover crops of spring barley, winter wheat and switchgrass during the idle months.

"Cover crops protect the soil. They add nutrients and protect the soil from heavy rains," Dymusko said.

Dymusko pointed out fields of annual clover, and said the birds were looking for a new food source. "The birds are looking for a new food source," he said.

Dymusko also pointed out fields of annual cover crops which were planted in the fall. The birds were looking for a new food source.

"We (Greenfields) have one more year left. I’m sure what we’ll do next. The farmers and wildlife people will have to sit down and discuss it."

Dymusko

They also form water and air pockets in the soil so the roots can breathe," Dymusko told the group.

Some of the cover crops planted at the Dobbs farm had been planted thoroughly. Others hadn’t been touched because they were planted months earlier.

"The soil under the crops are more susceptible to grazing," Dymusko said. The spring barley and wheat are under the crops but the wigeon won’t eat them.

Dymusko used an early crop to illustrate the point. "We (Greenfields) have one more year left. I’m not sure what we’ll do next. The farmers and wildlife people will have to sit down and discuss it," he said.

Dymusko said the birds are used to the noise created by the sound makers so a combination of lights and sound deters the birds.

Wayne Temple (left) from USC explained the importance of cover crops during Greenfields Field Day last Friday. The Greenfields project attempts to find common ground where farmers and wildlife can co-exist.

Delta Optimist March 25, 1992

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Greenfields takes aim at grazing damage to farms

by Theresa Dwyer

Delta's farmland not only supports a vibrant agricultural industry, it also provides irreplaceable habitat for thousands of migratory birds.

Of the many species which overwinter in the Fraser River delta, there are, unfortunately, a few species of waterfowl which cause economic losses for local farmers. The Greenfields Project was initiated to investigate crop depredation by the American wigeon, a duck with a voracious appetite for fall seeded cover crops and grass fields. Cover crops, such as winter wheat or fall rye, are planted in September as a land stewardship practice to protect the soils from winter rains and build organic matter. Although wigeon first appear in Delta in September, they do not feed extensively on farmland until November. People often don't notice their presence because the ducks feed on farmland at night when they are less likely to be disturbed.

However, a watchful eye can easily identify grazed fields. Wigeon often start feeding around ponds and can continue until the entire field is almost bare. It looks like a lawnmower was used on the fields except for ungrazed edges by roads and buildings.

Greenfield's cost sharing program began in the fall of 1990 with a co-operative effort from the Delta Farmers' Institute, Canadian Wildlife Service, B.C. Federation of Agriculture (Arcoorp), Ducks Unlimited Canada, U.B.C. Soil Science and Wildlife Habitat Canada.

Research was conducted to evaluate the extent of grazing. During the past two winters farm fields were monitored to document where wigeon were grazing and what factors contribute to field use and crop losses. This information will provide a basis on which future strategies can be developed.

Finding solutions is difficult. Some farmers are heavily impacted with extensive crop losses and puddled soil, while other fields come through the winter looking great. Factors which contribute to crop losses, such as planting date and field location, cannot be readily changed. Philosophical discussions on who should bear the cost of maintaining wildlife adds complexity to the issue.

However, this is just a first step. A commitment from various groups and agencies is needed to sustain a viable farming community and wildlife habitat in Delta.

For more information about the Greenfields Project call 946-7820.
Farmers go on field trip

Tour provides look at crop, habitat enhancement program

by Corry Anderson

Uncertainty over the Roberts Bank back-up lands and the recent withdrawal of Delta's main canner crop processor have dealt a devastating blow to the local farming community.

Hanging in the balance is the three-year-old Greenfields habitat/farmland enhancement program.

"It's the farmers' economic situation — that's what is going to make or break the wildlife habitat," said Greenfields' project co-ordinator Theresa Duyntree last Friday.

Local farmers, naturalists, and wildlife experts came together on

"It's really important that farmers do plant cover crops because they play an important role."

Theresa Duyntree

Westham Island for the annual Greenfields "Field Day." Duyntree delivered an overview and project update to the small crowd at the event.

She stressed that for wildlife to proliferate, their habitat — farmers' fields — must also survive. Fields provide both food and shelter to migratory and resident wildlife.

"We want to get the public thinking more about the relationship between wildlife and farming and that if they want to preserve wildlife, they have to support the farmers."

The Greenfields mandate is to encourage among farmers good stewardship and conservation practices that benefit both the soil and the wildlife. Funded through the Canadian Wildlife Service, Greenfields entices farmers to plant cover crops by paying for the necessary seed.

The cover crops, such as clover, then become a controlled food source for the bird population. In its third winter now, the Greenfields project monitors 125 fields for this activity.

"It's really important that farmers do plant cover crops because they play an important role," said Duyntree.

The loss of Royal City Foods as a crop processor is forcing farmers to change the crops they plant. Crops such as beans and peas will be replaced by potatoes, which follow a different cover crop schedule.

"It is bad news for the birds no doubt. There could be less acreage for the birds," she said.

In addition to encouraging the birds to use certain fields, Greenfields also attempts to discourage their presence in other areas with scare tactics.

Among the scare tactics is a $3,000-$4,000 ultra sonic sound emitter that creates a zone of "unfavourable" sounds. Ducks will not tolerate the noises and seem to have stayed away. Duyntree said the birds have, however, still been grazing on the sound periphery.

Another method that hasn't been tried by Greenfields because of Delta's rural/urban interface is a propane cannon which gives a loud blast.

Another initiative aimed at preserving agriculture and wildlife is the recently incorporated Delta Farmland and Wildlife Trust. Noel Roddick, a director of the trust, said the program works in conjunction with Greenfields.

As an example, he told the Greenfields congregation that some of the damage birds cause to farmers' fields could be mitigated by better drainage and irrigation practices, which are supported by the trust.

"We aligned with the realization that wildlife people and farm people have a lot in common. So we decided to use that common ground."

Greenfields is scheduled to come to an end this year. However, the project may be given a new lease on life because of its success.