



City of Richmond

Report to Council

To: Planning Committee
From: Councillor Harold Steves, Chair
Planning Committee
Date: October 11th, 2007
File:
Re: "A Commitment to the Future – 2007" – A Proposal for the Protection and
Management of Richmond and Delta Farmland and Wetlands

Recommendation

That the report "A Commitment to the Future – 2007" (dated October 11, 2007, from Councillor Harold Steves) be referred to Council and staff for information.

Councillor Harold Steves, Chair
Planning Committee

Attach.

A COMMITMENT TO THE FUTURE - 2007

A Proposal for the Protection and Management of Richmond and Delta Farmland and Fraser Wetlands.

Updated and revised by Harold Steves, BScAg

1) A commitment To The Future – 1972:

In 1972 the Wildlife Branches of the BC and Federal Governments asked for a commitment to preserve Richmond and Delta Farmland and reclaim about 1,000 acres of Sturgeon Bank and Roberts Bank for both agriculture and migratory waterfowl. With the loss of 5,140 acres of farm land in Richmond since 1972 and potential loss of 2,000 acres more in Delta, that commitment is long overdue.

When the Fraser River Delta was dyked and drained 100 years ago, use as farmland was compatible and complementary to use by migratory birds. In 1940 Richmond was mostly small acreage, mixed use, farmland which provided foraging for waterfowl from a multitude of crops. Even vacant lots in Steveston were farmed. Richmond was truly a “Garden City”.



STURGEON BANK – circa 1940

In the past fifty years farming practices have changed from mixed farming to monoculture and industrial agriculture. Vast acreages of farmland have been converted to residential and industrial uses. This has dramatically reduced our ability to feed ourselves, and stressed the ability of the remaining farmland and wetlands to provide for migratory birds.

In 1956 Richmond Council zoned 12,500 acres of Richmond from agriculture to residential and industrial use, leaving 13,790 acres agricultural. In 1972 there was still over 3,500 acres of residentially and industrially zoned farmland remaining, mostly small farms in vegetables and small fruit. A total of 17,290 acres were in agriculture.

West Richmond farmland provided much of the habitat for migratory birds. As the area began to be developed in the late 1960's, there was growing concern for the loss of farmland and the winter forage it provided for migratory birds.

In 1972 the Fish and Wildlife Branch of the BC Department of Recreation and Conservation and the Canadian Wildlife Service of the Federal Department of the Environment prepared a report on the Fraser Wetlands.

“A Commitment to the Future – a proposal for the protection and management of the Fraser Wetlands” by D.R. Halliday and R.D. Harris warned that “wetland areas are extremely valuable for waterfowl conservation and related recreational opportunities.”.... “critically important habitat must be preserved from incompatible uses if the aquatic bird resources of the Lower Fraser Valley are to survive.”

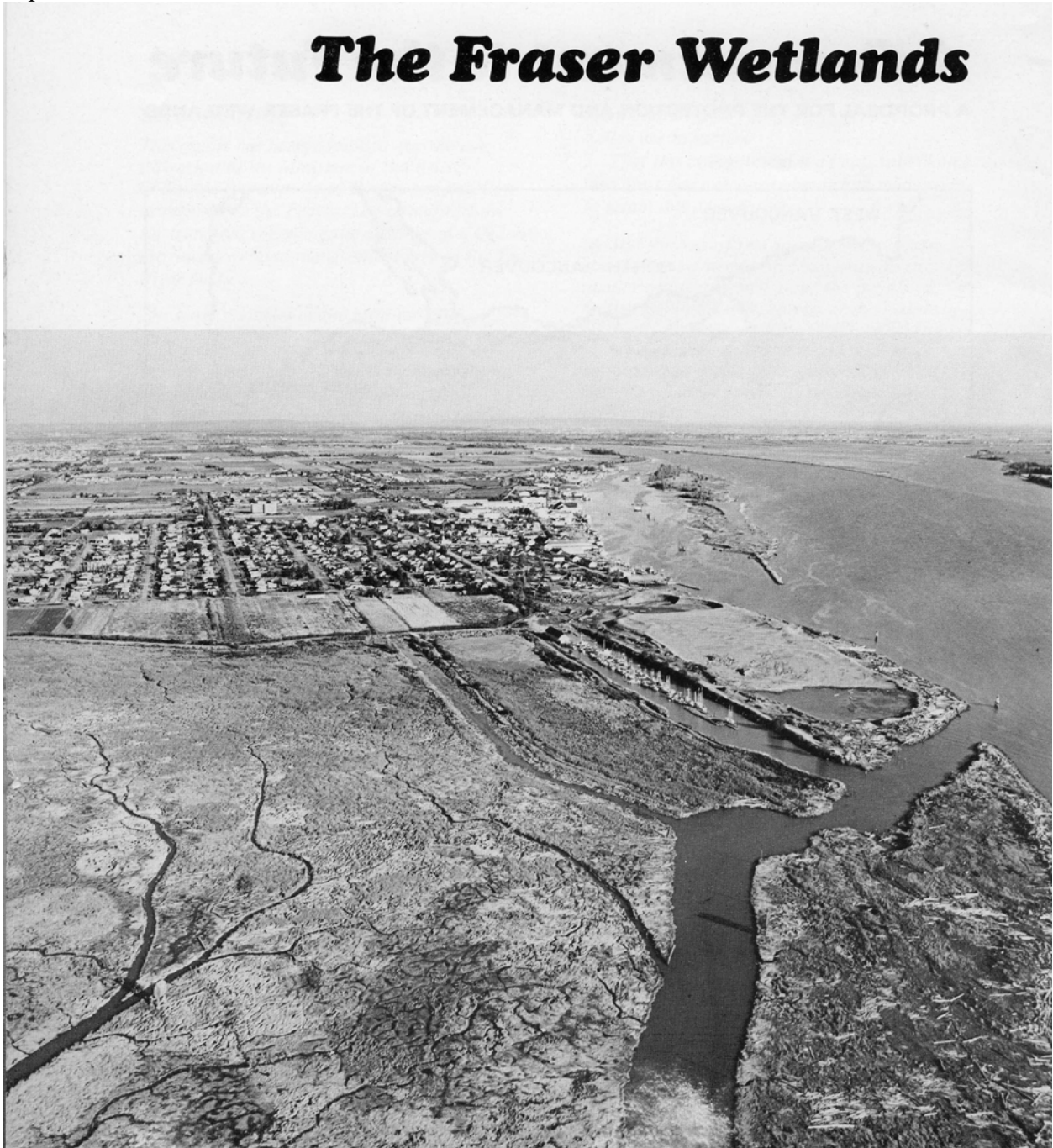
“The only solution is to identify and protect the minimum waterfowl habitat required to sustain a suitable population of aquatic birds and public recreation.”

“It is not necessary to preclude all uses other than those directly concerned with conservation within areas of minimum habitat indicated in this report. Most estuary and foreshore areas can be used compatibly for water sport, study, fishing, and most other outdoor recreation through the year. Upland units of habitat could support many forms of agricultural and recreational use; indeed, for management of most aquatic birds, traditional agricultural practices are required. Once lands are crown held, former landowners could be encouraged to lease areas for their own farming purposes with some guidance in the interest of conservation. On all lands it is likely that urban and industrial uses would be excluded.”

(Appendix I – A Commitment To The Future, 1972)

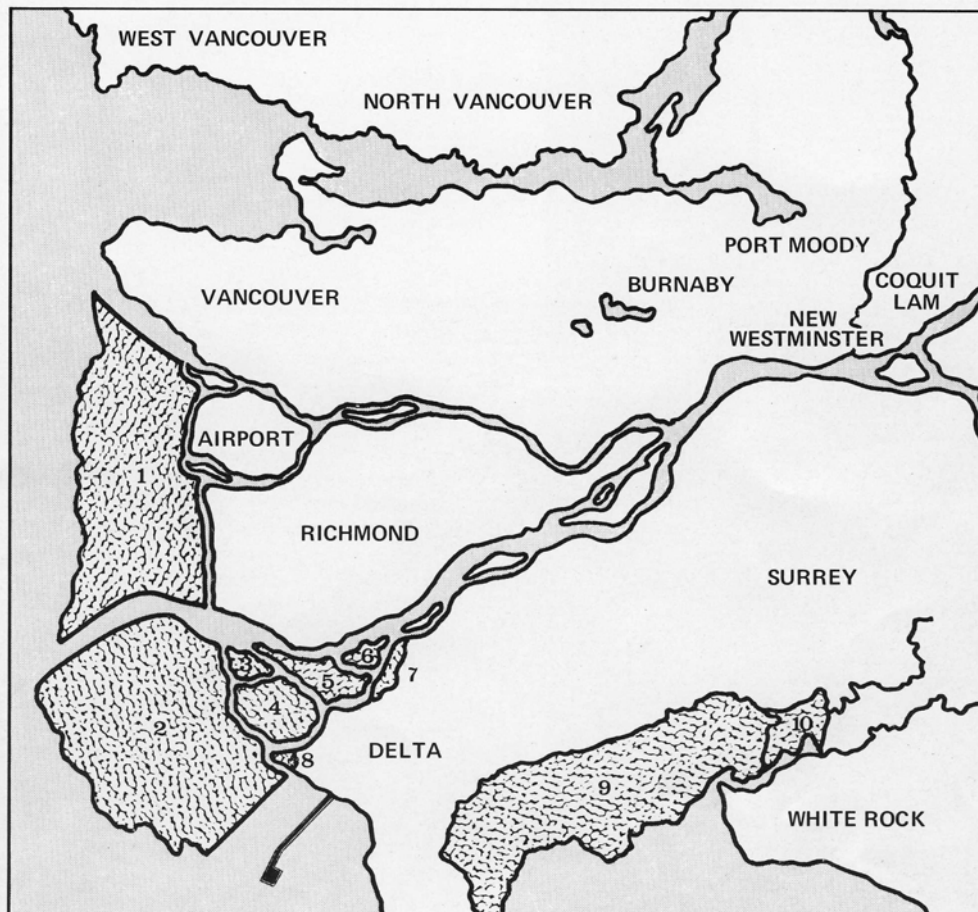
STURGEON BANK in 1972 – Some farmland still remained near the dyke and the marsh had expanded further west.

The Fraser Wetlands



A Commitment to the Future

A PROPOSAL FOR THE PROTECTION AND MANAGEMENT OF THE FRASER WETLANDS



D. R. Halladay, Fish and Wildlife Branch, Department of Recreation and Conservation,
Government of British Columbia

R.D. Harris, Canadian Wildlife Service, Department of the Environment, Government of Canada

- 1) Sturgeon Bank
- 2) Roberts Bank
- 3) Reifel Island
- 4) Westham Island
- 5) Duck, Barber and Woodward Islands

- 6) Rose, Gunn, Williamson, and Kirkland Islands
- 7) Ladner Marsh
- 8) Brunswick Point
- 9) Boundary and Mud Bays
- 10) Serpentine – Nicomekl Lowlands

Major Recommendations:

1) the report recommended purchasing 600 acres of private land outside the dyke on **Sturgeon Bank** to secure the foreshore area for aquatic bird management and to facilitate the development of an agricultural and recreational green belt between the present dyke and the open foreshore. Most of the foreshore beyond existing private lands would remain in its wild state.

2) The report recommended that the important remaining foreshore areas of **Roberts Bank** off Brunswick Point north of the super port boundary and Reifel and Westham Islands should be secured for aquatic bird conservation and management, and remain in a natural state with minor development to improve public access for recreation.

3) The report recommended that **Brunswick Point** “be secured” for aquatic bird conservation and management, and that compatible agricultural uses of the land be maintained.

“Its value to the overall aquatic bird complex is related both to its position adjacent to Canoe Pass and the Brunswick Point foreshore and to the agricultural and conservation-recreation opportunity associated with the aquatic bird resource in these areas.”

2) Agricultural Land Reserve – 1973:

The Land Commission Act was enacted in 1973 because of the threat to farmland caused by urban sprawl from the City of Vancouver into prime agricultural areas. Because only 5 % of British Columbia is arable and the best farmland with the best climate is located adjacent to Vancouver, farmland conversion to urban use in Richmond and Delta was the prime reason for establishing the Agricultural Land Reserve. The ALR slowed urban sprawl and redirected residential and industrial growth away from farmland. It encouraged more compact urban development. However, it did not stop urban sprawl. The one or two year “fine tuning” process was expanded to more than thirty years, due to speculators and communities continually attempting to expand the urban boundaries. Unfortunately, the Agricultural Land Commission did not purchase threatened lands, as originally envisioned, to clearly define the urban boundaries as a buffer to speculation. Only habitat was acquired. Much of the privately owned land on Sturgeon Bank and some of the small islands and marshes and some lands on Westham Island were purchased by senior governments as recommended in the F&W/CWS report.

Richmond was the classic example for the need to establish the Agricultural Land Reserve. The decision to rezone 12,500 acres of farmland for urban use in 1956 was done without input from farmers or any thought given to future food production. By 1972 about 9,000 acres of farmland out of the 12,500 acres zoned for residential had been developed, and there were growing concerns for future food production. When the ALR was adopted in 1973, the remaining 3,500 acres of residentially zoned farmland was not put into the ALR, because the zoning boundaries already established in Richmond became the ALR boundaries.

Since 1973 the entire 3,500 acres of residentially zoned farmland exempt from the ALR has been developed, plus another 1,643 acres of farmland removed from agricultural zoning and the ALR.

There has been a total loss of 5,143 acres of food producing land and habitat since 1973 and over 14,000 acres since 1956. In addition, 39% of the ALR is in non-farm use, mainly because of two major highways through the ALR, eight golf courses, a row of churches and temples, and non-farm uses at the Richmond Nature Park, DND and Garden City Lands. This has reduced the land available for farming to 7,443 acres in 2005. In 2007 the Canadian Government (CLC), Richmond, and the Musqueam first nation are attempting to have an additional 136 acres known as the Garden City Lands removed from the ALR. (*Appendix II - Richmond ALR and the Garden City Lands*)

As loss of farmland has also occurred throughout the region, it has had a significant effect on both habitat and our ability to produce food. In 1973 BC produced 86% of its vegetable requirements, mainly in the Fraser Valley. In 2007 BC produces only 43%, exactly half. Most of the 6,600 acres of farmland lost in Richmond produced vegetables and small fruit. Most of this acreage was in West Richmond adjacent to Sturgeon Bank, where mixed farms that produced forage grasses and residues from vegetable production provided food for large numbers of waterfowl.

In Delta many acres of farmland were expropriated from farmers in the early 1960's by the Provincial Government for the proposed Roberts Bank Super-Port. Known as the Delta back-up lands, the land was zoned agricultural in the Official Regional Plan. The Lower Mainland Regional Planning Board, the precursor to the GVRD, refused to rezone the land from agriculture. The Province responded by disbanding the LMRPB, establishing the GVRD in its place, and taking away the zoning powers of regional government.

Establishing an Agricultural Land Bank became the prime election issue in Richmond and Delta in the subsequent 1972 Provincial election. The incoming NDP Government instituted an immediate land freeze to curb speculation, enacted the Agricultural Land Reserve using existing Richmond and Delta zonings, and returned regional zoning powers to the GVRD. This confirmed the Delta "back-up" lands as agriculture in the Regional Plan, and firmly placed them in the Agricultural Land Reserve. A subsequent Provincial Government took away zoning powers from the GVRD a second time, when the GVRD refused to support removal of the Spetifore Farm from the ALR in Delta. However, subsequent Delta Councils have maintained the agricultural viability of the area by thwarting all attempts to remove the Delta back-up lands from the ALR until now.

Some acreages of farmland in Delta have been alienated as habitat by non-soil based agriculture such as greenhouses, a golf course, and highway widening. However, until now there has been a very successful programme providing winter forage for over-wintering waterfowl on Delta farms. This programme could be badly compromised by growing numbers of waterfowl searching out diminishing acreages of available forage producing farmland.

While blueberries are important as a healthy food full of antioxidants, the conversion of open fields to blueberry fields is reducing waterfowl habitat dramatically. As the local climate and soils make this area one of the major blueberry growing areas of the world, this trend is expected to continue. At the same time, land use for livestock and forage production is declining because the high prices paid for grains for bio-fuels have increased the cost of feed grains for livestock.

Now the Delta area is threatened with the loss of farmland and habitat from over 1,000 acres of land proposed for Delta Port expansion, urban use by Tsawwassen First Nation, railway expansion and a new South Fraser Perimeter Road. Brunswick Point, one of the most important habitat areas listed in the 1972 F&W/CWS report, is also threatened by the TFN Treaty.

3) Sturgeon Bank Wildlife Management Area – 1996

A management plan was drafted for Sturgeon Bank in 1996, and a Wildlife Management Area was established.

The WMA plan stated that there has been recent widespread erosion of the outer mudflat beyond the vegetated marsh, with 1996 sedimentation rates 51% lower than pre-1964 rates. It was suggested that “a factor likely contributing to recent erosion of the marsh is increased dredging in the Fraser River distributary channels, resulting in the reduction of sediment supply to the delta front” and a “net lowering through much of the flats”.

At the same time, since 1982, marsh vegetation was changing. There was a dramatic increase of *Distichlis spicata*, commonly called saltgrass. Snow geese feed primarily on the tubers and rhizomes of sedges or bulrushes, *Scirpus maritimus* and *Scirpus americanus*. The WMA report stated that the estuary had a holding capacity of 20,000 to 60,000 snow geese without any loss of habitat. “It is expected that if the population was to exceed 60,000 birds the *Scirpus* marshes of Sturgeon Bank would be over-grubbed. Significant areas of *Scirpus* marsh may then be lost, thereby altering the ecology of Sturgeon Bank.” *Distichlis spicata*, which replaces *Scirpus* marshes, is unpalatable to both waterfowl and livestock.

“For waterfowl, herons and gulls, maximum use of intertidal areas depends on the presence of nearby agricultural lands. The value of each of these habitats is increased by the presence of the other. However, as agricultural land required by wintering waterfowl becomes scarcer, the relative value of intertidal habitats increases.”

“The ecological integrity of Sturgeon Bank is dependant on maintaining nearby agricultural land uses and other land use designations,” such as the Sea Island Conservation Area and Iona Beach Regional Park. However, by 2007, the agricultural land acreage is almost non-existent and the holding capacity of the intertidal marsh has decreased dramatically.

An aerial photograph taken in 2006 shows that only one small farm remains adjacent to Sturgeon Bank. The outer foreshore marsh has expanded further west beyond the original private property boundary to the radar reflectors, but much of the upper marsh is unpalatable habitat.



STURGEON BANK - 2006

4) B.C.'s Food Self-Reliance – 2007 - B.C. Ministry of Agriculture and Lands

“It is estimated that B.C. farmers produce 48% of all foods consumed in B.C.” with fruit such as bananas and oranges imported from distant locations. However, if a healthy diet is considered important, “B.C.’s food self-reliance drops to 34%”, because Canada’s Food Guide recommends a higher level of consumption of fruits and vegetables, “a food group in which B.C. is not self-reliant.”

“To produce a healthy diet for the projected B.C. population in 2025, farmers will need to have 2.78 million hectares in production, of which 281,000 will need access to irrigation.

This means that to produce a healthy diet for British Columbians in 2025, given existing production technology, the farmland with access to irrigation will need to increase by 92,000 hectares or 49% over 2005 levels.”

“To maintain the current level of self-reliance through to the year 2025, farmers will need to increase production by 30% over 2001 levels. The increased production will be concentrated on the land that has access to irrigation – land that is typically near the urban centres.” As the only area with the right soil and climatic conditions and access to water for irrigation, about 200,000 acres of new irrigated land is needed in the Lower Fraser Valley and Vancouver area.

5) Waterfowl Damage to Sturgeon Banks habitat and adjacent farmland – 2007

** In 1972 20,000 snow geese overwintered on Roberts and Sturgeon Banks.*

** In 2007 90,000 snow geese overwintered on Roberts and Sturgeon Banks.*



Since 1972 the population of ducks and geese has increased dramatically, and damage to forage increased exponentially as upland farms were developed for urban use. A new park is being developed by the City of Richmond at Terra Nova. This photograph taken in early March 2003 shows hundreds of snow geese grazing on the three and one-half acre pasture inside the dyke on the Steves Farm, the last farm adjacent to Sturgeon Bank in West Richmond. There are houses and buildings on three sides of the pasture, with the dyke and Sturgeon Bank on the fourth side. The snow geese have returned in similar numbers every year since 2003, and have done considerable damage to the forage.

The next photograph, looking north along the dyke shows geese on pastures, both inside and outside the dyke. The pasture outside the dyke has been used for grazing cattle since 1877, thirty years before the dyke was built through the middle of the farm instead of being built around it. For 120 years there was little change to the forage, but overgrazing by waterfowl in the past decade has left irreversible damage to the habitat.

In the past decade the ducks and geese have gorged themselves on the marsh grasses pulling the tender bentgrass, *Agrostis exarata*, out by the roots in the upper marsh and *S.maritimus* and *S. americanus* in the middle and outer marsh. A new succession of grass *Distichlis spicata*, or saltgrass has taken their place.



It was not prevalent in the marsh until recently, usually growing beneath the bulrushes or sedges. Now it grows in solid monoculture over large acreages of Sturgeon Banks. Wherever the geese graze, it spreads by rhizomes and cannot be dislodged by grazing waterfowl. It is unpalatable to waterfowl. While this may have been the normal plant succession in the past as marsh converted to upland, a corresponding increase in the amount of marsh habitat from accretion is inadequate, as external forces are eroding the foreshore away.



In March, 2007, the snow geese left a sea of mud about an acre in size in the high marsh area at the foot of Steveston Highway (shown) and left huge “eat-outs” in the middle of the low marsh, thus allowing the *Distichlis* to spread further west and south, and also providing perfect conditions for breeding mosquitoes.

Both the snow geese and about 500 widgeon were constantly harassed from coming to the inside pasture. The widgeon simply flew inland to the closest school-park site at Manoah Steves School, and flew back when they were harassed there.

As *Distichlis* is also unpalatable to cattle, over \$2,000 worth of supplemental hay now has to be fed in the spring and throughout the summer. Furthermore, the inside dyke pasture cannot be reseeded as the ducks and geese feeding on the young seedling grass and clover would turn the field to mud. Alternatives such as blueberries and greenhouses are being considered as a last resort.

In the Netherlands scientists discovered that birds benefit when cattle graze the salt marshes, because waterfowl like the shorter grasses that are clipped down by the grazing cattle. This takes pressure off upland pastures. This worked on Sturgeon Banks for 120 years, but no farm can survive if the overgrazing by waterfowl over the last decade continues.

6) Waterfowl Damage at Roberts Bank – 2007

Overgrazing by waterfowl is evident throughout the Roberts Bank area. At Tsawwassen First Nation the entire 260 acres between the main dyke and the outer dyke has been converted to unpalatable salt-grass. On Westham Island, as in Richmond, the problem of too many waterfowl with too little habitat is directly related to the loss of farmland. If more farmland is lost, there is more pressure from waterfowl on the remaining farms.

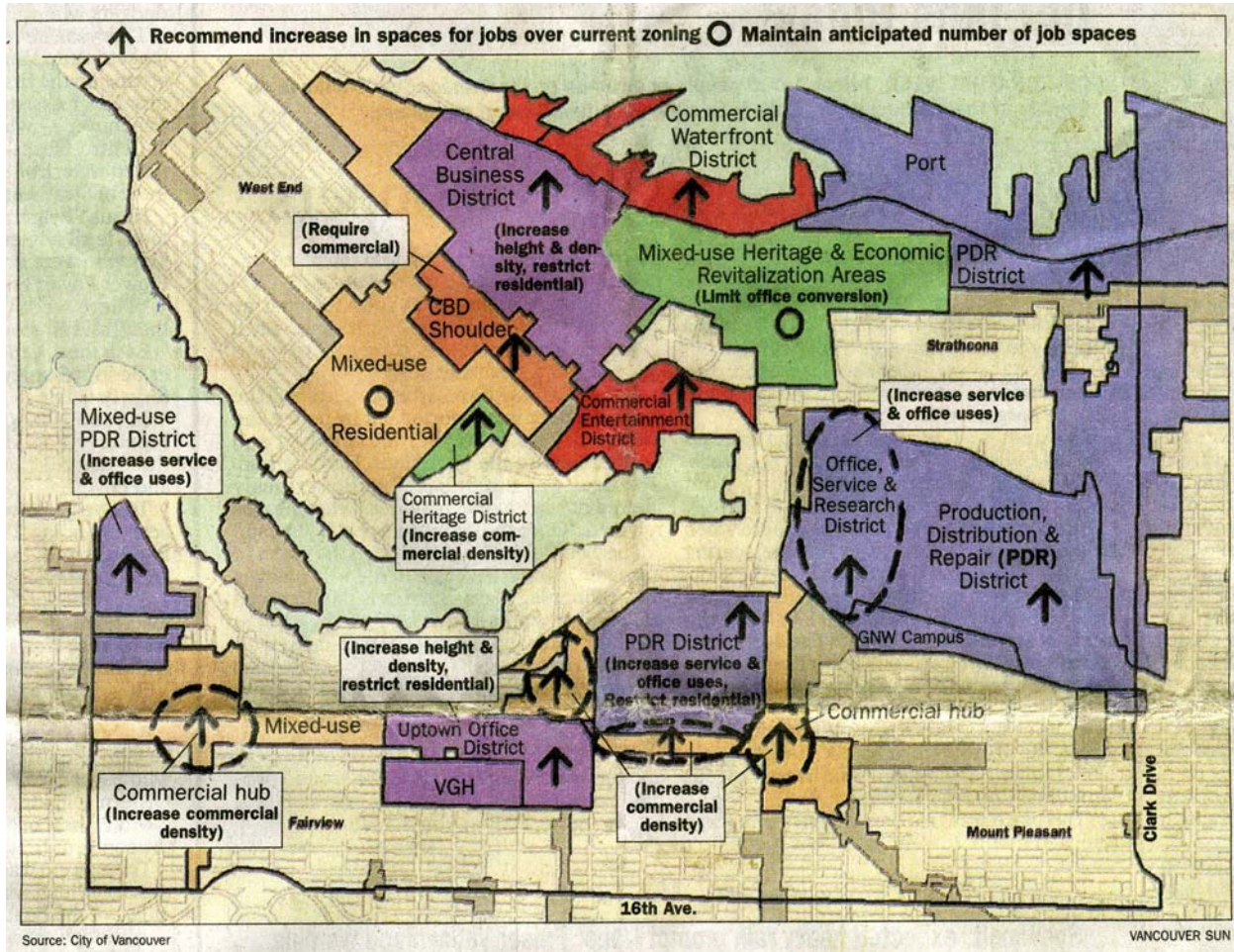
There are three major problems in maintaining habitat for waterfowl on farmland;

- 1) loss of farmland to industrial and residential expansion;
- 2) loss of forage-producing land to food production with higher economic returns, such as blueberries and greenhouses.
- 3) loss of forage-producing land to vegetable and small fruit production to meet the needs of an expected 30% population increase in 17 years.

7) Development of Port land in Vancouver Harbour for non-port uses – 2007.

The Agricultural Land Reserve was established in 1973 to provide an agricultural land bank, not a land bank for residential and industrial use. Since then cities have had ample time to properly plan for industrial and residential use of their urban land exempt from the ALR. However, over the past thirty-four years the City and Port of Vancouver have allowed the downtown area of Vancouver Harbour to be converted from “Port” to “Residential” and “Commercial Waterfront District”. Hotels and residential to the east and convention centres in the downtown waterfront area have replaced boat-works, passenger ferries, commercial shipping and waterfront industrial uses. The Vancouver Port Authority has long awaited the opportunity to waive the ALR and use Delta farmland as a land bank for relocating the Port of Vancouver. The Tsawwassen Treaty negotiations provided that opportunity.

The following map, posted in the Vancouver Sun on July 3, 2007 shows the “Commercial Waterfront District” in red where “Port” used to be.

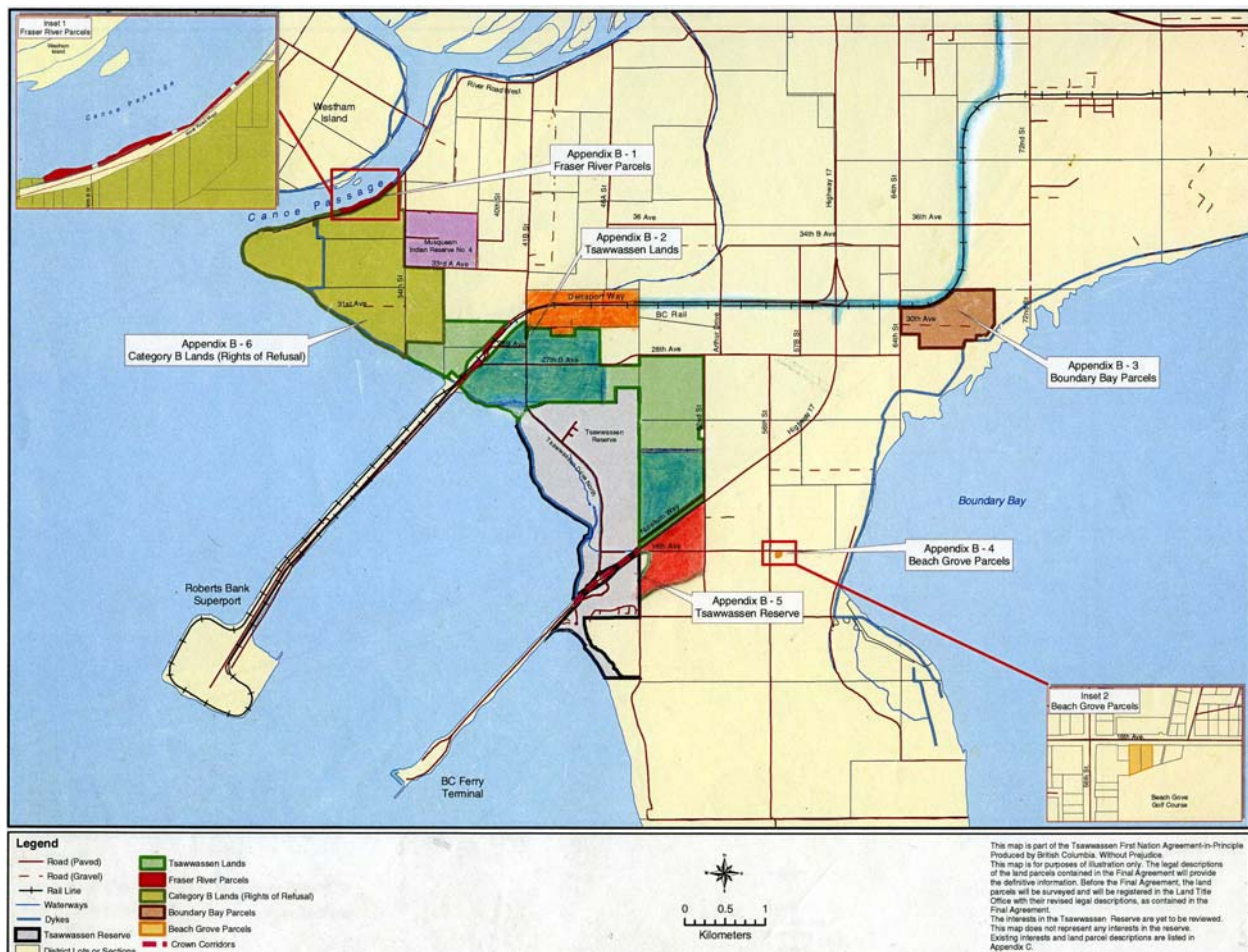


8) Delta Port Expansion onto Tsawwassen First Nation Land – 2007

The loss of 1000 acres of Delta farmland to Delta Port expansion will put immense pressure on the remaining farms in Delta. The report “BC Food Self Reliance” by the BC Ministry of Agriculture states that by 2025 we will need an additional 200,000 acres of irrigated farm land, primarily in the Fraser Valley just to maintain our present production of 48% of the food we consume. This land, required for producing vegetables and small fruit, can only come from land presently in forage for horses and other livestock. The number of farms producing forage is decreasing, and farm forage is essential for waterfowl on the Pacific flyway.

Disruption of food production world wide by climate change, increased costs for trucking, herbicides, pesticides and fertilizers due to peak oil, use of food crops for bio-fuel, and greater demand for locally grown food due to increased population growth, will all increase the cost of food. As vegetables and small fruits become scarcer and food prices rise, horse farms, nurseries, turf farms, golf courses and industrial land will have to be converted to food production, and thousands of acres of additional irrigated land will have to be found.

Urban development of farmland along the western shore of Delta for Delta Port and the Tsawwassen First Nation will adversely affect wildlife habitat the same as it did when West Richmond was developed. There is not enough farmland to provide forage for waterfowl at present. With 1000 acres in port development blocking the foreshore area and with more farmland growing blueberries, the remaining farms will be threatened with heavy overgrazing by waterfowl. Furthermore, Delta Port will likely attempt to expand on their 5,000 acre waterlot outside the dyke. (*Appendix II – Delta Port and TFN Waterlots*)



Brunswick Point – olive
 Musqueam Indian Reserve No. 4 – purple
 B.C. Rail expansion – orange
 Tsawwassen Indian Reserve – grey

TFN Land in the ALR – pale green
 TFN Land excluded from the ALR – blue green
 Tsawwassen Golf Course re-development - red
 South Fraser Perimeter Road - blue

Connect the dots. In the Richmond experience every exclusion of farmland has led to further exclusions due to “fine tuning”, or establishing “defensible boundaries” or “community need”. Now “net benefit to agriculture” is being used as an excuse. Already Tsawwassen First Nation people are suggesting that they are justified in developing on food producing land because “other cities” have done it. The map shows the potential loss of farmland, the “urban wall” that is being created between the foreshore and upland habitat and the creeping urbanization of Delta.

10) West Nile Virus

In 1968 the Municipality of Richmond expropriated land from the private owners on Sturgeon Bank, without compensation, in order to rebuild and widen the dyke. The only guarantee given to the private owners was that they could continue to farm the expropriated properties, and drainage of their land would be maintained by the Municipality.

In February 1969, Public Health Inspector R.D. Boyd reported on recommendations from the Northwest Mosquito and Vector Control Association meeting in Victoria. One of his recommendations was that private landowners in the problem areas of Sturgeon Banks and Tree Island “should fill or some way eliminate potholes and marshland that accumulates stagnant water.” ’ (Richmond Review Feb. 26,1969)

At the time Richmond was controlling mosquitoes by aerial spraying on Sturgeon Bank with the chemical “Abate”, although a non-chemical larvicide “Flit Mosquito Larvicidal Oil” was available for aerial spraying at a rate of two to four gallons per acre. Richmond Council chose to end aerial spraying and use on the ground spot spraying of any ponds and pot holes with a larvicide instead of filling the marsh.

When the dyke was finally reconstructed in the 1970s, it was widened from approximately 20 ft. wide to 80 ft wide. Instead of maintaining drainage for the area, the slough that ran parallel to the dyke from the Fraser River north to Williams Road was filled in. This natural slough drained the southern half of the Sturgeon Bank upper marsh after high tides and rainfall. A natural sea berm about ½ mile from the west dyke blocks the area from draining to the west. At the same time Richmond built a pump station at the end of Steveston Highway that pumps water from City storm sewers out onto Sturgeon Bank. As there is no adequate drainage for the area, the water stagnates at the end of Steveston Highway. Combined with snow goose “dug outs”, this provides prime habitat for mosquitoes. For the past several years livestock were kept off the area at considerable expense to the owners. However, due to the City pump station and snow goose “eat outs”, this made little difference to mosquito control. If West Nile Virus arrives, this will be a major problem.

SOLUTIONS:

TO MEET THE NEED FOR HABITAT AND MORE FOOD PRODUCING LAND

1) Bird Cull

The 1996 WMA report indicated that the estuary had a holding capacity of “20,000 to 60,000 snow geese”. However, a warmer climate in northern nesting grounds has increased the survival rate of offspring, and hunting access has been reduced in the south. The snow goose population has exploded beyond 90,000 birds. With so much habitat “over-grubbed”, at least 40,000 birds will have to be culled. If the Delta Port project goes ahead, the estuary will only be able to accommodate about 30,000 birds, and 50,000 to 60,000 birds will have to be culled. While killing 40,000 to 60,000 snow geese may seem unpalatable, it is the direct result of developments on farmland and construction of a major highway and harbour complex in an estuary.

Hunting should be re-opened on Sturgeon Bank, and hunting effort should be increased throughout the region. However, hunting is a short term measure and won't restore lost habitat. Only 2,000 to 4,500 snow geese are harvested by hunting every year. Even with a dramatic increase in the present rate of hunting effort, it will still take years to reduce the bird population.

2) Create New Habitat

New marshes can be created on Sturgeon Bank and Roberts Bank, which are mostly 21,500 acres and 27,000 acres of mudflat, respectively. As an experiment, instead of ocean dumping, some river dredged sand was placed on Sturgeon Bank north of the Steveston Jetty at Steveston Bend, but no serious attempt was made to put finer silty soils in the area to create new habitat. However, using good quality dredged materials to build new marsh worked to build rich new habitat on sparsely vegetated and bare mudflat when Scotch Pond was dredged in the 1950's.

Instead of dumping dredged materials at sea, several thousand acres of marsh habitat could be created from dredged materials and elevated to offset inundation by a rising sea level. **The Vancouver Port Authority should be required to dump dredged materials on Roberts Banks and Sturgeon Banks to stabilize the erosion already being caused by river dredging and to build new elevated marsh habitat.**

3) Create New Agricultural Land on Sturgeon Bank

The need to increase both farmland and waterfowl habitat by dyking over 1,000 acres of Sturgeon Bank and Roberts Bank upland was anticipated by the BC Fish and Wildlife Branch and Canadian Wildlife Service "Commitment To The Future" in 1972. Almost 600 acres of private properties outside the dyke were purchased for that purpose.

It is inevitable that a new dyke will be needed to improve habitat, provide farmland to feed a growing population and protect Richmond from rising sea level and storm surges. *Distichlis* can only be eradicated by cultivation. As a result, unpalatable upland habitat caused by overgrazing by waterfowl will have to be converted to agricultural lands. After dyking, the production of forage for waterfowl should be a requirement of normal farming operations.

4) Create New Agricultural Land at Roberts Bank

The outer dyke at Tsawwassen First Nation should be completed to reclaim 260 acres of Indian Reserve Land between the inner and outer dykes as originally approved in 1973. This will simply require closing off the existing outer dyke, cultivating and reseeding the 260 acres of upland, that is root-bound with *Distichlis*, between the inner and outer dykes. This should be negotiated now, before the Tsawwassen Treaty is signed, and money is wasted building a new inner dyke. There should be a considerable cost saving, as the inner dyke will otherwise have to be raised several feet to meet flood control and storm surge standards. Any money left over could be used for creating new marsh habitat beyond the outer dyke. **Putting 260 acres of exempt Indian Reserve land in the ALR would provide "no net loss" compensation for 260 acres removed from the ALR for the Tsawwassen First Nation.**
(Appendix II – (a) Tsawwassen Dyke – built in 1976 (b) TFN Reserve "breakwater")

5) Pay Westham Island and other Delta farmers an equivalent income to blueberry farmers, to grow forage crops for waterfowl.

The present compensation for waterfowl damage is far too low. If farmers are to be encouraged to provide winter forage for waterfowl they should be able to achieve the same income they would get if they converted to high end crops such as blueberries.

6) Permanently establish the Brunswick Point Conservation Area.

As proposed in 1972, Brunswick Point should be “secured” for aquatic bird conservation and management. It should be a requirement that compatible agricultural and waterfowl uses of the land should be maintained in perpetuity. (*Appendix II – Brunswick Point and the Musqueam Reserve*)

7) Eliminate the Delta Port expansion onto TFN land.

The Vancouver Port Authority should not be rewarded for allowing the Vancouver waterfront to be developed for high end uses. They should not be permitted to build a container port on delta farmland at TFN. Approximately 300 acres of TFN treaty land adjacent to Delta Port Way is proposed for port expansion. If port expansion was eliminated by senior governments, TFN would have the option of developing the land for high end agriculture such as greenhouses instead of industry. Better development of port facilities at Surrey Port, Prince Rupert and an Inland Port at Kamloops are feasible alternatives to Delta Port expansion. The Dave Barrett government stopped expansion of the Roberts Bank Super Port onto farmland in 1973. It can be done again and government can reduce the port footprint at any time.

8) Confine the South Fraser Perimeter Road and BC Rail to existing rights-of way; use electric rail, night time trucking; and direct rail to a Kamloops Inland Port.

The South Fraser Perimeter Road will split farms, disrupt farming activities and habitat and increase development pressures to remove farmland from the ALR. There is enough land for doubling the track along the existing Delta Port Causeway and the existing rail corridor to eliminate the need for a rail yard. With any combination of restricting diesel trucks immediately to night time hauling, long distance hauling by rail to Kamloops, local electric rail to Abbotsford, and re-routing trucks along a combined roadbed on the BC Rail corridor as proposed by Hoover-Naas, the need for the South Fraser Perimeter Road could be eliminated.

9) Provide adequate foreshore drainage and alternative feeding grounds for waterfowl to help combat West Nile Virus.

The natural drainage to Sturgeon Bank should be restored to remove standing water that breeds mosquitoes. All available City owned land at Terra Nova should be farmed and Quilchena Golf course should eventually be acquired to provide both food production and winter forage for waterfowl.

10) Increase the amount of farmed land in Richmond.

The Sea Island Conservation Area and other vacant land on Sea Island should be farmed for food production, but this land could be an aircraft navigation hazard if farmed for winter forage for waterfowl. All lands in the ALR that are two acres or less should be purchased for reassembly into larger more farmable parcels as they become available to prevent further alienation into large houses and filled lots. Small lots in the blueberry zone are particularly desirable to increase blueberry production and take off pressure to convert clay soils to blueberries adjacent to foreshore areas. Purchased lands could include linear park trails in the short term and urban agriculture in the long term. Land in the ALR that is not farmed should be taxed progressively higher. In the future urban agriculture will include rooftop greenhouses over industrial and residential buildings and rooftop gardens as well as traditional victory gardens.

11) There should be no consideration given to developing the Garden City Lands.

The Garden City Lands are particularly desirable for urban agriculture as they are within walking distance of the Richmond population centre. If returned to Agriculture Canada, the lands would not be subject to Indian Land Claims as crown use is exempt. If a land claim is inevitable, 20 acres could be swapped 1:1 “no net loss” for city owned industrial land on Triangle Road.

12) There should be no expansion of the Vancouver International Airport out onto the Sturgeon Bank foreshore off Sea Island. (*Appendix II – Vancouver Airport Expansion and the Sea Island Conservation Area*)

The Sturgeon Bank area west of the airport and conservation area to the north and east will be needed for food production, but not waterfowl. The 1,000 acre sewage degradation area adjacent to Iona Island could be rehabilitated for agriculture in conjunction with a new ferry terminal at the end of the Iona Island sewage causeway. This would reduce pollution from ferries with a 50% faster crossing time; reduce traffic and the need for the South Fraser Perimeter Road in Delta, a new Number 8 Road Bridge to Richmond and future twining of the tunnel.

Conclusion:

The cumulative effect of Delta Port expansion, BC Rail expansion, the South Fraser Perimeter Road, TFN expansion, Vancouver Airport expansion, potential loss of the Garden City Lands, Brunswick Point farmland and habitat, and the vast acreages of Richmond farmland already lost, must be considered as a unit. No one project can be singled out as having no effect on the others.

Richmond will never be able to make up “no net loss” for over 14,000 acres of land already lost to agriculture. However, in Delta, the mistakes made in Richmond can still be avoided. Delta must never be allowed to become another Richmond and that trend must be reversed. Further erosion of farmland in Richmond must be prevented and alienated lands acquired.

As stated 35 years ago in 1972, “A Commitment to the Future”:

“Patterns of land development have steadily reduced the quantity and quality of delta available for wildlife”and for farming!

BIBLIOGRAPHY:

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APPENDIX I:

Halliday, D.R., Harris, R.D., *A Commitment to the Future*, BC Fish and Wildlife/CWS, 1972

APPENDIX II:

Richmond ALR and the Garden City Lands
Vancouver Airport Expansion and the Sea Island Conservation Area
Brunswick Point and the Musqueam Reserve
TFN Dyke – built in 1976; TFN Reserve “breakwater” : Delta Port and TFN Waterlots.




RICHMOND ALR and the GARDEN CITY LANDS (see red star)

Map 2.4
Capability of Land for Agriculture (Improved)

Legend:

- Organic
- A.L.R. Boundary
- BCLI Categories
- No data

Map 2.4
Capability of Land
for Agriculture
(Improved)

 Organic
 A.L.R. Boundary
BCLI Categories
 No data

VANCOUVER INTERNATIONAL AIRPORT
PROPOSED 2027 LAND USE PLAN

MUSQUEAM RESERVE #3

SEA ISLAND CONSERVATION AREA

NORTH LAKE

POTENTIAL FORESHORE RUNWAY (SEE WEST ALLY)

INTERNATIONAL TERMINAL EXPANSION

PROPOSED NORTH SOUTH RAILWAY

PROPOSED NORTH EAST DISTRIBUTION

INFLIGHT OPERATIONAL SUPPORT

AIRCRAFT BUILDING

PROPOSED NORTH EAST TERMINAL EXPANSION

TERMINAL PARKING

EXISTING CROSS WIND PLAYERS

POTENTIAL SOUTH PARALLEL RUNWAY

RUNWAY END SAFETY AREA

RUNWAY END SAFETY AREA

The map displays the Musqueam Indian Reserve No. 4, a pink-shaded area on the right. To its left is a large yellow-shaded area representing various land parcels, each labeled with a unique identification number. A blue-shaded area on the far left represents water, with a 'Canoe passage' and a 'Dyke' indicated. A dashed line represents '31st Ave', and a solid line represents '34th St'. A 'Dyke' is also labeled within the yellow area. The map includes numerous parcel numbers such as 009185053, 009185232, 009189106, 009185224, 009709908, 009710027, 009709983, 009709834, 010269568, 009710116, 009710060, 009710094, 009710124, 009710141, 009710157, 009710281, 009710329, 009185567, 009710353, 009710445, 009186913, 009184112, 009709529, 009709401, 009709452, 009709754, 009709657, 009709631, 009709608, 009709584, 009709569, 009185371, 009185823, 009185321, 009185844, 009185861, 009185887, 009185895, 009185925, 009185933, 009186592, 009188495, 009165780, 009185610, and 009165763.

1) Garden City Lands: The ALC first rejected Richmond's creeping encroachment onto the Garden City Lands on July 31, 1986. "The Commission does not concur with the Residential Reserve, Public Institutional and Open Space and Non-Residential Reserve designations applied to this land", (in the OCP). The ALC noted that Richmond was notorious for "incremental loss of farmland", and a "continuing process of dismantling the agricultural land base."

2) **Vancouver Airport Expansion.** Vancouver Airport expansion over Sturgeon Bank was **first** rejected in 1976 after three years of public hearings. A **second** attempt allowed some expansion onto farmland and habitat within the Sea Island dykes in 1992 with 350 ha lost and supposedly “mitigated” by “securing” other lands not threatened by development. The 31 ha Robertson Farm was purchased for \$730,000. Vancouver Airport Authority is trying for “**third** time lucky.”

3) **Brunswick Point:** Delta Port expansion was **first** rejected by the Lower Mainland Regional Planning Board in 1969 and **second** by the BC government in 1973. Using Indian Land Claims, it has been “**third** time lucky” for the Delta Port expansion, with Brunswick Point “on deck.”

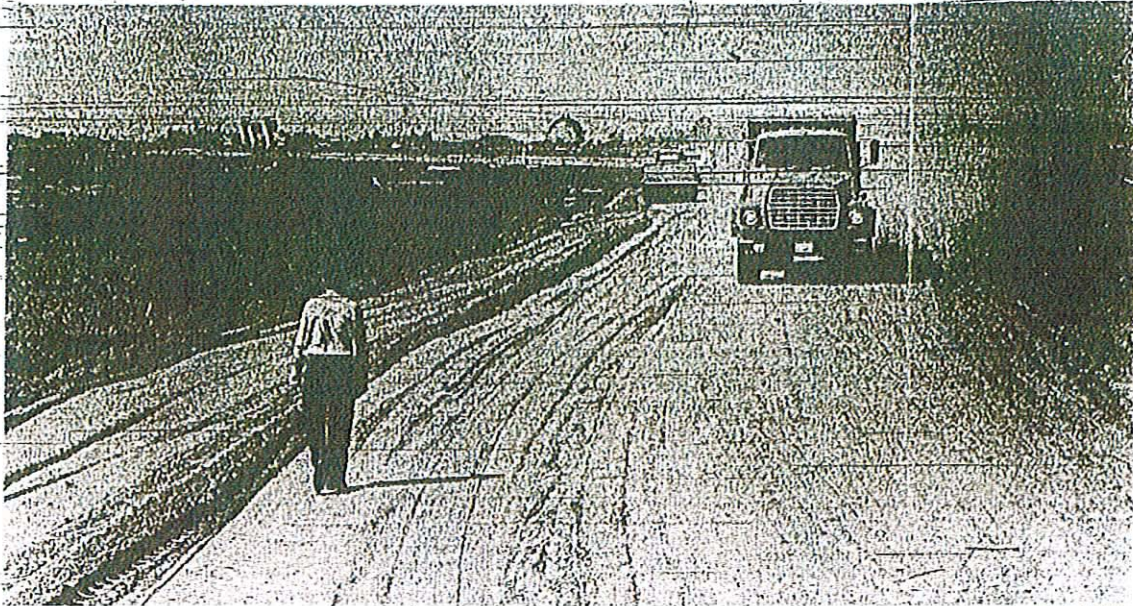
Roberts Bank dike 'incredible stupidity'

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TRUCKS HAUL FILL FOR ROBERTS BANK DIKE . . . project opposed by conservationists, biologists —

—Rod Straight Photo

The Federal and Provincial Governments built a new dike around the outside perimeter of the Tsawwassen Indian Reserve in 1976 as part of the Fraser river dyking programme. While it was Indian Reserve land, exempt from local and provincial zoning, there was public opposition to dyking in a marsh. The dike was completed but the Department of Fisheries stopped the construction of the outfall that would have closed off the dike. It became a very expensive "breakwater".

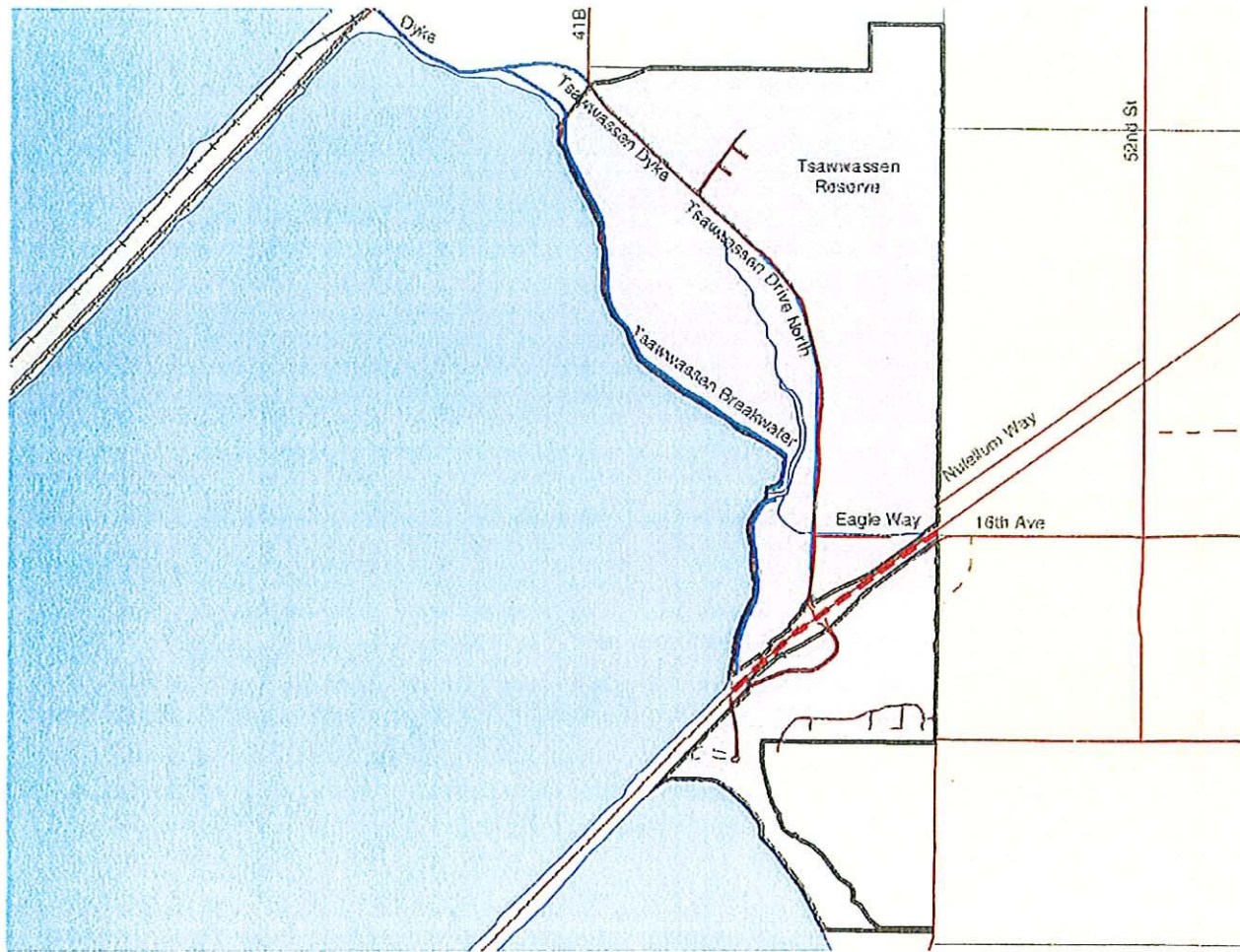
With this stoppage the original dike was never upgraded to protect Delta from high tides, storm surges and flooding. With rising sea level Delta is vulnerable. Rebuilding the original dike will cost millions of dollars, compared to completing the new dike or "breakwater".

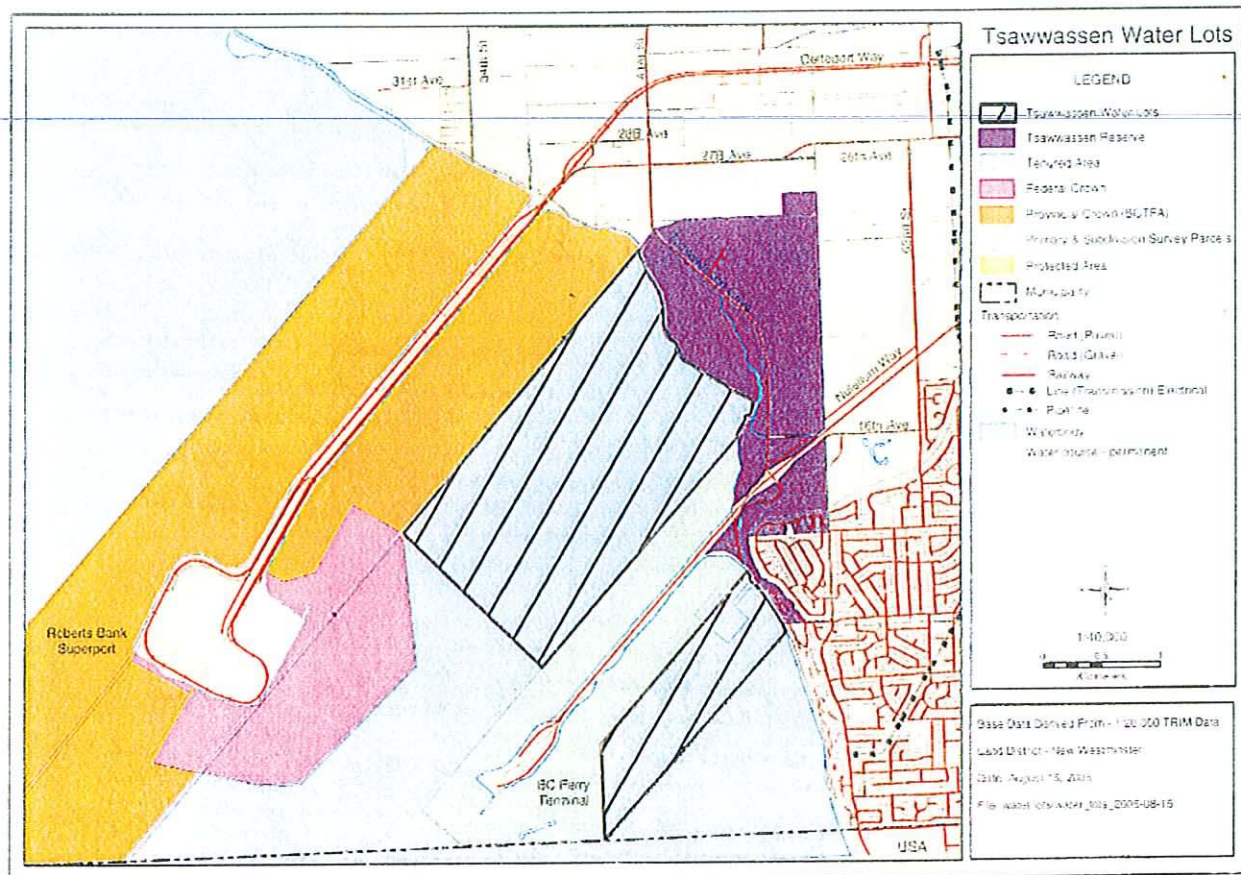
Today the marsh has become saltgrass upland. With a flood gate installed, the 260 acre parcel between the "Tsawwassen Breakwater" and the original "Tsawwassen Dyke" can be farmed and still provide nutrient to the sloughs that drain it.

Ironically, the DFO prevented the Tsawwassen First Nation from reclaiming their land, due to its policy for preserving wetland. However, as owner of the Garden City Lands, the same DFO refuses to recognise the Provincial ALR policy for preserving farmland and is promoting the sale of the Garden City Lands for its own profit and to benefit the Musqueam First Nation.

As the DFO obviously supports removing farmland from the ALR in Richmond for the Musqueam without "no net loss" compensation, it cannot complain if foreshore marsh is removed in Delta for the Tsawwassen people without "no net loss" compensation".

TFN RESERVE SHOWING THE 260 ACRE PARCEL BETWEEN THE
"TSAWWASSEN BREAKWATER" AND THE "TSAWWASSEN DYKE".





DELTA PORT AND TFN WATERLOTS:

The submerged lands in front of the Tsawwassen First Nation provided crab, flatfish and other seafoods for the Tsawwassen people for 10,000 years. Tsawwassen asked for the return of these lands. The BC Government did not return these lands to the TFN in the treaty negotiations. Instead the Vancouver Port Authority and BC Government reserved 5,000 acres of these submerged lands (shown in orange and purple) for themselves. Instead Tsawwassen received about 1500 acres of destroyed habitat of dubious value wedged between two port facilities and 511 acres from the ALR. However 350 acres of that ALR land adjacent to Delta Port way must be leased back to the Vancouver Port Authority for on-shore port expansion. The BC Government and Vancouver Port Authority could just as easily have given TFN ownership of the 5,000 acres of submerged land and leased that back to the port but they wanted farmland.