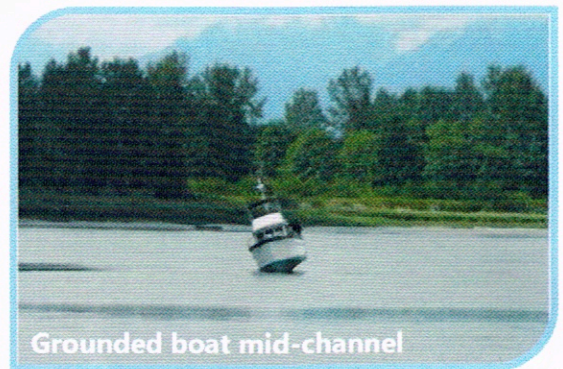


A SUSTAINABLE 10-YEAR DREDGING PLAN FOR DELTA

There is an urgent need to address the jurisdictional and financial responsibilities for dredging of the secondary channels in the lower Fraser River. Delta is committed to working with the Federal and Provincial Governments and the Vancouver Fraser Port Authority to develop a sustainable dredging plan. The Vancouver Fraser Port Authority has agreed to administer the program. Delta is seeking financial support from the Federal and Provincial Governments for this critical initiative.

SINCE THE LATE 1990S, THERE HAS BEEN NO MANDATED AUTHORITY TO MANAGE SECONDARY RIVER CHANNELS

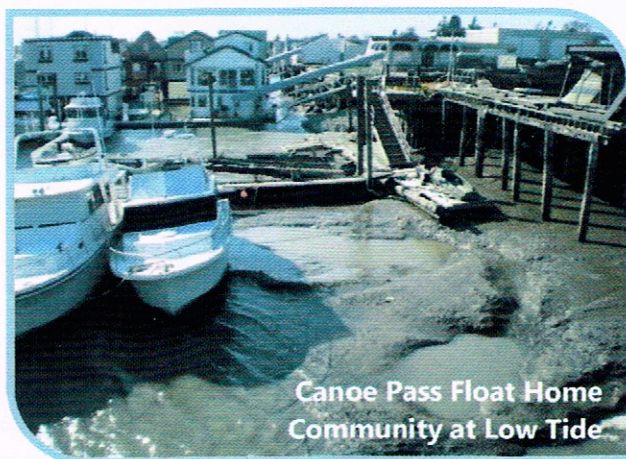
In the 1990s, responsibility for dredging the main navigational channels of the Fraser River was transferred from the Canadian Coast Guard to the Vancouver Fraser Port Authority. This left a jurisdictional vacuum, with no agency specifically mandated to manage the secondary channels, and no identified source of funding.



Grounded boat mid-channel

SEDIMENT ACCUMULATION IMPACTS

Twenty years of sediment accumulation in the secondary channels was significantly impacting commercial, recreational and residential activities along the river. River sediment was allowed to accumulate in the local river channels around Delta for more than 20 years, creating a significant navigational hazard and severely impacting commercial and recreational activities along the river. With these activities accounting for more than \$51 million in direct economic output, there is a significant economic impact associated with the failure to dredge. Ladner Harbour is one of 1,170 small craft harbours owned by DFO and is included in the 750 considered to be core harbours that are critical to fishing and aquaculture industries.



Canoe Pass Float Home Community at Low Tide

WHAT ARE SECONDARY RIVER CHANNELS?

Secondary river channels are local navigation routes that lead from the main shipping channel of a river. In Delta, at the Fraser River estuary, there are several secondary channels that provide access from the main river to Ladner Harbour, float home communities, fisheries, marinas, and numerous businesses located close to

COLLABORATION FOR A TEMPORARY SOLUTION

Community concern had been building for several years and access to the local channels was significantly impaired when, in December 2012, following several years of lobbying, the Corporation of Delta entered into a joint \$10 million funding program with the Provincial government, Vancouver Fraser Port Authority and the City of Richmond to dredge the local channels around Ladner and Steveston. This was an unprecedented step for Delta, since local governments have no legislated responsibility for dredging. Delta's \$2 million contribution encouraged similar funding from senior governments which have jurisdiction over river dredging. At the same time, Fisheries and Oceans Canada dredged Ladner Harbour through the Small Craft Harbours program.

WHY SO MUCH SEDIMENT?

The Fraser River is British Columbia's largest river, flowing 1,400 km and draining one quarter of the landscape.

It carries 20 million tonnes of sediment annually to the Fraser River delta. In the 1990s, Transport Canada placed diversions at critical locations along the lower Fraser River to divert more water into the deep-sea shipping navigational channels and to reduce the need for dredging. The project was successful in that it saved millions of dollars in dredging expenditures; however, it came at the expense of the local channels which were inundated with silt that has dramatically reduced water depths.

OCEAN DISPOSAL FEES LIMIT THE SCOPE OF DREDGING

The dredging program was completed in February 2015, with approximately 400,000 cubic metres of sediment removed from the three most heavily used channels. Ocean disposal fees of \$200,000 were paid to Fisheries and Oceans Canada, further limiting the scope of the project.

A LONG-TERM SOLUTION IS NEEDED

Without ongoing maintenance dredging, the secondary channels will continue to accumulate sediment and will eventually reach another critical point when a major dredging effort will once again be required.

A TEN-YEAR SUSTAINABLE DREDGING PLAN FOR DELTA

A hydrological study from 2010 concluded that 48,000 cubic metres of sediment needs to be removed from the secondary channels each year to ensure they remain navigable for local

traffic. At a dredging cost of \$15 per cubic metre, the maintenance dredging program would cost approximately \$750,000 per year.

Delta would like to engage in meaningful discussion with the Federal and Provincial Governments to ensure all parties contribute funding, and with the Vancouver Fraser Port Authority which has agreed to manage the program at no cost as part of its broader dredging program. Annual channel soundings from the Canadian Coast Guard will be used to determine priority areas for dredging, and dredging may not be necessary every year. In this event, the funding will be allowed to accumulate for future use. The Canadian government is urged to:

- Confirm which Federal ministry has jurisdiction for secondary channel dredging;
- Provide permanent annual funding for dredging local channels;
- Provide an exemption from ocean disposal fees for sediment dredged from local channels; and
- Confirm that the Canadian Coast Guard will continue to fund annual surveys of secondary channels.



MULTIPLE ACCOUNTS EVALUATION

A study commissioned by Delta in 2012 (Multiple Accounts Evaluation: Dredging Ladner Harbour and Related River Channels, InterVistas Consulting) concluded that there is a strong business case for dredging Ladner Harbour and surrounding river channels, which would result in positive economic, environmental, and social impacts for the community. Economic activity in these areas has a significant impact for the region, including:



200 direct jobs
equivalent to 180
person years of FTE
employment



\$6 million in Direct
Wages



\$11 million in Direct
GDP



\$39 million in Direct
Economic Output



\$1.7 million in Federal
Tax Revenues



\$750,000 in Provincial
Tax Revenues



\$320,000 in Municipal
Tax Revenues

ARE THERE ALTERNATIVES TO MAINTENANCE DREDGING?

In 2010, a comprehensive hydrological modelling study (Hay & Company Consultants) was undertaken to see what could be done to reduce the amount of sediment being deposited in the local channels, thereby reducing the amount of maintenance dredging that needs to take place. Three mitigating options were modelled in detail (involving, for example, the construction of wingdams, infilling between islands and the construction of training walls) all of which would be successful in reducing sediment deposit in the local channels. However, the estimated capital costs associated with implementing the mitigation projects and the modelled benefit from the projects are not worthwhile when compared with maintenance dredging alone.

Periodic maintenance dredging is the most sustainable and economical solution to manage the siltation problem in Ladner Reach, Sea Reach, Canoe Pass and Deas Slough, and prevent further loss of fish habitat.



VANCOUVER FRASER PORT AUTHORITY NAVIGATION CHANNELS



DELTA SECONDARY RIVER CHANNELS

