

Fraser River Sustainability and Flood Management

2007

The Fraser River is a vast business generator in the Province of British Columbia. Hundreds of thousands of residents work directly or indirectly on the river, or with businesses and industry that rely on this vital waterway. The lower reaches of the Fraser River and its estuary, along with Burrard Inlet, comprise what is now known as Vancouver/Fraser Port. This has been described by Minister Emerson and Premier Campbell as the St. Lawrence Seaway of Western Canada.

Adjacent to this river are both rail lines of the CP and CN, as well as two major truck routes, all of which service the western gateway. Critical to the protection of these arteries is the maintenance of the Fraser River with respect to dredging and dyking. Any serious flooding in the Fraser Valley such as that threatened by the 2007 runoff could cut off all road and rail access to the western gateway. The economic fallout in flood damage and impact on the flow of goods from the port would be extreme.

The dredging is fundamental in preventing the rising of the river bottom through the accumulation of sand and gravel carried from the upstream erosion. The River maintenance was funded by the federal government. Initially the task fell to the Department of Public Works, passed on to the Coast Guard and ultimately the Fraser River Port Authority until funding was suspended in 2000.

Recent abnormal weather events have served as a warning that on-going efforts to maintain the elaborate system of dykes and pumps that protect farmland, industry and residents must be undertaken by all levels of government on a proactive basis. The Fraser River is a typical snow melt dominated river with low winter flow, a sharp spring increase in flow with a late spring peak followed by a gradual decline throughout the summer and fall. During the last 30 years of this century the models show that climate change may cause the Fraser River to become rainfall dominated in some years with the peak flows occurring as a result of heavy summer and fall rainfall events.

The Fraser Basin is a vast geographical area drained by the Fraser River and its 13 main watersheds. Beyond its geographic importance, the Basin is a vital component of the province's economic base. In addition to contributing a full 80% of the provincial economic output and 65% of total household income it also contains 21 million hectares of forest. Its farms, ranches and orchards compromise half of all BC's agricultural lands. Eight major mines in the Basin account for 60% of BC's metal mine production. In addition, some of the province's – and the world's – most spectacular natural beauty and recreational opportunities abound in this area, contributing 67% of total tourism revenue. (Data provided by Fraser Basin Council. Further detail available at http://www.fraserbasin.bc.ca/fraser_basin/index.html)

In addition, regular dredging of the main channel of the Fraser River must be undertaken to help avoid the threat of flooding, and to help keep the river open and navigable for shipping, commercial traffic, pleasure boating, and to further enhance the pacific fishery.

Each year, enormous amounts of debris in the form of root balls, full trees, forest trash and other materials are swept down the Fraser River. Until the advent of the debris trap, situated near Agassiz, the lower Fraser River and much of its estuary became non-navigable following the annual freshet. This could be compared to the debris in the Ottawa and other eastern rivers during the log drives of the previous century, which rendered the rivers hazardous to navigate. The trap captures the equivalent of 600 to 2400 highway logging truckloads of wood (90 – 95% of the debris is of natural origin). The net cost of operation of the trap is approximately

\$640,000 per year, including costs associated with the current funding approach, i.e. funds are raised for the operation annually from a diversity of sources.

Even with the trap in operation, approximately 5000 m³ of waterborne debris is generated downstream in the lower Fraser River. This study estimates that the annual cost to manage this amount of debris and mitigate its impacts is approximately \$1.59 million per year. If the trap were decommissioned, the amount of debris flowing into the lower Fraser River and the incurred costs to manage it, would increase by at least six times to \$9.55 million per year. For an investment of \$0.64 million per year, it is estimated that at least \$7.94 million in costs per year are avoided.

Recommendations

That the federal government work with the province of British Columbia to:

1. Create a program for regular maintenance and improvement of the dykes along the Fraser River estuary, and provide for regular dredging of the main channel of the Fraser River.
2. Provide sustainable funding for these programs through the appropriate federal and provincial departments which could be offset by the sale of the aggregate recovered from the dredging.
3. Establish a permanent fund for the on-going operation and improvement of the debris trap at Agassiz, and investigate the establishment of an additional trap to be situated on the lower reaches to catch debris from rivers such as the Coquitlam, Pitt and Allouette, i.e. near the Port Mann crossing.