



January 16, 2007

Backgrounder: The Fraser River Debris Trap

What is the Fraser River debris trap?

The Fraser River debris trap is a unique facility located along the north shore of the Fraser River between the BC communities of Agassiz and Hope. The trap catches masses of woody debris that is generated upstream and it channels that debris using floating fin booms into an adjacent capture basin, where it is yarded on shore and processed into hog fuel (finely ground wood) and chips.

The debris trap captures an average volume of 45,000-55,000 m³ of woody debris each year. The minimum volume captured has been 25,000 m³ of debris, or the equivalent of 600 commercial truckloads. In a peak year flow (such as in 1999), the trap prevents an estimated 100,000 m³ from travelling down the river — some 2,400 truckloads of debris, or enough to fill 13 football stadiums to a depth of three metres.

Why is the trap necessary?

By preventing woody debris from flowing into the lower reaches of the Fraser River and the Strait of Georgia during the Fraser River spring freshet (high water period), the trap avoids significant negative impacts to boats, foreshore infrastructure, beaches, sea dikes, bridges, buildings, sensitive estuarine habitat and other assets.

Before the debris trap began operation in 1979, the lower Fraser River was not navigable at times during the spring freshet because of the massive amounts of floating debris in the water. The snag puller vessel, the *Samson V*, worked to keep the river free from snags and deadheads, but it could not work during the freshet and was considered costly and inefficient by the end of the 1970s. Cooperation among the forest industry, the provincial government and the federal government led to the installation of the debris trap. This alleviated a major part of the debris problem.

Who is responsible for the debris trap?

The debris trap is overseen by the Fraser River Debris Trap Operating Committee (FRDTC), which is composed of representatives of federal, provincial and local government agencies and the private sector. Since 1998, the Fraser Basin Council, a non-profit organization dedicated to advancing economic, social and environmental sustainability in the Fraser Basin, has provided secretariat and other services to the FRDTC. These include securing, managing and disbursing of operational funds, communications, and coordination of various technical studies and reports.

Funding for the trap has been assumed by various federal, provincial and regional bodies, as well as the coastal forest industry until recent years.

Why did the FRDTCO sponsor a cost-benefit study of the trap?

The FRDTCO recently commissioned an independent cost-benefit analysis of the debris trap to support decisions regarding the future of the facility. The study, *The Fraser River Debris Trap: A Cost Benefit Analysis*, was completed in late fall, 2006 and is available at www.fraserbasin.bc.ca.

The study tackles two main questions:

- What costs for debris management and mitigation of debris impacts are avoided by the operation of the Fraser River Debris Trap?
- Who benefits from the trap, in what way, and to what extent?

What are the key findings of the cost-benefit study?

The cost-benefit study commissioned by the FRDTCO found the debris trap offers widespread public benefits that far outweigh the cost of its operation.

The study estimates that, even with the Fraser River debris trap in place, it now costs approximately \$1.59 million per year to manage woody debris in the lower Fraser — that is, an estimated 5,000 m³ of debris generated primarily downstream of the trap from tributaries such as the Pitt and Harrison Rivers and other sources. If the debris trap were decommissioned, the study estimated a conservative minimum annual volume of 25,000 m³ of debris now captured by the trap would enter the lower Fraser and Strait of Georgia. This six-fold increase in the volume of debris flowing downstream (5,000 m³ to 30,000 m³) would elevate debris management costs from \$1.59 to \$9.55 million per year. The trap therefore achieves a minimum saving of \$7.94 million in avoided costs.

Currently, the net cost of operation of the trap is \$640,000 per year, including costs associated with overseeing the trap operations and securing funding. (Starting in 2007/2008, the FRDTCO is also budgeting for a contingency reserve: see page 4).

The cost-benefit study found that, since the investment of \$.64 million to operate the trap each year achieves at least \$7.94 million in avoided costs, there is a net savings of \$7.3 million. The benefit/cost ratio of the trap is more than 12, meaning the trap may help to avoid at least 12 times the current cost of its operation.

The study also predicts that the importance of the debris trap is likely to increase, given growth of the transportation sectors and an expected doubling of the region's population by 2050, with attendant increases in the intensity of upland and water-based uses overall.

What specific costs does the trap help prevent, and who benefits?

According to the cost-benefit study, the trap benefits a wide diversity of interests. These include:

- Transport companies and saw mills (less damage to boats and barges, less cleaning of debris from log booms) with at least a 40% share in total avoided costs
- Municipalities and regional governments (less damage to dikes, seawalls, flood boxes, drainage and other infrastructure, less beach clean-up) with a 24% share
- Federal government agencies and Crown corporations (less habitat restoration required, less damage to pilot boats) with a 19% share
- Port and airport authorities (less cleaning up of harbour areas and foreshore infrastructure) with a 13% share.

The study also found that some of the avoided costs are more difficult to quantify, for example:

- Dike and seawall maintenance (less impact on these structures during storms)
- Personal injuries/fatalities (fewer accidents on the Strait of Georgia and the Fraser River)
- Foreshore property repair (less impact during storms)
- Pleasure boat repairs (fewer collisions with waterborne debris)
- Degradation of marshland (less smothering of sensitive marsh areas in the Fraser estuary)
- Log spills (fewer log booms failing due to impact of debris).

What happens to the wood debris caught in the trap? Does it have value?

More than 90% of the debris captured by the Fraser River debris trap is natural deadfall from provincial Crown land that is carried downriver during spring high water flows. This includes snags (trunks with roots attached), branches, twigs and bark.

Wood in the trap is processed at the debris trap site into wood chips and finely ground wood (hog fuel) for use in pulp and paper production. To date, higher value-added uses of the debris have not been found to be economically feasible.

How much does the trap cost to operate?

The FRDTC has set a 2007/08 annual budget of \$750,000. This covers an annual operating budget of \$640,000 and a contribution to a reserve fund as an operational and maintenance contingency.

Upon review of the cost-benefit study, the FRDTC is recommending that the federal and provincial governments, the Greater Vancouver Regional District and the Fraser Valley Regional District facilitate a multi-year, shared funding agreement for the debris trap.

What will happen to the trap if funding is not secured in 2007?

The Province of British Columbia has recently committed to fund one-third of the estimated operating and contingency costs on a five-year, renewable term. Unless long-term funding commitments from other governments are also secured early in 2007, the FRDTC may be forced to suspend operation of the debris trap by spring or decommission the facility entirely.

* * *

A copy of the independent study commissioned by the FRDTC, *The Fraser River Debris Trap: A Cost Benefit Analysis*, is available at www.fraserbasin.bc.ca.

For more information, contact:
Denise Palmer
Communications Manager
Fraser Basin Council

Tel.: (604) 488-5352
Email: dpalmer@fraserbasin.bc.ca