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Mr. R.J. Lampard,
Manager, Strathcona District,*
Ministry of Parks,
Box 1479,
Parksville, B.C. V0R 2S0

August 19, 1991

REVIEW

Dear Mr. Lampard,

Re: Ecological Reserve #118
Nimpkish River
Bank Restoration

This is my report on the August 15 site visit with you and with Mr. Rik Simmons of Parks BC to deal with the consequences of Canfor's removal of drift logs from the Nimpkish River along the above reserve and from the reserve itself (including removal of some standing trees from the river banks of the reserve).

By re-opening the almost abandoned and blocked river channel Canfor has probably done severe, long term damage to the reserve. The failure of the dike at the SE corner, the re-opening of the east-side cutoff channel and the extensive obstruction of the old river channel with large drift logs, combined to greatly reduce the erosion problems of the reserve and provide an opportunity to achieve long term stability with a few low cost, unintrusive measures.

The situation as I saw it on April 13, 1991 was very similar to what existed in spring of 1987, when a chance to achieve long term stability was foregone by giving Canfor another large log jam in return for highly intrusive river training works that are now in the process of failing. Unless you want to continue trading the large organic debris load of the Nimpkish River and the trees of the Ecological Reserve for riprap diking, it appears to be well beyond the means of your ministry to stabilize the river banks of the reserve with the Nimpkish River kept in its old channel. The non-intrusive stabilization measures which I have been proposing for several years are no longer feasible now, except at a few sites, because most of the large drift logs needed to implement these measures have been given away.

In the present situation, your best chance of reducing future reserve land loss lies in minimizing the contact between the river and the reserve, i.e. in encouraging the existing cutoff or, even better, in initiating other cutoffs further to the east. Note that I believe that a complete cutoff could be achieved at far less cost than suggested by Hayco in their March 1990 report.

Mr. R.J. Lampard

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Assuming that there is neither time nor funds to do much work this fall, I suggest the following:

- 1) Open up and enlarge the partial cutoff immediately to the east of the 1987 dike (see Fig. 1) in order to have a better flow entrance into the main cutoff channel. Other cutoff channels further to the east should also be opened as soon as possible. Note that this will naturally increase the erosion potential along the east side of the reserve which will need to be protected with tied logs as soon as possible.
- 2) Obstruct the entrance into the old river channel with a broad, low gravel dike built, preferably, with gravel brought from somewhere other than the channel immediately downstream of the dike (Figs. 1 and 2). Fig. 1 shows some potential borrow pit sites. Even if you cannot afford to import gravel and have to build the dike by mounding up local gravel with a dozer, it would still be desirable to go ahead. The dike is meant to encourage and help small and intermediate floods to enlarge the eastern cutoffs. It might also help with the establishment of alder in the presently abandoned channel, but it will (and is meant to) fail in a large flood.
- 3) Bring the large drift logs from the right bank gravel bar at the SE corner of the reserve across the river and tie them to the left (reserve) bank in such a way that they help protect the failing riprap corner. The logs must be tied at or near their upstream end and should have the root end point upstream.

At the NW corner of the reserve, where most of Canfor's work is concentrated, there is also some need for remedial work.

- 1) The right bank pile of small, non merchantable logs that have been left obstructing the entrance to a small channel cutting off the NW corner of the reserve should be left as is.
- 2) The large pile of stumps immediately upstream of the log pile should probably be removed, primarily for aesthetic reasons. A large flood would float them off in any case. They do little harm from an engineering point of view and could be left as a monument to Ecological Reserve management by Fisheries and Oceans Canada, the Ministry of the Environment and Canfor.

Mr. R.J. Lampard

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August 19, 1981

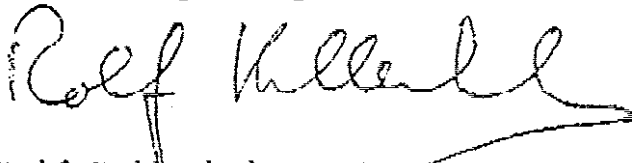
- 3) The large log buried underneath the stump pile should be left with its upstream end cable-tied to a healthy red cedar some 10 m upstream. Two to four upturned root wads could be left wedged in between the log and the river bank to help hold the log in place during normal winter floods.
- 4) The bulldozed river bank of the reserve should be re-graded and replanted. This, too, is primarily an aesthetic measure.

None of the above is likely to survive a large flood, particularly if the river should decide once again to make the old channel around the reserve its main channel.

In general you should be aware that the removal of the old growth forests from the flood plains of alluvial gravel-bed rivers such as the Nimpkish, tends to destabilize these rivers and leads to a gradual widening of the active channel zone. Ever since the Ministry of Parks removed the large wood debris from the Elk River channel in the mid seventies, it has been known that this procedure does not alleviate channel stability or bank erosion problems but may in fact aggravate them. Stable, large organic debris is naturally also an important component of the fish habitat in these rivers.

Seeing that Fisheries and Oceans Canada is incapable of looking after their own interests and does not appear to care about anyone else's and the BC Ministry of the Environment is completely ignoring their mandate on northern Vancouver Island, the Ministry of Parks should oppose any debris removal from the Nimpkish River drainage at Ecological Reserve #118 and anywhere upstream if the debris might eventually reach the reserve. This needs to be made very clear to these agencies, as only they have the necessary mandate to address this problem.

Yours very truly,



Rolf Kellerhals P.Eng.

cc. Mr J.S. Murray, Canfor, Woss, B.C.
RK/hrkk
Encl.

Figure 3, Additions

