



TO: File

August 31, 1994  
File: 34000-20/Gen

Re: Reconnaissance of Kwoiek Creek

On August 31, Heather Stallberg, Violet Komori and myself drove to the Stein River and Kwoiek Creek. Our purpose was to familiarize Heather and Violet with the two drainages, inspect the proposed pipe crossing site on the Stein, and to determine resident fish values within the Kwoiek Creek drainage.

Access to Kwoiek Creek is possible from a rough forestry road paralleling the west side of the Fraser, or along a main haul road from Boston Bar. The Kwoiek access road parallels the stream through its length upstream to the upper 3 lakes (John George, Klept and Kha Lakes). Due to time constraints, we only drove to the lower of these 3 lakes. John George Lake was heavily glacial influenced; much more so than what is seen in the aerial photo.

Stukolait Lake, the largest within the Kwoiek system is located at the very top end of the Kwoiek, immediately downstream of Kwoiek Glacier.

Chochiwa Creek, a large tributary, meets the confluence of Kwoiek Creek at the downstream end of Kowaskey Lake. Chochiwa Creek has 6 lakes within its drainage upstream of the confluence. Working from upstream down, these lakes include Haynon, an un-named lake, Tzequa (2 lakes), Chochiwa and Kokwaskey. No road access exists for the entire length of the Chochiwa drainage although a maintained trail does exist (pers. comm. Phil Holman). Aerial photos show this system to be highly glacial.

Kwoiek Lake is located approximately 8 km downstream of Kowaskey Lake, and approximately 17 km upstream of the Fraser River. Kowaskey and Kwoiek are the two lakes proposed to have storage structures in place with a vertical height of 6 and 3 metres respectively.

Kwoiek lake is glacial with a turbidity value of approximately 0.3 metre. The lake appears to be shallow because the gentle grade out from the shoreline and the presence of a grassy island located in the middle. The inlet end of the lake is made up of a large, low gradient braided delta. Shocking a short section of the shoreline produced 0+ and 1+ rainbow trout in moderate abundance. Based on observation of aquatic invertebrate life (large mayflies and abundant small caddis) the productivity appeared to be higher than expected.

The other shocking site chosen was located approximately 4 km upstream of Kwoiek Lake at a bridge crossing. Capture success was low (approx. 30%) due to high turbidity, difficult footing and low shocker efficiency. All 7 fish captured, were rainbow trout. Of the fish that escaped, all were salmonids and appeared to be rainbow trout. The largest of the rainbow trout captured (210 mm) was dissected and found to be a maturing male.

Reports of large bull trout (upto 8 pounds) have been reported by J.S. Jones employees, (pers. comm. Phil Holman), and in my opinion, this system is classic bull trout stream. Bull trout are much more difficult to capture, and it is not surprising that none were captured during the limited electroshocking effort.

The lower 7 kilometres of Kwoiek Creek are very steep and appear to be impassable to immigration. The pools within this section likely rear rainbow and bull trout that have dropped down. At 8 km, Western Pacific Powergen Corp proposes to divert the bulk of the flow into a penstock along the north bank of the stream. The penstock would be 7.5 km in length and would divert the water back into the system 0.5 km upstream of the Fraser confluence.

From 8 km upstream to Kwoiek Lake (17 km), the stream gradient drops. Although section of this reach appear to be moderately steep, I don't suspect any barriers.

North Kwoiek Creek enters on the north bank approximately 3 km downstream of Kwoiek Lake. The gradient of lower North Kwoiek is extremely steep. The contour map shows the middle reaches of North Kwoiek to be of lower gradient and potential contain headwater stocks of fish.

Upstream of Kwoiek Lake, the stream is low gradient, however the gradient increases steadily upto Kokwaskey Lake. Potential barriers may exist within this section of stream.

Kwoiek Creek, upstream of Kokwaskey Lake to John George Lake, is moderately steep and may restrict upstream access to fish. The map shows a short steep section within this stretch of stream, with the remainder having a gentler grade. The stream between the three lakes, and two thirds of the way upstream to Stukolait Lake (approximately 4 km) is very low gradient. The upper portion (2 km) immediately downstream of Stukolait Lake contains high gradient section which are likely impassable to fish.

As previously mentioned, Chochiwa Creek has no road access. From the contour maps, it appears fish access is possible between the lower two lakes (Chochiwa and Kokwaskey) which are the larger lakes of the system. No fish access is available Between Chochiwa Lake and the upper 4 lakes.

The major impacts of this proposed development are:

1. Access of fish from downstream of Kwoiek Lake and between Kwoiek and Kokwaskey Lakes will be jeopardized. Bull trout, as well as other fish species, likely rely on these corridors in the pursuit of food and over wintering areas. These lakes may be analogous to Mud Lake of the North Thompson drainage. Lakes appear to be key habitat for adult and sub-adult bull trout.
2. Kwoiek Lake appears to be a shallow lake with higher than expected production. This relatively high production may be the result of a high percentage of litoral zone within the lake. A 3 metre dam would result in the loss of this litoral zone and likely reduce the productivity of the system. Loss of litoral zone may also be a concern in Kowaskey Lake.
3. The proposed diversion, located at 8 km up Kwoiek Creek, will divert the majority of the flow into the penstocks. Juvenile and adult bull trout would likely choose to emigrate through to diversion and therefore suffer high mortality rates. The importance of recruitment from this system to the Fraser bull trout population is not, and may never be known. From a genetic diversity view point, all stocks contributing to the Fraser populations are likely important. Reduced recruitment due to increased mortality would be a concern.

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