Diana Clendon

To: Diana Clendon
Subject: FW: No 8 application

From: James Gardner-Hopkins <james@jghbarrister.com>
Sent: Friday, 7 June 2019 7:43 a.m.
To: Diana Clendon <dclendon@doc.govt.nz>
Cc: Jeremy Kent-Johnston <jeremykj@gmail.com>; Tom Drinan <tdrinan@doc.govt.nz>
Subject: Re: No 8 application

Good morning Di,

You have asked for clarification as to why, in the two graphs provided in the information dated 21 May 2019, "the first graph shows that river flows get down below 200 L/s, while the second shows that river flows never reduce below ~550–600 L/s." And, in addition "where is this flow data referring to?"

I have discussed the question with Jeremy, and can advise as follows:

The apparent discrepancy in the time series figures included in the letter dated 21 May 2019 arises as the first figure related to a "flow duration" curve from a point near the point of take, while the second figure represented the recorded flows at the McCulloughs Creek gauge site, which is near the proposed powerhouse area.

The intent was to show that there is no "flatlining" in practice, which was understood to be a concern raised by DOC arising from the first figure. It would have been more appropriate, in hindsight to use the same location for the comparison figures.

Accordingly, below/**attached** is the same figure (at same scale) for the flows at the intake site for reference. The flows at the intake areas are approximately 60% of flows recorded at the gauge site. This figure includes another 1 year of data – to March 2019, prior to the slip occurring.

The first "flow duration" curve also contains both the gauged McCulloughs Creek flows and correlated/pro-rated flows from the much longer record on the Poerua, calculated with assistance from John Porteous at NIWA Greymouth.

The Poerua record is approx. 12 years long (1981 to 1993) and was used to:

- estimate the longer-term characteristics (such as MALF) by NIWA and
- to produce a better probability distribution of the flows in McCullough Creek.

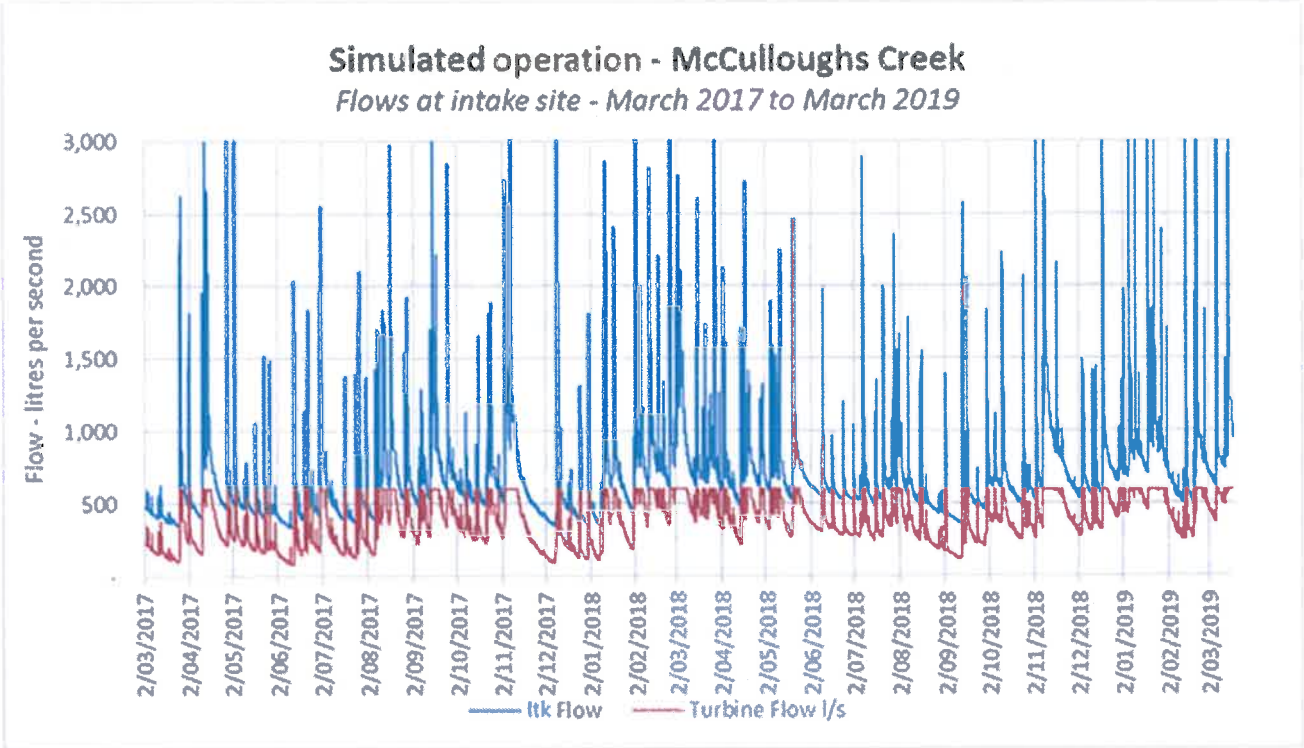
This process was utilised because No 8's gauge site has a much shorter record, but the Poerua has similar rainfall runoff characteristics being the neighbouring watershed. The longer record includes some dry periods, which did not occur in the monitoring undertaken by No 8 in the timeframe it has had its gauge site in place. This difference in data used also contributes to the difference in that is shown in the first and second figures.

In respect of the data, on May 23 2019, NIWA managed to recover the gauge and data from under the slip. No 8 now has over 2 years of data from the McCulloughs Creek gauge. NIWA will reinstate the gauge at the next opportune time to continue the record.

I trust this assists. No 8 would be happy to help further if necessary, including having Jeremy talk to Tom direct to provide more clarity as required.

It may also be the Jeremy has something to add to the above. Because of his travel commitments, he wasn't able to review my understanding / explanation as summarised above - but we wanted to get the clarification to you sooner rather than later.

We look forward to any further updates you can give, in due course, in respect of timing or any other questions of clarification.



Kind regards
James

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On 4/06/2019, at 8:34 AM, Diana Clendon <dclendon@doc.govt.nz> wrote:

Hi James

Sorry I haven't responded to your last email dated 22 May 2019: I have been 'snowed under'. I was meant to come back to you with the following query on the flow data used in your memo. It says the same data is used in both figures but our expert (Ton Drinan) can't see how they are the same – the first graph shows that river flows get down below 200 L/s, while the second shows that river flows never reduce below ~550–600 L/s. Furthermore, where is this flow data referring to?

Thanks for the extra information and photos sent on Friday. I have been unable to progress the final report due to work load but should be able to progress it in a couple of weeks. I can give you an update then.

Thanks

Di Clendon - Kaihoho takawaenga a tuku
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