

**BEFORE INDEPENDANT HEARING COMMISSIONERS
APPOINTED BY THE CANTERBURY REGIONAL COUNCIL**

UNDER: the Resource Management Act 1991

IN THE MATTER OF: Proposed Plan Change 7 to the
Canterbury Land and Water Regional
Plan – Section 14: Orari-Temuka-
Opihi-Pareora

**UPDATE OF THE EVIDENCE OF MARK WHITBY WEBB ON BEHALF OF THE
ADAPTIVE MANAGEMENT WORKING GROUP
(SUBMITTER NO. PC7-385)**

Dated: 27 October 2020

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1 INTRODUCTION

- 1.1 My full name is Mark Whitby Webb. My experience and qualifications are set out in my primary evidence statement dated 17 July 2020.
- 1.2 The purpose of this statement is primarily to provide an update to my primary evidence in light of the expert caucusing on freshwater quality and ecology, specifically the expert's agreement to the Adaptive Management Working Group's (AMWG's) "Full Availability" and "Level 1" minimum flows, and detail the remaining outstanding matters related to the "Level 2" minimum flow, and my opinion in respect to each.

2 AGREEMENT TO THE AMWG "FULL AVAILABILITY" AND "LEVEL 1" MINIMUM FLOWS

- 2.1 Paragraph 40 of the Joint Witness Statement – Freshwater Quality/Ecology (JWS) notes the expert's agreement to the "Full Availability" regime for the Opihi River at Saleyards Bridge proposed by the AMWG, and that the proposed increase in flows, particularly for January and February, provide greater support for ecological values than those proposed in PC7.
- 2.2 Furthermore, paragraph 41 of the JWS notes agreement that the AMWG "Level 1" regime provides adequate habitat retention for ecological values for the Opihi River below the Saleyards Bridge (SYB).
- 2.3 In my opinion, this confirms that the increases proposed under the "Full Availability" regime in Table 14(w) as notified are not required to provide adequate flows ecologically.

3 OUTSTANDING MATTER RELATED TO "LEVEL 2" MINIMUM FLOWS

- 3.1 As indicated in the JWS (at paragraph 42), the experts could not agree on how to balance the ecological outcomes of Level 2 regimes in PC7 Table 14(v) and Table 14(w) that provide for higher minimum flows in the short term at increased risk of loss of all storage in the long term, compared to the AMWG Level 2 regime in Table 14(v)(ii) of its submission on PC7 where there are lower minimum flows in the short term to save storage to maintain connectivity in the long term.
- 3.2 Having had many years salvaging fish from a drying Opihi River, it is my opinion that maintaining flow connectivity is more important to the

sustainability of indigenous and salmonid fish values in the river than having higher flows earlier in the season and greater risk there will be no storage later in the season to maintain connectivity.

- 3.3 The Level 2 AMWG minimum flow regime proposes 3.5 cumecs as the flow that will be implemented at any time of the year when flows continue to drop and Level 1 thresholds are breached. NIWA habitat modelling in the lower Opihi main stem (Jellyman, 2019¹) identifies four of five salmonid ecological values modelled attain maximum habitat availability at flows less than 3.5 cumecs and the average habitat availability for all five salmonid values peaks at about 2 cumecs. A minimum flow of 3.5 cumecs will impact on availability of adult trout drift feeding habitat – the availability of angling habitat. In low flows it should be expected that habitat targeted by anglers will reduce since it has the highest flow needs of any of the sports fish values and peaks at around 6.5 cumecs in the lower Opihi.
- 3.4 The notified PC7 Table 14(v) and Table 14(w) Level 2 minimum flow offers flows in October to December, March and April that will benefit adult brown trout drift feeding habitat compared to the AMWG Table 14(v)(ii) Level 2 regime, however it will reduce habitat availability for all other salmonid values that were modelled compared to the AMWG regime. I believe this supports the contention that salmonid habitat availability will be maintained near maximum in periods when the AMWG Level 2 regime minimum flow of 3.5 cumecs is applied and that the storage saved to maintain connectivity that this regime provided for, is more valuable for this purpose than to be released as higher minimum flows in the short term according to PC7's Table 14(v) and Table 14(w) Level 2 regime.
- 3.5 For completeness, I also note that it is still unclear to me why PC7's Table 14(u) would propose a minimum flow at SH1 of 2.6 cumecs but not the equivalent flow of 3.5 cumecs at SYB as proposed by the AMWG.

Mark Whitby Webb

27 October 2020

¹ Lower Opihi River Ecological Flow Assessment. Prepared for Environment Canterbury. Jellyman, P. (2019). NIWA