

MAY IT PLEASE THE COMMISSIONER

1. By Minute 2 dated 17 September, the Commissioner directed the Applicant to respond to questions listed in Minute 1 and the submitters to provide any comments in writing to the Applicant's Amended proposal (or Letterbox proposal as I will refer to it) and the information provided in response to the matters in Minute 1.
2. In summary, the DGC's position in relation to the original Application has not changed because of the Letterbox proposal. Its position is that the gates should be removed, but if the Commissioner considers there is a need for tide gates in the present location, active or fish friendly/self-regulating gates would provide for lesser effects on fish passage and Īnanga spawning.
3. The DGC's response is set out below, including some initial comments on the consent conditions, in the event the Commissioner is minded granting consent.

RESPONSE TO THE AMENDED PROPSAL

4. The Amended Proposal was received from the Applicant shortly before the hearing held on 30 August. The DGC thanks the Commissioner for providing submitters with the time to consider and respond in writing to the Amended Proposal (given that the evidence filed by the submitters was in response to a "status quo" application with no conditions of consent provided).
5. The Applicant's Amended Proposal was outlined in Mr Thomson's legal submissions dated 29 August 2024 and "*consists of letterbox opening (vertical slot), or similar, to provide for native fish passage when the gates are closed (Letterbox)*". The Letterbox proposal was accompanied by monitoring conditions contained in Appendix 2 "Draft Conditions of Consent" of Mr Thomson's legal submissions. These conditions provide for only one Letterbox to be provided (ie a letterbox or vertical slot in only one of the three tide gates).
6. The size of the Letterbox was not specified in the draft conditions of consent. However, since the hearing, the Applicant has advised that it is "*comfortable that a letterbox with similar dimensions to the example at Taranaki Stream in Canterbury (approximately 400mm high and 150mm wide) could be installed*".
7. In correspondence sent to the submitters dated 16 October 2024 the Applicant has since specified that dimensions will be 600x200 mm. It also specified that:
 - a. no closeable 'flap' or door is proposed, which is for engineering convenience; and

- b. the letterbox will be installed on the middle of the three existing gates and there are no other changes proposed to the structure.
8. The DGC understands that there are no other changes from the position at the hearing, although it has confirmed the Applicant is now seeking a 5 year consent term.
9. While the novel Letterbox proposal may be an improvement from the existing status quo (where there is no fish passage provided for approximately half the time, when the gates are closed) the alternatives mentioned above (active gates or fish-friendly gates) are considered best practice and minimum standard respectively. The letterbox design has not been used widely within New Zealand (one or two cases) and has had extremely limited monitoring to determine effectiveness. While the letterbox opening has been suggested by the Applicant to always provide fish passage, this is not at all certain.
10. Velocity through the letterbox will likely, at times, be high, and other aspects, such as fish behavioural responses and their ability to find the opening (noting the gap is only 20cm wide and located on only 1 of 3 gates) in the first place may detrimentally impact on its effectiveness. If the Letterbox proposal is employed, then appropriate monitoring will be required to assess effectiveness.
11. The DGC acknowledges that active and self-regulating gates are not without their issues either, and effective fish passage will depend on the operating regime of the gates, with monitoring and adjustments required to maximise fish passage success. Ms Bowen's view is that both a letterbox and an active or self-regulating gate (or some other way to increase the length of time the gate is open) could be used in combination. This could be the subject of further expert conferencing.

Comments on Draft Conditions of Consent

12. In relation to the Draft Conditions of Consent, the DGC understands from the Applicant that these conditions will be subject to further refinement (and discussion through expert conferencing), but provides the following initial comments:
 - a. Habitat enhancement (condition 1 and 2): The current enhancement proposed is 1.13ha (0.6ha upstream of the gates and 0.53ha downstream). PDP (2022) mapped 1.95ha of spawning habitat that they considered to be affected by the gates (which Ms Bowen considers to be an underestimate). PDP applied a 1:5 enhancement ratio and determined they needed to enhance 6.9ha as mitigation. The current

1.13ha does not make up what PDP calculated as habitat lost by the presence of the gates (a figure which Ms Drummond referred to as conservative).

- b. Habitat Enhancement Plan (conditions 4 and 5): restoration of habitat can be complex and needs to be undertaken carefully to mitigate against its own environmental effects. There is currently a lack of information around the range of enhancement actions which will be undertaken.
- c. Īnanga Spawning Surveys and Mapping (conditions 8 and 9): Īnanga spawning surveys are proposed to be undertaken on two occasions over peak spawning months of March to June, once pre- enhancement and once post-enhancement. The conditions state that this will also include observations of egg development. The DGC's opinion is that one survey pre spawning and one survey post spawning would not provide sufficient information to assess data, and would not be able to also assess egg development and outcome of any spawning events which would need repeated visits. For example, recent efforts by the Department to get a baseline understanding of Īnanga spawning within a nearby catchment (Waikawa) involved a team of 5 people, working 2 days a month between the months of February to June. There were differences in spawning site locations and significant differences in peak egg production between these months¹. If survey effort is insufficient then results will not be able to measure success of any mitigation, and instead could be due to monthly variations in peak spawning activity.
- d. Fish passage (condition 10): The installation of boulder clusters will require regular inspection and maintenance to ensure that they stay in place. Very little detail is given on their placement, but careful placement of these boulders will be required to ensure effective fish passage and will need to take into account swimming abilities of fish species and life stages in regard to distances between clusters, size of clusters and resting areas.
- e. Fish Passage Monitoring (condition 12): This condition is scant on detail. For example, there is no monitoring plan which the condition must be undertaken in accordance with. The DGC's view is that monitoring of only three times over 24 months is not sufficient to make the monitoring

¹ For example, one month only yielded one "spawning site" compared to many sites found in other months, and a double peak in egg production was found to occur in both March and May.

meaningful and assess the ability of all species to successfully pass the letterbox. The New Zealand Fish Passage Guidelines states that where novel solutions are utilised, more robust monitoring is required.

Monitoring should target peak migratory times of agreed target species including longfin eels, īnanga and lamprey at a minimum. Any monitoring should be consistent with the New Zealand Fish Passage Guidelines. Monitoring should also include velocity measurements through the “letterbox”, as well as within the diversion channel (once mitigations have been installed). The recommendations as outlined in Ms Bowen’s evidence should be incorporated into the monitoring plan. The Applicant’s most recent correspondence dated 16 October 2024 provides some further details regarding a monitoring programme which could usefully be discussed at expert conferencing.

- f. Water quality monitoring (conditions 13 and 14): The advice of Ms Bowen is that the salinity survey mandated by condition 13 should occur at spring high tide, over īnanga spawning period.
- g. As mentioned at the hearing the DGC also considers that should include a requirement for the decommissioning of the tide gates at the end of the consent term. A bond as surety should also be considered.

RESPONSE TO THE INFORMATION PROVIDED

13. The DGC has reviewed the further information provided by the Applicant dated 9 October 2024 and provides the following responses, firstly in relation to the memorandum provided by Matthew Gardner:

- a. The data set utilised by Mr Gardner from 1985-86 is limited and does not account for changes since this time, including the effects of climate change. The DGC considers that consideration should be given to leaving the gates open for a period of time to help better conclusively answer this question of determining at what water level it becomes apparent that the tide waters will have a more than minor effect on the upstream improved pasture land.
- b. Mr Gardener states that “*The peak water level for a high tide cycle range in the historic data ranged from around 0.4m to 1.2 m*” yet none of the data provided in figure 3 or 4 shows any tidal level above approximately 0.80m.

14. In relation to the Memorandum of Laura Drummond dated 4 October 2024, Ms Drummond's view is that the proposed 'letterbox' design would provide improved passage for kanakana when the gates are closed and is considered a better option at this site. Having sought ecological advice from Ms Bowen, the DGC's view is that it does not have enough information to determine if the letterbox design would improve fish passage outcomes for lamprey at this site. Successful passage may be impacted by a number of aspects including behavioural responses, and ability of fish to find the entrance.



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DATED this 22 October 2024