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Our Ref: R4957

26 February 2019

Lacey Bragg
Environment Southland
Private Bag 90116
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Dear Lacey

REVIEW OF EFFECTS OF FIORDLAND TRAIL ON WETLAND VALUES

Environment Southland have received a retrospective resource consent application (APP-20191150 W4931) from the Fiordland Trails Trust to modify a wetland due to construction of a multi-use trail on the eastern margin of Lake Manapouri. The trail crosses the wetland approximately two kilometres northeast of Manapouri township. A report accompanying the application determines that the wetland is significant in terms of Section 6(c) of the RMA. The report then goes on to say that the effects of construction of the trail on the wetland will be very low owing to the small area of wetland affected. Environment Southland requires an independent assessment of the likely effects of trail construction on the wetland.

The remainder of this letter comprises technical comments on the likely effects.

Wetland Location and Context

The wetland occurs at the base of small scarp on the eastern shore of Lake Manapouri. It is likely to be a spring-fed wetland as there is no obvious stream channel upstream of the wetland. The wetland occurs in mosaic of fernland, mānuka (*Leptospermum scoparium*) scrub, and Scotch broom (*Cytisus scoparius*). An informal walking track zigzags from the nearby Manapouri - Te Anau Highway to the lakeshore, just south of the wetland.

The application states that the trail crosses approximately 35 metres of the wetland and is formed to a width of three metres. Two streams on each side of the wetland define it and are associated with culverts placed under the trail. A water table has been formed on the upstream side of the trail to direct sub-surface flows from the wetland into the southern culvert.

Ecological Assessment

The ecological assessment (Beale Consultants 2018) accompanying the application classifies the wetland as a marsh wetland, with the dominant wetland plant being purei (*Carex secta*), with

shrubs of mingimingi (*Coprosma propinqua*) and weeping mapou (*Myrsine divaricata*) on its margins. Wet ground between the two streams is occupied by stands of mānuka, shrubs of mingimingi, and the sedge rautahi (*Carex coriacea*) and swamp kiokio (*Parablechnum minus*), and this vegetation also comprises wetland vegetation. The report states that no plant species with a threat classification were observed in the wetland in the vicinity of the track. The report also indicates that one or more lizard species with a threat classification of At Risk-Declining may be present.

We note that one plant species found at the site, mānuka, has a current threat classification of At Risk-Declining, on the basis of the potential threat posed by myrtle rust (*Austropuccinia psidii*). Little weight has been attached to this due to the abundance of mānuka in Southland Region, because myrtle rust has not yet been detected in the lower South Island, and because mānuka is not a species that is commonly infected by myrtle rust in the North Island and northern South Island.

Effects Assessment - Beale Consultants

Beale Consultants (2018) assesses the effects of trail construction on the hydrological and ecological function of the wetland as being less than minor, due to the 120 m² loss of wetland habitat being a small proportion of the total wetland area.

Effects Assessment - Wildland Consultants

In my opinion, adverse effects on the wetland may be more than minor for the following reasons:

- The wetland has been classified as a marsh wetland, a wetland class that has been significantly cleared and modified in most parts of New Zealand.
- Clearance of indigenous wetland vegetation, while representing a relatively small wetland area, increases the cumulative loss of wetland extent, and the effects of this have not been avoided, remedied, or mitigated.
- The trail cuts across the flow of water in the upper part of the wetland, and diverts previously inflowing water into an adjacent stream. This is likely to cause local drying of the wetland adjacent to the water table, and reduce water flow to the larger downstream part of the wetland. These effects are likely to cause local changes in wetland vegetation over time, allowing facultative wetland species such as mānuka to increase in abundance at the expense of obligate wetland species such as purei.
- It is not clear if indigenous fish would use the small streams on each side of the wetland, but if so, the culverts installed could potentially provide barriers to fish passage.

Conclusion

The Beale Consultants (2018) report considers the effects on the wetland to be less than minor, but assesses only the area cleared in coming to this conclusion.

In my opinion the effects of constructing the trail across the wetland are likely to have been more than minor, due to hydrological effects which are likely to change the composition of the remaining wetland vegetation over time. Remediation, mitigation, or compensation actions could potentially address these adverse effects.

Please don't hesitate to contact me if you require further input or discussion.

REFERENCE

Beale Consultants 2018: Te Anau – Manapouri multi-purpose trail. Ecological assessment of Leg 6 wetland crossing. Prepared for the Fiordland Trails Trust.

Yours sincerely

A handwritten signature in black ink that reads "Kelvin Lloyd". The signature is written in a cursive, slightly slanted style.

Kelvin Lloyd
Principal Ecologist