BEFORE THE SOUTHLAND REGIONAL COUNCIL

UNDER THE Resource Management Act 1991

IN THE MATTER OF Resource consent applications by Sanford Limited, APP-20157616-V1, APP-203236-V1, APP-203237-V1, APP-203240-V1, APP-203241-V1, APP-203242-V1, APP-207256-V1, seeking coastal permits associated with the operation of a Salmon Farm at Big Glory Bay, Stewart Island.

FURTHER STATEMENT OF EVIDENCE OF PETER CLIFFORD LONGDILL

for the DIRECTOR-GENERAL OF CONSERVATION

Dated 25 March 2019

Department of Conservation
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Introduction

1 My full name is Peter Clifford Longdill.

2 My qualifications and experience are set out in my evidence dated 15 March 2019 (**my primary evidence)**.

3 This further evidence is in response to:

(a) queries the Hearing Panel have (relayed to me by counsel for the D-G) in relation to paragraphs 6.6, 6.7 and 10.3 of my primary evidence;

(b) the second direction of the hearing panel dated 18 March 2019; and

(c) further proposed conditions dated 25 March 2019.

Hearing panel concerns

4 I understand the Hearing Panel raised some queries (relayed to me by counsel for the D-G) in relation to paragraphs 6.6, 6.7 and 10.3 of my primary evidence. In particular, I understand that the Hearing Panel desired further explanation around my concerns relating to the water quality model described within the application, the water quality predictions arising from that model, and if modifications to the proposed consent conditions (i.e. modifications after the initial application) allayed my concerns.

Initial concerns

5 In my primary evidence I highlighted my initial concerns (prior to any discussions with Sanford to resolve those concerns) in connection with the water quality model and its predicted result, in summary those concerns included:

(a) The water quality model is simplistic, as it uses a passive (conservative) 'dilution tracer' approach to simulate farm nitrogen discharge (i.e. it does not include transformation of that discharge by chemical or ecological processes – e.g. phytoplankton removing dissolved nitrogen during photosynthesis etc.);

(b) As a result of the simplistic approach:

(i) the calibration of the water quality model is rather poor;

(ii) mussel farm removal of nitrogen cannot be included in the model (mussels consume plankton, and hence nitrogen);

(iii) the water quality model result (its prediction), can be considered as conservative (i.e. worst case) – I consider the model result to be so conservative, it is somewhat unrealistic.

(c) The (conservative) water quality model result (its prediction) of an increase of Chlorophyll-a of up to 2.5 to 4 µg/l is alarming.

6 Based upon my technical concerns (summarised above) I reviewed (June 2018) the proposed conditions of consent submitted with the initial application. In those conditions (as at June 2018), I did not find any conditions to limit the water quality impact to ensure any realised effect would be less than the (somewhat unrealistically conservative) water quality model prediction. In essence, the June 2018 conditions 'allowed for' the water quality conditions to be modified as per the (somewhat unrealistically conservative) water quality model.

Resolution of concerns

7 Accordingly, together with others from the Department, we engaged with Sanford and their technical advisors to go through those concerns and attempt to arrive at a mutually agreeable solution.

8 With relevance to my concerns summarised above, the end result of the engagement was the addition of the following in revised proposed consent conditions (i.e. those initially dated 18 December 2018):

(a) The inclusion of the staged approach for nitrogen increases;

(b) requirements which must be satisfied prior to moving from stage 1 to stage 2 (which includes among others, compliance to the water quality standards, no trends in monitoring data moving toward non-compliance)

(c) Water quality objectives;

(d) Environmental Quality Standards – water (EQS- water) with tier one and tier two standards for water quality.

9 The 18 December 2018 proposed conditions do not allow the same level of overall water quality change as that predicted by the model. I consider the level of water quality change allowed for within those revised conditions to be reasonable and precautionary. The staged approach provides an additional (and reasonable)

element of precaution against adverse water quality impacts from the nitrogen discharge increases.

Model

10 Based upon the inclusion of those aspects within the 18 December 2018 proposed consent conditions, and the individual limits specified therein, I am of the opinion that the water quality model result takes on far less meaning and importance. This is because the model result does not directly inform the conditions; the environmental standards for water quality are set at more precautionary levels. Accordingly, my concerns with the model should take on far less importance.

Further proposed Consent Conditions dated 25 March 2019

11 I have received by email from Phil Mitchel updated proposed consent conditions dated 25th March 2019.

12 I have reviewed Schedule A of those updated proposed consent conditions, and identify the following suggestions:

(a) Condition G5(b). "*at the two mid bay monitoring ~~control~~ sites (WS3 and WS4) and a reference site outside the bay*". Similar amendment to Figure 1 and its legend.

(b) Each individual consent contains an "Appendix One - Big Glory Bay Monitoring Programme", the contents of which are not consistent with Schedule A. In particular, there are inconsistencies with respect to major items of the monitoring program such as:

(i) the frequency of water quality monitoring (four times per year under Appendix one, item 2(a)(ii) *vs* monthly under Schedule A, item G5)

(ii) the frequency of benthic seabed monitoring (every 5 years for fallowed farms under Appendix one, item 1 (a)(ii) *vs* years 1,2,3, and 5 of fallowing under Schedule A, Table 3)

Schedule A should be the effective schedule for the monitoring programme.

13 The total number of water quality monitoring sites confirmed within Conditions G5(a)(b)(c) is 10 sites, with monthly sampling[1].

[1] Accordingly, the assumption I made at paragraph 11.4 of my 15 March 2019 evidence is confirmed – that there would be a minimum of 6 monitoring stations inside Big Glory Bay, which are sampled at least once per month – with no further concerns.

14 I am supportive of "Note 1" to Table 3, of Schedule A, which requires benthic monitoring to be conducted if fish have been stocked at the farm for a cumulative period exceeding 3 months (i.e. 90 days) in the 12 month reporting period. This is more appropriate than the trigger specified in the earlier draft plan[2].

15 I have no other concerns regarding the content of that Schedule A dated 25 March 2019.

Peter Clifford Longdill
25 March 2019

[2] Within the draft plan attached to the evidence of Dr Mark James, the trigger was defined on page 7 of the monitoring plan, at the first paragraph. "*Monitoring must be conducted at those monitoring sites shown in Figure 2 that are "in farming" at the time of annual monitoring (Table 2). Farms in fallow only require benthic monitoring every alternate year, in years 1, 3, and 5 of fallowing and for the short period of the existing consent this would be carried out at one smolt and one grow farm*".