

Sanford Limited
Big Glory Bay Salmon Farm Resource Consent Variation

Proposed Conditions:

Note that:

- a) the changes to conditions sought in the Variation application document are presented in ~~redline /strikeout~~ format and coloured in red.
- b) Further proposed changes proffered by Sanford are presented in ~~redline /strikeout~~ format and coloured in blue.

A. CONDITIONS PROPOSED IN VARIATION FOR EACH INDIVIDUAL EXISTING CONSENT

Resource Consent AUTH-20157616, relating to MF 246

4. (a) The nitrogen input from feed at the marine farm site for salmon between 1 July and 30 June each year shall be restricted to ~~73-8415.1~~ tonnes provided that:-

- ~~(i) the total nitrogen input from feed used in Big Glory Bay between 1 July and 30 June each year does not exceed 659 tonnes; and~~
- ~~(ii) a binding agent is contained within the feed.~~

~~Where the consent holder has the right to use an additional site or sites consented for salmon farming within Big Glory Bay, the total nitrogen input from feed can be deployed, either wholly or in part, between any or all of the consent holder's marine farm sites provided that the significant adverse effects on the seabed are avoided and other effects can be remedied or mitigated.~~

- ~~(b) Activities authorised by Condition 4(a) shall not:~~

- ~~• Increase the average excess total ammonia nitrogen in Big Glory Bay by more than 30 µg/L at the surface; or~~
- ~~• Increase the average excess of chlorophyll-a in Big Glory Bay by more than 4 µg/L at the surface or;~~
- ~~• Reduce the average dissolved oxygen concentration in Big Glory Bay below 7 mg/L at the surface; or~~
- ~~• Result in total organic carbon deposition greater than 0.73 kg/m²/year more than 100 metres from the boundary of the site; or~~

- Result in total faeces and solid waste deposition greater than 5 kg/m²/year more than 100 metres from the boundary of the site.

(c) Notwithstanding Condition 16, a suitably qualified, experienced and independent person shall prepare a monitoring plan, the purpose of which is to enable compliance with those standards in Condition 4(b) to be assessed.

The monitoring plan shall be submitted to Environment Southland for approval in a technical certification capacity two months before the consent holder's total nitrogen input from feed in Big Glory Bay is increased above ~~332.064~~ 442.752 tonnes/year.

- (bd) The consent holder shall provide an annual report summarising the:
- (i) monthly volume of feed for salmon supplied to the marine farm site; and
 - (ii) monthly loading (in tonnes) of total nitrogen supplied to the marine farm site as a result of feeding salmon;

Between 1 July and 30 June the following year. This report shall be provided to the Consent Authority by 31 July each year, or upon request.

Resource Consent 207256, relating to MF 249

5.(a) Except where Condition 5(b) applies, the nitrogen input from feed at the marine farm site for salmon between 1 July and 30 June each year shall be restricted to 73.792 tonnes.

(b) Where the consent holder:

(i) holds additional resource consents that authorise salmon farming in Big Glory Bay that have conditions specifying allowable nitrogen input from feed; and/or

(ii) has the written agreement of another consent holder in Big Glory Bay that holds a resource consent with conditions specifying allowable nitrogen input;

the consent holder may utilise that nitrogen input from feed has the right to use an additional site or sites consented for salmon farming within Big Glory Bay, the total nitrogen input from feed can be deployed, either wholly or in part, between any or all of the consent holder's marine farm sites provided that: the significant adverse effects on the seabed are avoided and other effects can be remedied or mitigated. A significant adverse effect is considered to have occurred if no marine life exists under the salmon cages.

(iii) the total nitrogen input from feed used in Big Glory Bay between 1

July and 30 June each year does not exceed 659 tonnes; and

(iv) modelling in DELFT3D, or alternative modelling software agreed to in writing by Environment Southland, has been undertaken by a suitably qualified, experienced, and independent person, which demonstrates that an additional amount of nitrogen input from feed above that authorised by Condition 5(a) shall not:

- Increase the average excess total ammoniacal nitrogen in Big Glory Bay by more than 30 µg/L at the surface; or
- Increase the average excess of chlorophyll-a in Big Glory Bay by more than 4 µg/L at the surface or;
- Reduce the average dissolved oxygen concentration in Big Glory Bay below 7 mg/L at the surface; or
- Result in total organic carbon deposition greater than 0.73 kg/m²/year more than 100 metres from the boundary of the site; or
- Result in total faeces and solid waste deposition greater than 5 kg/m²/year more than 100 metres from the boundary of the site; and

(v) the additional nitrogen input from feed allows compliance with criteria listed in Condition 5(b)(iv); and

(vi) the feed deployed shall be consistent with the parameters of the feed modelled.

(c) Notwithstanding Condition 16, a suitably qualified, experienced and independent person shall prepare a monitoring plan, the purpose of which is to enable compliance with those standards in Condition 5(b)(iv) to be assessed.

The monitoring plan shall be submitted to Environment Southland for approval in a technical certification capacity two months before the consent holder's total nitrogen input from feed in Big Glory Bay is increased above 442.752 tonnes/year to a rate that would result in an exceedance of 332.064 plus any allowable nitrogen input from feed referred to in Condition 5(b)(ii).

Resource Consent 203236, relating to LI 320

5.(a) The nitrogen input from feed at the marine farm site for salmon between 1 July and 30 June each year shall be restricted to ~~73.79~~200.6 tonnes provided that:-

(i) the total nitrogen input from feed used in Big Glory Bay between 1

July and 30 June each year does not exceed 659 tonnes; and

Where the consent holder has the right to use an additional site or sites consented for salmon farming within Big Glory Bay, the total nitrogen input from feed can be deployed, either wholly or in part, between any or all of the consent holder's marine farm sites provided that the significant adverse effects on the seabed are avoided and other effects can be remedied or mitigated. A significant adverse effect is considered to have occurred if no marine life exists under the salmon cages.

(b) Activities authorised by Condition 5(a) shall not:

- Increase the average excess total ammoniacal nitrogen in Big Glory Bay by more than 30 µg/L at the surface; or
- Increase the average excess of chlorophyll-a in Big Glory Bay by more than 4 µg/L at the surface or;
- Reduce the average dissolved oxygen concentration in Big Glory Bay below 7 mg/L at the surface; or
- Result in total organic carbon deposition greater than 0.73 kg/m²/year more than 100 metres from the boundary of the site; or
- Result in total faeces and solid waste deposition greater than 5 kg/m²/year more than 100 metres from the boundary of the site.

(c) Notwithstanding Condition 16, a suitably qualified, experienced and independent person shall prepare a monitoring plan, the purpose of which is to enable compliance with those standards in Condition 5(b) to be assessed.

The monitoring plan shall be submitted to Environment Southland for approval in a technical certification capacity two months before the consent holder's total nitrogen input from feed in Big Glory Bay is increased above ~~332.064~~ 442.752 tonnes/year.

Resource Consent 203237, relating to LI 321

5.(a) Except where Condition 5(b) applies, the nitrogen input from feed at the marine farm site for salmon between 1 July and 30 June each year shall be restricted to 73,792 tonnes.

(b) Where the consent holder:

- (i) holds additional resource consents that authorise salmon farming in Big Glory Bay that have conditions specifying allowable nitrogen input from feed; and/or
- (ii) has the written agreement of another consent holder in Big Glory Bay that holds a resource consent with conditions specifying allowable

nitrogen input;

the consent holder may utilise that nitrogen input from feed has the right to use an additional site or sites consented for salmon farming within Big Glory Bay, the total nitrogen input from feed can be deployed, either wholly or in part, between any or all of the consent holder's marine farm sites provided that: the significant adverse effects on the seabed are avoided and other effects can be remedied or mitigated. A significant adverse effect is considered to have occurred if no marine life exists under the salmon cages.

(iii) the total nitrogen input from feed used in Big Glory Bay between 1 July and 30 June each year does not exceed 659 tonnes; and

(iv) modelling in DELFT3D, or alternative modelling software agreed to in writing by Environment Southland, has been undertaken by a suitably qualified, experienced, and independent person, which demonstrates that an additional amount of nitrogen input from feed above that authorised by Condition 5(a) shall not:

- Increase the average excess total ammoniacal nitrogen in Big Glory Bay by more than 30 µg/L at the surface; or
- Increase the average excess of chlorophyll-a in Big Glory Bay by more than 4 µg/L at the surface; or
- Reduce the average dissolved oxygen concentration in Big Glory Bay below 7 mg/L at the surface; or
- Result in total organic carbon deposition greater than 0.73 kg/m²/year more than 100 metres from the boundary of the site; or
- Result in total faeces and solid waste deposition greater than 5 kg/m²/year more than 100 metres from the boundary of the site; and

(v) the additional nitrogen input from feed allows compliance with criteria listed in Condition 5(b)(iv); and

(vi) the feed deployed shall be consistent with the parameters of the feed modelled.

(c) Notwithstanding Condition 16, a suitably qualified, experienced and independent person shall prepare a monitoring plan, the purpose of which is to enable compliance with those standards in Condition 5(b)(iv) to be assessed.

The monitoring plan shall be submitted to Environment Southland for approval in a technical certification capacity two months before the

~~consent holder's total nitrogen input from feed in Big Glory Bay is increased above 442.752 tonnes/year to a rate that would result in an exceedance of 332.064 plus any allowable nitrogen input from feed referred to in Condition 5(b)(ii).~~

Resource Consent 203240, relating LI 338

5.(a) ~~Except where Condition 5(b) applies, the nitrogen input from feed at the marine farm site for salmon between 1 July and 30 June each year shall be restricted to 73.792 tonnes.~~

(b) ~~Where the consent holder:~~

~~(i) holds additional resource consents that authorise salmon farming in Big Glory Bay that have conditions specifying allowable nitrogen input from feed; and/or~~

~~(ii) has the written agreement of another consent holder in Big Glory Bay that holds a resource consent with conditions specifying allowable nitrogen input;~~

~~the consent holder may utilise that nitrogen input from feed has the right to use an additional site or sites consented for salmon farming within Big Glory Bay, the total nitrogen input from feed can be deployed, either wholly or in part, between any or all of the consent holder's marine farm sites provided that: the significant adverse effects on the seabed are avoided and other effects can be remedied or mitigated. A significant adverse effect is considered to have occurred if no marine life exists under the salmon cages.~~

~~(iii) the total nitrogen input from feed used in Big Glory Bay between 1 July and 30 June each year does not exceed 659 tonnes; and~~

~~(iv) modelling in DELFT3D, or alternative modelling software agreed to in writing by Environment Southland, has been undertaken by a suitably qualified, experienced, and independent person, which demonstrates that an additional amount of nitrogen input from feed above that authorised by Condition 5(a) shall not:~~

- ~~• Increase the average excess total ammoniacal nitrogen in Big Glory Bay by more than 30 µg/L at the surface; or~~
- ~~• Increase the average excess of chlorophyll-a in Big Glory Bay by more than 4 µg/L at the surface or;~~
- ~~• Reduce the average dissolved oxygen concentration in Big Glory Bay below 7 mg/L at the surface; or~~
- ~~• Result in total organic carbon deposition greater than 0.73 kg/m²/year more than 100 metres from the boundary of the site;~~

or

- Result in total faeces and solid waste deposition greater than 5 kg/m²/year more than 100 metres from the boundary of the site; and

(v) the additional nitrogen input from feed allows compliance with criteria listed in Condition 5(b)(iv); and

(vi) the feed deployed shall be consistent with the parameters of the feed modelled.

(c) Notwithstanding Condition 16, a suitably qualified, experienced and independent person shall prepare a monitoring plan, the purpose of which is to enable compliance with those standards in Condition 5(b)(iv) to be assessed.

The monitoring plan shall be submitted to Environment Southland for approval in a technical certification capacity two months before the consent holder's total nitrogen input from feed in Big Glory Bay is increased above 442.752 tonnes/year to a rate that would result in an exceedance of 33,054 plus any allowable nitrogen input from feed referred to in Condition 5(b)(iv).

Resource Consent 203241, relating to LI 339

5.(a) Except where Condition 5(b) applies, the nitrogen input from feed at the marine farm site for salmon between 1 July and 30 June each year shall be restricted to 55,344 tonnes.

(b) Where the holder:

(i) holds additional resource consents that authorise salmon farming in Big Glory Bay that have conditions specifying allowable nitrogen input from feed; and/or

(ii) has the written agreement of another consent holder in Big Glory Bay that holds a resource consent with conditions specifying allowable nitrogen input;

the consent holder may utilise that nitrogen input from feed has the right to use an additional site or sites consented for salmon farming within Big Glory Bay, the total nitrogen input from feed can be deployed, either wholly or in part, between any or all of the consent holder's marine farm sites provided that: the significant adverse effects on the seabed are avoided and other effects can be remedied or mitigated. A significant adverse effect is considered to have occurred if no marine life exists under the salmon cages.

(iii) the total nitrogen input from feed used in Big Glory Bay between 1

July and 30 June each year does not exceed 659 tonnes; and

(iv) modelling in DELFT3D, or alternative modelling software agreed to in writing by Environment Southland, has been undertaken by a suitably qualified, experienced, and independent person, which demonstrates that an additional amount of nitrogen input from feed above that authorised by Condition 5(a) shall not:

- Increase the average excess total ammoniacal nitrogen in Big Glory Bay by more than 30 µg/L at the surface; or
- Increase the average excess of chlorophyll-a in Big Glory Bay by more than 4 µg/L at the surface or;
- Reduce the average dissolved oxygen concentration in Big Glory Bay below 7 mg/L at the surface; or
- Result in total organic carbon deposition greater than 0.73 kg/m²/year more than 100 metres from the boundary of the site; or
- Result in total faeces and solid waste deposition greater than 5 kg/m²/year more than 100 metres from the boundary of the site; and

(v) the additional nitrogen input from feed allows compliance with criteria listed in Condition 5(b)(iv); and

(vi) the feed deployed shall be consistent with the parameters of the feed modelled.

(c) Notwithstanding Condition 16, a suitably qualified, experienced and independent person shall prepare a monitoring plan, the purpose of which is to enable compliance with those standards in Condition 5(b)(iv) to be assessed.

The monitoring plan shall be submitted to Environment Southland for approval in a technical certification capacity two months before the consent holder's total nitrogen input from feed in Big Glory Bay is increased above 442.752 tonnes/year to a rate that would result in an exceedance of 332.064 plus any allowable nitrogen input from feed referred to in Condition 5(b)(ii).

Resource Consent 203242, relating to LI 340

5.(a) Except where Condition 5(b) applies, the nitrogen input from feed at the marine farm site for salmon between 1 July and 30 June each year shall be restricted to 55,344 tonnes.

(b) Where the consent holder:

(i) holds additional resource consents that authorise salmon farming in Big Glory Bay that have conditions specifying allowable nitrogen input from feed; and/or

(ii) has the written agreement of another consent holder in Big Glory Bay that holds a resource consent with conditions specifying allowable nitrogen input;

the consent holder may utilise that nitrogen input from feed has the right to use an additional site or sites consented for salmon farming within Big Glory Bay, the total nitrogen input from feed can be deployed, either wholly or in part, between any or all of the consent holder's marine farm sites provided that: the significant adverse effects on the seabed are avoided and other effects can be remedied or mitigated. A significant adverse effect is considered to have occurred if no marine life exists under the salmon cages.

(iii) the total nitrogen input from feed used in Big Glory Bay between 1 July and 30 June each year does not exceed 659 tonnes; and

(iv) modelling in DELFT3D, or alternative modelling software agreed to in writing by Environment Southland, has been undertaken by a suitably qualified, experienced, and independent person, which demonstrates that an additional amount of nitrogen input from feed above that authorised by Condition 5(a) shall not:

- Increase the average excess total ammoniacal nitrogen in Big Glory Bay by more than 30 µg/L at the surface; or
- Increase the average excess of chlorophyll-a in Big Glory Bay by more than 4 µg/L at the surface or;
- Reduce the average dissolved oxygen concentration in Big Glory Bay below 7 mg/L at the surface; or
- Result in total organic carbon deposition greater than 0.73 kg/m²/year more than 100 metres from the boundary of the site;
or
- Result in total faeces and solid waste deposition greater than 5 kg/m²/year more than 100 metres from the boundary of the site;
and

(v) the additional nitrogen input from feed allows compliance with criteria listed in Condition 5(b)(iv); and

(vi) the feed deployed shall be consistent with the parameters of the feed modelled.

(c) Notwithstanding Condition 16, a suitably qualified, experienced and

independent person shall prepare a monitoring plan, the purpose of which is to enable compliance with those standards in Condition 5(b)(iv) to be assessed.

The monitoring plan shall be submitted to Environment Southland for approval in a technical certification capacity two months before the consent holder's total nitrogen input from feed in Big Glory Bay is increased above 442.752 tonnes/year to a rate that would result in an exceedance of 332.064 plus any allowable nitrogen input from feed referred to in Condition 5(b)(ii).

B. ADDITIONAL CONDITIONS PROPOSED TO BE INCLUDED ON EACH INDIVIDUAL CONSENT

Big Glory Bay Salmon Farm Environmental Management Plan

1. Notwithstanding any other conditions of this consent, the consent holder shall, no later than [insert date], submit to Environment Southland, a Big Glory Bay Salmon Farm Environmental Management Plan (“BGBSFEMP”) for approval in a technical certification capacity.
2. The BGBSFEMP required by Condition 1:
 - a. May be updated by the consent holder at any time; and
 - b. Shall be updated by the consent holder at least once in every two year period, within three months of the completion of the Technology Update Report required by Condition 4;
provided that any updated provisions shall only apply, once the updated BGBSFEMP has been approved in a technical certification capacity by Environment Southland.
3. The purpose of the BGBSFEMP required by Condition 1, or any updated BGBSFEMP prepared in accordance with Condition 2, is to set out:
 - a. The procedures and practices to be implemented by the consent holder in order to ensure compliance with Conditions [x – y] of this consent; and
 - b. The proposed layout of each salmon farm site and how this is expected to change over each two year period; and
 - c. The maintenance procedures to be followed to ensure the ongoing efficacy of all salmon farm structures; and
 - d. The procedures and practices to be implemented to minimise, to the extent practicable, the interactions of marine mammals and seabirds with the farm site; and
 - e. How the results of the monitoring required by the conditions of this consent will be utilised to adapt operational farming practices, including but not limited to the

fallowing of individual sites, in the event that monitoring indicates that unforeseen environmental effects may arise; and

- f. Any changes in salmon farming technology and/or farm management practices identified in the Technology Update Report required by Condition 4 that the consent holder proposes to implement.

Technology Update Report

4. At three yearly intervals during the term of this consent, the consent holder shall engage an appropriately qualified and experienced professional to prepare a Technology Update Report and, following consultation with Environment Southland, provide it to Environment Southland.

The purpose of the Technology Update Report is to:

- a. Evaluate and report on any new developments in salmon farming technology and/or farm management practices that have the potential to reduce the deposition on the seafloor of:
 - i. Uneaten salmon feed; and
 - ii. Salmon faeces.
- b. Any environmental benefits that could be expected by adopting that technology and/or farm management practices; and
- c. The feasibility of adopting that technology and/or farm management practice, including, but not limited to financial implications.

Advice Note

Conditions 1 – 4 are included on each of the consent holder’s salmon farming resource consents in Big Glory Bay. It is envisaged the one BGSFEMP and one Technology Update Report will be prepared that addresses all the consent holder’s salmon farms in Big Glory Bay, rather than having a number of individual documents.

Add the Following to the Monitoring Condition of each Consent

- X. The annual monitoring report required by Condition [y] of this consent shall include:
 - a. A comparison with the results of previous monitoring at the same salmon farm site;
 - b. Identification of any potential environmentally significant monitoring trends, at both the site and Big Glory Bay scales; and
 - c. Identification of any proposed additional monitoring, including the rationale for it, and the proposed scale, extent and timeframes involved.

- d. An evaluation of the potential implications of the monitoring results from all salmon farming operations undertaken in Big Glory Bay by the consent holder on the environmental quality of Big Glory Bay;
- e. The extent to which the monitoring results indicate that farming practices may need to be adapted in order to address unforeseen environmental effects indicated by the monitoring results.

Add the Following to the Review Condition of each Consent

- (e) Adding or amending conditions in order to address any matter raised in:
 - i. The annual monitoring report insofar as it relates to Condition [X immediately above]; or
 - ii. The Technology Update Report required by Condition 4.

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