



## New Zealand King Salmon – 2020/2021 – Compliance Report for Marine Environmental Monitoring - Adaptive Management Plan for Salmon Farms Ngamahau, Kopaua and Waitata (2020-2021) (report 3538)

### Assessment of compliance with consent U140294, U140295 and U140296

This report sets out the compliance status for the Waitata Reach (U140294), Ngamahau (U140296) and Kopaua (U140295) Marine Farm Coastal Permits – discharge to seawater. The information in this report is based on the Marine Environmental Monitoring - Adaptive Management Plan for Salmon Farms Ngamahau, Kopaua and Waitata (2020-2021) (report 3538); Report provided by Cawthron Institute.

Compliance Status has been indicated using a monitoring traffic light system where **green** indicates compliance; **yellow** indicates technical non-compliance; **orange** indicates that a breach of effects or best practice consent conditions has occurred with minor actual or potential adverse environmental effects, and **red** indicates significant non-compliance where a persistent or significant breach has occurred causing adverse environmental effects.

Compliance Status: **Non-compliant**

Report prepared by: Chanelle Seabrook Environmental Protection Officer

Date: 18 September 2020

Please note that the following consent conditions relate only to the 2020/2021 MEM-AMP (Report 3538), they do not include the complete list of conditions of consent. See annual compliance reports for each farm for further compliance ratings.

Note consent conditions vary slightly between the three farms and are reflected in the colour coding: Ngamahau (**pink**); Waitata (**blue**); Kopaua (**purple**).

Condition	Comment	Compliance Status
<p><b>54/54/54.</b> Marine Environment Monitoring, Adaptive Management and Reporting</p> <p>The marine environmental monitoring, adaptive management and reporting to be undertaken in accordance with condition <b>55-66/ 56-67/ 56-67</b> shall address, but not be limited to, the following potential effects from the operation of the marine farm:</p> <p>a. Effects of deposition on the seabed and foreshore;</p> <p>b. Effects on water quality</p>	<p>The MEM-AMP provides details of a sampling regime to be undertaken in the 2020-2021 monitoring period. This regime is intended to address the effects of deposition on the seabed and foreshore as well as effects on the water quality.</p>	<b>C</b>
<p><b>56/56/56.</b> The following plans and reports shall be prepared by the consent holder; in order to address the potential effects set out in condition 54 and achieve the Purposes in condition 55.</p> <p>a. Prior to the initial placement of the first structure(s) at the marine farm, a Baseline Plan to specify the monitoring and analysis to be undertaken in order that baseline information can be obtained and analysed prior to the initial placement of the first structure(s) at the marine farm;</p> <p>b. Prior to initial placement of the first structure(s) at the marine farm, a baseline Report which presents the results from the monitoring and analysis undertaken in accordance with the Baseline Plan, makes recommendation for the development of the marine farm and the monitoring to be undertaken in the first year of operation of the marine farm, and specifies the initial WQS and responses in accordance with condition 44;</p> <p>c. For each year of operation of the marine farm, a MEM-AMP to provide a summary of the relevant recommendations from the previous year's Baseline Report or Annual Report, and specify the proposed monitoring and marine farm management actions for the following year.</p>	<p>a) N/A</p> <p>b) N/A</p> <p>c) The 2020-2021 MEM-AMP (report 3538 relating to Kopāua, Ngamahau and Waitata) states no new recommendations were made to change the soft sediment habitat or water column sampling design during the previous round of annual monitoring.</p> <p>The MEM-AMP reports that last year's recommendation regarding the revision of DO WQS has been undertaken as part of the development of BMP water quality guidelines. However, it will not be implemented until the BMP is</p>	<b>C</b>

<p>The MEM_AMP may be prepared as on Plan jointly with the MEM-AMP(s) for other marine farms managed by the same consent holder.</p> <p>d. For each year of operation of the marine farm, and Annual Report to provide details of the monitoring results from the previous year, an analysis of the monitoring results (including in terms of compliance with the EQS), and recommendations for changes to the monitoring and marine farm management actions for the following year. The Annual Report may be prepared jointly with Annual Reports for other marine farms managed by the same consent holder.</p>	<p>incorporated in to the consent.</p> <p>The MEM-AMP also identifies four recommendations from the latest annual report in relation to reef monitoring.</p> <p>The MEM-AMP reports that the timing of soft sediment habitat sampling has been adjusted as a result of the change to single year class farming. The MEM-AMP states that the exact timing will be in consultation with NZKS. There should be clear criteria laid out in the MEM-AMP as to what will determine this timing to ensure it occurs at the optimum time to establish the true environmental impacts.</p> <p>It doesn't however identify any recommendations to changes in farm management actions.</p> <p>d) N/A</p>	
<p><b>57/57/57.</b> The consent holder shall engage an independent person (or persons) with appropriate knowledge and expertise to prepare the Baseline Plan and Baseline Report, the MEM-AMP and the Annual Report, in accordance with the conditions of this consent.</p>	<p>Cawthron institute was engaged to prepare the 2020/2021 the MEM-AMP.</p>	<b>C</b>
<p><b>58/58/58.</b> Prior to finalising the plans and reports specified in condition 56, the consent holder shall provide them in draft form to the Peer Review Panel for its review, assessment, recommendations and reports, in accordance with conditions <b>68-73/ 68-74/ 68-74</b>. The consent holder shall have particular regard to any recommendations from the Peer Review Panel in finalising these plans and reports. The plans and reports shall specify how the consent holder has had regard to any recommendations from the Peer Review Panel, if any recommendations have been adopted and the reasons why.</p>	<p>The Peer Review Panel were provided with the draft 2020/2021 MEM-AM on 28 July 2020. Comments from the PRP were provided to Council 12 August 2020.</p> <p>Alongside a range of comments and suggestions, the PRP highlights the lack of involvement by the Tangata Whenua Panel. This is an ongoing issue that needs to be addressed – <b>non-compliant</b>.</p> <p>The MEM-AMP doesn't identify the Peer Review Panel recommendations.</p>	<b>NC</b>
<p><b>60/61/61.</b> Other than as specified in condition <b>59/60/60</b>, having had particular regard to any recommendations from the Peer Review Panel, the consent holder shall provide the following plans and reports specified in condition 56 to the Council and <b>Te Atiawa Manawhenua ki te Tau ihu Trust (or organisation with the mandate to represent Te Atiawa Manawhenua ki te Tau ihu in relation to these issues)/the Tangata Whenua Panel (refer condition 77)/ the Tangata Whenua Panel (refer condition 77)</b>, in accordance with the following timing:</p> <p>a. The first MEM-AMP - following the provision of the Baseline Report to the Council and prior to the first discharge of feed to the marine farm;</p> <p>b. Each subsequent annual MEM-AMP - 31 July each year.</p> <p>c. The Annual report - by 30 April each year.</p>	<p>a) N/A</p> <p>b) The 2020-2021 MEM-AMP was provided to Council on 19 August 2020 – <b>technically non-compliant</b>.</p> <p>c) N/A</p>	<b>TNC</b>
<p><b>64/65/65. The MEM-AMP shall specify the following:</b></p> <p>a. A summary of the recommendation from the Baseline Report (in the case of the first MEM-AMP for the marine farm) or from the previous year's Annual Report regarding marine farm management actions and monitoring (including any increases or decreases in the tonnage of feed to be discharged).</p> <p>b. A description of all monitoring to be undertaken for the coming year (detailed monitoring requirements are set out in condition <b>65/66/66</b>). This shall include the methods, locations and frequency of the monitoring, including any control/reference sites. This shall give effect</p>	<p>The 2020-2021 MEM-AMP summarises the recommendations from the previous year's annual report.</p> <p>It identifies <b>one outstanding recommendation</b> from the previous MEM-AMPs, this was:</p> <ul style="list-style-type: none"> <li>• Recommendations related to fine-scale water column investigations.</li> </ul>	<b>C</b>

<p>to any recommendations contained in the Annual Report for amendments to the dimensions and area of the EQS compliance Zones specified in Table 2 and/or to the location of the representative compliance monitoring Stations specified in Table 3, following the review of the results of the monitoring undertaken after 3 years of operation at the initial Feed Discharge level in Table 1.</p> <p>c. All monitoring and management actions to be undertaken at the marine farm in order to meet the requirements of conditions 38-44 (including any areas or decreases in the tonnage of feed to be discharged).</p> <p>d. Any other actions to be undertaken in order to address the potential effects from the operation of the marine farm set out in condition 54 and achieve the Purpose in condition 55, including to avoiding, remedying or mitigating any significant adverse effects from the operation of the marine farm identified in the previous year's Annual Report.</p>	<p>The report states that these recommendations require additional sampling to that prescribed in the consent and thus the adoption is at the discretion of the consent holder.</p> <p>The MEM-AMP provides a description of all monitoring to be undertaken at all three BOI farms.</p>	
<p><b>65/66/66.</b> The MEM-AMP shall include the following monitoring:</p> <p>a. The level of sampling and range of environmental variables, (e.g. sediment grain size, infauna, percent organic matter, redox &amp; sulphides) to be measured annually at each of the near-farm benthic (soft-sediment) monitoring stations in order to determine compliance with the EQS - Seabed Deposition in condition 40. This includes appropriate farm-specific reference station, which may also double as far-field soft-sediment monitoring sites (see condition <b>65f/66f/66f</b>);</p> <p>b. Monitoring in order to determine compliance with the EQS - Copper and Zinc levels required by conditions 41 and 42 using a decision-tree approach, whereby monitoring effort increases in focus and intensity as trigger levels (representing the increased likelihood of ecological effects) are reached.</p> <p>c. Monitoring in order to determine compliance with e WQS in condition 44. Throughout the term of the consent this shall include long-term water column monitoring for nutrient (NH4-N, NO3-N, NO2-N, DRP, Si, TN and TP) and chlorophyll a concentrations, phytoplankton composition and biomass, salinity, clarity, temperature, turbidity and dissolved oxygen (DO) at locations stipulated in condition <b>62c/63c/63c</b>. The precise location of the long-term monitoring stations and the range of specific nutrient parameters monitored may, however, be adjusted over time in response to monitoring results and/or in response to modelling considered necessary by the Peer Review Panel in accordance with condition 70c. This monitoring is to be undertaken at least four times per year with at least two surveys occurring during mid-summer periods of highest salmon feed discharge rates and at least two surveys occurring periods associated with winter/spring and/or autumn diatom maxima.</p> <p>d. Monitoring intensity of a-c above shall be dependent upon the age of the marine farm, how stable the feed discharge levels have been over the 12 months, and whether or not the marine farm had been compliant with the EQS over the last 2 years (and the nature of any breaches).</p> <p>e. The MEM-AMP shall include the following monitoring: Targeted water column surveys to quantify the localised effect of the marine farm on surrounding water quality, for the purpose of obtaining information regarding marine farm-specific, near-farm mixing properties in order to provide a context for evaluating compliance with the EQS – WQS in condition 44. This shall involve a series of fine-scale surveys in the vicinity of the marine farm (within 1km from the net pens) measuring: salinity, clarity, temperature, chlorophyll a, turbidity, dissolved oxygen (DO), nutrient concentrations (NH4-N, NO3-N, NO2-N, DRP, Si, TN and TP), phytoplankton composition and biomass along transects that move away from the marine farm and span potential nutrient gradients. The surveys shall be undertaken at least twice per year and continued for at least two years after the</p>	<p>a. The MEM-AMP provides the level and range of sampling as required.</p> <p>b. The MEM-AMP includes monitoring to determine compliance with the EQS – Copper and Zinc levels using the decision-tree approach.</p> <p>c. The MEM-AMP outlines the monitoring for compliance with the WQS and includes the required long-term water column monitoring for all required analytes and states this should be conducted in Aug 2020, Feb 2021, March 2021 and July 2021.</p> <p>d. The report doesn't specifically make reference to the monitoring intensity reasoning of feed discharge level stability or farm compliance over the last two years. Rather the same frequency has been recommended at all three farms included in the MEM-AMP.</p> <p>e. The MEM-AMP includes monitoring of the water column. This involves fine-scale surveys in August 2020 and March 2021.</p> <p>f. The MEM-AMP provides details of sampling for the effects of the farm on the soft sediment, to take place in November 2020 - March 2021.</p> <p>g. The MEM-AMP includes details of annual reef monitoring, to take place in Oct-Nov 2020.</p> <p>h.i &amp; ii. The MEM-AMP doesn't specifically detail this type of monitoring. – <b>Technically non-compliant.</b></p> <p>i. This Type 3 monitoring was completed in the 2018/2019 monitoring round.</p> <p>j. The MEM-AMP makes no mention of this type of monitoring</p> <p>k. The MEM-AMP states that this will be the first year that lighting effects monitoring will occur at Waitata and Kopaua.</p> <p>l. The MEM-AMP makes no mention of this type of monitoring.</p> <p>m. The MEM-AMP makes no mention of</p>	<b>TNC</b>

marine farm has reached stable maximum feed discharge levels and no future increases are proposed. With respect to the monitoring objective, the monitoring approach may be adjusted over time in accordance with the written recommendation of the Peer Review Panel.

f. Annual quantitative and qualitative monitoring for potential effects at soft sediment sites in neighbouring bays near to, and removed from, the marine farm, in order to ensure that the marine farm is not resulting in seabed enrichment in areas of natural deposition in neighbouring bays. The sites shall be chosen based on potential exposure to increased biodeposition including any areas in those bays identified by [Te Atiawa Manawhenua ki te Tau ihu Trust \(or organisation with the mandate to represent Te Atiawa Manawhenua ki te Tau ihu in relation to these issues\)/](#) [Tangata Whenua Panel \(refer to condition 77\)/](#) [Tangata Whenua Panel \(refer to condition 77\)](#) as customary kaimoana gathering areas. This monitoring shall be undertaken at a selection of representative soft sediment sites, which may also double as reference sites for near-farm monitoring (see condition 66a), and shall be continued until at least 5 years after the marine farm has reached a stable level of feed discharge and no future increases are proposed. [\[The same monitoring may be undertaken for a group of marine farms, as it will assess the cumulative effects from all marine farms in that group.\]](#)[\[The same monitoring may be undertaken for a group of marine farms, as it will assess the cumulative effects from all marine farms in that group.\]](#)

g. Annual quantitative and qualitative monitoring of habitats that support notable biological features under or within 1km of the net pens ('reef' monitoring), including any area of blue cod habitat or any areas identified by [Te Atiawa Manawhenua ki te Tau ihu Trust \(or organisation with the mandate to represent Te Atiawa Manawhenua ki te Tau ihu in relation to these issues\)/](#) [the Tangata Whenua Panel \(refer to condition 77\)/](#) [the Tangata Whenua Panel \(refer to condition 77\)](#) as customary kaimoana gathering area, in order to ensure that the operation of the marine farm is not causing adverse effects as a result of biodeposition. Monitoring shall also include comparable habitats at appropriate reference sites. This monitoring shall be continued until at least 5 years after the marine farm has reached a stable level of feed discharge and no future increases are proposed. For the purposes of this condition 'notable biological features' shall include but not be limited to areas of significant reef, tubeworm mounds and hydroid colonies. [\[This condition will only apply to those marine farms with notable biological features within 1km of the marine farm.\]](#)

h. Annual quantitative and qualitative monitoring of ephemeral macroalgae (e.g. *Ulva* sp.), benthic algal films and perennial algae (e.g. *Hormosira banksii*) percentage cover and the abundance of grazing invertebrates (e.g. cats' eyes snails (*Turbo smaragdus*) and Kina (*Evechinus chloroticus*) on intertidal and shallow subtidal rock reefs, including any reefs identified by [Te Atiawa Manawhenua ki te Tau ihu Trust \(or organisation with the mandate to represent Te Atiawa Manawhenua ki te Tau ihu in relation to these issues\)/](#) [the Tangata Whenua Panel \(refer to condition 77\)/](#) [the Tangata Whenua Panel \(refer to condition 77\)](#) as customary kaimoana gathering area in order to ensure that the operation of the marine farm does not cause an obvious or noxious build-up of macroalgal (e.g. sea lettuce) biomass. Monitoring shall be undertaken two times during one year at the following locations:

i. At or near locations expected to have the greatest potential for marine farm-related cumulative enrichment effects (either within 1km of the marine farm or in neighbouring bays);

ii. At or near locations further away from the marine farm or groups of marine farms in locations that are expected to have less marine farm-related cumulative enrichment effects.

This monitoring shall be continued until at least 5 years after the marine farm has reached a stable level of feed discharge and no future increases are proposed.

this type of monitoring.

n. The MEM-AMP makes no mention of this type of monitoring.

<p>i. After 3 years of operation at the Initial Feed Discharge level in Table 1, a repeat of the baseline monitoring undertaken in accordance with condition 62a/ 63a/63a, in order to review the dimensions and areas of the EQS compliance Zones in Table 2, condition 39, and the location of the compliance monitoring Stations specified in Table 3, condition 40. This monitoring may incorporate the compliance monitoring for the EQS – Seabed Deposition in terms of condition 65a/ 66a/ 66a for that year.</p> <p>j/j. One-off monitoring of the effects of submerged artificial lighting on the biology of the water column (e.g. zooplankton composition and abundance), when the submerged artificial lights are fully operation, to compare with the assessment of effect of submerged artificial lighting undertaken at Clay Point marine farm, in order to confirm that the effects are similar. (To apply to any farm which is exposed to lower current speeds than Clay Point where the assessment of effect of submerged artificial lighting for the application was undertaken.)</p> <p>j/k/k. Quarterly monitoring over 2 years by scientifically advised marine farm staff of the effects from submerged artificial lighting on changes in night-time feeding activity by fish, seabirds and marine mammals in and around the illuminated net pens, in order to confirm that the magnitude of these effects are generally as expected.</p> <p>k/l/l. Monitoring of feed loss at a range of appropriate times across a full production cycle, once the marine farm has reached a stable level of feed discharge and no future increases are proposed, to establish feed loss levels and their variability through time.</p> <p>l/m/m. Seasonal monitoring of the size and composition of aggregations of pelagic and demersal fish beneath the marine farm at a range of appropriate times across one year, once the marine farm has reached a stable level of feed discharge and no future increases are proposed.</p> <p>n/n. Occasional monitoring to improve understanding of the potential for key heavy metal and organohalogenated contaminants of public health interest in long-lived, benthic-pelagic fish species, of recreational, commercial or customary interest, residing in the near vicinity of the marine farm. [This monitoring does not need to be undertaken at every farm.]</p>		
<p><b>70.</b> The Peer Review Panel shall report to the consent holder and/or the Council (as required by condition 68) on the following matters:</p> <p><b>a.</b> Its review of the Baseline Plan, its assessment as to the adequacy of the existing water quality data and monitoring proposed to achieve the requirements of Condition 63 and whether the actions and methods are in accordance with good practice, and any recommendations regarding changes to the monitoring proposed or any requirement for further modelling;</p> <p><b>b.</b> Its review of the Baseline Report, its assessment as to whether it adequately responds to the results of the monitoring undertaken in terms of the Baseline Plan and achieves requirements of Condition 64 and any recommendations regarding changes to the conclusions and recommendations contained in the Baseline Report. This shall specifically include a review of, and any recommendations for changes to, the initial WQS required by condition 44a and the hierarchy of responses to breaches of the WQS;</p> <p><b>c.</b> Its annual review of the MEM-AMP, its assessment as to the adequacy of the monitoring and marine farm management and other actions proposed to achieve the requirements of conditions 64-65/ 65-66/ 65-66 and whether the actions and methods are in accordance with good practice, and any recommendations regarding changes to the monitoring proposed or any requirement for further modelling;</p> <p><b>d.</b> Its annual review of the Annual Report, its assessment as to whether it adequately responds to the results of the monitoring</p>	<p>a) NA</p> <p>b) NA</p> <p>c) The Peer Review Panel provided the consent holder with a report outlining its review of the 2020/2021 MEM-AMP.</p> <p>d) NA</p> <p>e) No review has been provided regarding an increase in feed discharge.</p> <p>f) NA</p> <p>g) NA</p>	<p><b>C</b></p>



<p>undertaken in terms of the previous MEM-AMP and achieves the requirements of condition 66 and any recommendations regarding changes to the conclusions, recommendations and other matters specified in the Annual Report. This shall specifically include a review of, and any recommendations for changes to, the WQS required by Condition 44b and the hierarchy of responses to breaches of the WQS;</p> <p>e. Prior to any increase in the annual tonnage of feed discharge to the marine farm, confirmation that the requirements of conditions 36-37 are complied with, and any associated recommendations regarding changes to the monitoring proposed or any requirement for further modelling;</p> <p>f. Confirmation that the requirements of condition 38-44 have been complied with;</p>		
---	--	--

<p><b>Further Notes</b></p> <p>It is noted that the change of sampling has been proposed to align with the single year class farming. Whilst this change has minimal effect in this monitoring period going forward this needs to be considered. Council recommends that this is done in addition to the annual soft sediment habitat sampling (i.e. to ensure consistently with historic sampling data as well as capturing peak discharge).</p> <p>It is recommended that the fine-scale water column investigation suggested from Cawthron, as detailed in 4.4.2, be implemented in future.</p>
--

**Please Note:**

**Monitoring Fees**  
Pursuant to section 36 of the Resource Management Act 1991 and the Marlborough District Council’s (Council) schedule of fees, the consent holder shall be responsible for all costs associated with the monitoring of this consent in accordance with the schedule of fees.

Where non-compliance is noted on an inspection visit, remedial action is identified and advised to the consent holder in writing. A follow-up visit may confirm that appropriate remedial action has been taken. The consent holder shall receive an additional charge for the costs of the follow-up inspections undertaken by Council, or their agent, to ensure that compliance with consent conditions is met.

**Privacy Statement and publication of information**  
Council needs to collect personal information (including names and contact details) to effectively monitor compliance with resource consents, plan requirements and the NES-PF. Personal information that you provide in response to this communication will be held and protected by Council in accordance with the Privacy Act 1993. You can access and correct that information by contacting Council through the contact details below. The information that we receive from you will be made available to the public through Council’s online resource consent files.

	<p>Marlborough District Council  15 Seymour Street, PO Box 443  Blenheim 7240  www.marlborough.govt.nz</p>	<p>Telephone 03 520 7400  Fax 03 520 7496  Email mdc@marlborough.govt.nz</p>
--	--	--