



New Zealand King Salmon

Blue Endeavour Open Ocean Farming Application Frequently Asked Questions



Open Ocean Salmon Farming in New Zealand

1. Why is NZ King Salmon moving to the open ocean?

The move to open ocean will locate future farms in the most optimal waters for farming King salmon sustainably, at a distance from coastal communities. Overall, the environmental, economic and social benefits are extremely positive, helping us deliver on our vision to be part of New Zealand's sustainable food future. The application for a 35-year resource consent for the 1,792 hectare site was publicly notified by Marlborough District Council on Friday, October 18.

The Government's recently launched Aquaculture Strategy supports the pursuit of open ocean aquaculture to grow a resilient, productive and sustainable industry to reach \$3 billion in annual sales by 2035. Currently it is worth \$623 million.

Open ocean farming has also had support from the science industry with Cawthron Institute aquaculture scientist Kevin Heasman stating that it has "massive potential".

2. Is anyone else doing open ocean farming?

Internationally, salmon farmers are starting to farm in the open ocean. There are substantial efforts being made in Norway, and other countries with several types of structures under development. The technology in this area is rapidly advancing and is suitable for use in New Zealand waters. What we thought would not be possible three years ago is now possible.

3. What are the conditions like to farm in the open ocean?

Open ocean farming is typically located at higher energy sites – currents, wind and wave action all contribute to this. At the Blue Endeavour site, significant wave height has been modelled at less than two metres. Our current health and safety and risk management plans are being assessed by experts to adjust our systems and procedures for the open ocean conditions. Before the farms are commissioned, securing the right skills and expertise with specific training programs for new open ocean teams, will be an important part of the operations at the site. All our pens, barges, vessels and moorings will be built to cope with these more extreme conditions. Designs and certification will have expert engineering input.

4. How will the proposed National Environmental Standard for Marine Aquaculture incorporate open ocean farming?

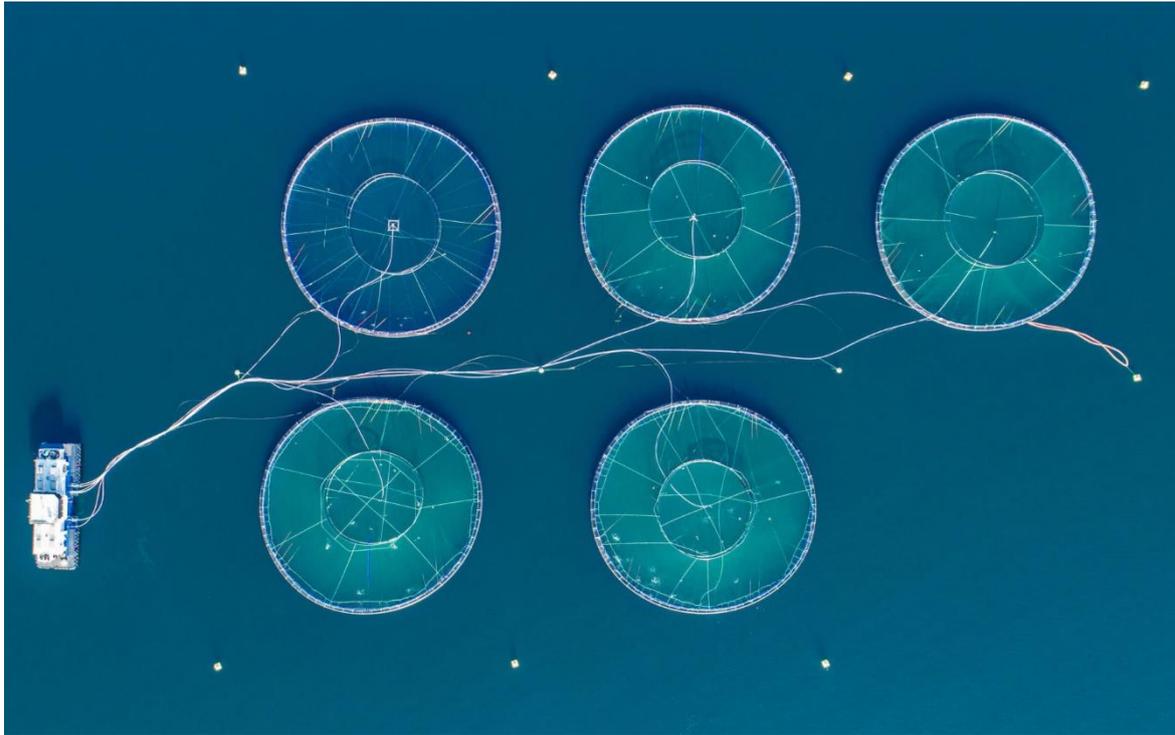
The current NES applies to renewals of existing farms, however there are other discussions occurring around developing an NES for open ocean aquaculture. NZ King Salmon is participating in those MPI-led discussions. This application is ahead of any outcome from the open ocean NES discussions. However, we expect this application will assist those discussions in providing the first commercialised open ocean finfish application from which to develop a template.

5. Is open ocean farming being addressed as part of the proposed Marlborough Environment Plan aquaculture provisions?

The broader marine farming provisions within the proposed Marlborough Environment Plan have not been released yet. That plan is still in review and open ocean farming is being considered within the review. We are working very closely with Council in preparing our application for Open Ocean farming.

Blue Endeavour – Farm Information

- 6. Where is the proposed site? Why has this site been chosen?**
The proposed location is in Cook Strait, approximately 7km north of Cape Lambert. Research into temperature, wave heights, currents and other key environmental factors was carried out by NZKS and independent scientists over the past year to confirm this site as suitable. The site location remains under Marlborough District Council's jurisdiction.
- 7. What are NZ King Salmon's immediate plans for the Blue Endeavour site?**
Our immediate plans are to install one farm made up of 8-10 standard up to 200m circumference circle pens with a stationary feed barge. That will produce around 4,000 tonnes of salmon. The application references a second similar-sized farm and layout, details to be determined once the first farm is up and running.
- 8. What are the site characteristics, what will the farms and pens look like?**
An image is attached of the likely layout of the farm. The typical depth of the ocean floor will be around 100 metres. The pens will be made of black high density polyethelene, designed and manufactured to withstand the high energy conditions. Pens are kept in place using a mooring grid attached to the seabed through multiple anchors.
- 9. How long will it take to get out to the farm?**
It's around two hours travelling from the Pelorus Sound, depending on vessel and departure port.
- 10. Will farm employees be on site all the time?**
We will have accommodation available on the barge and it is likely that employees will be there 24 hours a day, 7 days a week depending on weather conditions.
- 11. How are you going to manage predator and seabird interactions?**
As we do in the Sounds, we have operating protocols in place to avoid interactions and manage marine mammals, protected sharks and seabirds, based on clear guidelines developed with a range of experts, including from the Department of Conservation. We've also used acoustic monitoring equipment on site to make sure we're aware of the main whale and dolphin species present in the area.
- 12. Will climate change, specifically warming seas, affect future open ocean farm sites?**
Initial monitoring results show the water temperatures at the Blue Endeavour farm sites fall within a suitable range for farming King salmon. We anticipate these open ocean sites with high-energy conditions and significant depth to the sea floor will be less susceptible to warming sea temperatures.
- 13. How will you minimise environmental effects at the Blue Endeavour farm?**
We select the most optimal locations for salmon farming and put plans in place to minimise the effects of our ongoing activity. Farming salmon in a responsible manner, in the right location, and with a long-term view, should have a minimal impact on the environment. Substantial monitoring will be undertaken as with all NZKS farms, and we will apply the latest scientific advice in a similar way to BMP in the Marlborough Sounds, but adapted to open ocean farming. We are proposing adaptive management. Each site will be run as single year class and have a period of fallowing. Management Plans are being written with input from various experts, and include Benthic, Water Column, Marine Mammals, Birds, Navigation and Health and Safety, Biosecurity, Wild fish and Structures.



14. How will the Best Management Practice Guidelines apply at the open ocean site? If they do not apply, what is the alternative? What standards will apply at the site to manage environmental effects?

The Best Management Practice Guidelines were developed for the inshore sites in the Marlborough Sounds, not open ocean. A range of standards are proposed. These have been developed by a working group of experienced scientists and include monitoring of the seabed for effects on such organisms as horse mussels. Management Plans prepared for this specific environment will further guide the sustainable operation at the site.

15. What's the maximum capacity of the Blue Endeavour farms?

This is not predetermined. Determining the future maximum capacity for these farms will be managed through staging of development and review processes which allows for incremental growth where it is acceptable to do so in terms of results from continuous monitoring. As open ocean finfish farming is new to New Zealand, the effect of salmon farming on open ocean sites has been modelled, but actual results will only be secured once farming commences. The modelling results to date have been very positive demonstrating a low level of effects across a wide range of feed discharge levels. Prior to moving to the next 20,000t stage of feed usage, a full range of relevant environmental assessments will be prepared that will allow the consent holder and Council to decide whether to proceed to the next stage.

16. The application refers to 80,000 metric tonnes of feed being discharged each year. Is that the site capacity NZ King Salmon is applying for?

No, this is not intended to express maximum site capacity. Initial modelling by experts assessing the Blue Endeavour site used 80,000 metric tonnes of discharge as the upper limit for the model. A number of discharge scenarios, including discharging 80,000 tonnes per year in a very small area was used to test the sensitivity of the site. The stage and review process described above will eventually determine site capacity within agreed

environmental limits. Any increase in feed will require the monitoring to demonstrate the site is operating sustainably.

The Consent Application

17. What is the timeline for the application?

If approved, we expect a hearing will be held in early 2020, with the hope of resource consent granted by mid-2020. If successful we intend to have the farm commissioned in 2021, with a first harvest in 2022/23.

18. Why is the Marlborough District Council processing this application? Why is it not being called-in as a proposal of national significance?

This is a standard resource consent application for a finfish farm and MDC have the expertise and experience to process it. It does not trigger the test for national significance. There are larger scale operations which have been processed in the normal resource consent process. Simply being the first open ocean farm in New Zealand does not mean it is a proposal of national significance.

19. Is NZ King Salmon applying for 1,792 hectares of farming space?

No, NZ King Salmon is not seeking 1,792ha for exclusive occupation, nor will it farm 1,792 hectares. The designation of this specific area within the application is to support appropriate marine spatial planning for activity within this area related to finfish farming. The initial farm structures will cover up to eight surface hectares only, in locations chosen to minimise environmental effects. Access all around the farm will be retained for other users.

20. How much access will other users of the area have to the 1,792 hectares of space?

As above, other users can access all of the space except that directly taken up by farm structures. There is nothing to prevent fishing, diving, boating or any other activity occurring as long as it doesn't interfere with the farm structures. That means that public access will be available to roughly 99% of the space referenced in the application.

21. Will it affect my fishing?

As above, access all around will be retained. It is very unlikely to negatively affect fishing, in fact the pen structures may act as a Fish Aggregation Device (FAD).

22. What will the s 99 pre-hearing meeting involve? Who will participate?

A s99 pre hearing meeting is proposed. The purpose of this meeting is to clarify, mediate or potentially facilitate resolution on any matter or issue. NZ King Salmon and submitters will be invited and Marlborough District Council will participate.

22. Q. What Management Plans will be put in place? When will they be available?

A. Consent conditions and Management Plans are being developed. Management Plans are being written with input from various experts, and include Benthic, Water Column, Marine Mammals, Birds, Navigation and Health and Safety, Biosecurity, Wild Fish and Structures. Draft Management Plans will be made available prior to the pre-hearing.

23. What consultation has NZ King Salmon undertaken in respect of this application?

NZ King Salmon has aimed to be proactive in consulting on this project well in advance of the application itself. Discussions have been held with a wide range of potentially affected or interested parties including iwi, NGO's, fishers, vessel operators and government

departments. Some of these persons/organisations have agreed to meet and discuss the application even before it was lodged. Further input has been obtained from various parties to develop and review the various reports and to assist with preparing Management Plans. The proposed application has been widely covered in the media, and input from interested parties continues to be taken into account in this application. NZ King Salmon values the opportunity to have a transparent and consultative process.

New Zealand King Salmon's Farming Model

24. What does open ocean farming mean for NZ King Salmon's existing inshore farms?

Our existing inshore farms are important for business continuity and risk mitigation. NZ King Salmon, like any business, needs to spread risk and therefore requires multiple sites to farm year-round and allow best biosecurity practices. We still consider the Tory Channel to be one of the best locations in the world for farming King salmon with cool, high-flow waters delivering high quality results. We have a range of initiatives underway to improve outcomes for in-shore farms including moving to single year class production, installing upwelling to manage summer temperatures, and the vaccination of all smolt before taking them to sea.

25. What other applications and regulatory processes is NZ King Salmon involved in at the moment? How do these relate to this open ocean application?

i. Relocation project:

This process is ongoing; with iwi we have provided the Ministry with a revised proposal to relocate some of our low-flow farms. It is entirely separate from the open ocean application and if successful will enhance our farming in the Sounds without extra water space. The aim is to improve fish welfare and reduce our environmental impact. We do not expect a decision before the next general election.

ii. Open ocean monitoring buoy applications/certificates of compliance:

We have 12 monitoring applications in various stages of the application process along the east coast of the South Island and Stewart Island. These are for monitoring buoys only and do not request exclusivity of space except for the amount required for the buoys and their anchors. The data obtained will assist in determining whether it is worthwhile trying to establish a fish farm on or near that location.

iii. Single year class:

Moving to a single-year class model requires changes to our existing inshore consents over the next two years. For example, NZ King Salmon has applied to amend the feed discharge methodology at its Clay Point site, it has also applied to add four additional pens to its Waitata farm to enable it to decrease stocking density. These moves will align us with global best practice in salmon farming.

iv. Marlborough Environment Plan:

The finfish provisions have not been released but are being prepared by council. The proposed MEP will cover the area of the open ocean application so the Policies, Rules and other provisions unless expressly excluded will apply.