

# **New Zealand King Salmon Limited**

**Ngamahau, Richmond and Waitata  
Marine Farms**

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## **Residential Amenity Management Plan**

**3 August 2014**

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# 1 Introduction

New Zealand King Salmon (NZKS) currently has five salmon farms (eight sites) in the Marlborough Sounds; located at Ruakaka Bay, Forsyth Bay, Waihinau Bay, Otanerau Bay, Te Pangu Bay, Clay Point, and two farms at Crail Bay. Resource consents for three new farms have recently been granted. Two farms (Waitata and Richmond) will be established in Waitata Reach, and another farm (Ngamahau) will be established in Tory Channel (Figure 1).

NZKS recognises that while the occupancy and activities associated with the marine farms will occur within the farm boundaries (as specified in the individual resource consents), some effects arising from the activities may be experienced beyond these boundaries. For example, the marine farm will be able to be seen and heard from beyond the farm boundaries, and some waste material will also travel beyond the boundaries.

During the recent resource consent process a number of concerns were raised with regard to the new salmon farms causing a potential reduction in amenity values for other property owners in the area. Specific concerns are summarised in Table 1 and include: adverse visual effects, adverse operational noise, the generation of unpleasant odours, an increase in vessel traffic, adverse lighting effects and a decrease in the intrinsic values of the area. The Coastal Marine Area of the Marlborough Sounds is a shared resource with exceptionally high amenity and recreation value. For this reason, NZKS has worked with neighbouring property owners to identify their concerns, and to develop mitigation measures to address these.

The topics covered within this management plan are largely driven by the proximity of neighbouring dwellings to the proposed farms. Within the Waitata Reach there are no dwellings within 3 km of any of the proposed salmon farm sites; however within Tory Channel a dwelling occurs at 400 m currently owned by NZ King Salmon from the proposed farm and another occurs at 1.1 km. Dwelling locations in relation to the three new farms are provided in Appendices 1 and 2.

## 1.1 Statutory requirements

As the resource consent holder NZKS has overall responsibility for ensuring that all resource consent conditions are complied with. For all three new farms, the resource consent condition relating to residential amenity is identical; hence, this management plan is directly relevant to all farms currently under establishment. This management plan will also be a useful guide to residential amenity issues at all existing farms.

The relevant consent condition for the three new farms states that:

*The consent holder shall develop a Residential Amenity Management Plan and provide it to the Council prior to the initial placement of the first structure(s) at the marine farm.*

All NZKS operational activities must thereby comply with this Residential Amenity Management Plan, and all appropriate New Zealand legislation as set out in [Section 2](#).

For the purpose of this management plan the following definitions are used:

'Amenity Value' is defined according to the Resource Management Act 1991 as "those natural or physical qualities and characteristics of an area that contribute to people's appreciation of its pleasantness, aesthetic coherence, and cultural and recreational attributes"; and

'Natural character' may include: natural elements, processes and patterns; biophysical, ecological, geological and geomorphological aspects; natural landforms; the natural movement of water and sediment; the natural darkness of the night sky; places or areas

that are wild or scenic; experiential attributes, including the sounds and smell of the sea; and their context or setting.

**Table 1: Summary of residential amenity concerns**

Potential Effects	Concern
Visual	<ul style="list-style-type: none"> <li>• Introduction of visual pollution</li> <li>• Alteration in outlook from nearby dwellings</li> <li>• Alteration of landscape/reduction in natural character</li> <li>• Introduction of lighting pollution</li> </ul>
Noise	<ul style="list-style-type: none"> <li>• Introduction of operational noise</li> <li>• Increase in vessel traffic noise</li> <li>• Alteration of existing sound profiles (peaceful location)</li> <li>• Reduction in natural character</li> </ul>
Air Quality	<ul style="list-style-type: none"> <li>• Introduction of unpleasant odours</li> <li>• Reduction in existing air quality</li> </ul>
Occupation of Space	<ul style="list-style-type: none"> <li>• Restriction of public access to the salmon farm site</li> <li>• The creation of actual and perceived obstructions</li> <li>• Reduction in available anchoring space</li> </ul>
Intrinsic Values	<ul style="list-style-type: none"> <li>• Salmon farms detract from the existing beauty of the Sounds</li> <li>• Reduction in the sense of open space</li> <li>• Reduction from the feeling of wilderness/naturalness</li> <li>• Alteration to a more industrial feeling landscape</li> </ul>
Other	<ul style="list-style-type: none"> <li>• Reduction in property values</li> </ul>

(Source: Submissions on the resource consent application)

## 1.2 Management plan objectives

The objective of this Residential Amenity Management Plan is to minimise the risk of neighbours experiencing significant reductions in residential amenity due to off-site visual, noise, odour and other effects from the marine farm.

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Legend  
 ● Existing NZ King Salmon Farms  
 ● Approved Farms

New Zealand King Salmon  
 Approved Farm Site Map - Post Supreme Court Decision

Date: 1 May 2014

Plan prepared by Boffa Miskell Limited

Project Manager: sarah.dawson@boffamiskell.co.nz | Drawn: GWh

Figure 1: Locations of NZKS farms in the Marlborough Sounds

## 2 General protocol

This section sets out all general protocols that relate to residential amenity issues.

### 2.1 Compliance with the Resource Management Act 1991

The purpose of the Resource Management Act 1991 (RMA) is to promote the sustainable management of natural and physical resources. As a matter of national importance Section 6(a) of the RMA requires the preservation of the natural character of the coastal environment (including the coastal marine area), and its protection from inappropriate subdivision, use and development. While Section 6(d) places national importance on the maintenance and enhancement of public access to the coastal marine area. In addition, Section 7(c) requires that particular regard be given to: "the maintenance and enhancement of amenity values".

In granting resource consent for the new salmon farms the decision makers have deemed that the establishment of these farms is in keeping with the intention of the RMA. Consent conditions have been imposed to manage the potential effects on amenity values.

### 2.2 Compliance with resource consent conditions

The ongoing operations of NZKS are contingent on compliance with multiple resource consent conditions. The development of this Management Plan implements the resource consent conditions relating to residential amenity, in particular the following sections address specific topics as listed below:

Section 3: Potential visual effects

Section 4: Potential noise effects

Section 5: Potential effects on air quality

Section 6: Potential effects associated with occupation of space

Section 7: Potential effects relating to intrinsic values

In addition to these topics this management plan also requires that:

There shall be no firearms at the marine farm at any time, nor on any vessel associated with the marine farm and operated by the consent holder

The following liaison person has been identified as the point of contact with neighbours and any local residents association for the purposes of disseminating information relating to the operation of the marine farm and to respond to any issues or concerns raised:

**Liaison Person:**

Mark Gillard

Environmental Compliance Manager

New Zealand King Salmon

Telephone: 029 245 2529

Email: [mark.gillard@kingsalmon.co.nz](mailto:mark.gillard@kingsalmon.co.nz)

## **2.3 Compliance with other policy**

In granting resource consent, the decision makers were required to have regard to the following policies:

### The Marlborough Regional Policy Statement 1995

There are a number of general policies of relevance to natural character, landscape and visual matters. Natural character, landscape protection, public access and recreational use are all identified as matters of importance for Marlborough District Council which must be adequately considered when seeking allocation of space for aquaculture.

### Marlborough Sounds Resource Management Plan 2003

This plan contains a number of objectives and policies regarding landscape, natural character and visual amenity matters.

### New Zealand Coastal Policy Statement 2010

The preservation of natural character, under Policy 13 of the New Zealand Coastal Policy Statement 2010, seeks to preserve the coastal environment from inappropriate subdivision, use and development. The importance of this in 'remote' recreational settings or 'wild or scenic' places is an important consideration.

## **2.4 Compliance with NZKS policy**

It is company policy that all NZKS staff must comply with this  
Residential Amenity Management Plan.

## 3 Potential visual effects

The visual amenity effects of the proposed salmon farms were assessed by Boffa Miskell Ltd (2011), and are summarised in this section of the management plan. The potential visual effects can be subdivided into effects during daylight hours and effects at night.

### 3.1 Visual effects during daylight hours

#### 3.1.1 Background

Salmon farms may affect a viewer's appreciation of the pleasantness, aesthetic coherence, and cultural and recreational attributes of a particular coastal area. However, while some viewers may find the development detracts from their experience, others may find the development adds interest to the Marlborough Sounds landscape.

Visual amenity effects are largely influenced by the extent to which the salmon farms are visible, and vary according to:

- Distance and elevation of the viewer;
- The size of the farm and number of buildings;
- The density and buoyancy of structures;
- The colour and reflectivity of each component, particularly the buildings and netting which are major visual components of salmon farms;
- Weather conditions;
- Sea conditions; and
- The position of the farm in relation to the land.

NZKS farm superstructures are largely utilitarian in appearance – a rectilinear profile which is broadly sympathetic to that of the sea surface and the horizontal transition of land and sea.

Boffa Miskell Ltd (2011) concluded that the overall visual amenity effects of the proposed salmon farms were low from land based viewpoints in the Waitata Reach (Waitata and Richmond sites) and high in Tory Channel (Ngamahau site). However, at a Sounds wide scale, the visual amenity effects of the proposed salmon farms were considered to be low.

From marine based viewpoints, the visual effects will vary depending on the viewpoint location and the context in which the salmon site is viewed. In general, the effects will be high from distances within 1 km, moderate in the 1 to 2 km distance zone, and low from distances beyond 2 to 3 km.

Viewing distance tables were provided by Boffa Miskell Ltd (2011) to outline the visibility of farms from different distances both from water-based viewpoints (Table 1) and land-based viewpoints (Table 2). In all cases the visibility from land based viewpoints are greater than those from sea level locations due to the elevated nature of the former.

The proposed salmon farm sites are located in relatively discrete areas, away from concentrations of dwellings or where visual amenity values are particularly high. In most instances the sites are located in areas where the adjacent land has been modified by current or past land use activities and in some cases where marine farming activity currently takes place.

From a distance of 500 m the salmon farms are very visible; particularly the feed/accommodation barge building. While the barge is the tallest element, its visibility varies depending on viewer location, the time of the day and a range of other climatic

and atmospheric factors. Vessels loading and unloading at the salmon farms will also draw attention to their presence.

**Table 2: Visibility from water-based viewpoints (sea level)**

<b>Distance</b>	0 – 500 m	0.5 – 1 km	1 – 2 km	2 – 3 km	3 km and beyond
<b>Visibility</b>	Dominant	Prominent	Visible	Partially visible or minor part of view	Components difficult to see

**Table 3: Visibility from land-based viewpoints**

<b>Distance</b>	0 – 1 km	1 – 2.5 km	2.5 – 5 km	5 km and beyond
<b>Visibility</b>	Dominant	Prominent	Visible	Partially visible or minor part of view

### 3.1.2 Mitigation Measures

In order to reduce daytime visual effects from NZKS farms the following mitigation measures have been adopted for the Ngamahau, Waitata and Richmond farms:

- The maximum area of marine farm net pen surface structures within the marine farm (other than temporary net pens for transferring salmon to or from the marine farm) shall be 1.5 hectares;
- Only one feed/accommodation barge (the 'barge') shall be located on the marine farm. The 'barge' shall have a maximum footprint of 280 m<sup>2</sup> and a maximum height of 7.5 m above water level;
- The exterior design of the feed/accommodation barge (the 'barge') shall be generally in accordance with the design produced by HMA, King Salmon Feed Barge Drawing SK09, 9<sup>th</sup> August 2012 ([Appendix 3](#));
- The feed/accommodation barge, including its roof and all ancillary features (such as drain pipes), shall be finished in non-reflective materials and painted in a dark colour (such as Karaka Green);
- All exterior above-water metal structures (other than the surface of walkways) are to be painted or otherwise finished in dark recessive colours;
- Black or dark colour is to be used for predator nets, grower nets and bird netting which are normally above-water. Lighter colours may be used for bird netting if trials find this to be more effective.

## **3.2 Visual effects at night**

### **3.2.1 Background**

Lighting at night has the potential to affect the relative solitude, quietness, and natural character of the night-time environment; and perceptions of the night sky.

Three forms of lighting are proposed for the salmon farms, as follows:

- Navigation lights for safety purposes (as required by the Maritime Transport Act 1994) and as discussed in the "NZ King Salmon Navigation Risk Reduction and Management Plan"
- Internal lights in the barge for staff and floodlight on the barge exterior to enable staff to enter the pen area safely at night if required; and
- Seasonal (Autumn, Winter & Spring) underwater lighting in the pens to manage the maturation of the salmon.

The navigation lights are subject to a separate approval under the Maritime Transport Act 1994. However, the navigational lighting for the new farms is likely to follow that of the existing farms, whereby there will be five lights in total: four on each corner of the pen structure and one in the centre of the longest seaward side of the pen structure.

The navigation lights are to be:

- Higher than one metre above the surface of the water;
- Coloured yellow and programmed to flash five times every 20 seconds with the interval between the flashes being no less than one second;
- The length of each flash is also to be no less than one second; and
- Designed to have a visible range of at least one nautical mile.

By their nature, the navigation lights are intermittently visible, but are generally seen in context with a number of other navigational lights that are present and operating on a regular basis in the area.

Lighting from the barge will be the main source of potential light pollution associated with the farms. The barge will contain standard internal lights, similar to a dwelling. The exterior floodlight will only be switched on when staff need to enter the pen area at night.

The use of underwater lighting is common practice in salmon farming worldwide because it increases production through reducing the risk of maturation of the salmon prior to harvest. Underwater lighting will be used seasonally at the three new NZKS farms.

### **3.2.2 Mitigation Measures**

In order to reduce visual effects at night from NZKS farms the following mitigation measures have been adopted for the Ngamahau, Waitata and Richmond farms:

- Operational lighting on the farm will be placed such that it does not create undue conflict with navigational lighting;
- Dark coloured curtains, blinds or shutters are to be provided for the windows of rooms used for staff accommodation on the feed/accommodation barge;
- The submerged artificial lighting set up in each pen will comprise no more than the luminance of nine 1000 watt halide underwater lights; and
- The placement of marine farm navigational lighting and marking shall be approved by the Harbourmaster under his/her Maritime Delegation from the Director of Maritime Safety.

## **4 Potential noise effects**

### **4.1 Background**

The potential noise effects of the proposed salmon farms were assessed by Marshall Day Acoustics (2011), and are summarised in this section of the management plan.

The existing noise environment of the Marlborough Sounds is dictated by natural noise sources (wind and wave action) and introduced noises (recreational and commercial vessels). Apart from wave action, the ambient noise environment is not dissimilar to a rural area, with sporadic noise from machinery with periods of natural background noise.

Marine farm activities have the potential to produce noise: typically salmon farm operational noise consists of continuous low level sound from a diesel generator (24 hours) and intermittent noise during daylight hours from feed dispensers, water blasters, net lifters, and harvesting.

The land immediately adjacent to the NZKS farms will be subject to clearly audible operational noise. However, the area immediately adjacent to most of the farms is not generally accessible by land and would very rarely be accessed by boat.

At neighbouring properties within Waitata Reach, the predicted daytime noise levels are less than 25 dB LA10; where LA10 is the noise level which is exceeded for 10 per cent of the sample period. Under most environmental conditions, this level of background operational noise would be insignificant amongst other background noises.

The noise level at the two closest dwellings to Ngamahau (400 m and 1.1 km) will be 40 dB LA10 and 28 dB LA10 respectively. While noise from the salmon farm will be audible outside these dwellings at times, the noise effects are considered to be no more than minor.

A number of service vessels are used during salmon farming operations. These include:

- Large barges to transport the truck and trailer units carrying smolt for the farms, the bulk bags of feed, the harvested fish and other large freight;
- Harvesting vessels and the dumb barge used by the harvest team;
- Barges for special activities such as predator net changes; and
- A tugboat or barge used for towing the sea pens between sites.

Vessel activity varies seasonally, with the main activity being:

- During harvest (which can last approximately three months at any given farm), the harvest barge and harvest crew vessel currently commute, with the 'dumb' barge remaining alongside the farm for the duration of the harvest;
- Commuter vessels travel to and from the farms daily but generally Monday to Friday;
- Barges transporting feed, and carrying out other logistical work (e.g. net changing, moving equipment etc.) on a regular basis;
- Tugs and barges are utilised to move sea pens/fish when required;
- Vessels carrying visitors that may include customers, television crews and other one-off visitors.

Service vessels will cause noise effects which are brief and transitory, and consistent with the character of other commercial and recreational vessels using the Sounds.

## 4.2 Mitigation Measures

In order to reduce noise effects from NZKS farms the following mitigation measures have been adopted for the Ngamahau, Waitata and Richmond farms:

- The use of outdoor radios or similar external speakers are prohibited;
- The housing for generators will be well enclosed to reduce noise levels;
- All marine farming shall be conducted so as to ensure that noise arising from such activities does not exceed the noise limits outlined in
- Table 4 when measured no closer than 250 m from any marine farm surface structure:

**Table 4: Noise limits relative to 250 m from any farm surface structure**

Applicable Timeframe	Noise Limit
0700 hours – 2200 hours Monday to Friday; and 0700 hours – 1200 hours Saturday	55 dBA L <sub>10</sub>
On any day between 0700 hours and 2200 hours	No L <sub>max</sub> limit
At all other times including any public holiday	45 dBA L <sub>10</sub> , and 75 dBA L <sub>max</sub>

- All marine farming shall be conducted so as to ensure that noise arising from such activities does not exceed the noise limits outlined in Table 5 when measured at the Notional Boundary of dwellings<sup>1</sup>;

**Table 5: Noise limits relative to 'Notional Boundary Dwellings'**

Applicable Timeframe	Noise Limit
0700 hours – 2200 hours Monday to Friday; and 0700 hours – 1200 hours Saturday	50 dBA L <sub>10</sub>
On any day between 0700 hours and 2200 hours	No L <sub>max</sub> limit
At all other times including any public holiday	40 dBA L <sub>10</sub> , and 75 dBA L <sub>max</sub>

- Noise shall be measured in accordance with NZS 6801:2008. Adjusted levels shall be determined in accordance with NZS 6802:2008. Any construction activities will meet standards specified in NZS 6803:1999;
- The following activities shall be exempt from the above noise standard:
  - Noise generated by navigational aids, safety signals, warning devices, or emergency pressure relief valves;
  - Noise generated by emergency work arising from the need to protect life or limb or prevent loss or serious damage to property or minimise or prevent environmental damage; or
  - Noise ordinarily generated by the arrival and departure of vessels servicing the marine farm.

<sup>1</sup> As outlined in Miklin Halstead's hearing evidence as being 20 m from a dwelling

## **5 Potential effects on air quality**

Combustion and odour are the two components which have the potential to affect air quality. These effects were assessed by URS New Zealand Ltd<sup>2</sup>, and are summarised in this section of the management plan.

As described in the Marlborough Sounds Resource Management Plan there is a general perception is that the Sounds have few air pollution problems. The low level of pollution can be attributed to the sparse distribution of people, the climatic conditions, and the relatively few sources of air contaminants.

### **5.1 Odour**

#### **5.1.1 Background**

In general there are a range of existing odour sources within the Sounds. Some of these are natural, such as seals, rotting seaweed or general 'sea' odours; while others occur as a result of human activities, such as residual odours around fishing boats, or existing marine farms.

Odours associated with salmon farms fall into two categories, those associated with normal farm operation, and those associated with the fish harvest process.

Odours from normal farm operations include those generated: during feeding, from the 'mort' bin and from net pens prior to them being cleaned. There is also the potential for odours associated with seals to be present.

Odour generated by the feed pellets during feeding is typically detectable downwind of active feeding for as long as the feeding persists.

The 'mort' bin is a sealed container where any dead fish collected during the normal operation of the farm are stored. The bin is removed when required, but in any event is not normally left for longer than a week. When the bin is sealed, there is no apparent odour, however as soon as the lid is opened a dead fish smell is apparent. This odour disappears as soon as the bin is sealed again.

The odour associated with the net pens is only present when these are lifted and awaiting cleaning. The odour is generated by decomposition of the variety of marine organisms that grow on the nets, but is minimised where possible by the practice of in-water cleaning.

In terms of the harvest process the only detectable odour over and above those associated with normal operations was the anaesthetic product AQUI-S. The material safety data sheet states that this product has a floral carnation/clove odour.

In summary, odours associated with NKZS farm operations are not considered to be offensive when the separation distance between the farm and potentially sensitive receptors is taken into account.

#### **5.1.2 Mitigation Measures**

- In order to reduce odour effects from NZKS farms the following mitigation measures have been adopted for the Ngamahau, Waitata and Richmond farms:
- The 'mort' bin shall only be opened for the minimum time necessary to place the fish mortalities in it;

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<sup>2</sup> Andrew Curtis, hearing evidence

- As far as practicable, filling of the 'mort' bin will not occur during still air conditions;
- 'In-water cleaning' will, where possible, replace the cleaning of lifted nets; and
- On those occasions when it is necessary to lift grower nets for cleaning:
  - NZKS shall ensure as far as practicable that there is only one grower net being lifted and cleaned at any one time; and
  - The following target time for cleaning the grower nets once they have been raised will be adhered to: 3-4 days

## **5.2 Combustion Sources**

### **5.2.1 Background**

Combustion emissions are primarily nitrogen oxides, carbon monoxide and particulate generated as a by-product of combustion from internal combustion engines.

Within NZ all discharges to air from combustion processes within the coastal marine area are governed by Section 15B (1) (c) of the Resource Management Act (1991):

*"No person may, in the coastal marine area, discharge a harmful substance or contaminant, from a ship<sup>3</sup> or offshore installation into water, onto or into land, or into air, unless the harmful substance or contaminant, when discharged into air, is not likely to be noxious, dangerous, offensive, or objectionable to such an extent that it has or is likely to have a significant adverse effect on the environment."*

A number of combustion sources (petrol and diesel powered) are associated with NZKS salmon farms:

- Vessel engines;
- Water blaster engines;
- Winches; and
- Diesel generators (on both the farm barge and harvest barge)

It is considered that these sources will not result in any measurable change in any air quality beyond the immediate vicinity of the source.

All farms are located sufficiently far from existing dwellings, which are well beyond the distance within which any impacts could be experienced by residents or any other members of the public.

### **5.2.2 Mitigation Measures**

In order to minimise air quality effects from NZKS farms the following mitigation measures have been adopted for the Ngamahau, Waitata and Richmond farms:

- All petrol and diesel powered equipment is up-to-date, modern equipment, which is operated in accordance with the manufacturers' specifications in terms of emissions control;
- Regular maintenance programmes are strictly enforced by NZ King Salmon and the equipment is replaced or repaired on a regular basis; and
- Emissions to air are consistent with the normal operation of such equipment.

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<sup>3</sup> A Barge is classified as a 'ship' for the purpose of RMA interpretation

## 6 Potential effects associated with occupation of space

Note: Issues related to navigation safety are covered by the 'NZ King Salmon Navigation Risk Reduction and Management Plan'.

### 6.1 Background

The potential effects of the proposed salmon farms relating to the occupation of space are summarised in this section of the management plan. These effects largely relate to impacts on recreational activities<sup>4</sup> and restricted public access.

The Coastal Marine Area of the Marlborough Sounds is considered to be of high recreation value, with a range of recreation and tourism opportunities widely distributed through numerous locations within the Sounds.

Residents of the Sounds view the area as a recreational 'playground' that is very popular for a range of water-based pursuits including boating, fishing, diving, swimming, water-skiing, kayaking, windsurfing, and wildlife viewing.

The RMA Section 6(d) places national importance on the maintenance and enhancement of public access to the coastal marine area, and other policy documents (see Section 2.3) concur with this requirement.

Both Tory Channel and Waitata Reach are classified as 'accessible waters' under the Recreational Opportunity Spectrum (ROS), which implies a degree of modification to the natural environment and the likelihood of encountering other users and uses of the area. Recreational use of both areas is focussed on fishing and boating, with Tory Channel having higher numbers of recreational users than Waitata Reach.

Marine farms have the potential to affect recreational activity and public access in the following ways:

- The physical restriction of public access to the marine farm area may limit recreational activities (e.g. an anchoring location, a fishing location, or a boating route);
- Marine farms can create an 'obstruction' to existing coastal transit routes for small vessels;
- The presence of marine farms potentially reduces or increases the amenity value of the recreational experience – depending on each users perception; and
- The presence of marine farms provides a novel opportunity for industrial tourism; whereby visitors are able to access a site for an informative experience of the industry and site operations.

### 6.2 Mitigation Measures

No specific mitigations measures are required with regard to effects from occupation of space. However, water users will need to navigate around the farm structures and obey the associated separation and speed restrictions as outlined in the Navigation Risk Reduction and Management Plan.

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<sup>4</sup> Described in hearing evidence by David Bamford

## **7 Potential effects on intrinsic values**

### **7.1 Background**

The potential effects on intrinsic values which were raised during the resource consent process can be summarised as:

- Salmon farms detract from the existing beauty of the Sounds;
- Salmon farms cause a reduction in the sense of open space;
- Salmon farms cause a reduction in the feeling of wilderness/naturalness; and
- Salmon farms alter the landscape to a more industrial one.

The Marlborough Sounds can be described as an outstanding natural feature incorporating a range of landscapes that display variable levels of natural character, recreational and visual amenity attributes. However, it is also very much a working landscape where commercial activities both on the land and within the coastal waters (e.g. aquaculture, commercial farming and production pine forestry) play a significant role in the existing landscapes and seascapes. These commercial activities contribute significantly to the economy of the Marlborough district and therefore have an integral bearing on the wellbeing of the Sounds community.

### **7.2 Mitigation Measures**

No specific mitigation measures are required with regard to potential effects on intrinsic values, however mitigation measures outlined in Sections 3, 4, 5 and 6 all contribute to reducing these potential effects.

## References

**Boffa Miskell Ltd (2011).** Proposed Salmon Farms, Marlborough Sounds: Natural Character, Landscape and Visual Amenity Effects. Report prepared for NZ King Salmon, August 2011.

**Marshall Day Acoustics (2011).** New Zealand King Salmon, New Water Space Project: Assessment of Noise Effects. Report prepared for NZ King Salmon. August 2011. Report number Rp001 R02 2011052A.

## Appendices

This report contains the following appendices:

Number	Title
1	Dwelling locations: Waitata Reach
2	Dwelling locations: Tory Channel
3	King Salmon Feed Barge Drawing

# APPENDIX 1

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## **Dwelling locations: Waitata Reach**



WAITATA REACH GROUP

House Location Plan: Waitata Reach Group



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0 1 km  
1:50,000 @ A3

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Marine Farm Data Source: Marlborough District Council. GIS Layer May 2011

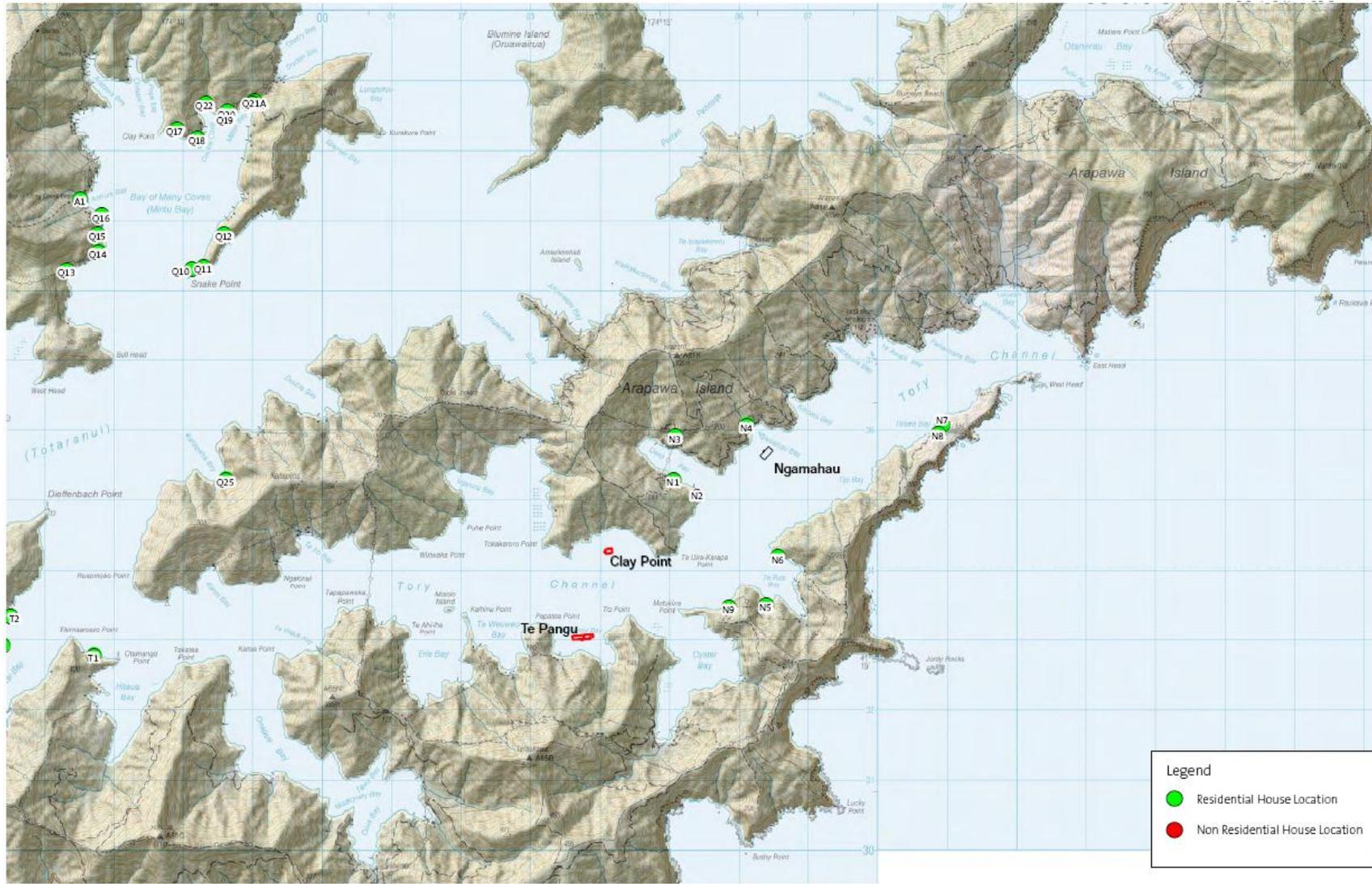
**REVISED**

NZKS PROPOSED SALMON FARMS : MARLBOROUGH SOUNDS  
Plan prepared for New Zealand King Salmon Limited by Boffa Miskell Limited | 28th July 2014 |  
Author: saiytkhop@boffa miskell.com.nz | Checked: CW | Revision : 2 |  
Page 1

## APPENDIX 2

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### **Dwelling locations: Tory Channel**



TORY CHANNEL GROUP

Figure E5: Housing Location Plan: Tory Channel Group



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Marine Farm Data Source: Marlborough District Council, GIS Layer May 2011

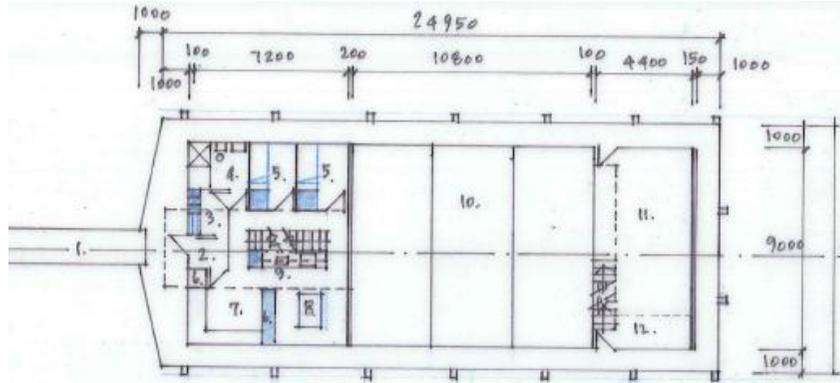
NZKS PROPOSED SALMON FARMS : MARLBOROUGH SOUNDS  
Plan prepared for New Zealand King Salmon Limited by Boffa Miskell Limited | 9th August 2011 |  
Author: sally.bishop@boffamiskell.co.nz | Checked: SM

# APPENDIX 3

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## **King Salmon Feed Barge Drawing**

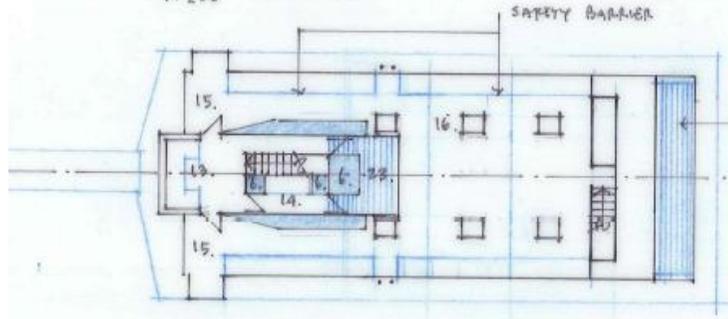
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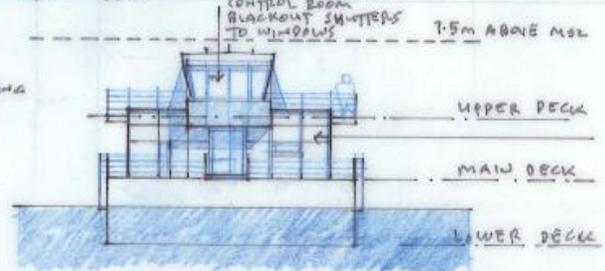
MAIN DECK  
1:200

KEY	DESCRIPTION	M2 APPROX.
1.	GANGWAY CONNECTION TO FARM	
2.	AIR LOCK	2.5
3.	LOCKERS, DRYING ROOM	3.0
4.	BATHROOM	6.5
5.	BEDROOM	5.5
6.	STORAGE	1.5
7.	OFFICE AREA	10.0
8.	SMOKE ROOM/DINING/MEETING	8.0
9.	KITCHENETTE	3.0
10.	SILOS 4.5x 3.0m	
11.	MACHINE ROOM	33.0
12.	COVERED WORK AREA	9.0
13.	CONTROL ROOM	11.0
14.	DAY BED, ADDITIONAL BEDROOM	8.0
15.	OBSERVATION DECK	
16.	SILO ACCESS HATCHES	
17.	BLOWERS	
18.	DIESEL TANK	
19.	GRAY WATER	
20.	BLACK WATER	
21.	FRESH WATER	
22.	FEED LINES	
23.	DECK	

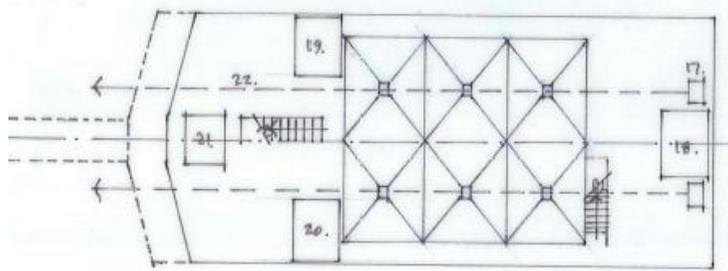
NOTES  
CLADDING/STRUCTURE: ALL TO BE FINISHED IN DARKER RECESSIVE COLOURS  
WINDOWS: ALL TO BE FITTED WITH BLACKOUT SHUTTERS TO CONTROL LIGHT SPILL AT NIGHT



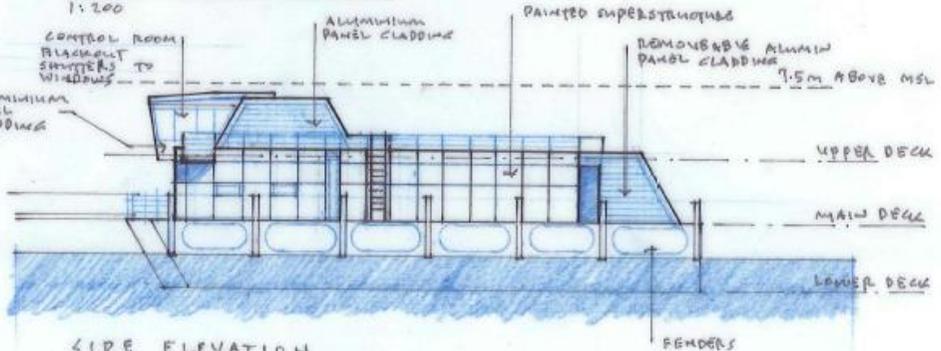
UPPER DECK  
1:200



END ELEVATION  
1:200



LOWER DECK  
1:200



SIDE ELEVATION  
1:200

	SHEET 1 2D PLAN VIEW PROPOSED FEED BARGE WELLINGTON T: 04 388 0000 F: 04 388 0007 WWW.HMA.CO.NZ	<b>King Salmon Feed Barge</b>	Proposed Feed Barge Drawing Number <b>SK09</b>	Revision Scale: B A3 1:200
	PROJECT: NEW ZEALAND KING SALMON DESIGN: ARCHITECTURE LTD 100 PRACTICE BUILDING, CHRISTCHURCH	Marlborough Sounds JOB: 1243	Date 9 August 2012	Scale: B A3 1:200

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