ATTACHMENT TWENTY-EIGHT
Marine Mammal Management Plan (“MMMP”)

McCALLUM BROS LTD
Established 1904

Te Ākau Bream Bay Sand Extraction

Marine Mammal Management Plan

McCallum Bros Limited

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Rosebank
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Prepared by:

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New Zealand

SLR Project No.: 840.030119.00001

17 December 2025

Revision: 5

Revision Record

Revision	Date	Prepared By	Checked By	Authorised By
01	31 March 2025	HM	DG	DG
02	18 June 2025	HM	MBL	HM
03	23 July 2025	HM	MBL	HM
04	28 July 2025	HM	MBL	HM
05	17 December 2025	HM	MBL	HM
Certified on:				

Basis of Report

This report has been prepared by SLR Consulting NZ (SLR) with all reasonable skill, care and diligence, and taking account of the timescale and resources allocated to it by agreement with McCallum Bros Limited (the Client). Information reported herein is based on the interpretation of data collected, which has been accepted in good faith as being accurate and valid.

This report is for the exclusive use of the Client. No warranties or guarantees are expressed or should be inferred by any third parties. This report may not be relied upon by other parties without written consent from SLR.

SLR disclaims any responsibility to the Client and others in respect of any matters outside the agreed scope of the work.

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1.0 Introduction

This Marine Mammal Management Plan (**MMMP**) has been prepared for McCallum Bros Limited (**MBL**) and relates to sand extraction operations in the designated 'extraction area' of Te Ākau Bream Bay (**Figure 1**). Sand will be dredged and collected by the trailing suction hopper dredge, the *William Fraser,* which will primarily travel to and from the extraction area from the Port of Auckland, with supply trips to alternative ports (Northport, Port of Tauranga, Kopu) on a less frequent basis. In addition to those dredging operations inside the extraction area, this MMMP also sets out procedures to manage impacts on marine mammals whilst the *William Fraser* is in transit to and from the extraction area.

The objective of this MMMP is to avoid or minimise the potential effects of sand extraction operations (including active extraction and transit) on marine mammals.

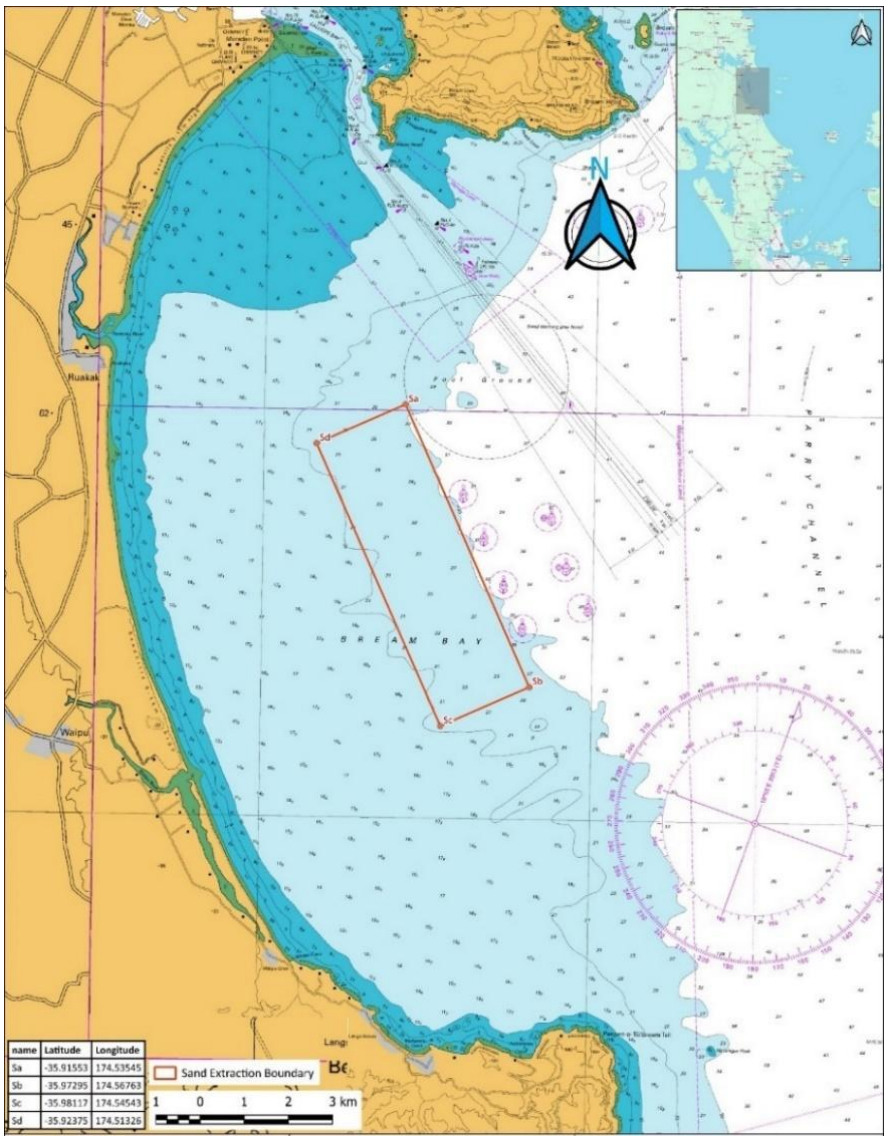

Figure 1 Sand 'Extraction Area' in Te Ākau Bream Bay

1.1 Marine Mammals in Te Ākau Bream Bay

While 34 marine mammal species are known from Te Ākau Bream Bay and surrounds, only seven species – bottlenose dolphins, common dolphins, Bryde's whales, false killer whales, pilot whales, killer whales, and New Zealand fur seals – have a regular presence here.

Other species occur as occasional visitors, including leopard seals, southern right whales, humpback whales, blue whales, sei whales, sperm whales, dwarf minke whales, and Gray's beaked whales. The presence of southern right whales and humpback whales will be seasonal over the months of winter and spring, and many of the other visiting species are primarily offshore deep-water species, e.g. blue whales, sei whales, minke whales, beaked whales, and sperm whales.

1.2 Sand Extraction Operations

Typically, the sand extraction operational cycle would begin when the *William Fraser* leaves the Port of Auckland on the morning of an extracting day in transit to the Te Ākau Bream Bay extraction site. The transit route passes through Tiri Passage, rounds Kawau Island, Takatu Point and Cape Rodney, before travelling along Jellicoe Channel then rounding Paepae-o-tū (Bream Tail) to enter Te Ākau Bream Bay. During transit, the *William Fraser* travels at a maximum speed of 9.5 knots. The *William Fraser* will transit to and from the following alternative ports on a less frequent basis: Port of Tauranga, Kopu Wharf (in Thames), and Northport (in Whangārei).

Before reaching the extraction area the *William Fraser* reduces its speed and begins to prepare the dredge equipment. By the time the vessel is within the extraction area it will be travelling at a speed of 1.5 – 2.5 knots which it maintains while extracting sand.

Once inside the extraction area, and following equipment checks, the draghead is lowered completely to the seabed and pumping of sand slurry (a mixture of sand and seawater) commences. Once the hopper is full, the draghead is lifted off the seabed and the equipment is flushed with seawater before it is stowed onboard, and the vessel returns to Auckland (or one of the alternative ports listed above) to unload.

Within the Te Ākau Bream Bay extraction site, a maximum daily dredge time of 3.5 hours will be implemented, and active dredging will be limited to the following operational windows:

- 12:00 pm to 6:00 pm during the months of April to September (inclusive).
- 12:00 pm to 8:00 pm during the months of October to March (inclusive).

MBL will conduct operations as follows:

- During the first three years of the proposed 35-year term, 150,000 m^3 of sand will be extracted annually, representing up to 14 trips per month; and
- During the next 32 years of the proposed 35-year term, up to 250,000 m^3 of sand will be extracted annually, representing up to 23 trips per month.

2.0 General Protocols

MBL will ensure that all project activities occur in accordance with this MMMP.

2.1 Compliance with the Marine Mammal Protection Act 1978

All marine mammals in New Zealand waters are fully protected under the Marine Mammals Protection Act 1978 which is administered by the Department of Conservation (**DOC**). It is an offence to 'take' a marine mammal without a permit. 'Take' is defined as:

- To take, catch, kill, injure, attract, poison, tranquillise, herd, harass, disturb or possess;
- To brand, tag, mark, or do any similar thing; and
- To flense, render down, or separate any part from a carcass.

MBL does not hold a permit to 'take' marine mammals and has no intention to do so. Any individual involved in any action in respect of marine mammals is responsible for their own actions within the framework of the Marine Mammals Protection Act 1978. Any non-compliance may result in dismissal of staff for serious misconduct and possibly render the individual and company liable to further legal sanction under the Marine Mammals Protection Act 1978. However, defences under the Marine Mammals Protection Act 1978 provide exemptions in some circumstances in relation to:

- Assisting an injured marine mammal;
- Retrieval of dead marine mammals under the direction of DOC; and
- Disposal of a dead marine mammal under the direction of DOC.

2.2 Compliance with the Marine Mammal Protection Regulations 1992

The Marine Mammal Protection Regulations 1992 outline the behaviours that must be adhered to by all persons around marine mammals. Compliance with these regulations is a legal requirement and is further discussed in **Section 4.2**.

2.3 Compliance with Company Common Practice

It is MBL policy for all operational staff to remain vigilant to potential threats to marine mammals and to take immediate steps to mitigate any threat identified.

Under no circumstances shall any crew member onboard the *William Fraser* attempt to attract a marine mammal towards the dredge vessel. For example, on no account shall a crew member offer food to a marine mammal or use any other item or bait which could be considered an attractant while the vessel is operational.

3.0 Protocols to Minimise Underwater Noise

Underwater noise levels will be minimised during project activities as follows:

- The *William Fraser* and all equipment on-board, including winches, generators, engines etc. will be regularly serviced and maintained to a high standard;
- Noise suppression equipment will be used and regularly serviced and maintained to a high standard;
- Records of service and maintenance will be kept and will be available for inspection upon request; and

- MBL will actively seek to make improvements to equipment and increase operational efficiency over the consent term to:
  - reduce overall underwater noise outputs; and
  - reduce the daily dredging duration.

4.0 Protocols to Minimise the Risk of Ship Strike

4.1 Operational Limits

The following operational limits will be adopted by the *William Fraser*:

- During active sand extraction, the average speed shall not exceed 2.5 knots; and
- During transit between the extraction site and the Port of Auckland or any of the alternative ports, the maximum allowable speed will be 10 knots.

4.2 Safe Vessel Operation

The master of the *William Fraser* will ensure that the vessel is operated in compliance with the Marine Mammal Protection Regulations 1992. Sections 18, 19 and 20 of the regulations outline the behaviours that must be adhered to by all persons around marine mammals. The following requirements are directly relevant to reducing collisions between marine mammals and vessels:

- Vessel operators shall endeavour not to disrupt the normal movement or behaviour of marine mammals;
- Care should be taken not to separate any individuals from, or scatter any groups of marine mammals and no vessel shall proceed through a pod of dolphins;
- No sudden or repeated change in the speed or direction of any vessel shall occur in the vicinity of marine mammals (except in emergency circumstances);
- No vessel shall cut off the path of a marine mammal;
- Vessels less than 300 m from a marine mammal shall move at a constant slow (no wake) speed. In the case of dolphins, vessels may exceed this speed in order to out-distance the dolphins but must increase speed gradually, and shall not exceed 10 knots within 300 metres of any dolphin;
- No vessel shall approach within 50 m of a whale, and if a whale approaches a vessel, the vessel shall make every attempt to keep out of the path of the whale and to maintain a minimum distance of 50 m; and
- No vessel shall approach within 200 m of a baleen whale or sperm whale with a calf.

In line with these requirements, the *William Fraser* shall display a laminated version of the A4 poster ‘Simple rules for boaties when interacting with whales and dolphins’ contained in **Appendix A**.

In terms of the last bullet point above and given the difficulty ascertaining if a whale is accompanied by a calf, the *William Fraser* must aim to maintain a minimum distance of 200 m from any large whale during extraction.

4.3 Compliance with the Hauraki Gulf Transit Protocol

During all transit to and from the extraction area, the master of the *William Fraser* will ensure that the vessel is operated in compliance with the voluntary Hauraki Gulf Transit Protocol (**Appendix B**). This protocol will be implemented throughout the entire transit route, i.e. not only in the Hauraki Gulf and for any potential transit scenarios associated with alternative ports.

The requirements of the Hauraki Gulf Transit Protocol which must be followed include:

- A maximum transit speed of 10 knots (noting the operational limit in **Section 4.1** above restricts the Wiliam Fraser to a maximum of 9.5 knots and overrides this transit protocol requirement);
- A watch must be kept for whales during daylight hours, with the assistance of binoculars as appropriate;
- If a whale is sighted forward of the vessel beam, the vessel master will slow down and/or change course to keep as far from the whale as possible. Whenever safe to do so, no vessel should pass closer than 1,000 m from a whale[1]; and
- All whale sightings inside the Hauraki Gulf should be reported immediately to the Ports of Auckland Harbour Control (this acts as a reporting and warning system for other vessels in the area). The reporting procedure outlined in **Appendix B** should be followed.

The only project specific exception to the Hauraki Gulf Transit Protocol is that the *William Fraser* may travel inshore of the recommended transit route when travelling between the Ports of Auckland and Bream Bay (see **Figure 2**). This transit route follows that presently used by the *William Fraser* between Auckland and their existing extraction area in the Mangawhai-Pākiri embayment. The slower than recommended transit speed, the shallow draft, and the vessel configuration will more than compensate for this deviation from the protocol recommendations.

All alternative transit routes (e.g., to Northport, Port of Tauranga and Kopu) will follow the relevant recommended route as prescribed by the Hauraki Gulf Transit Protocol (following the New Zealand Annual Notice to Mariners, Section 10: Shipping routes around the New Zealand coast).

[1] Note, that this distance is greater than that required by the Marine Mammal Protection Regulations 1992, but during transit a minimum distance of 1000 m from any large whale should be maintained whenever possible.

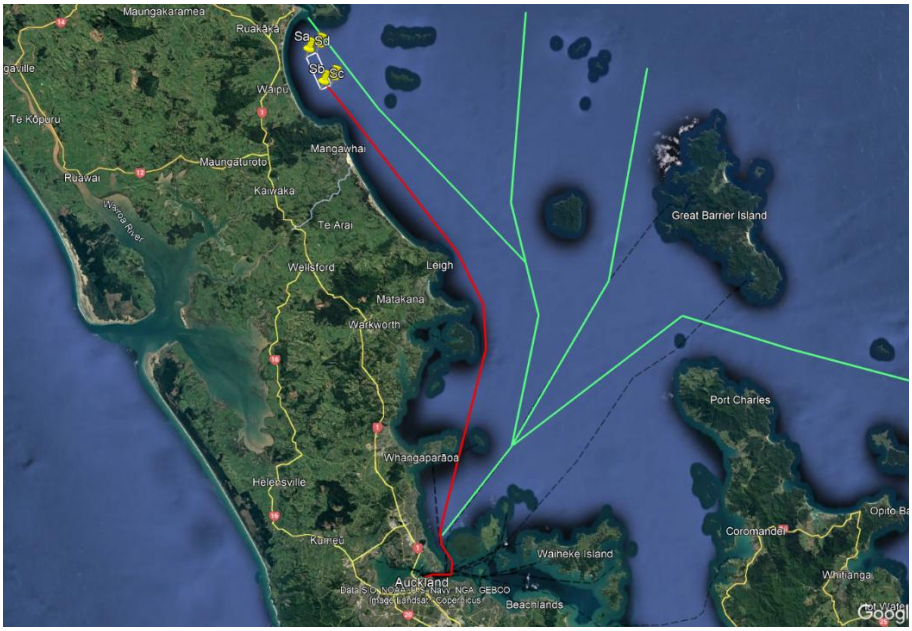

Figure 2 The accepted primary transit route of the *William Fraser* between Auckland and Bream Bay (red) and the recommended route for large commercial vessels (green)

5.0 Protocols to Minimise Marine Debris

To minimise any adverse effects on marine mammals from marine debris the following protocols will be implemented:

- Adoption of the following waste management strategies as contained within an MNZ approved Garbage Management Plan:
  - All cordage debris (e.g. ties, lashings, etc.), plastic strapping and other non-biodegradable waste must be collected, securely stored and disposed of at an approved solid waste facility onshore;
  - If any loose debris does enter the water, it must be promptly retrieved if safe to do so;
  - Any lost equipment should be retrieved from the seabed, water column or foreshore if it is safe and practical to do so; and
  - The *William Fraser* must have covered waste bins and debris retrieval nets onboard.
- Compliance with Resource Management (Marine Pollution) Regulations 1998; and
- A commitment to collect and retrieve obvious objects of marine debris during the course of dredging if it is safe and practical to do so, and to safely dispose of these onshore.

6.0 Protocols to Avoid Entanglement

As a precautionary measure and given the possible presence of Bryde's whales in the extraction area on occasion, the following strategies are recommended to minimise the risk of entanglement:

- Ensure the draghead and all other operational equipment in the water column is free from loose lines, loops of tubing etc. which could pose an entanglement risk to marine mammals;
- Free floating or slack lines at the water surface and in the water column must be avoided;
- Ensure suction of the draghead is restricted to within 3 m of the seafloor;
- While dredging, the *William Fraser* must be operated in a consistent manner in terms of direction and speed;
- The dredging vessel master and crew must remain vigilant for marine mammals during active dredging, and be prepared to shutdown extraction if necessary;
- A 100 m exclusion zone for large whales (killer whales and larger, including all baleen whales) should be implemented around the dredge vessel and draghead such that active dredging must cease if a large whale enters this zone; and
- Extraction should not recommence until the large whale has been resighted and has moved away from the draghead/vessel, or until there has been no further sightings for 10 minutes.

While the dredging vessel master and crew must remain vigilant for marine mammals, observations to underpin the implementation of the 100 m exclusion zone will be primarily undertaken by the master of the *William Fraser* who will keep a constant watch from the bridge during transit and active extraction. Watch-keeping is standard practise for safe vessel operation in terms of navigation responsibilities, compliance with the Marine Mammal Protection Regulations 1992, and compliance with the Hauraki Gulf Transit Protocol. The expansion of these watch-keeping responsibilities to monitor the 100 m exclusion zone for large whales during extraction therefore represents little additional effort and allows the deck crew to focus primarily on operations.

7.0 Protocols to Minimise Artificial Lighting

Lighting on the *William Fraser* must be subdued and downward facing whilst still complying with Maritime NZ lighting and safety requirements.

8.0 Stranding Response

While there is no risk of marine mammals stranding as a result of the sand extraction activities, it is recognised that whale and dolphin strandings do occur in Te Ākau Bream Bay from time to time. All stranding events are managed by DOC and because of the cultural significance of whale strandings, iwi involvement in stranding response is paramount. For animals that strand alive, refloat attempts are often made and during this process it is important that external factors that might influence the success of the refloat process be minimised. On this basis, MBL agrees not to undertake sand extraction activities on those days when they are aware that refloat attempts are to occur.

Notification of refloat attempts for live stranded marine mammals shall be received by MBL from either DOC, Te Parawhau ki Tai, or Patuharakeke Iwi Trust Board.

9.0 Recording and Reporting Requirements

A copy of the ‘Marine Mammal Identification Booklet’ (**Appendix C**) must be available on board the *William Fraser* to assist crew with reporting requirements.

On each extraction day, a ‘Daily Marine Mammal Record’ must be completed (**Appendix D**). This form is used to record:

- All marine mammal sightings (both inside and outside of the extraction area);
- Any marine mammal incidents (e.g. vessel strike or entanglement); and
- The absence of marine mammal sightings on any extraction day.

The paper version of the 'Daily Marine Mammal Record' (contained in **Appendix D**) may be used; however, equivalent digital records are acceptable.

On an annual basis, a summary of the data collected in the daily records will be provided to DOC, Te Parawhau ki Tai, and Patuharakeke Iwi Trust Board for informational purposes.

All vessel strike or entanglement incidents (regardless of the outcome) must be reported as soon as practicable to DOC (0800 DOC HOT), Te Parawhau ki Tai, and Patuharakeke Iwi Trust Board.

10.0 Staff Training

Training will be provided to all relevant staff during staff inductions, with training refresher sessions occurring at least twice a year during staff meetings.

MBL management staff will be ultimately responsible for ensuring training occurs and that appropriate training records are maintained. The minimum training requirements for all operational on-water staff are as follows:

- The requirement for compliance with 1) this MMMP, 2) the Marine Mammal Protection Act 1978, 3) the Marine Mammal Protection Regulations 1992, 4) all coastal permit conditions relevant to marine mammals and 4) company common practice;
- Awareness of the requirement to reduce underwater noise during on-water operations;
- Protocols to minimise the risk of ship strike, including 1) operational limits, 2) safe vessel operation (e.g. awareness of the 'Simple Rules for Boaties when Interacting with Whales and Dolphins'), and 3) compliance with the Hauraki Gulf Transit Protocol;
- Protocols to minimise marine debris (e.g. awareness of waste management strategies);
- Protocols to avoid entanglement, including the implementation of the 100 m exclusion zone of large whales;
- Protocols to minimise artificial lighting; and
- Recording and reporting requirements.

11.0 Management Plan Review

MMMP review will follow the procedure below:

- A comprehensive review of the MMMP shall be completed –
  - after the first 12 months of operations during which the annual extraction volume is 150,000 m^3;
  - in the six months prior to the planned increase in extraction volume (from 150,000 m^3 to 250,000 m^3);
  - after the first 12 months of operations during which the annual extraction volume is 250,000 m^3; and

    - every three years thereafter for the duration of the consent.
- A comprehensive review of the MMMP shall also be completed within six months of any entanglement, vessel strike, injury or death of a marine mammal that is attributable to the sand extraction operations (including transit).

Every review of the MMMP shall by undertaken by an Independent Suitably Qualified and Experienced Expert(s), being someone with a relevant tertiary qualification and at least five years' experience in marine mammal research or consulting. Following each review, the Independent Suitably Qualified and Experienced Expert(s) shall produce a report which summarises the outcomes of their review, and the changes they recommend (if any) to the MMMP.

This MMMP has been developed in accordance with best international practice and available information at the date of issue. During each review period, it shall be the responsibility of the reviewer to ensure that any relevant findings from ongoing international research efforts into the effects of dredging on marine mammals are adopted and that any relevant technological improvements are also assessed with regards to their potential merits for adoption by MBL in keeping with international best practice.

12.0 Monitoring Programme

Because cumulative noise effects are predicted to result in changes to the soundscape of Te Ākau Bream Bay, a monitoring programme to validate the predictions of the underwater acoustic modelling in terms of soundscape change must be undertaken. The details of this essential monitoring are outlined in **Section 12.1** below.

Furthermore, and if the opportunity arises, MBL should consider providing financial support to third party research groups for marine mammal research surveys in Te Ākau Bream Bay. In terms of this, and as background, from 2022 to 2024 Patuharakeke Te Iwi Trust Board partnered with NIWA and Far Out Ocean Research Collective to conduct boat-based marine mammal surveys in Te Ākau Bream Bay and surrounds, using the following methodology:

- Vessel-based line-transect surveys (visual observations), where monitoring effort was stratified by season; and
- Photo identification for key species (e.g. Bryde's whales, killer whales, coastal bottlenose dolphins and false killer whales).

Survey data was analysed to determine the following parameters:

- Rates of occurrence (number of sightings per km of transect);
- Species Distribution Modelling to describe distribution and habitat use in relation to environmental characteristics (including environmental and anthropogenic variables); and
- Mark recapture to calculate abundance, and critical population rates (survival etc.) for key species.

MBL recognises the value of the data that was collected through this programme and will, on a case-by-case basis, consider potential research projects and offer to contribute financially to the continuation of marine mammal surveys in Te Ākau Bream Bay.

12.1 Soundscape Change Validation

Acoustic monitoring (the 'Acoustic Monitoring Programme') must be undertaken to confirm that the actual levels of soundscape change that occurs inshore of the extraction area does not exceed 3 dB re 1 µPa. Specific monitoring methodology is included in the Environmental Monitoring Management Plan for this. Monitoring data will need to be collected both before the commencement of extraction activities (to establish a baseline soundscape at the monitoring location/s) and at the commencement of the consent.

The null hypothesis (H_o) would be that the actual measured soundscape change is equal to or lower than the modelled predictions (i.e., that soundscape increases outside the extraction area are predicted to (at most) be small, i.e. ≤ 3 dB re 1 µPa).

In terms of the baseline monitoring, measurements made over winter months will provide the most conservative baseline data (being the season when boating activity in the bay is lowest and the potential soundscape change associated with the introduction of extraction activities will be highest). For this reason, if the H_o is accepted against the winter baseline data, it will certainly be acceptable in the context of the other seasons.

Soundscape change validation findings should be reviewed within six months of each stage commencing, and if the H_o is rejected, adaptive management procedures should be actioned to reduce the noise emissions from the *William Fraser* into Te Ākau Bream Bay such that the operations can continue in keeping with the model predictions. Potential adaptive management procedures to achieve this could include:

- reduce the operational noise level of the William Fraser;
- reduce the frequency or duration of extraction permitted; and
- change the approach route to the extraction area.

13.0 References

Brough, T., Kereopa, H., Zaeschmar, J., Leunissen, E., Shirkey, T. 2024. Baseline surveys of marine megafauna in Te Ākau/Bream Bay to support kaitiakitanga. A collaboration between Patuharakeke, Far Out Ocean Research and that National Institute of Water and Atmospheric Research. NIWA Client Report Number 2024202HN. Dated April 2024.

SLR. 2025. Te Ākau Bay Sand Extraction: Marine mammal assessment of environmental effects. Report prepared for McCallum Bros Ltd by SLR Consulting NZ Ltd. Dated 15 July 2025.

Pine, M. 2025. Assessment of Underwater Noise Effects: proposed sand extraction Bream Bay/Te Ākau Bay. Report prepared for McCallum Bros Ltd by Styles Group Underwater Acoustics. Dated July 2025.

Appendix A Simple Rules for Boaties when Interacting with Whales and Dolphins

Te Ākau Bream Bay Sand Extraction

Marine Mammal Management Plan

McCallum Bros Limited

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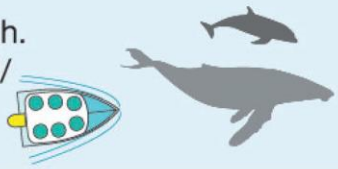
Simple rules for boaties when interacting with whales and dolphins

Don't travel faster than idle or 'no wake' speed within 300 metres

No more than 3 vessels within 300 metres

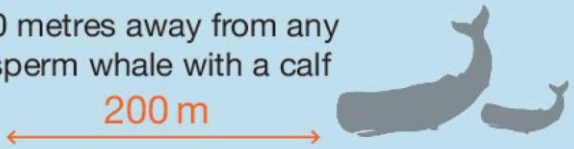
Do not obstruct their path. Approach from a parallel/ slightly rear direction



Do not swim with dolphin pods containing juveniles

Stay 50 metres away from any whale or orca

Stay 200 metres away from any baleen/sperm whale with a calf



Do not swim with whales or orca

www.doc.govt.nz

New Zealand Government

Department of Conservation
Te Papa Atawhai

Appendix B Hauraki Gulf Transit Protocol, 2024

Te Ākau Bream Bay Sand Extraction

Marine Mammal Management Plan

McCallum Bros Limited

SLR Project No.: 840.030119.00001

17 December 2025

Hauraki Gulf Transit Protocol for Commercial Shipping

Reducing the risk of whale deaths

1. Plan to slow down

The best way to reduce the risk is to slow down and avoid areas with the most Bryde's whales. The risk to whales is substantially lower from ships travelling at 10 knots compared to 15 knots or more.

- Plan your voyage so that whenever possible you transit the Hauraki Gulf at 10 knots, when outside the Auckland Pilotage Area.
- Approach and depart Port of Auckland using the recommended route as outlined in the New Zealand Annual Notices to Mariners, Section 10: Shipping routes around the New Zealand coast.

Adherence to this route will narrow the area of the Hauraki Gulf transited by large vessels and help reduce the risk of collision with a whale.

2. Watch for Bryde's whales

If you see a whale, you can avoid it. Having a dedicated observer scanning ahead with binoculars will help to detect whales at greater distances.

When transiting through the Hauraki Gulf, vessels are required to post whale lookouts during daylight hours.

If a whale is sighted forward of the beam, slow down and/or change course to keep as far from the whales as possible. Whenever safe to do so, no vessel should pass closer than 1,000 metres from a whale.

The image on this document is provided to help crew identify Bryde's whales.

Recommended approach to Port of Auckland

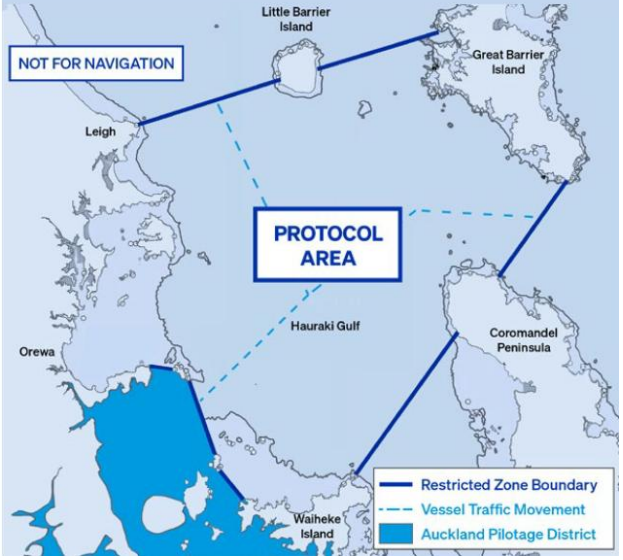
From the north:
Enter Hauraki Gulf (Tīkapa Moana) through Jellicoe Channel keeping at least 3 nautical miles off land, thence at least 3 nautical miles off Flat Rock, then pass through a point midway between Shearer Rock and The Noises (at least 3 miles off Shearer Rock) before proceeding westwards to intercept the sector light at St Leonards beach and thence to the Pilot Station.

Extract from Annual New Zealand Notice to Mariners. No. 10.

From the east:
Enter Hauraki Gulf (Tīkapa Moana) through Colville Channel keeping to the north of Channel Islands and thence to the Pilot Station.

The routes should be reversed for departing vessels.

Ships are to keep at least 5 nautical miles off the land, any charted danger, or any outlying islands, until reaching a position where alteration is required to make port.



3. Report on whale sightings

Port of Auckland's Harbour Control operate a whale reporting and warning system for vessels transiting the Hauraki Gulf. Whale sightings are relayed to all vessels in the Hauraki Gulf so that whales can be avoided.

All whale sightings should be immediately reported to Harbour Control as follows:

— "Auckland Harbour Control, Auckland Harbour Control, Auckland Harbour Control."

— "This is: [Vessel name, vessel name, vessel name]"

— "Whale sighting report."

On making contact, please provide the following information:

- Position of sighting, either latitude and longitude or bearing and distance from a known landmark.
- Number of whales sighted.
- Direction of movement in terms of three figure notation in degrees or as compass points.

Harbour Control will inform all other vessels in the Hauraki Gulf area of whale sightings, in the following format:

— "All stations, All Stations, All Stations"

— "This is Harbour Control, Port of Auckland." "Sighting of [number] of large whale(s)."

— "At [location]"

— "Direction of whale travel is [.....]"

— "If possible, please avoid the vicinity, increase lookouts and reduce speed."

— "Out"

This protocol is a voluntary measure agreed between the Port of Auckland and the shipping industry. It contains reasonable, practical measures which should, if widely adopted, reduce the number of whale deaths caused by vessels.

The protocol can only be effective if shipping lines and ship masters co-operate. By taking avoidance measures, planning ahead, and reducing speed whenever schedules permit, the industry will be able to address an issue of growing public concern.

Port of Auckland

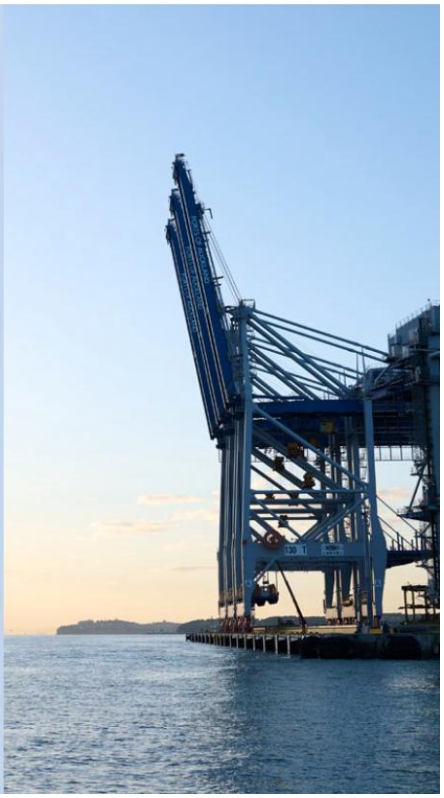
Port of Auckland is located on the east coast of New Zealand's North Island, in the Hauraki Gulf (Tīkapa Moana) Marine Park. While not endangered world-wide, the Hauraki Gulf is one of the few places in the world with a semi-resident population of Bryde's whales – a locally endangered species in New Zealand. Bryde's whales are vulnerable to ship strike which is a threat to the local population's long-term survival.

In September 2013, Port of Auckland, working with the shipping industry, New Zealand's Department of Conservation (DOC), Auckland University, iwi, and other key stakeholders, developed a voluntary protocol for large ships travelling through the Hauraki Gulf."

The protocol's main aim is to lower vessel speeds and reduce the risk of collisions between whales and ships. This protocol consists of four main elements which outlines the steps ship masters should take when planning their passage to and from Auckland, and what to do while transiting the Hauraki Gulf. Your commitment to helping protect the local Bryde's whale population is greatly appreciated.

Roger Gray

Roger Gray
Chief Executive Officer,
Port of Auckland



Sourced on 17 July 2025 from:
https://www.poal.co.nz/sites/default/files/2024-09/Hauraki%20Gulf%20Transit%20Protocol%20for%20Commercial%20Shipping.pdf

Appendix C Marine Mammal Identification Guide

Te Ākau Bream Bay Sand Extraction

Marine Mammal Management Plan

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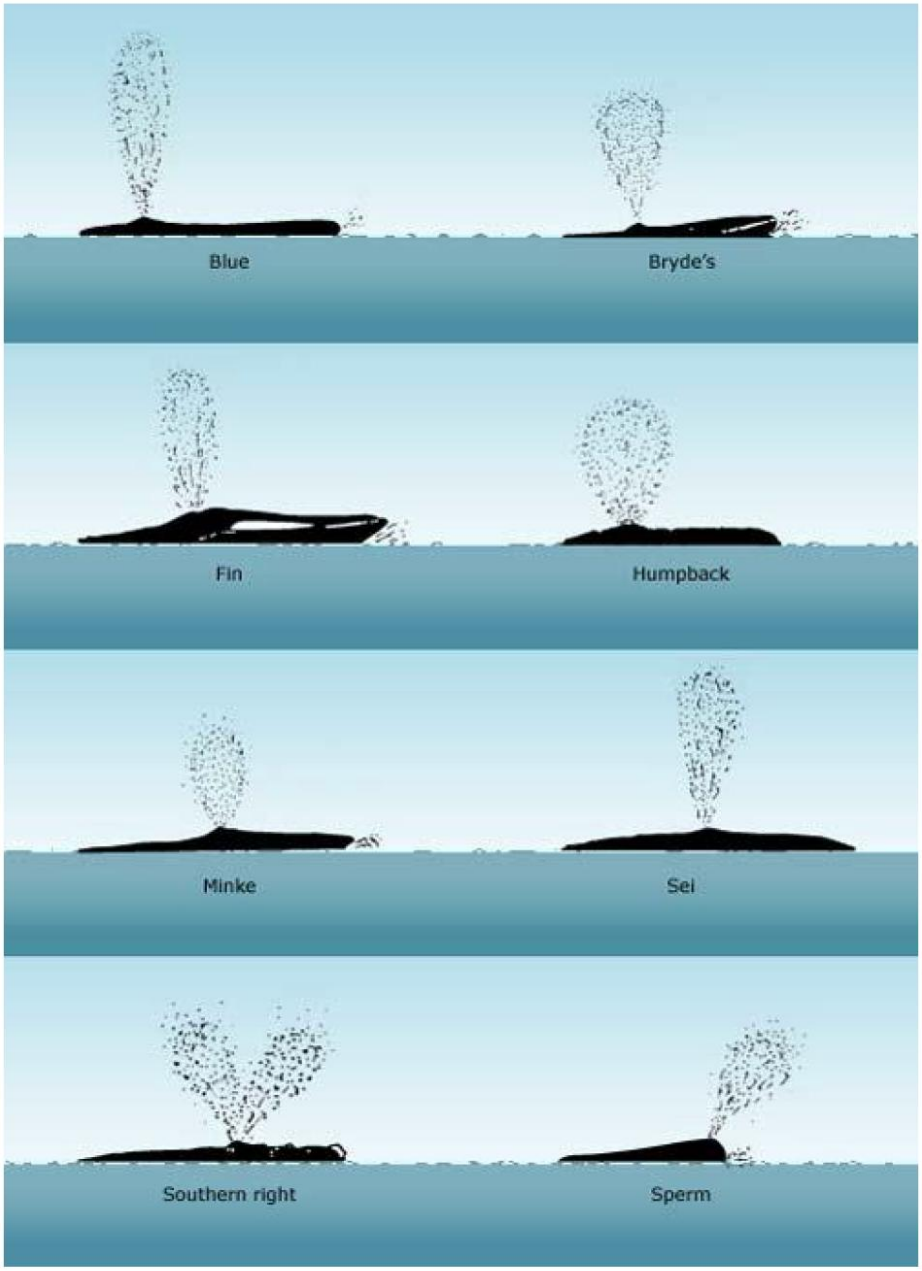
Marine Mammal Identification Guide

Excerpt from:

Marine Mammal Management Plan
for existing Mangawhai-Pākiri sand extraction operations.

Dated January 2025.

Whales


Blue
Bryde's
Fin
Humpback
Minke
Sei
Southern right
Sperm

Humpback Whale

Humpback whales have a small dorsal fin with a distinctive hump at the front, knobbly protuberances on the head, tip of lower jaw and leading edge of extremely long flippers.

Their tail flukes are broad and have a unique black and white colour pattern, which allow individuals to be identified. They have a variable colour but are generally black with white on the underside and on the flippers.

- **Newborn:** length 4-5 m
- **Adult:** length 11.5-15 m

Southern Right Whale

Southern Right Whales showing side fluke (left)

Southern right whales *(Eubalaena australis)* are typically black in colour but can have irregular white patches. The flippers are large and paddle-shaped. Tohorā are slow swimmers but are very acrobatic. They are also inquisitive.

Their head and lower jaw is covered with callosities; large, white, rough growths on the skin that are usually infested with parasitic worms, whale lice and barnacles.

These baleen whales can be recognised easily by their strongly arched mouth, lack of dorsal fin and V-shaped blowhole spray.

Newborn: length 4.5-6 m
Adult: length 11-18 m

Bryde's Whale

These whales have slender bodies of a smoky blue-grey colour (often marbled with scars caused by parasites and cookie-cutter sharks) and paler bellies. They grow up to 15 metres in length, with slender and pointed pectoral fins.

They look fairly similar to other baleen whale species (like the Sei Whales) but can be told apart by the unique series of three long ridges on the top of their heads.

Sei Whale

The whale's body is typically a dark steel grey with irregular light grey to white markings on the ventral surface, or towards the front of the lower body. The rostrum is pointed, and the pectoral fins are relatively short, only 9%–10% of body length and pointed at the tips. It has a single ridge extending from the tip of the rostrum to the paired blowholes, a distinctive characteristic of baleen whales.

It has a tall, sickle-shaped dorsal fin about two-thirds of the way back from the tip of the rostrum. The tail is thick and the fluke relatively small in relation to the size of the whale's body.

Minke Whale

Northern Minke:

They have a narrow, pointed, triangular rostrum, and a distinct dorsal fin set about two-thirds the way along the back. They are dark grey dorsally and clean white ventrally.

They possess relatively small pectoral fins that have distinct white bands on their outer margins, and two light grey to whitish swaths, called the *thorax* and *flank patches*, which join ventrally in the mid-lateral region. The smooth-sided flukes average about 2 m (6.6 ft) in width and can be nearly 3 m (about 9.8 ft) wide. They are light gray or white ventrally and bordered by dark gray.

Dwarf Minke:

The dwarf form has similar proportions to the northern form. The most prominent features on the dwarf form are the white flipper and shoulder blazes. The former covers the proximal two-thirds of the pectoral fin and continues along its leading edge, while the latter connects to the thorax patch above.

Blue Whale

The blue whale has a slender body with a broad U-shaped head, thin elongated pectoral fins, a sickle-shaped dorsal fin located close to the tail, and two blowholes. The skin is of mottled greyish-blue coloration, appearing blue underwater.

There are two sub-species of blue whales in the Southern Hemisphere, the Antarctic (or true) blue whale and the slightly smaller (but still very large) pygmy blue whale.

Pygmy Blue Whale

The pygmy blue whale differs from the "true" blue whales largely by:

- broader and shorter baleen plates,
- a shorter tail and a proportionately longer body in front of the dorsal fin,
- a larger head relative to body size, and,
- a heavier body weight compared to other blue whales of the same length.

Sperm Whale

Sperm whales *(Physeter macrocephalus)* have wrinkly skin and a large rather square head that makes up around one third of their body length. Females are smaller than males and have a proportionately smaller head.

They are purplish-brown or dark grey in colour, with white underneath. The dorsal fin has been reduced to a low hump and there is only one, slit-like blowhole, situated on the top left side of the snout.

Their angled, bushy blows make them easy to spot even though they rarely show much more above the surface.

- **Newborn:** length 3.5-4.5 m
- **Adult:** length 11-18 m

Pygmy Sperm Whale:

The pygmy sperm whale is not much larger than many dolphins. The underside is a creamy, occasionally pinkish colour and the back and sides are a bluish grey.

The head is large in comparison to body size, given an almost swollen appearance when viewed from the side.

The lower jaw is very small and slung low. The blowhole is displaced slightly to the left when viewed from above facing forward. The dorsal fin is very small and hooked; its size is considerably smaller than that of the dwarf sperm whale and may be used for diagnostic purposes.

Pygmy Sperm Whale

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Dolphins

Bottlenose Dolphin

Bottlenose dolphins (*Tursiops truncatus*) have a relatively short beak and a high, with a hooked and prominent dorsal fin.

They are dark or light grey on the back grading to white on the undersides, although their colour and shape can be variable. The size of a newborn is around 85 cm to 1.3 m in length, and an adult 1.9 to 3.9 m.

Common Dolphin

The colouration of this dolphin is very distinctive with a criss-cross or hour-glass type pattern centred on the flanks. Colours include purplish black, grey, white and yellowish tan. The dorsal fin is high with a concave hind edge. The head is low and smooth sloping.

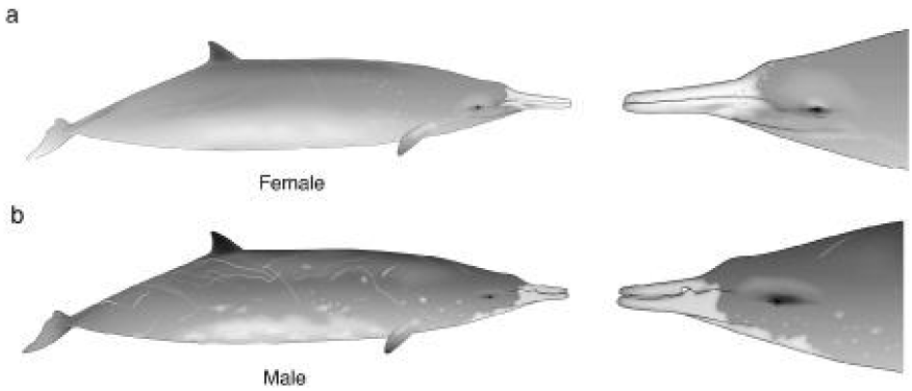
Killer Whale/Orca

The killer whale/orca (*Orcinus orca*) is well known and can be identified relatively easily by its distinctive black and white markings and very tall, prominent dorsal fin. They can grow up to 9 m in length, with male dorsal fins reaching higher than a metre.

Orca flippers are large and paddle-shaped and overall the body is robust. They are acrobatic and are commonly seen breaching and flipper-slapping.

Females and males differ in that males are longer and bulkier than females and females have smaller, more curved dorsal fins, and smaller pectoral fins.

Beaked Whales



Gray's Beaked Whale

Beaked whales are a family of cetaceans noted as being one of the least known groups of mammals because of their deep-sea habitat, reclusive behaviour and apparent low abundance.

Gray's beaked whales (*Mesoplodon grayi*) are believed to be the most common in NZ, due to the number of strandings. The beak itself is very long and pointed for a beaked whale and has a relatively straight mouth line. The overall coloration is dark on top and light below, and both sexes have a white beak; females are lighter on top.

Pilot Whale

There are two species of pilot whales – long finned and short finned. If you have sighted one in New Zealand's waters, it is almost certainly a long-finned pilot whale.

Pilot whales are dark gray, with a lighter "saddle" shape behind the fin, light gray to white streaks behind the eyes, and a light gray patch on the chest. Their dorsal fins are sloping and rounded rather like the shape of a breaking wave.

Males are larger than females and may grow to over six metres in length. Females grow to around five metres. Similarly, males are much heavier and bulkier than females and have larger heads and dorsal fins.

Probably pilot whales' main distinguishing characteristic is their large bulbous forehead, which protrudes beyond the mouth and small-to-non-existent beak.

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Seals

New Zealand Fur Seal

Fur seals and sea lions are distinguished from other seals by their external ear flaps and hind flippers which rotate forward, allowing them to move quickly on land.

New Zealand fur seals can be distinguished from sea lions by their pointy nose and smaller size. In New Zealand, fur seals also tend to be found on rocky shorelines, whereas sea lions prefer sandy beaches.

This pointy-nosed seal has long pale whiskers and a body covered with two layers of fur. Their coat is dark grey-brown on the back, and lighter below; when wet, kekeno look almost black. In some animals the longer upper hairs have white tips which give the animal a silvery appearance.

Adult females: maximum length 1.5 m, weight 30-50 kg.
Adult males: maximum length 2.5 m, weight 90-150 kg.

Appendix D Daily Marine Mammal Record

Te Ākau Bream Bay Sand Extraction

Marine Mammal Management Plan

McCallum Bros Limited

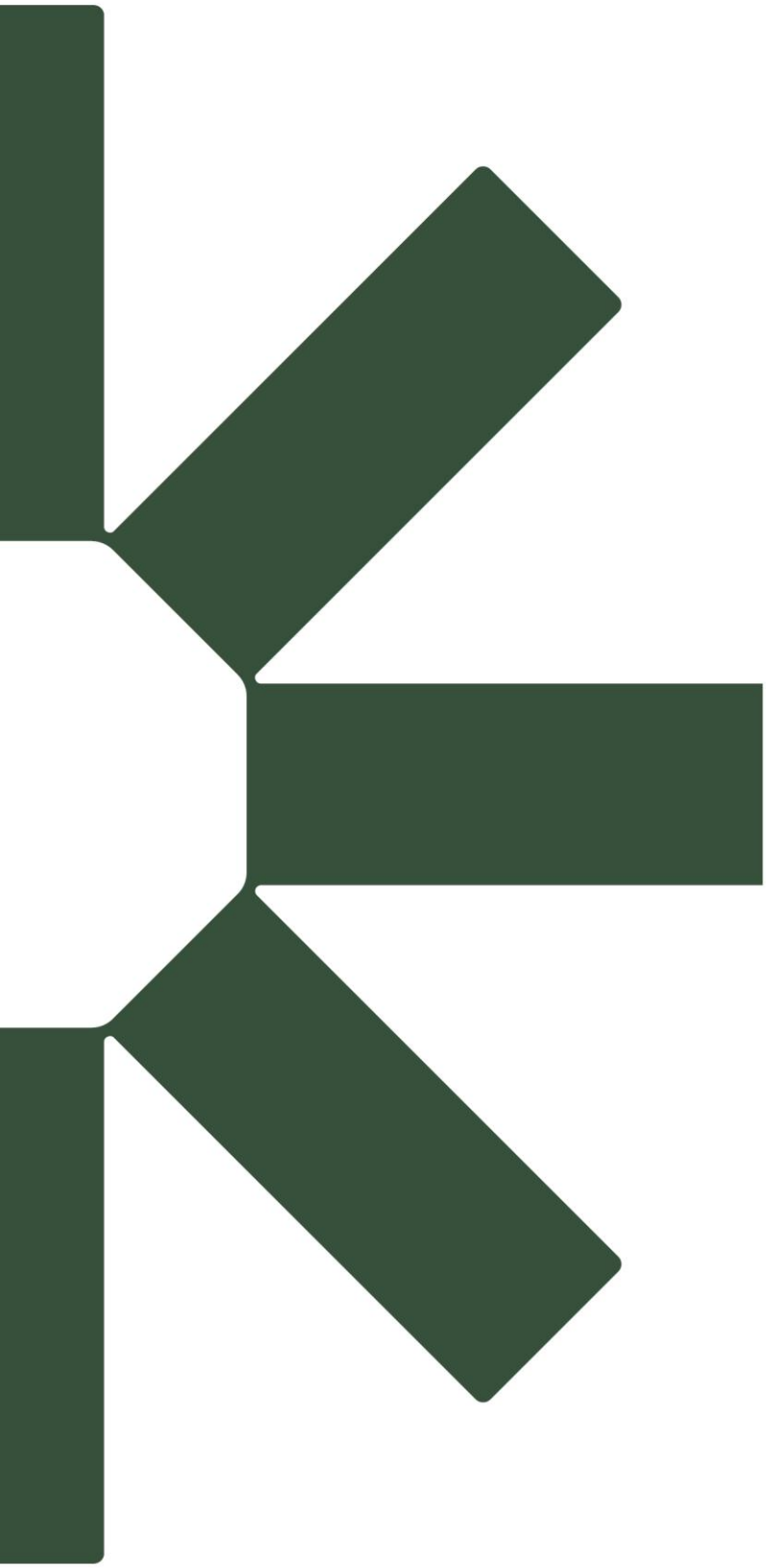
SLR Project No.: 840.030119.00001

17 December 2025

DAILY MARINE MAMMAL RECORD **DATE:_____**

Use this form to record all marine mammal sightings, incidents, AND the absence of sightings.

Report type (circle one)	Sighting	Vessel-Strike*	Entanglement*	No Sightings		
* Any vessel strike, or entanglement must be immediately reported to DOC, Te Parawhau, and Patuharakeke						
Observer's name						
Vessel name	*William Fraser*					
Time						
Sighting Location (circle one)	Within extraction area	Outside extraction area				
Lat/Long (if outside extraction area)						
Operations at time (circle one)	Transit	Preparing to dredge	Dredging	Stowing equipment		
Sea Condition/Weather						
Photos/video taken? (yes/no)						
Species ID (circle one) **or** Include description below	Common dolphin	Bottlenose dolphin	Bryde's whale	Orca/Killer whale	Humpback whale	Southern right whale
	False killer whale	Pilot whale	Fur seal			
Description colour, dorsal fin, blow shape etc						
Certainty of species ID (circle one)	Definite	Probable	Unsure			
Number of animals (total)		**Number of calves** (if present)				
Behaviour (when first seen) PTO for descriptions	Travelling	Milling	Feeding	Socialising	Resting	Other
Heading and distance from vessel (when first seen)						
Description of any interactions or behaviour changes (entanglement, boat strike, bow-riding etc.)						
Avoidance or mitigation action taken						



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