



**Permitted activities: Pre-activity notice**

**Form 1 of Schedule 5 of the Exclusive Economic Zone and Continental Shelf (Environmental Effects – Permitted Activities) Regulations 2013**

**How to use this form:** This form must be completed by organisations planning to carry out a permitted activity (except seismic surveying) in accordance with:

- regulation 5, 6 or 8 of the Exclusive Economic Zone and Continental Shelf (Environmental Effects – Permitted Activities) Regulations 2013 (PA Regulations 2013); or
- regulation 7, 8 or 9 of the Exclusive Economic Zone and Continental Shelf (Environmental Effects – Discharge and Dumping) Regulations 2015 (D&D Regulations 2015).

This form fulfils the pre-activity reporting requirements under regulation 11(a) of the PA Regulations 2013 and regulation 12(2) of the D&D Regulations 2015.

**Timeframe:** You must provide this form to the Environmental Protection Authority (EPA) no less than 40 working days before starting the activity.

**Note:** Items marked in *italics* are not compulsory; however, including this information will help the EPA process the form.

This completed form, once received and processed by the EPA, will be posted on the EPA website.

**Submitting in hard copy:** If you wish to provide the completed form in hard copy, post it to Environmental Protection Authority, Private Bag 63002, Wellington 6140 or fax it to +64 4 914 0433.

**Submitting electronically:** If you wish to provide the completed form electronically, email it to [permitted.compliance@epa.govt.nz](mailto:permitted.compliance@epa.govt.nz).

Any form submitted electronically should be attached to an email that sets out:

- the details of the person undertaking the permitted activity (the operator)
- the name of the person supplying the completed form
- a statement that the person is authorised to supply the form on behalf of the operator.

Note: The EPA has an 8 MB limit on electronic files submitted by email.

You can find and download all forms prescribed by the PA Regulations 2013 and the D&D Regulations 2015, as well as suggested templates for providing other information, on our website at [www.epa.govt.nz](http://www.epa.govt.nz) or request them from us by contacting:

Environmental Protection Authority,  
Private Bag 63002, Wellington 6140  
Email [permitted.compliance@epa.govt.nz](mailto:permitted.compliance@epa.govt.nz)

Phone +64 4 916 2426  
Fax +64 4 914 0433

**Operation name: Deployment of PAM gear in Cook Strait**

Name used by operator to reference the activity described in this form:

**Details of person undertaking permitted activity**

<b>Name of company, organisation or person:</b>	National Institute of Water and Atmospheric Research Ltd.		
<b>Contact person:</b>	[REDACTED]		
<b>Phone number:</b>	[REDACTED]		
<b>Mobile number:</b>	[REDACTED]	<b>Fax number:</b>	[REDACTED]
<b>Physical address:</b>	[REDACTED]	<b>Postcode:</b>	[REDACTED]
<b>Postal address (if different):</b>	[REDACTED]	<b>Postcode:</b>	[REDACTED]
<b>Email address:</b>	[REDACTED]		

**General description of permitted activity****Type of activity:**

Marine scientific research	<input checked="" type="checkbox"/>	Alteration, extension or removal of a permitted marine structure	<input type="checkbox"/>
Prospecting	<input type="checkbox"/>	Discharge of sediments from iron sand prospecting and exploration	<input type="checkbox"/>
Exploration	<input type="checkbox"/>	Incidental discharge of sediments from phosphate nodule or placer gold prospecting and exploration	<input type="checkbox"/>
Placement or removal of submarine cables	<input type="checkbox"/>	Discharge of sediments from seafloor massive sulphide prospecting and exploration	<input type="checkbox"/>

**Description of methods to be used to undertake the activity:**

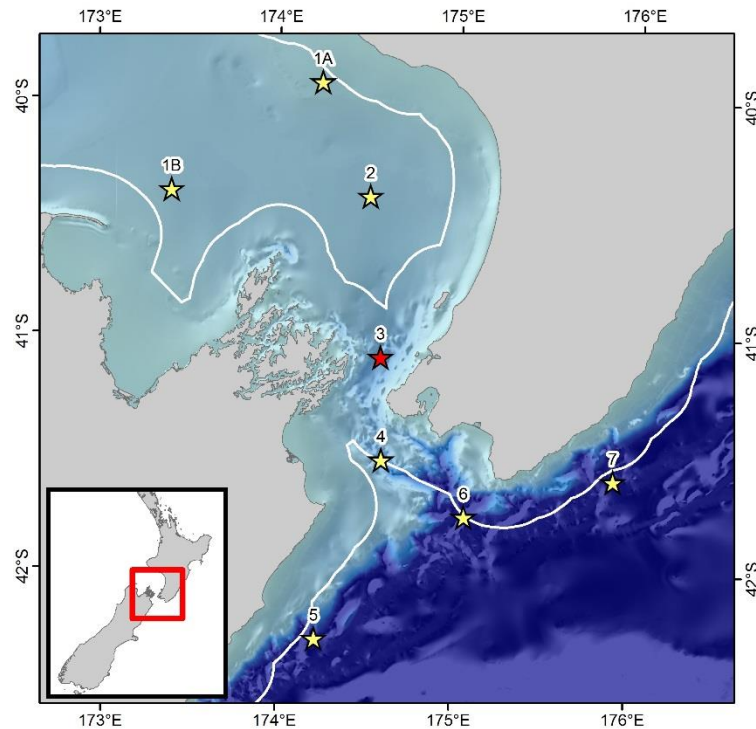
NIWA proposes to deploy a passive acoustic monitoring (PAM) system in New Zealand's (NZ) Cook Strait (the relatively narrow area between the North and South islands and a route for migrating whales between Antarctica and the tropics).

The sophisticated design of the PAM system will allow us to address key questions such as:  
 Which cetacean species occur in Cook Strait and how does cetacean distribution change seasonally?  
 What is the migration route of baleen whales traveling between Antarctica and subtropical waters?  
 What are the "baseline" ambient noise levels in Cook Strait, what are the contributors, and how do noise levels change seasonally? We propose starting this project 25 February, 2016.

We plan to use JASCO's single hydrophone autonomous multichannel acoustic recorders (AMARs) The long-term monitoring capabilities of AMARs are especially important for this study because longer intervals between interim data retrieval trips will reduce cost and logistical requirements.

We will deploy seven acoustic moorings: four in deep water (> 500 m) and three in shallow water (<500 m) (Figure 1). This design and associated equipment is considered to allow the maximum information regarding marine mammal movements while minimizing the effects of

currents and trawling. **Six of the seven moorings will be placed beyond the 12 nm limit of the territorial seas (2 shallow and 4 deep; Figure 1).**



**Figure 1:** Proposed passive acoustic monitoring (PAM) deployment locations (yellow stars) beyond 12nm. The white line denotes the 12 nm limit of the territorial seas, red star denotes the mooring within 12 nm.

For each of the four deep monitoring station, a single AMAR will be deployed close to the bottom on a low profile vertical mooring (Figure 2). The footprint of each weight is  $\sim 0.6\text{m}^2$ .

For each shallow water mooring (Figure 3), a single AMAR will be deployed on the sea floor with the retrieval buoy moored separately close by. Like the deep water mooring the footprint of each weight is  $\sim 0.6\text{m}^2$ . In addition to each bottom weight, there will be a nearby bottom plate placed on the bottom, holding the hydrophone, which will have a footprint of  $1.07\text{ m} \times 0.53\text{ m}$  ( $0.57\text{ m}^2$ ). Approximately 600 m of 12mm bottom line stretched between the bottom weight and nearby plate.

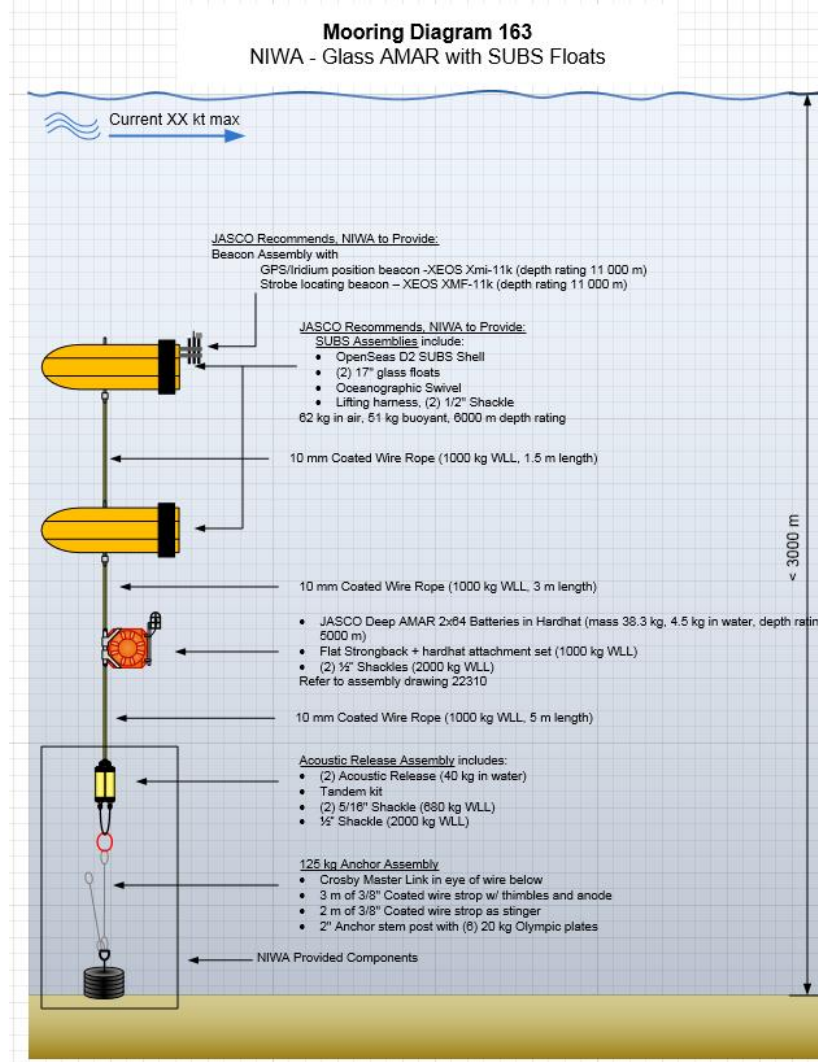


Figure 2. Deep Long-term Monitoring Mooring

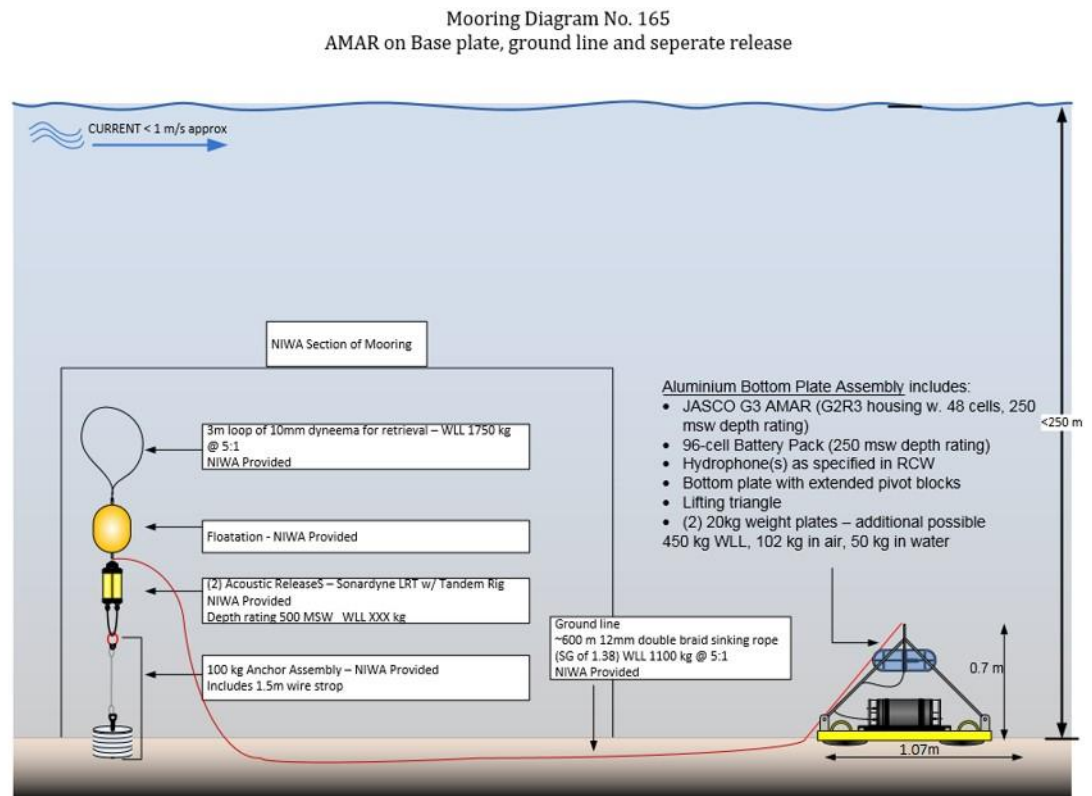


Figure 3. Shallow Long-term Monitoring Mooring

We plan to conduct two six-month deployments with a recording configuration which is well suited for detecting most species, and based on AMARs with 1.792 TB of memory and 128 battery cells. This means that at each station there will be two separate deployments and retrievals of the PAM equipment and associated bottom contact gear.

**Timing of permitted activity**

<b>Proposed start date:</b>	25/02/2016
<b>Approximate duration of activity:</b>	14 months - Series of deployment and recovery (7 days each deployment/recovery)
<b>Timetable:</b>	<p>Activities are weather dependant and the activity order and timing cannot be determined in advance.</p> <p>However, we anticipate deploying PAM moorings in late February/early March 2016 (Figure 1). Six months after deployment (late August/early September) we will recover the moorings. Because equipment will need to be serviced and memory downloaded, we expect a turn-around time of about one month before equipment can be redeployed. Currently, we expect to redeploy the moorings in late September/early October. After the second 6-month deployment, mooring gear will be recovered in late March/early April 2017.</p>

**Location of permitted activity****Co-ordinates of area where activity will be undertaken:**

*(Provide four sets of co-ordinates in latitude and longitude or submit a shape file or KML/KMZ file.)*

Set 1	-39.938, 173.399
Set 2	-42.302, 173.399
Set 3	-39.938, 175.903
Set 4	-42.302, 175.903
<input checked="" type="checkbox"/>	I have attached a shape or KML/KMZ file

**Map:**

The PAM moorings will be deployed within the wider Cook Strait region encompassed by the latitude longitude box given above. Specific locations of the moorings (Table 1) are shown on Figure 4 below.

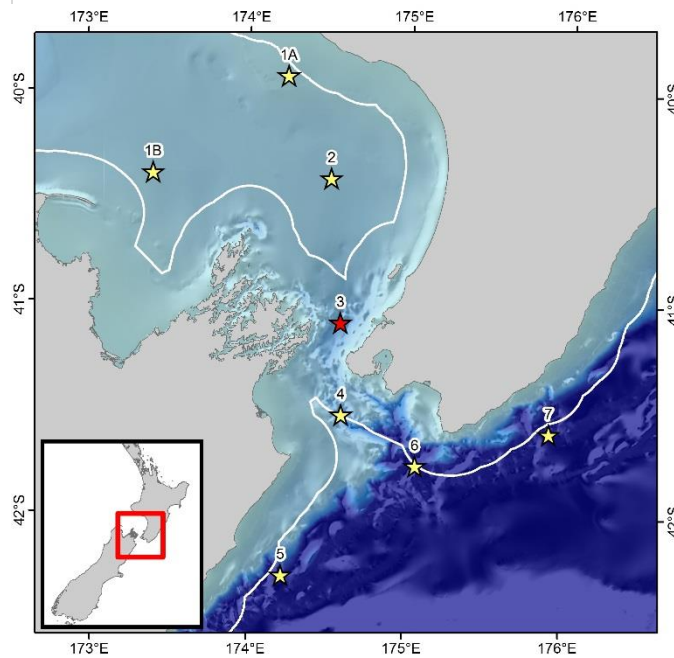


Figure 4: Proposed passive acoustic monitoring (PAM) deployment locations (yellow stars) beyond 12nm. The white line denotes the 12 nm limit of the territorial seas, red star denotes the mooring within 12 nm.

Table1: Location of PAM moorings. Location 1 will be at either 1A or 1B

PAM deployment	Latitude	Longitude
4	-41.540	174.588
5	-42.303	174.221
2	-40.421	174.505
7	-41.610	175.903
6	-41.776	175.062
1A	-39.950	174.240
1B	-40.400	173.400

**Describe the current state of the area and the surrounding environment, including any known sensitive environments:**

This region of offshore New Zealand has been the focus of a number of mapping and scientific surveys and consequently NIWA has access to significant coverage of multibeam echosounder data which results in high resolution bathymetry. Cook Strait separates the North and South Islands and is a 20-60 km wide passage shaped by climatic, oceanographic and tectonic processes. It is a dynamic and highly energetic sedimentary environment that receives sediment supply from nearby rivers, with sands and gravels subsequently transported by strong tidal flows and currents. Tidal currents coupled with sediment delivery have produce distinctive patterns of sedimentation, bedforms, erosion, landslides and canyons. Consequently, the seafloor geology and distribution of surficial sediments is complex and comprises relict and modern features.

In addition within NIWA's archive (National Invertebrate Collection database) there are ~7,554 biological sample records in the area 40-43° S and 173-176° E. Of these, only 141 samples were found within five km of the proposed PAM locations. If environmental conditions are suitable, certain species may occur in

densities that are considered “sensitive environments”, (as defined in Schedule 6). Five species of potential interest: one sea pen (*Funiculina quadriangularis*), one bivalve (*Acharax* spp.) and three sponge samples (*Callyspongia* spp., *Chondrocladia* spp., and *Forcepia Forcepia*), were found between 3.5 and 4.5 km from the eastern-most location. It is unknown whether they occur in densities sufficient to satisfy the definition of such “sensitive environment”.

However, there were no species proximal to the deployment locations that would indicate the presence of a “sensitive environment”. Should deployment activities indicate the presence of sensitive environments (i.e. organisms as defined in Schedule 6), the sampling plan will be redesigned to minimise and, wherever possible, avoid further contact with these environments.

### **Describe the likely effects of the activity on the environment:**

The only long-term impact will be the mooring weights, which remain on the seabed. The footprint of each weight is ~0.6m<sup>2</sup>. The combined footprint of the six moorings deployed beyond the territorial seas will have a benthic impact ~ 3.6 m<sup>2</sup>. Previous experience has suggested that mooring weights may provide settlement habitat for benthic invertebrates.

In addition, the shallow water mooring will involve the temporary placement of a bottom plate located near the mooring weight. The footprint of this plate is ~0.57 m<sup>2</sup>. A 12 mm weighted sinking line will stretch between the mooring weight and the bottom place up to ~ 600 m. The line will remain stationary on the bottom to minimize any disturbance. The bottom plate and line will be recovered with the gear.

In summary, the combined impact of the 4 deep-water and 2 shallow-water mooring will be 298 m<sup>2</sup> (3.6 m<sup>2</sup> mooring weights each deployment – 7.2 m<sup>2</sup> total; 0.57m<sup>2</sup> bottom plate each deployment – 2.28 m<sup>2</sup> total; up to 72 m<sup>2</sup> in bottom mooring line each deployment – 288 m<sup>2</sup>).

### **Other information**

<b>Name of the ship involved in the activity:</b>	Ikatere / Kaharoa
<b>International call sign or vessel number of the ship:</b>	IMO:8000898 / MNZ:133779
<b>Associated licence number (under the Continental Shelf Act 1964):</b>	
<b>Associated permit number (under the Crown Minerals Act 1991):</b>	

### **Funding and cost recovery**

The EPA recovers costs in accordance with section 143 of the Exclusive Economic Zone and Continental Shelf (Environmental Effects) Act 2012, Exclusive Economic Zone and Continental Shelf (Fees and Charges) Regulations 2013, and EPA Cost Recovery Policy for the Exclusive Economic Zone and Continental Shelf (Environmental Effects) Act 2012 and Regulations. The policy specifies that the EPA will not recover costs for domestic or international marine scientific research where proof of government funding is provided.

*To help the EPA determine whether you are eligible for cost recovery exemption under the policy, fill out the section below.*



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**Is this activity receiving any government funding?**

<input checked="" type="checkbox"/>	Yes	<input type="checkbox"/>	No (go to the next section)
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**If yes, provide details and attach any proof of such funding:**MBIE - NIWA core funding

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Where the EPA is required to recover costs associated with the permitted activity to which this form relates, it will invoice the company, organisation or person named on this form. The invoice will be addressed to the named contact person.

**Delivery details for the invoice if different from those given on page 2**

Postal address	
Contact person	
Email address	
Purchase order number (if applicable)	

Payment is expected by the 20<sup>th</sup> of the month following the month of issue of the invoice.

**Signature of authorised contact person****Date 13/11/2015****Name:** [REDACTED]**Title:** [REDACTED]

**Note:** A signature is not required for electronic (email) forms.