Permitted activities: Post-activity report

Form 4 of Schedule 5 of the Exclusive Economic Zone and Continental Shelf (Environmental Effects – Permitted Activities) Regulations 2013

**How to use this form:** This form should be completed by people who have carried out a permitted activity (other than 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). This form fulfils the post-activity report requirements of Schedule 4 of the PA Regulations 2013.

**Timeframe:** You must provide this form to the Environmental Protection Authority (EPA) within 60 working days of completing 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.

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.
**Operation name:**
Taranaki Bight sampling

**Activity code:**
NIWPA33

**Details of the person undertaking the permitted activity**

<table>
<thead>
<tr>
<th>Name of company, organisation or person:</th>
<th>National Institute of Water and Atmospheric Research (NIWA)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contact person:</td>
<td></td>
</tr>
<tr>
<td>Phone number:</td>
<td></td>
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<tr>
<td><strong>Mobile number:</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Fax number:</strong></td>
<td></td>
</tr>
<tr>
<td>Physical address:</td>
<td></td>
</tr>
<tr>
<td><strong>Postal address (if different):</strong></td>
<td></td>
</tr>
<tr>
<td>Email address:</td>
<td></td>
</tr>
</tbody>
</table>

**Description of permitted activity**

**Type of activity:**

- Marine scientific research ☒ Alteration, extension or removal of a permitted marine structure ☐
- Prospecting ☐ Discharge of sediments from iron sand prospecting and exploration ☐
- Exploration ☐ Incidental discharge of sediments from phosphate nodule or placer gold prospecting and exploration ☐
- Placement or removal of submarine cables ☐ Discharge of sediments from seafloor massive sulphide prospecting and exploration ☐

**Period during which activity was undertaken:** 22/05/2017

**Location of the permitted activity**

**Co-ordinates of area where the activity was undertaken:**

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

<table>
<thead>
<tr>
<th>Set 1</th>
<th>39°50.0’S, 173°55.0’E</th>
</tr>
</thead>
<tbody>
<tr>
<td>Set 2</td>
<td>39°50.0’S, 174°15.0’E</td>
</tr>
<tr>
<td>Set 3</td>
<td>40°05.0’S, 174°15.0’E</td>
</tr>
</tbody>
</table>
Details of the environment of the area where the activity was undertaken

Describe the environment:

There is reasonably good knowledge of the benthic environment in this area from surveys done by NIWA in 2011 and 2012 for Trans-Tasman Resources. Sampling has been carried out in the proposed survey area using towed cameras (which enables an overview of the nature and extent of benthic invertebrate communities), as well as with Agassiz trawl and grab (to collect samples for taxonomic identification). The offshore area we targeted for sponges is dominated by rippled sand sediments, and for dog cockles by sand and low-lying biogenic habitat comprising bivalve rubble (Beaumont et al. 2013). The latter consists largely of live dog cockles (*Tucitona laticostata*) and shell debris. The highest densities of dog cockles occur at depths of 45–60 m, where the slope of the continental shelf is slightly steeper, and hence may have stronger currents that favour the filter-feeding cockles. The habitat has associated encrusting coralline algae, small sponges, and ophiuroids.

Describe any sensitive environment that was encountered in the area where the activity was undertaken:

On investigation of samples once back onsite, one type of sensitive habitat was encountered: beds of large bivalve molluscs. The species concerned was the dog cockle, *Tucetona laticostata*. Dog cockles are not specified in the EEZ Act regulations which define sensitive environments, however we believe dog cockles are likely included as a species representative of ‘large bivalve mussels’, in comparison with the more obvious horse mussels as an indicator species.

In the EEZ regulations, a bed of large bivalve molluscs exists if living and dead specimens—comprise 30% or more by weight or volume of the catch in a sample collected using towed gear; or comprise 30% or more by weight or volume in successive point samples.

In 4 tows using a towed Agassiz trawl (mouth opening 0.75m wide by 0.4m high), the catch of shell debris and live cockles was between 30 and 80 kg. This was the bulk of the catch of each trawl by both volume and weight. A fifth trawl caught 320 kg of shell debris and live sponges. Each tow therefore indicates a sensitive habitat. Dog cockles were also the dominant fauna taken in two grab samples.
Environmental footprint of the activity

<table>
<thead>
<tr>
<th>Estimate of the volume of material removed:</th>
<th>The total weight of all catches by the Agassiz trawl was 600 kg, which comprised mainly dead shell rubble. The two grab samples took 70 kg of sediment, which included some live cockles.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Estimate of the areas of seabed affected by each component of, or sample taken as part of, the activity (m²):</td>
<td>The total area swept by all the trawls was approximately 2,000 m². The majority of this was on open sandy substrate targeting sponges. Tows targeting dog cockles comprised about 750 m² of this. The two grab deployments sampled a surface area of 0.5 m².</td>
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</tbody>
</table>

Details of measures taken to avoid, mitigate or remedy adverse effects on the sensitive environment

Did you implement the contingency plan submitted to the EPA?
☒ Yes ☐ No

Explain: Although location could not easily be changed due to weather and time constraints, tows were kept short to reduce the catch. We also changed gear type, even though this was not part of the contingency plan.

Provide details of, and the reasons for, the measures taken to avoid, mitigate or remedy the effects of the activity:

The initial 4 Agassiz trawls caught relatively small catches of mainly dead shell rubble. However the fifth shot caught over 300 kg. At this time, use of the trawl was stopped because of the amount of material. Two further deployments of a grab were made and these caught small quantities of live cockles, as well as sediment for grain size analysis. In future sampling, grabs will be used rather than the trawl if dog cockles are the target species.

Note, however, that previous sampling has revealed dog cockle beds to be widely distributed at depths around 50 m, and we sampled in a small location to constrain our footprint, which therefore minimises the extent over which impact occurred to the beds.

8 June 2017

Signature of authorised contact person

<table>
<thead>
<tr>
<th>Name:</th>
<th>Date</th>
</tr>
</thead>
</table>

Title:

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