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.

You can find and download all forms prescribed by the PA Regulations 2013, as well as suggested templates for providing other information, on our website at 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

Phone +64 4 916 2426
Fax +64 4 914 0433
**Operation name:**
Name used by operator to reference the activity described in this form: Cross-Shelf Exchange II

**Activity code:**
Code given to you by the EPA after submitting the pre-activity notice: NIWAPA26

Details of the person undertaking the permitted activity

| Name of company, organisation or person: | National Institute of Water and Atmospheric Research (NIWA) Ltd |
| Contact person: | [Redacted] |
| Phone number: | [Redacted] |
| **Mobile number:** | [Redacted] |
| Fax number: | [Redacted] |
| Physical address: | [Redacted] |
| Postcode: | [Redacted] |
| **Postal address (if different):** | [Redacted] |
| Postcode: | [Redacted] |
| Email address: | [Redacted] |

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:** 12/05/2016 – 31/05/2016

Location of the permitted activity

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

| Set 1 | 33°00’S 173°30’E |
| Set 2 | 33°00’S 177°00’E |
| Set 3 | 37°30’S 173°30’E |
Set 4 | 37°30’S 177°00’E

☒ I have attached a shape or KML/KMZ file to a previous form

**Map**
*(showing position of activity relative to the New Zealand coastline)*

The survey will be conducted offshore northeast New Zealand as depicted below off Hauraki Gulf in the north and East Cape in the south.

The sediment sampling off the Hauraki Gulf will be conducted in the vicinity of the sites shown below (Figure 2, brown squares). Decisions about coring sites within this area will be determined during the voyage in order to be compatible with water column measurements.

*Figure 2: General area of proposed activities in the Hauraki Gulf region, with the sediment sample sites, relevant to this application, shown by the brown squares.*

Details of the environment of the area where the activity was undertaken

**Describe the environment:**
The continental shelf along the northeast North Island is typically less than 30 km in width, and widens to 80 km in the Hauraki Gulf region. The main surface current flowing into this region is the East Auckland Current (EAUC) at the most northerly points of the country. This is a permanent current that flows adjacent to land and varies at weather (5 – 10 days) and climate (decadal) timescales. Sea floor relief is relatively uniform, except for small areas of basement outcrop and isolated rock pinnacles. The outer Hauraki Gulf from 75 m to the shelf break is characterised by a broad sandy mud belt. Beyond the shelf edge, a band of coarser muddy sand extends in a NW direction along the upper slope, down to 300–500 m depth. There are limited sediment samples around this region. There are approximately 60 biological samples in NIWA's marine database across the shelf region, with the only sample of minor interest being Scleractinia (solitary stony coral). Scleractinia corals are typically associated more with elevated features such as seamounts or ridges.

Sediment sampling during the survey off Hauraki Gulf is designed to target the muddy seafloor areas with flat topography. Hence, no known sensitive habitats are expected to be encountered during these multicorer deployments.

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

No sensitive environments were encountered during the coring activities undertaken on the NIWA research voyage TAN1604 to the greater Hauraki Gulf region.

No equipment used for sediment or water column sampling remained on the seabed and the impact associated with the seafloor sampling program was limited to the immediate sampling areas.

The most likely effect would be minor disturbance of the benthic environment and benthic communities, resulting from the collection of seafloor samples.
Environmental footprint of the activity

<table>
<thead>
<tr>
<th>Estimate of the volume of material removed:</th>
<th>Ten coring deployments were undertaken at six sites; total volume of material removed = 0.043 m$^3$.</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 (m$^2$):</td>
<td>0.424 m$^2$ across the ten deployments, including cores where no sediment samples were returned and one entire deployment at which no cores were triggered but where we assume that seafloor impact did occur. In terms of the sediment samples taken, the total area affected was 0.259 m$^2$.</td>
</tr>
</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: No sensitive environments were encountered.

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

The most likely effect would be minor disturbance of the benthic environment and benthic communities, resulting from the collection of seabed samples.

Sediment sampling during the survey off Hauraki Gulf was designed to target the muddy seafloor areas with flat topography. Hence, no known sensitive habitats were expected to be encountered during these multicorer deployments and none actually were.

Should sampling had indicated the presence of sensitive environments (i.e. organisms as defined in Schedule 6), the sampling plan would have been redesigned to minimise and, wherever possible, avoid further contact with these environments. Examples of organisms collected via sampling would have been retained and lodged within NIWA’s National Invertebrate Collection potentially providing valuable information on the diversity of NZ’s deep sea environment.

Signature of authorised contact person

Date 24/06/2016

Name: [Redacted]

Title: [Redacted]

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