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Marine Invasive Non-native Species Biosecurity Risk Assessment and Management Plan

A Marine Biosecurity Risk Assessment and Management Plan enables marine operators and contractors to understand and minimise the risk of introducing or spreading marine invasive non-native species (INNS). Management of marine INNS is extremely challenging once they are introduced to a new area. Effective biosecurity measures that minimise the risk of introduction or spread are therefore key to effective management.

Filling in this form:

To help you fill in this form, see accompanying document “Guidance for completing NRW’s Biosecurity Risk Assessment and Management Plan”. The accompanying document contains clarification of many key terms and also provides guidance on potential pathways of introduction for INNS (Table 1) and level of risk associated with each pathway (Table 2).

Structure of this form:

You will need to fill in Sections A and C. Fill in sections B1 to B5 when relevant to your activity. For further information on what is included in each section see the accompanying guidance document.

Section A: Activity overview

You should complete this section.

Section B: Risk Assessment

B.1 Assessing the pathway risks associated with vessels

If you are using a vessel (or vessels) as part of your licensed activity you should complete this section. Information on any equipment to be used which can be separated from the vessel should be provided in Section B.4.

B.2 Assessing the pathway risks associated with non-biological materials and water

If your activity involves the use or transfer of non-biological materials (e.g. water, sediment, construction material) you should complete this section.

B.3 Assessing the pathway risks associated with biological material

If your activity involves the use or transfer of biological material (including aquaculture) you should complete this section.

B.4 Assessing the pathway risks associated with equipment

If your activity involves use of equipment which can be separated from their vessel you should complete this section.

B.5 Assessing other pathway risks

This should be filled in if previous sections do not capture aspects of your activity.

Section C: Management Measures

You should complete this section.

Section D: Recommendations

You should consider this section.

Section A: Activity overview

Please fill out the activity details below:

Applicant name:	National Grid Electricity Transmission
Short description of activity: *(please provide enough detail for NRW to understand the location and the different elements of the project. Links to other documents which describe the project can be provided)*	National Grid Electricity Transmission (NGET) is planning to conduct geophysical, geotechnical, and environmental habitat survey works in connection with Western Link 2 (hereafter referred to as WL2, or the project) which is a planned high voltage direct current (HVDC) electricity transmission reinforcement link between the west coast of Scotland to north Wales. The total proposed survey area across Welsh, Manx. Northern Irish and Scottish covers approximately 665 km^2. The survey area within Wales will be 250.17 km^2 within Welsh inshore (0 – 12 nm) and offshore waters (12 nm – Exclusive Economic Zone (EEZ) boundary). The proposed geotechnical survey will include vibrocores, Cone penetration testing (CPT), and boreholes. One vibrocore sample will be collected every 1 km (no replicates) in water depths greater than 4 m. The total sample volume per vibrocore sample is anticipated to be up to 0.05 m^3. The benthic sampling surveys will involve Drop-Down Video (DDV) and seabed grab samples, using either a day grab sampler or Harmon grab sampler for coarser material. It is anticipated that grab sampling will consist of two grab drops per sample location, increasing to three drops in sensitive areas. Within shallow water depths (< 8 m), the sampling frequency will be every 2 and 5 km. Within deeper water depths (> 6 m), the sampling frequency will be every 5 and 10 km. Please see further the 'NRW Geotechnical Survey Technical Note' for additional detail. The geotechnical, and environmental habitat survey works are being undertaken by two separate contractors, for ease two INNS Risk Assessment and Management Plan have been prepared per contractor. GeoXYZ will be

	performing the geotechnical survey along the route using shallow sampling and testing techniques.
Estimated timings of proposed licensed activities:	The proposed period for the survey is between 1st March and 1st September 2026 with an expected duration of 90 days for the total route corridor, including local mobilisation, transit, survey and local demobilisation. Of these 90 days, works within Welsh waters are anticipated to be significantly shorter (approximately 14 days). Survey activities may happen beyond this proposed period as contingency in the case of unexpected delays, such as weather, preventing survey activity from occurring as planned.

Section B: Risk Assessment

B.1 Assessing the pathway risks associated with vessels

B.1.1. Please list all ports within the UK or overseas that all vessel(s) to be used (both during construction and maintenance) have visited over the 12 months prior to this licensed activity, or since the last out of water period (whichever is most recent).

Please state **N/A** if vessels have not entered any port since the last out of water period.

If you do not yet have the information to complete this section, please state **Unknown.** NRW may ask for this section to be updated when these details are known. The risk should be set as High.

<table>
<tr><th>Vessel name</th><th>Port / location visited over last 12 months
(listed chronologically with dates if known)</th><th>Which marine invasive non-native species known to be present at this port(s) / location(s)?</th><th>Has the vessel had antifouling?
12 months prior to activity for biocidal coatings, 24 months for biocide-free coatings</th></tr>
<tr><td>Geo Ocean VI</td><td>
<table>
<tr><th>Date</th><th>Location</th><th>Lat</th><th>Long</th></tr>
<tr><td>21-26 April 2025</td><td>Barrow in Furness, UK</td><td>54.1 N</td><td>3.2 W</td></tr>
<tr><td>27-28 April 2025</td><td>Liverpool, UK</td><td>53.4 N</td><td>3.0 W</td></tr>
<tr><td>2-3 May 2025</td><td>Liverpool, UK</td><td>53.4 N</td><td>3.0 W</td></tr>
<tr><td>16 May 2025</td><td>Barrow in Furness, UK</td><td>54.1 N</td><td>3.2 W</td></tr>
<tr><td>25-29 May 2025</td><td>La Rochelle, FR</td><td>46.1 N</td><td>1.2 W</td></tr>
<tr><td>5-9 June 2025</td><td>La Rochelle, FR</td><td>46.1 N</td><td>1.2 W</td></tr>
<tr><td>18 June-9 July 2025</td><td>La Rochelle, FR</td><td>46.1 N</td><td>1.2 W</td></tr>
<tr><td>12-17 July 2025</td><td>Dublin, IRE</td><td>53.3 N</td><td>6.2 W</td></tr>
<tr><td>19-21 July 2025</td><td>Barrow in Furness, UK</td><td>54.1 N</td><td>3.2 W</td></tr>
<tr><td>24 July 2025</td><td>Dublin, IRE</td><td>53.3 N</td><td>6.2 W</td></tr>
<tr><td>2-5 Aug 2025</td><td>Dublin, IRE</td><td>53.3 N</td><td>6.2 W</td></tr>
<tr><td>11 Aug 2025</td><td>Dublin, IRE</td><td>53.3 N</td><td>6.2 W</td></tr>
<tr><td>14-16 Aug 2025</td><td>Great Yarmouth, UK</td><td>52.6 N</td><td>1.7 E</td></tr>
<tr><td>19-22 Aug 2025</td><td>Great Yarmouth, UK</td><td>52.6 N</td><td>1.7 E</td></tr>
<tr><td>26 Aug 2025</td><td>Great Yarmouth, UK</td><td>52.6 N</td><td>1.7 E</td></tr>
<tr><td>29 Aug-1 Sept 2025</td><td>Grimsby, UK</td><td>53.6 N</td><td>0.1 W</td></tr>
<tr><td>3-4 Sept 2025</td><td>Great Yarmouth, UK</td><td>52.6 N</td><td>1.7 E</td></tr>
<tr><td>5-8 Sept 2025</td><td>Oostende, BE</td><td>51.2 N</td><td>2.9 E</td></tr>
<tr><td>10-13 Sept 2025</td><td>Eemshaven, NL</td><td>53.4 N</td><td>6.8 E</td></tr>
<tr><td>15-19 Sept 2025</td><td>Eemshaven, NL</td><td>53.4 N</td><td>6.8 E</td></tr>
</table>
</td><td>UK (Liverpool)
Eriocheir sinensis
Ficopomatus enigmaticus
Ensis leei
Styela clava
Mya arenaria
Petricolaria pholadiformis
Diadumene lineata
Sargassum muticum
Dasysiphonia japonica
Crepidula fornicata
Austrominius modestus
Undaria pinnatifida
Gammarus tigrinus
Magallana gigas
UK (Barrow)
Colpomenia peregrina
Sargassum muticum
Austrominius modestus
Mya arenaria
Styela clava
Calyptraea chinensis</td><td>A TBT-free and Cybutryne-free antifouling paint was applied 22/01/2025.</td></tr>
</table>

3-6 Oct 2025	Bremerhaven, DE	53.5 N	8.6 E
9-12 Oct 2025	Eemshaven, NL	53.4 N	6.8 E
15-17 Oct 2025	Gothenburg, SE	57.7 N	11.9 E
20-22 Oct 2025	Gothenburg, SE	57.7 N	11.9 E
24-25 Oct 2025	Gothenburg, SE	57.7 N	11.9 E
28 Oct 2025	Gothenburg, SE	57.7 N	11.9 E
1-8 Nov 2025	Gothenburg, SE	57.7 N	11.9 E
12-13 Nov 2025	Gothenburg, SE	57.7 N	11.9 E
16 Nov 2025	Gothenburg, SE	57.7 N	11.9 E
17-19 Nov 2025	Mukran, DE	54.5 N	13.6 E
22-26 Nov 2025	Mukran, DE	54.5 N	13.6 E
4-5 Dec 2025	Rostock, DE	54.2 N	12.1 E
7 Dec 2025 - 24 Jan 2026	Oostende, BE	51.2 N	2.9 E
26 Jan - 3 Mar 2026	Oostende, BE	51.2 N	2.9 E
5-19 Mar 2026	Lorient, FR	47.7 N	3.4 W
21-22 Mar 2026	Lorient, FR	47.7 N	3.4 W
23 Mar - 2 Apr 2026	Bilbao, ES	43.3 N	3.0 W
4-6 Apr 2026	Bilbao, ES	43.3 N	3.0 W
11-13 Apr 2026	Lorient, FR	47.7 N	3.4 W
15-22 Apr 2026	Oostende, BE	51.2 N	2.9 E

- Molgula manhattensis
- Bonnemaisonia hamifera

UK (Great Yarmouth)

- Austrominius modestus
- Amphibalanus improvises
- Ruditapes philippinarum
- Eriocheir sinensis
- Cordylophora caspia

UK (Grimsby)

- Eriocheir sinensis
- Mya arenaria
- Crepidula fornicata
- Austrominius modestus
- Chelicorophium curvispinum
- Cordylophora caspia
- Petricolaria pholadiformis
- Gammarus tigrinus
- Undaria pinnatifida
- Tricellaria inopinata
- Styela clava
- Amphibalanus improvises
- Magallana gigas
- Monocorophium acherusicum
- Ensis leei
- Ficopomatus enigmaticus
- Marenzelleria viridis

Ireland (Dublin)

- Didemnum vexillum
- Corella eumyota
- Botrylloides violaceus
- Crepidula fornicata
- Crassostrea gigas
- Caprella mutica
- Sargassum muticum
- Undaria pinnatifida
- Grateloupia turuturu
- Bonnemaisonia hamifera
- Codium fragile subsp. fragile
- Asparagopsis armata
- Ficopomatus enigmaticus
- Mya arenaria
- Styela clava
- Biddulphia sinensis

Belgium (Oostende)

- Styela clava

		• Crepidula fornicata • Ensis leei • Caprella mutica • Sargassum muticum • Undaria pinnatifida • Ficopomatus enigmaticus • Mya arenaria • Amphibalanus amphitrite • Codium fragile subsp. fragile • Polysiphonia senticulosa • Megabalanus tintinnabulum • Botrylloides violaceus • Mytilopsis leucophaeata • Crassostrea gigas • Caprella mutica • Ruditapes philippinarum The Netherlands (Eemshaven) • Didemnum vexillum • Styela clava • Crepidula fornicata • Crassostrea gigas • Ensis leei • Hemigrapsus takanoi • Caprella mutica • Sargassum muticum • Ficopomatus enigmaticus • Neosiphonia harveyi • Codium fragile fragile • Undaria pinnatifida • Calyptraea chinensis • Eriocheir sinensis • Botrylloides violaceus • Didemnum vexillum • Molgula manhattensis • Marenzelleria viridis Germany • Didemnum vexillum • Styela clava • Crepidula fornicata • Crassostrea gigas • Ensis leei • Hemigrapsus takanoi • Caprella mutica • Sargassum muticum • Ficopomatus enigmaticus • Marenzelleria viridis • Marenzelleria neglecta	

		• Neogobius melanostomus • Cordylophora caspia • Mnemiopsis leidyi Sweden (Gothenburg) • Marenzelleria viridis • Marenzelleria neglecta • Neogobius melanostomus • Mnemiopsis leidyi • Cordylophora caspia • Hemigrapsus takanoi France • Didemnum vexillum • Styela clava • Asterocarpa humilis • Crepidula fornicata • Crassostrea gigas • Hemigrapsus takanoi • Caprella mutica • Sargassum muticum • Undaria pinnatifida • Grateloupia turuturu • Codium fragile subsp. fragile • Asparagopsis armata Spain (Bilbao) • Didemnum vexillum • Styela clava • Crassostrea gigas • Sargassum muticum • Undaria pinnatifida • Grateloupia turuturu • Codium fragile subsp. Fragile • Crepidula fornicata	

Please add more rows if necessary

Please indicate the INNS risk level and justification of the risk below, separately for each vessel based on the locations visited in last 12 months. This should take into account the probability of biofouling and vessel antifouling regime. **Note:** Examples of risk levels are given in Table 2 of the accompanying guidance document and there is further information about this section in the accompanying guidance document.

Vessel name / type	**Risk Level (High, Medium, Low)**	**Justification of risk level**
Geo Ocean VI	Medium	The biosecurity risk associated with the operations of the GEO OCEAN VI has been assessed as **Medium**, based on

		the vessel's operational profile, geographical exposure, and implemented mitigation measures. Several key control measures are in place which significantly reduce the overall risk: **Ballast Water Management** The vessel operates a **closed freshwater ballast/trim system**, with no discharge or exchange at sea. Ballast tanks are sealed, regularly inspected, and maintained free of sediment. As described in the Ballast Water Management Plan, this configuration effectively eliminates ballast water as a vector for the transfer of aquatic organisms and pathogens. **Permanent Ballast Risk Control** The Permanent Ballast Risk Analysis demonstrates that potential biological hazards (e.g. bacterial growth in stagnant water) are controlled through preventive measures such as tank cleaning, monitoring, and maintenance. Risks are reduced to ALARP levels through structured mitigation measures and operational controls. **Hull and Biofouling Management** The vessel has undergone recent drydocking and antifouling system application. Drydock procedures and maintenance activities ensure that hull condition is inspected and maintained periodically. While no dedicated Biofouling Management Plan is currently implemented, existing maintenance, inspection, and docking procedures provide indirect control of biofouling accumulation. **Inspection, Audit and Maintenance Regime** The vessel is subject to regular internal and external audits in accordance with ISM requirements, as well as planned maintenance and inspection schedules. These systems ensure that environmental protection measures, including those related to pollution prevention and system integrity, are effectively implemented and monitored. **Waste and Environmental Management** The Waste Management Plan, in compliance with MARPOL Annex V, ensures controlled handling, storage, and disposal of waste streams, minimizing the risk of unintended biological transfer through waste or contaminated materials.

B.1.2 Please provide details of the vessels (identified in Table B.1.1), which have <u>not</u> had antifouling (within the 12 months prior to the licensed activity for biocidal coatings, or 24

months for biocide-free coatings) and if there is an alternative antifouling management regime.

If there are not additional measures or an alternative biofouling management regime, then please put **None**, and the risk level would not change.

Vessel	**Alternative biofouling management regime** (e.g. different timeframes for antifouling treatment, vessel storage on land etc.)	**Risk Level (High, Medium, low)**
GEO OCEAN VI	None TBT-free and Cybutryne-free antifouling paint certificate states expected coating lifetime of 36 months (last applied 22/01/2025 in drydock). Antifouling application has been confirmed as satisfactory by the manufacturer.	Medium

B.2 Assessing the pathway risks associated with non-biological materials and water

B.2.1: Please provide information about the source and receiving environments for non-biological materials and water transferred through the licensed activity from different pathways (for example hopper water, dredge material, construction material).

Pathway	**Location (including Coordinates, WGS84)**		**Relevant Environmental Conditions for INNS species** (e.g. salinity and depth differences between source and receiving environments)	**List of INNS known to be present**	**Risk Level (High, Medium or Low)**	**Justification of risk level**
	Source					
	Receiving					
	Source					
	Receiving					
	Source					
	Receiving					

Please add more rows if necessary

B.3 Assessing the pathway risks associated with biological material

B.3.1 Please provide information about the species that will be used or transferred through the licensed activity and the potential for INNS to be contained in the biological material.

N/A

B.3.2: Please provide information about the source and receiving environments for biological material used or transferred through the licensed activity. Pathways include, for example, transfer of seeded ropes with seaweed or shellfish.

Pathway	**Location (coordinates, WGS84) and / or name of culture facility**		**Relevant environmental conditions for INNS species** (e.g. salinity and depth differences between source and receiving environments)	**List of INNS known to be present in the location or culture facility**	**Risk Level (High, Medium or Low)**	**Justification of risk level**
	Source					
	Receiving					
	Source					
	Receiving					

Please add more rows if necessary

B.3.3. If a relevant pathway is identified in Table B.3.2, please outline any relevant biosecurity measures or protocols in place to prevent contamination of material by marine INNS, and introduction or spread of marine INNS.

N/A

B.3.4. Does the transfer have the relevant documentation from the Fish Health Inspectorate at CEFAS (Aquaculture Production Business Registration), or follow other relevant codes of conduct for prevention of the introduction or spread of marine INNS? Please place an X in the relevant box.

Yes	No	Don't know	Not relevant
			X

B.4 Assessing the pathway risks associated with immersible equipment

B.4.1. Please list the immersible equipment expected to be used in this licensed activity in the box below.

Geomil Manta 200 DW CPT (in 100kN config), Geomarine Systems Geocorer 6000 VC with integrated Fielax TRT (6.0m config)

B.4.2. Will all the immersible equipment used in this licensed activity undergo washing, rinsing and / or drying as part of routine maintenance at the times described below? Please place an X in the relevant box.

	Yes	No
Immediately prior to departing the port of origin to undertake the licensed activity.	X	
Immediately prior to leaving the licensed activity area on completion of the licensed activity.	X	

B.4.3. Will all the immersible equipment used in this licensed activity undergo washing, rinsing and / or drying between different deployments within the activity area of this licensed activity (e.g. different specific locations of dredging or sampling covered under this marine licence)? Please place an X in the relevant box.

Yes	No (please provide reason)
X	

If you answer No to any of the questions in B.4.2 or B.4.3, then please complete B.4.4 below.

B.4.4. Please provide information on the previous location the equipment will have been used prior to the vessel being used for this licensed activity.

Equipment	Location (Coordinates, WGS84)	Risk Level (High, Medium or Low)	Justification of risk level
N/A			

B.5 Assessing other pathway risks

B.5.1 Please provide any other information on the licensed activity that may produce a risk of the introduction or spread of marine INNS that is not covered in the sections above.

Pathway	Risk Level (High, Medium or Low)	Justification of risk level
N/A		

Section C: Management Measures

C.1 Management Measures

Enter the management measures for the pathways identified in the sections above.

All **high and medium risk** pathways identified in the previous risk assessment (sections B.1 to B.5) should have some degree of additional control or mitigation measures. Low risk pathways may also need additional control or mitigation measures. You may want to consider keeping a logbook to help demonstrate compliance if this is requested.

Pathway (identified in sections above)	**Risk Level (High, Medium or Low)**	**Risk management measure/s**	**Risk level after management (High, Medium or Low)**
Vessel (GEO OCEAN VI)	Medium	• Antifouling system applied on 22/01/2025 (TBT-free and Cybutryne-free coating) and maintained in line with class requirements. TBT-free and Cybutryne-free antifouling paint certificate states expected coating lifetime of 36 months (last applied 22/01/2025 in drydock). • International Anti-Fouling System Certificate and coating documentation available. • No formal biofouling management plan currently implemented, as this is not yet a regulatory requirement in the areas of operation.	Low

		• Preparatory work is ongoing to develop and implement a fleet-wide biofouling management plan once required. • Relevant records (survey report, antifouling certification) maintained and available for verification.	

Please add more rows if necessary

Section D. Recommendations

You may want to consider how compliance with the management measures will be recorded, for example in a log book or via photos.

We also recommend that;

- You identify an individual for monitoring and reporting on biosecurity management plan actions (a biosecurity manager)
- All staff involved in the licensed activity are made fully aware of the possibility that INNS may be encountered and understand what measures will be taken to ensure surveillance / monitoring of INNS during the activity
- All relevant staff are adequately trained in the identification and detection of INNS and to report any instances to the biosecurity manager