Appendix 21, Annex B:

Invasive Non-Native Species Management Plan

Array EIA Report

2024

Revision	Comments	Author	Checker	Approver
FINAL	Final	Ossian OWFL	RPS	RPS

Approval for Issue		
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1. INTRODUCTION

1.1. BACKGROUND

1. The outline Invasive Non-Native Species Management Plan (INNSMP) has been prepared by RPS and Ossian Offshore Wind Farm Limited (Ossian OWFL), a joint venture partnership between SSE Renewables (SSER) Limited, Copenhagen Infrastructure Partners (CIP), and Marubeni Corporation, hereafter referred to as 'the Applicant', to support the Environmental Impact Assessment (EIA) Report for the Ossian Array (hereafter referred to as "Array").

2. This outline INNSMP has been developed taking into account feedback provided from consultees in the Ossian Array Scoping Opinion (MD-LOT, 2023), where it was highlighted that management plans should be "adequate" to be used as mitigation measures where they are key to reducing impact. Table 1.1 provides a summary of the issues raised by stakeholders in relation to Invasive Non-Native Species (INNS).

Table 1.1: Issues Raised by Consultees in Relation to INNS

Issues Raised	Stakeholder	Where Issue is Addressed
MSS advise that the introduction of non-native species may occur at any phase of the development and should therefore be scoped in for the operation and maintenance phase as well as for construction and decommissioning. The wind farm has a 35-year lifespan and so the operation and maintenance phase has arguably the longest time frame for non-native species to colonise the hard substrates. This could be confirmed by routine monitoring of foundation structures, particularly in the splash zone.	Marine Scotland Science (MSS) (currently known as Marine Directorate – Science, Evidence, Data and Digital (MD-SEDD))	Volume 2, chapter 8
MD-LOT states that as a minimum, the EIA Report must cover the risk to INNS settlement and distribution, marine growth and risks to water environment from operation and maintenance cleaning and from paints and painting operations of the Array and the risk of inputs of any lubricant, chemicals or similar to water quality.	Marine Directorate – Licensing Operations Team (MD-LOT)	Volume 2, chapter 19

3. This plan will be updated and finalised before the start of construction following development of the final Array design, in accordance with the Array consents, and in consultation with regulatory bodies and stakeholders such as MD-LOT, MD-SEDD, NatureScot and Scottish Environment Protection Agency (SEPA) on specific requirements for INNS management measures.

4. The plan will be further updated prior to the commencement of the operation and maintenance and decommissioning phases.

1.2. PURPOSE OF THE INVASIVE NON-NATIVE SPECIES MANAGEMENT PLAN

5. The legislation and guidance relating to INNS at a European Union (EU) and United Kingdom (UK) level include the following:

- EU Regulation 11/43/2014 on the prevention and management of the introduction and spread of invasive alien species;
- The Wildlife and Countryside Act 1981;
- International Conversion for the Control and Management of Ships' Ballast Water and Sediments (adopted in 2004);
- The Merchant Shipping (Anti-Fouling Systems) Regulations 2009;
- Resolution MEPC.207(62) 2011 Guidelines for the Control and Management of Ships Biofouling to Minimize the Transfer of Invasive Aquatic Species;
- The Invasive Non-Native Species (Amendment etc.) (EU Exit) Regulations 2019;
- The Animal Welfare and Invasive Non-Native Species (Amendment etc.) (EU Exit) Regulations 2020; and
- Marine Biosecurity Planning. Guidance for Producing Site and Operation-based Plans for Preventing the Introduction of Non-Native Species (Payne et al., 2014).

6. In Scotland, INNS are covered by section 14 of the Wildlife and Countryside Act 1981. This section was amended in 2012 when the INNS section of the Wildlife and Natural Environment (Scotland) Act 2011 came into force.

7. In 2012, the Scottish Government published the Code of Practice on Non-Native Species (Scottish Government, 2012), which sets out a framework of responsibilities for bodies with powers relating to INNS. The Code provides practical guidance on how Developers should act responsibly and within the law to ensure that INNS do not cause harm to the marine environment. This Code focuses on a three-tiered approach, including prevention, rapid response and control and containment.

8. Furthermore, Scottish Government (2020), which aims to protect and restore biodiversity, supporting healthier ecosystems, recognises INNS as a "*significant threat to our marine biodiversity and industries such as aquaculture". It also highlights the need to "implement a rapid-response framework to prevent colonisation of new invasive species in Scotland's seas and islands* ", as they represent a significant threat to marine biodiversity.

9. The purpose of this outline INNSMP is to provide guidance for all activities associated with the Array relating to the marine environment. This INNSMP will be followed during all phases of the Array (construction, operation and maintenance and decommissioning) and during vessel operations, to prevent and/or reduce the risk of introducing and/or spreading INNS into the waters of the Array. To do this, the methodology described in Payne *et al*. (2014) has been followed.

10. The Great Britain Invasive Non-Native Species Strategy (HM Government, 2015) describes the following tiered approach to managing INNS:.

- prevention;
- early detections, surveillance, monitoring and rapid response; and
- long term management and control.

11. HM Government (2015) places a strong emphasis on prevention, thus this INNSMP focuses on providing tools to aid prevention of introducing and/or spreading INNS.

1.3. DOCUMENT STRUCTURE

12. This INNSMP has the following structure:

- Section 2 – Project background and consents;
- Section 3 – Roles and responsibilities
- Section 4 – INNSMP methodology;
- Section 5 – Array INNSMP; and
- Section 6 – Useful sources of information.

2. PROJECT BACKGROUND AND CONSENTS

2.1. PROJECT CHARACTERISTICS

13. The Array is located off the east coast of Scotland, approximately 80 km south-east of Aberdeen from the nearest point (see Figure 2.1).

14. The Array parameters have been selected from the Project Design Envelope (PDE) as assessed in the Array EIA Report. The Array will consist of the following:

- up to 265 floating wind turbines (each comprising a tower section, nacelle, hub and three rotor blades) and associated floating foundations;
- mooring and anchoring systems for each floating foundation;

- connectors and ancillaries for mooring and anchoring systems, including buoyancy elements and clump weights;
- up to six large Offshore Substation Platforms (OSPs), or up to three large OSPs and up to 12 small OSPs with fixed jacket foundations;
- scour protection per foundation for wind turbine anchoring systems;
- scour protection for small and large OSP fixed foundations as required;
- a network of dynamic/static inter-array cabling linking the individual floating wind turbines to each other and OSPs, and interconnector cables between OSPs (approximately 1,261 km of inter-array cabling and 236 km of interconnector cabling); and
- discrete condition monitoring equipment (such as sensors, cameras, dataloggers etc.), as required for safe and efficient operation of the Array infrastructure.

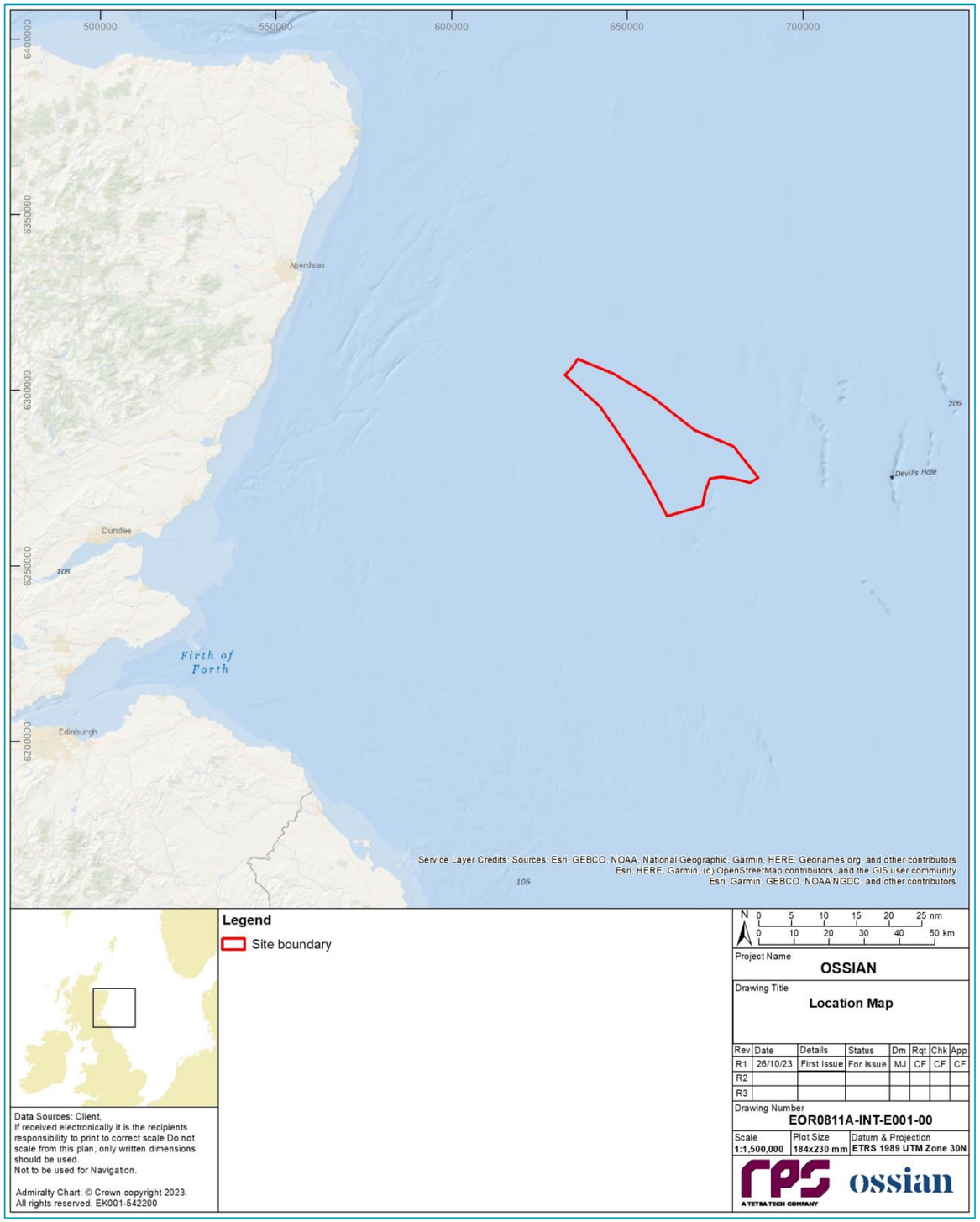

Figure 2.1: Location of the Array

2.2. LINKAGES WITH OTHER CONSENTS MANAGEMENT PLANS

15. The INNSMP is consistent as far as possible with other relevant consent plans prepared for the Array, which are set out in Table 2.1.

Table 2.1: Linkages with Other Consent Plans

Consent Plan	Linkage with the INNSMP
Environmental Management Plan (EMP)	The EMP provides the overarching framework for environmental management during the construction and operation and maintenance phases of the Array.
Marine Pollution Contingency Plan (MPCP)	The MPCP provides a list of procedures to safeguard the marine environment and respond to any potential accidental pollution event during the construction, operation and maintenance, and decommissioning phases of the Array.
Scour Protection Management Plan (SPMP)	The SPMP outlines the key principles of managing the protection of wind turbine and OSP/Offshore convertor station platform foundations and offshore cables, from the effects of scour and hazards (e.g. snagging of anchors), immediately following construction and during the operation and maintenance phase of the Array.
Marine Mammal Mitigation Protocol (MMMP)	The MMMP provides the contingency arrangements to respond to and minimise the impacts of Unexploded Ordnance (UXO) clearance and piling associated with the Array.
Fisheries Management and Mitigation Strategy (FMMS)	The FMMS provides the strategy for engaging, consulting, liaising, communicating, and undertaking mitigation actions with respect to the fishing industry during the full lifecycle of the Array.
Navigational Safety and Vessel Management Plan (NSVMP)	The NSVMP provides information regarding the type and number of vessels involved during construction and operation and maintenance at the Array, together with navigational safety measures to be implemented during these phases.

3. ROLES AND RESPONSIBILITIES

16. Table 3.1 provides a list of the roles and responsibilities in relation to this INNSMP.

Table 3.1: Roles and Responsibilities in Relation to the INNSMP

Role	Responsibility
The Applicant	Requiring the implementation of the INNSMP and monitoring and/or clearance/disposal of INNS at the Array (via its Contractors and Subcontractors).
Environmental Clerk of Works (ECoW)	Quality assurance of the INNSMP. Monitoring Contractor/Subcontractor compliance with the INNSMP during all phases of the Array. Reporting any incidents with INNS.
Biosecurity Manager	Delegated responsibility for the practical implementation of the INNSMP.
Contractor and Subcontractor	Implementation of and adherence to INNSMP and early notification of the presence of INNS to or via Biosecurity Manager.

4. INVASIVE NON-NATIVE SPECIES MANAGEMENT PLAN METHODOLOGY

17. The following sections describe the process of creating the INNSMP following best practice guidance (Payne *et al.,* 2014) and information provided in the Code of Practice on Non-Native Species (Scottish Government, 2020). A stepwise approach has been taken as detailed below, to accurately assess the risk of INNS in relation to the Array.

4.1. STEP 1 – UNDERSTANDING YOUR SITE

18. The following parameters should be considered when understanding the Array site as part of the INNSMP development:

- salinity of the site;
- presence of any man-made structures; and
- whether INNS are present within/on site.

19. The presence/absence of INNS is directly linked to the salinity of the site, as the majority of marine flora and fauna are unable to survive in freshwater due to osmoregulatory effects (Evans, 1980). The more freshwater enters the site, the lower the risk of INNS due to inhospitable conditions; conversely a greater risk is present for a full marine site.

20. The risk of INNS establishment is also increased by the presence of man-made structures. Information regarding any periods of slow or stationary works or climatic conditions that may increase biosecurity risk should be included.

21. If INNS have been recorded onsite, the focus of the INNSMP should be reducing the risk of introducing new INNS and the prevention of spreading existing INNS to other sites. In this case, a precautionary approach should be followed, even if no INNS are present at the site.

22. Based on this, a site can be categorised as either a low risk or significant risk site, depending on the risk of INNS introduction and spreading. Table 4.1 provides an example of this approach.

Table 4.1: Example of Low and Significant Risk Sites (Payne *et al.*, 2014)

Low Risk Site	Significant Risk Site
• There is a freshwater supply from a local river to the site. • There is a breakwater or walls around most of the site. • Site has structures that have an anti-fouling coating or removed from the water and air dried on a regular basis (~ every six to 12 months).	• Site has fully saline water (i.e. minimal freshwater inflow). • Site has structures without anti-fouling coating and/or submerged for longer than six months at a time. • There are fixed structures that can only be cleaned *in situ*.

4.2. STEP 2 – UNDERSTAND HOW INNS CAN BE INTRODUCED OR SPREAD TO YOUR SITE

23. In addition to understanding the site characteristics, the structures present on site and any INNS already present in the site, consideration must be given to how INNS can be introduced to the site.

24. This step should be iterative and revisited when the INNSMP is due for review (see section 5.7.2).

25. Table 4.2 provides an example of the type of questions to consider when creating an INNSMP.

Table 4.2: Example of Questions and Risk to Consider Whilst Creating an INNSMP (Payne *et al.*, 2014)

Question	Category		
	High	Medium	Low
1. Has the vessel/equipment just arrived from the local area?			
2. Has the vessel/equipment had an anti-fouling coating applied to submerged structures within the last 12 months (or time recommended by manufacturer)?			
3. Are all the visible submerged surfaces free of biofouling (a green 'slime' is OK)?			
4. Do the visible submerged surfaces have more than a green 'slime' coating?			
5. Does the vessel/equipment have noticeable clumps of algae and/or animals clinging to the visible parts of the hull/rudder/propeller?			
6. Has the vessel/equipment just arrived from another country, region or water body with similar environmental conditions (e.g. seawater temperature)?			
7. Has the vessel/equipment just arrived from a water body known to have INNS present?			
8. Does the vessel/equipment spend long periods of time stationary at sites in between anti-fouling treatments?			
9. Is the vessel 'slow moving', such as a construction barge or drilling rig?			

26. The greatest risk of introducing INNS to the site is when a vessel (particularly slow moving vessels), equipment or stock arrives at the site from another country, region or water body, with similar environmental conditions (e.g. seawater temperature and salinity) while it is covered in biofouling (i.e. anything more than a thin, green 'slime' coating for vessel hulls) or contains additional algae or animals.

27. Another main risk is introducing INNS from the arrival of a vessel with biofouling on the hull, for example, which comes from a site known for the presence of INNS.

28. For the purposes of this assessment, any activity that falls within the 'Low' category in Table 4.2 is assessed as 'Low' Risk. Any activity that falls within the 'Medium' or 'High' categories is assessed as 'Significant' Risk, as 'Significant' is considered as any risk above low on a "low, moderate, high, severe" scale.

4.3. STEP 3 – IDENTIFYING ACTIVITIES WHICH RISK INTRODUCTION OF NON-NATIVE SPECIES

29. The next step is to identify the main activities which take place at the site or as part of the operation/event, particularly those that could lead to the introduction and/or release of marine INNS at the site.

30. The activities which carry almost no risk at all, such as those taking place in areas which are never in contact with sea water, do not need to be covered by this plan. However, always err on the side of caution, considering all activities which take place in or around the water and include both vessels and structures.

31. A list of example activities which carry a risk of introduction and/or releasing INNS is provided in Payne *et al.* (2014). These are not directly related with offshore renewables, but applicable ones include:

- use of construction barge and slow moving vessels;
- using vessels from locations outside local water body;
- removal of old structures/equipment;
- cleaning of hull and associated structures; and
- maintenance of equipment and vessels.

32. When identifying activities, there are two possible approaches to follow, as described below. In general, the in-depth approach is recommended.

4.3.1. SIMPLE APPROACH

33. This approach aims to list all the activities which take place on the site, or which make up the operation/event that may carry a significant risk of introduction and/or releasing INNS. This list is then taken to Step 4 to develop control measures.

4.3.2. IN-DEPTH APPROACH

34. This technique helps the Applicant to better understand the risk of introducing and/or spreading INNS associated with each proposed activity. It also provides guidance on the development of biosecurity control measures as well as where and when to apply them. This approach has been developed from the Hazard Analysis and Critical Control Point (HACCP) and is further described in Annex B of Payne *et al*. (2014).

35. This approach consists of the following steps:

- Step 1 – List Site Activities: a list of all activities which have a reasonable risk of leading to the introduction of INNS is compiled.
- Step 2 – Describe Activities: a brief description of activities is provided based on "who, what, when, where, why and how".
- Step 3 – Split Activities into Task: activities are subdivided into tasks, which are then briefly described.
- Step 4 - Establish Critical Control Points and Control Measures: the following is included for each task identified:
  - risk;
  - justification;
  - critical control point;
  - control measure; and
  - who will carry out the control measure.
- Step 5 – Develop an Action Plan: Based on the control measures developed in Step 4, an action plan is completed, setting out who will carry out the control measure, what they will do and when.

4.4. STEP 4 – BIOSECURITY CONTROL MEASURES

36. As part of this step, biosecurity control measures are identified. It is important that these measures are effective, simple, realistic and can be easily translated into instructions to others.

37. These measures must also consider how much control the Applicant has over the site and its activities. Control measures help the Applicant to meet their legal requirement described in section 1.2, to take 'reasonable steps' to prevent the introduction of INNS.

38. To make the control measures effective, it is worth thinking about:

- who will carry out the action;
- what they will be doing to reduce the risk of introducing INNS;
- where will the control measure be applied; and
- when will the control measure be applied (i.e. at what stage in a process).

39. A list of example control measures can be found within Payne *et al.* (2014), many of which are included in the INNSMP (see section 5.4). Where possible, biosecurity measures should be included in the design stage of a new development and aim to 'design out' any possible significant risk of introducing or spreading INNS.

4.5. STEP 5 – BIOSECURITY SURVEILLANCE, MONITORING AND REPORTING PROCEDURES

40. Early detection of INNS on the site is important as this increases the likelihood of successful containment and potential for full eradication. For this reason, all staff and other site users should be encouraged to report any unusual sightings to the biosecurity officer.

41. This step outlines those procedures to be followed in the event of discovering and positively identifying an INNS on site. As part of this process the following should be considered:

- setting out who is responsible for surveillance and monitoring of the site; and
- adding actions to encourage vessel owners who use the site to be vigilant and report any sightings of concern.

4.6. CONTINGENCY PLAN

42. A contingency plan should be in place to deal with potential failure of the 'prevention' and 'rapid response' method identified in paragraph 10. This document should be short and be accessible to all staff, ensuring it provides a step by step action list.

43. The contingency plan will review the activities identified in this INNSMP with potential to introduce and/or spread INNS and derive actions to deal with a potential failure of the proposed control measures.

4.7. MONITORING AND REVIEW

44. Following completion of the INNSMP, a clear recording system (i.e. a logbook) should be put in place to accurately record the results of any checks or actions taken, and formal steps are put in place to quickly inform the Biosecurity Manager of potential INNS introduction.

45. A review date of site and operation plans will be in place to refine and update the INNSMP as required.

5. ARRAY INVASIVE NON-NATIVE SPECIES MANAGEMENT PLAN

5.1. STEP 1 – UNDERSTANDING YOUR SITE

5.1.1. ENVIRONMENTAL CONDITIONS AFFECTING BIOSECURITY

46. The Array is located in the North Sea, out with any protected sites. The nearest protected site is the Firth of Forth Banks Complex Marine Protected Area (MPA), which is located, at its nearest point, approximately 25 km to the west of the site boundary.

47. Across the site boundary, water depths range between 59 m and 154 m relative to Lowest Astronomical Tide (LAT). An average depth within the area was determined as circa 74.5 m, with the shallowest depths to the north-west and deepest to the south of the site boundary.

48. The mean spring tidal range varied from 2.41 m in the north of the site boundary to 2.34 m in the south, with currents typically flowing in a south-south-westerly direction near the seabed and a southerly direction near the surface. Mean current speeds of 0.21 m/s and 0.27 m/s were captured near the seabed and surface respectively in the north of the site boundary, with smaller mean differences in the centre and to the south between the surface and seabed values.

49. As the Array is in offshore waters and there are no freshwater run offs in the vicinity, salinity level is expected to be similar to that found in the wider North Sea marine environment.

50. The Array area is dominated by deep circalittoral sand (A5.27) and is interspersed with deep circalittoral coarse sediment (A5.15), which is characteristic of the North Sea. Other low energy habitats, such as deep circalittoral mud and circalittoral mixed sediments are recorded along the coast and within the Firth of Forth. Finer sediments, moderate energy circalittoral rock, circalittoral mixed sediments, and circalittoral sandy mud were recorded further inshore. Species and communities identified in the data sources and in the site-specific survey for the Array include polychaetes (particularly bristleworm *Spiophanes bombyx*), dead man's fingers *Alcyonium digitatum*, and various echinoderms and bryozoans (such as hornwrack *Flustra foliacea*).

51. In addition to this, there are no man-made structures within the Array area, however, there are neighbouring wind farms under construction which may increase the risk of INNS. This section is for illustrative purposes only and will be further updated post-consent.

5.1.2. INFORMATION RELATED TO ANY SLOW OR STATIONARY PERIODS OR CLIMATIC CONDITION WHICH MAY INCREASE BIOSECURITY RISK

52. Information regarding the environmental conditions at the Array can be found in volume 2, chapter 7 of the Array EIA Report.

53. The Array experiences low current speeds and sediment transport, which may increase the biosecurity risk, as there is potential for fouling organisms to easily colonise introduced substrates.

5.1.3. INNS AT THE ARRAY

54. No INNS have been recorded during site-specific surveys of the Array (see volume 3, appendix 8.1, annex A). If any were to be recorded in the area prior to finalising the plan, they would be included here, identifying the risk they pose to Scotland's native species.

55. Furthermore, the latest post-construction monitoring data from the Beatrice Offshore Wind Farm (APEM, 2021) found no evidence for the presence of INNS on wind turbine foundations following the presence of installation vessels from international ports, which is evidence to suggest that the introduction of structures such as offshore wind turbine foundations into the benthic environment doesn't necessarily lead to the spread of INNS in Scottish waters.

5.2. STEP 2 – UNDERSTAND HOW INNS CAN BE INTRODUCED OR SPREAD TO YOUR SITE

5.2.1. VESSEL/EQUIPMENT TO BE USED IN THE ARRAY

56. An example of the vessels and equipment to be used at the Array is provided in Table 5.1. This table also includes a risk indicator of the potential for INNS to be introduced to the Firth of Forth and surrounding areas as part of these activities. The risk indicator will be updated through professional judgment of the final Array parameters, together with any INNS present in the area (section 5.1.3).

Table 5.1: Example Vessel and Foundation Types to be Used at the Array and/or Involved in the Operation and Maintenance and Decommissioning Phases

Name	Type	Details and Risk Factors Assumptions	Risk: Low/Significant
Vessels (construction and decommissioning)	Various	• vessel types and sizes to be confirmed prior to construction, although expected to include, jack up vessels, cargo barges, support vessels, tug/anchor handlers, cable installation vessels, guard vessels, survey vessels, crew transfer vessels, and site preparation vessels (sand wave clearance and UXO clearance); • the source location of the vessels for construction will be confirmed once this information becomes available; • the source location of the vessels for decommissioning will be confirmed once this information becomes available; • vessels will be required to have an anti-fouling coating and inspection history; • vessels are expected to move slowly when installing or removing structures; and up to 97 vessels may be operating on site at any one time during the site preparation and construction phases.	Low
Vessels (operation and maintenance)	Various	• vessel types and sizes to be confirmed prior to operation and maintenance phase, although expected to include jack-up barges/dynamic positioning vessels, Service Operations Vessels (SOVs), cable repair/survey vessels, and Crew Transfer Vessels (CTVs); • the source location of the vessels for operation and maintenance will be confirmed once this information becomes available; • vessels will be required to have an anti-fouling coating and inspection history; • vessels are expected to move slowly when undertaking maintenance activities; and • up to 31 vessels may be operating on site at any one time.	Low
Wind Turbine and OSP foundations	Floating wind turbines Fixed bottom OSPs	• up to 265 floating wind turbine and associated floating foundations; • mooring and anchoring systems for each floating foundation • up to six large OSPs, or up to three large OSPs and the fixed foundation • the source location and type of vessel transporting the foundation to site. This will be confirmed, and risk assessed, once this information becomes available.	Low

57. A detailed update of Table 5.1 will be completed once the exact specifications and origins of vessels are known upon appointment of a preferred vessel Contractor during the pre-construction phase.

58. The Array EIA Report has used a Maximum Design Scenario (MDS), based on the current available information, which includes the use of several vessels and/or foundation types for wind turbines and OSPs (Table 5.1). As this is a 'live' document, once specific details of the wind turbines and OSPs, vessels and ancillary equipment are known, this document will be updated accordingly, assigning risk categories for specific infrastructure types as per the methodology set out in section 4.

5.3. STEP 3 – IDENTIFYING ACTIVITIES WHICH RISK INTRODUCING NON-NATIVE SPECIES

59. Table 5.2 provides an indicative list of activities in relation to the Array which may have a significant risk of introducing and/or spreading INNS. This table will be informed from the information in the final Array design and from Step 2 (section 5.2).

Table 5.2: Site Activities Which Have a Significant Risk of Introducing and/or Spreading INNS

Phase	Activity Description
Installation	Installation of wind turbines, including floating foundations, and mooring and anchoring systems Installation of OSP Installation of inter-array and interconnector cables
Operation and Maintenance	Routine inspections Geophysical surveys Repairs and replacements (wind turbines, navigational equipment, J-tubes, and consumables) Painting Removal of marine growth Cable repair and reburial
Decommissioning	Decommissioning of wind turbine and associated floating foundations and mooring and anchoring systems. Decommissioning of OSP Decommissioning of inter-array and interconnector cables

5.4. STEP 4 – BIOSECURITY CONTROL MEASURES

60. The following sections provide information on site-specific risks and control measures in relation to the Array.

5.4.1. INSTALLATION/PRESENCE OF MAN-MADE STRUCTURES

Risk

61. This has been identified as one of the greatest risks of INNS introduction and/or spreading, as newly available surfaces at the Array (e.g. foundations) may be colonised by INNS in the first few weeks/months after installation.

Control measures

62. Any man-made structure to be used for the Array should be of terrestrial origin (i.e. not coming from another marine environment where it has been submerged or exposed to the sea). If there is a requirement for the structure to come from another marine environment, it will be allowed to fully dry to kill off any organisms that have attached and will be inspected prior to placement in the marine environment. This measure will occur port-side or on transit vessels.

63. It is also expected that any man-made structures will be painted with anti-fouling paint and marine growth will be removed as detailed in section 5.4.3.

5.4.2. USING VESSELS FROM OUTSIDE OF THE ARRAY

Risk

64. Vessels arriving from outside the east coast of Scotland and north-east coast of England area pose a significant risk of introducing INNS to the area, particularly those arriving from similar marine environments. Once construction contractors have been appointed, further information on the origin of vessels to be used in the Array will be included in this section.

Control measures

65. All vessels to be used at the Array during construction, operation and maintenance and decommissioning must follow International Management Organisation (IMO) (2012), and where applicable, to comply with IMO (2021), which includes the following standards:

- ballast water exchange to be carried out at least 200 nm from the nearest land and in water at least 200 m in depth;
- use of anti-fouling systems, which includes the use of coating systems, bio-fouling resistant materials and marine grown prevention systems; and
- in-water inspection of ships and in-water cleaning and maintenance.

66. Implementation of these measures will be ensured by a requirement for all contractors to comply with this INNSMP by the Applicant.

5.4.3. CLEANING AND DISPOSAL OF BIOFOULING FROM STRUCTURES DURING OPERATION AND MAINTENANCE ACTIVITIES AND DECOMMISSIONING

Risk

67. There is potential for INNS to detach from subsea structures during routine maintenance activities such as jet washing. Where a risk that operation and maintenance activities may lead to spread of INNS has been identified, additional control measures may be required and will be included in this section.

68. INNS may remain attached to the surface of marine structures during decommissioning. If INNS were to be removed without due care and washed back into the surrounding marine environment during the decommissioning phase, there may be a risk of INNS spreading to areas where they weren't initially present.

Control measures

69. Where a risk has been identified that operation and maintenance activities may lead to the spread of INNS, control measures may be required to minimise the amount of biofouling material entering the marine environment at the Array. These may include collection and disposal of biofouling as per relevant Port Authority "Waste Management Plan", use of appropriate anti-fouling coating systems and good maintenance of all equipment, including regularly assessing the need for cleaning and the condition of the anti-fouling coating system (IMO, 2012).

70. Material detached or removed from decommissioned subsea infrastructure should be taken away to be properly disposed of onshore, this is to prevent INNS entering the marine environment. Disposal of biofouling will be aligned with the relevant Port Authority 'Waste Management Plan'.

71. All equipment, materials, machinery, Personal Protection Equipment (PPE) and vessels must be in a clean condition prior to their arrival on site.

72. All contractors will be required to comply with these measures by the Applicant through adherence to this INNSMP prior to mobilisation to site.

5.5. STEP 5 – BIOSECURITY SURVEILLANCE, MONITORING AND REPORTING PROCEDURES

73. This section will contain information about who is responsible for carrying certain INNS checks, as well and where and when these checks are to be completed by the Biosecurity Manager.

5.6. CONTINGENCY PLAN

74. Table 5.3 lists the actions or phases of the contingency plan and who is responsible for each of them.

Table 5.3: Contingency Plan (Payne *et al.*, 2014)

Action	Responsibility
Phase One – Suspected Arrival of High Alert Species	
Collect samples, place in plastic bag and contact the Scottish Environment and Rural Services (SEARS) for advice on where to send the sample. Check and report to: Invasive non-native species | Scotland's environment web	To include one or more of the following: Harbour Master, marina berthing manager, Ecological Clerk of Works (ECoW).
Inform harbour users and place marker buoys around area.	Harbour Master/staff.
Phase Two – Presence of High Alert Species Confirmed	
Initiate immediate containment measures, including restricted vessel movements.	Marina berthing manager.
Carry out wider survey of vessels and structures using underwater camera.	Harbour staff, Marine Scotland inspectors.
Phase Three – Eradication/Employ Long Term Control Measures	
Seek advice from INNS Scotland on appropriate measures and actions for long term control.	Biosecurity Office Manager, Environmental Manager and Contractor Environmental Manager.

5.7. MONITORING AND REVIEW

5.7.1. MONITORING AND IMPLEMENTATION OF THE PLAN

75. Once this INNSMP has been agreed, a logbook will be developed to keep a clear record of any checks or actions taken and list the formal steps to ensure the Biosecurity Manager is quickly informed of any potential introduction of INNS.

76. Payne *et al.* (2014) provides examples of information to be recorded in the logbook. All records entered should be given a date and signed by the Biosecurity Manager.

5.7.2. PLAN REVIEW

77. This INNSMP will be reviewed regularly to make sure it stays up to date and relevant. It is proposed that this plan will be reviewed, as a minimum, every 12 months during the construction phase, but maybe more frequently depending on need, and as agreed with MD-LOT.

78. This INNSMP will be updated following completion of the construction phase and at the beginning of the operation and maintenance phase to ensure the plan is appropriate for the next phase of the development and the risks/activities associated with that next phase. During the operation and maintenance phase, the INNSMP will be updated regularly (as a minimum every 5 years). Prior to the decommissioning phase the INNSMP will be reviewed and updated to ensure all measures are appropriate and that any changes in the environment and risk of INNS (e.g. records of INNS on site) are reflected in the INNSMP.

6. USEFUL SOURCES OF INFORMATION

79. The following is a list of useful information sources to inform this INNSMP:

- IMO Guidelines for the control and management of ships biofouling to minimize the transfer of invasive aquatic species (IMO, 2023);
- Law on non-native species (Scottish Invasive Species Initiative, 2024); and
- Scotland's Environment: Invasive non-native species (Scottish Environment Protection Agency, 2019).

7. REFERENCES

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