WHITE CROSS

# White Cross Offshore Wind Farm: Outline Invasive Non-Native Species Management Plan

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## Glossary of Acronyms

| Acronym | Definition |
|---|---|
| **BioRA** | Biosecurity Risk Assessment |
| **BWM Convention** | The International Convention for the Control and Management of Ships' Ballast Water and Sediments |
| **CEFAS** | Centre of Environment, Fisheries and Aquaculture Science |
| **DLUHC** | Department for Levelling up, Housing and Communities |
| **ECoW** | Ecological Clerk of Works |
| **ECT** | Environment and Consents Team |
| **ES** | Environmental Statement |
| **INNS** | Invasive Non-Native Species |
| **IPMP** | In-Principle Monitoring Plan |
| **JNCC** | Joint Nature Conservation Committee |
| **MARPOL** | The International Convention for the Prevention of Pollution from Ships |
| **MMO** | Marine Management Organisation |
| NDC | North Devon Council |
| **ROV** | Remotely Operated Vehicle |
| **WCOWL** | White Cross Offshore Wind Limited |

# 1. Introduction

1. This document been produced in response to a request made by the Marine Management Organisation (MMO) following the statutory consultation on Marine Licence application MLA/2023/00113 for White Cross Offshore Windfarm (the Project).

2. On 17 November 2023, the MMO noted that.

> *'the location of the semi-submersible floating platforms in the water column provides unique opportunity, in terms of physical substrate and environmental conditions, for colonising organisms that would not otherwise be present in the offshore environment and that the development of the project, alone or in conjunction with other similarly floating OWF projects in the area, may significantly increase the 'steppingstone potential' for both INNS and for native taxa and could result in changes to the benthic assemblage present in the area…. ES Chapter 10 does not propose any monitoring measures. MMO requires this to be updated, the assumptions in the ES regarding the magnitude of the potential impacts on benthic ecology receptors because of the project must be verified through adequate pre- and post-construction monitoring, particularly with regards to colonising taxa on the semi-submersible wind turbine generator foundations.'*

3. This document also seeks to address Natural England's advice (with reference to onshore ecology) that:

> *'Pre-works ecological surveys are required to determine areas of…invasive non-native species...This surveying is required for the Invasive Non-Native Species (INNS) Management Plan to inform the CEMP.'*

4. This document also seeks to address North Devon Council (NDC) request submitted in a letter dated 5 December 2023 that:

> *'There is a need for an assessment of potential risks to the environment from the importation of invasive non-native species (INNS) and the "historic" subterranean termite infestation at Saunton, as the latter lies within approximately 150 meters of the cable corridor.'*

5. This is an outline document that sets out the key elements that will be secured in the final Invasive Non-Native Species (INNS) Management Plan. The final INNS Management Plan will be developed by White Cross Offshore Wind Limited (WCOWL) throughout the pre-construction phase of the Project.

## 1.1 Purpose and scope of the Outline Invasive Non-Native Species Management Plan

6. The Outline INNS Management Plan presents outline details of the practices to manage the risk of introducing or spreading of INNS during the construction, operation and maintenance of WCOWL.

7. The Outline INNS Management Plan specifically relates to:

   - Terrestrial/freshwater plant INNS (since three species listed on Schedule 9 of the Wildlife and Countryside Act 1981 have previously been identified in the study area, although outside of the Onshore Development Area – see FLO-WHI-REP-0016-20 Chapter 16 Onshore Ecology and Ornithology of the Onshore ES) and. These species are:
     - *Elodea canadensis* (Canadian waterweed)
     - *Myriophyllum aquaticum* (parrot's-feather)
     - *Fallopia japonica* (Japanese knotweed)
   - Terrestrial/freshwater plant INNS were also identified within the Onshore Development Area:
     - *Fallopia japonica* (Japanese knotweed)
     - *Allium triquetrum* (Three-cornered garlic)
     - *Crocosmia × crocosmiiflora* (Montbretia)
   - Terrestrial/freshwater plant INNS that were not identified in site-specific surveys but have previously been identified at Braunton Burrows:
     - *Hippophae rhamnoides* (Sea buckthorn)
     - *Cotoneaster spp.*
     - *Carpobrotus edulis* (Hottentot Fig)
   - Terrestrial faunal INNS (given the perceived potential for termite disturbance based on historic activity of termites outside of, but adjacent to, the Onshore Development Area, but noting that termites are not listed in Schedule 9 of the Countryside and Wildlife Act 1981).
   - Marine faunal INNS (since two species listed on Schedule 9 of the Wildlife and Countryside Act 1981 and Aquatic alien species and the WFD[1] have been identified within the Offshore Development Area – see FLO-WHI-REP-0002-10 Chapter 10 Benthic and Intertidal Ecology of the Offshore ES). These species are:
     - *Goniadella gracilis* (polychaete)
     - *Crepidula fornicate* (slipper limpet)

[1] https://www.wfduk.org/sites/default/files/Media/Assessing%20the%20status%20of%20the%20water%20environment/UKTAG%20classification%20of%20alien%20species%20working%20paper%20v7.6.pdf

8. Marine plant INNS have been scoped out on the basis that none have been recorded within the Offshore Development Area.

9. A summary of INNS project risks is presented in **Section 4.** The requirements for consultation and updates to the Outline INNS Management Plan are set out (see **Section 3** and **Section 2** respectively), as are the requirements for further surveys (**Section 5.1**), biosecurity control measures (**Section 5.2**) and planned monitoring for the presence of INNS (**Section 7**).

## 2. Approach to updating the Outline INNS Management Plan

10. The Outline INNS Management Plan will be revised and updated as the project progresses to construction and operation, and as further information becomes available following decisions on final project design. For example, updates may be required due to:

    - emergence of novel INNS management/eradication technologies.
    - the presence of previously undetected INNS in the local area.
    - emerging guidance.
    - new legislative requirements.

11. Updates are also likely to be required following review by the relevant statutory nature conservation bodies (SNCBs), in consultation with the MMO/NDC. Initially, these updates are expected to be required at regular intervals during the 'outline' plan phase (i.e., during the consenting, pre-construction and construction phases). Beyond this phase, the approach to updating the Outline INNS Management Plan will revert to the Change Management Process, as outlined in **Figure 1**.

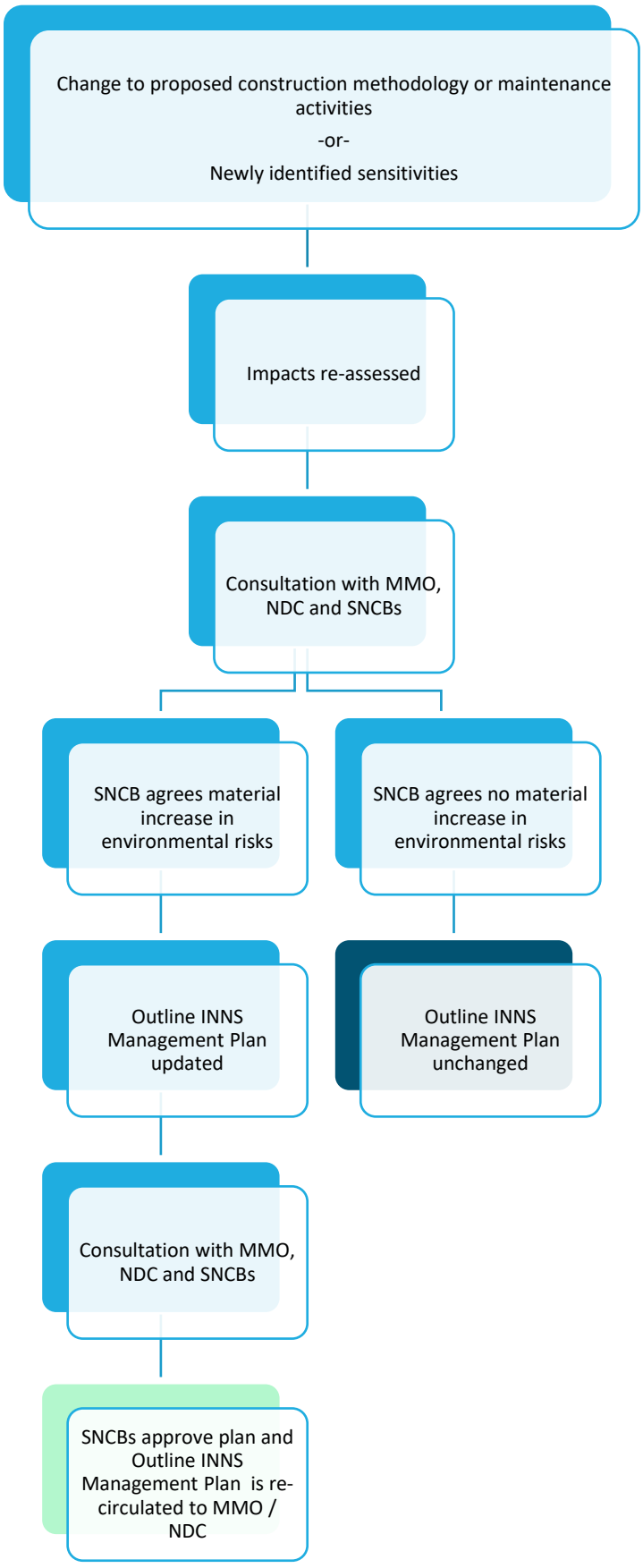


*Figure 1 Outline INNS Management Plan Change Management Process*

# 3. Consultation

12. The off-site Project Environment and Consents Team (ECT) is responsible for:

    - Managing consultation on the INNS Management Plan with the relevant consultees.
    - Maintaining and updating the INNS Management Plan.
    - Supporting the contractor tendering process to ensure INNS management and monitoring requirements are efficiently communicated to suppliers.
    - Ensuring that all environmental monitoring is undertaken at the appropriate intervals.
    - Managing Ecological Clerk of Works (ECoW) responsibilities.
    - Timely review and submission of monitoring reports.

13. This section will be further updated to summarise comments on this document as consultation progresses.

# 4. INNS Project Risks

## 4.1 Offshore

### 4.1.1 Risk of introduction

14. The greatest risk of introduction of marine INNS is through ship ballast water, hull fouling and solid ballast from vessels and infrastructure travelling across geographic regions to the Offshore Development Area. This is a risk throughout all phases of the Project and poses a threat to benthic communities due to the possibility of displacement of native organisms (by INNS predation of native taxa or through competition for resources such as food or space).

15. The introduction of INNS has the highest potential to occur during the construction phase of the works as this is when vessel activity will be at its highest frequency, and new infrastructure will be introduced and placed in the marine environment. However, **Chapter 10** (FLO-WHI-REP-0002-10 **Chapter 10 Benthic and Intertidal Ecology**) of the **Offshore ES** concludes that the risk of introduction of INNS is of a negligible impact significance across all phases of the Project given that the measures outlined **Section 6.2** will be in place.

### 4.1.2 Stepping-stone for INNS colonisation

16. The introduction of semi-submersible structures in the array area represents an area further offshore than existing local hard substrates which has the potential to provide

the stepping-stone (or vector) needed for marine INNS colonisation to spread in the offshore environment (Glasby et al., 2007). This risk is at its greatest during the operational phase of the Project given the expected 25-30 years that the semisubmersible structures will be in place for. However, since all substructures will be coated with antifoulant to reduce the potential for colonisation (as outlined in **Section 6.2**) **Chapter 10** (FLO-WHI-REP-0002-10 **Chapter 10 Benthic and Intertidal Ecology**) of the **Offshore ES** concludes that with this embedded mitigation the risk of providing a stepping-stone for INNS colonisation is of a negligible impact significance.

## 4.2 Onshore

### 4.2.1 Risk of introduction, spread and disturbance

17. Without precautionary measures in place there is a risk of inadvertently spreading of INNS within the Onshore Development Area and off-site during construction through soil movements, and movement of plant and personnel.

18. Native plant species support a greater number of other local organisms than INNS, since they often have specific invertebrates or fungi that rely on them. Plant INNS can out compete native species for food, space, light and other resources, leading to a reduction in the abundance and diversity of native plant species. When they are replaced with INNS, native plant species may not have the food and other resources they require, thus allowing INNS to dominate large areas, reducing overall plant biodiversity. In addition, hybridisation (where INNS breeds with a native species) can lead to loss of native species loss.

19. The introduction of new predators such as non-native animals is a threat to native species as they are not able to quickly adapt to new predation. Native species may also have limited immunity to new diseases introduced by non-native animals.

#### 4.2.1.1 Potential for termite disturbance

20. While termites are not listed in Schedule 9 of the Countryside and Wildlife Act 1981 as a species to which the provisions under Section 14 apply, it is recognised that an infestation was found in 1994 in an area in close proximity to the Onshore Development Area. A programme to eradicate the termites was undertaken by the Department for Levelling up, Housing and Communities (DLUHC): this programme was officially ended in 2021, when it was declared that the termites has been eradicated. However, a consideration of potential risks to the environment from the historic termite infestation at Saunton has been deemed appropriate by NDC.

# 5. Pre-Construction

## 5.1 Pre-works Ecological Survey

21. An onshore pre-construction invasive species survey will be carried out prior to any construction activities (including enabling works) by a suitably qualified specialist during the optimum survey period for identifying flowering plants. This will confirm the extent of the invasive species at the time of treatment and ensure there are no new species present within the Onshore Development Area. Any new information will be used to inform the final INNS Management Plan.

22. Data collected as part of this survey will include the approximate area of the respective coverage ($m^2$) and a detailed description of the colony (e.g., approximate total number of stems, pattern of growth and information on other vegetation present). This information will inform calculations of volumes of the seed bank in the soils to be excavated.

23. During the pre-construction phase, WCOWL will also consult with the UK's Termite Eradication Programme to obtain advice on the required measures relating to termite disturbance.

## 5.2 Biosecurity Risk Assessment

24. Following the onshore pre-construction INNS survey, and prior to onshore cable installation works, a Biosecurity Risk Assessment (BioRA) will be undertaken. The purpose of the BioRA will be to inform the final selection of control measures (taken from the final INNS Management Plan) to prevent and reduce the risks of introducing and/or spreading INNS during construction, as well as actions for removal and disposal.

25. The ECoW will take primary responsibility for reviewing and updating the BioRA at the start of construction. Updates will be required if, for example, previously unrecorded individuals or populations of INNS are discovered, or working methods change such that new pathways for potential contamination are introduced.

26. An initial outline of indicative control measures that may be applied is provided in **Section 6.1**. However, the final suite of measures will be confirmed following the site-specific terrestrial pre-construction survey, the BioRA and consultation on the final INNS Management Plan.

27. A BioRA for offshore works is not required since additional data will not be collected prior to construction to use to update project-specific INNS risks. Instead, biosecurity measures will be managed offsite by the core WCOWL team by setting out contractor

compliance with the relevant regulations and guidance prior to construction (see **Section 6.2** for an initial outline of indicative offshore works control measures).

# 6. Outline Control Measures

28. The three general themes of the outline control measures for terrestrial plant and faunal INNS are:

    1. **Identification:** via both a pre-works ecological survey to identify areas of INNS ahead of construction; and on-site identification by workers during construction (see ECoW responsibilities in **Section 6.1.1**).
    2. **Managing risk of introduction and spread:** implementing good site practice measures for preventing the spread of invasive species during works at or near to watercourses (see **Section 6.1**).
    3. **Removal and disposal:** a protocol for removing INNS and for managing the waste generated (see **Section 6.1.2**).

29. With regard to marine faunal INNS, the focus is on the following three main outline control measures:

    1. **Effective antifouling measures:** coating of all offshore substructures with antifoulant to discourage marine fouling.
    2. **Managing risk of introduction:** reducing risk of biofouling from ballast water of construction vessels (see **Section 6.2**).
    3. **Investigating the potential for post-construction monitoring:** of marine growth build up on subsea infrastructure (see **Section 6.2.1**).

## 6.1 Onshore construction

30. The final selection of control measures will be informed by the BioRA and will include species specific measures, as appropriate. The following measures are considered adequate at this early stage to mitigate the effects associated with the species with the greatest potential to be encountered (based on the baseline characterisation surveys).

### 6.1.1 Good site practice

31. Part of the onshore EcoW's role will be to provide regular toolbox talks to all contractors, ensuring signage is maintained, monitoring for signs of INNS and managing/engaging specialists if/when needed. Measures such as Check Clean Dry and ECoW supervision are good site practice measures for working in / near water environments.

32. Good site practice and hygiene should ensure the following:

- All staff should be aware of what INNS look like and what their responsibilities are. Awareness training should be undertaken in the form of Toolbox Talks covering INNS.
- Where possible to do so, construction works areas will be micro-sited to avoid areas of identified INNS.
- The ECoW, will oversee the implementation of the final INNS Management Plan on site. Everyone working on site should clearly understand the role and authority of the ECoW, which will be included within the site induction.
- All areas containing INNS not within the physical working areas to be demarcated to ensure no accidental spread. ECoW will be responsible for ensuring signage and demarcation is maintained.
- Where cross-contamination is possible (i.e., from one part of the site to another or between sites), WCOWL will consider designating vehicles or machinery to specific sites where possible to prevent spread.
- All vehicles and footwear entering working area to be clean on arrival.
- If INNS have been identified during pre-construction survey, and if required by the BioRA, vehicles used to transport infested soils must be thoroughly inspected and appropriately cleaned in a designated area before being used for other work.
- The most appropriate methods of cleaning should be determined by a suitably qualified contractor following a visual inspection. The suitably qualified contractor should supervise the cleaning, which should pay particular attention to tyre treads, wheel arches and any other areas that might retain rhizomes or seeds.
- The designated cleaning area should be within an area of hard standing or covered by a root barrier membrane that can contain and collect the material washed off. The cleaning area must be located so as not to allow material to contaminate drains, ditches or watercourses.
- The material left within the designated area after vehicles have been cleaned must be contained, collected and disposed of along with other contaminated material.
- If soil is imported to the site for landscaping, infilling or embankments, the contractor shall gain documentation from suppliers confirming that it is free from invasive species.

### 6.1.2 Physical removal

33. Physical removal of INNS is only suitable for very small infestations. If this is the chosen method of removal, care should be taken to remove all parts of the plant as branches are capable of re-rooting from cuttings. The plants should not be removed when in seed as there would be a risk of spreading the seeds further. Where removal of mature plants is not immediately feasible, the flower heads should be removed in June before they go to seed. It is essential to re-plant the ground with native species immediately following removal to prevent new seedlings taking hold.

### 6.1.3 Managing termite disturbance

34. WCOWL will consult with DLUHC, and any other stakeholders as relevant, in the development of the final INNS Management Plan to ensure measures related to termites are included.

## 6.2 Offshore construction

35. The final selection of the measures to be used will be made during the pre-construction phase, i.e., the specific antifoulant product to use on substructures to discourage marine fouling (therefore this measure is not discussed further in this section).

36. An overview of the potential for monitoring of semisubmersible structures for marine growth is provided in this document.

37. Lastly, practices to manage the introduction of marine INNS are more generic; therefore, the details outlined in this section are considered adequate at this stage to control introduction of INNS.

38. The WCOWL team will ensure that prior to the start of construction, contractors have agreed to following the relevant regulations and guidance to control the risk of introduction of marine INNS. The following is relevant in both the construction phase, and the operation and maintenance phase since both will involve the use of vessels.:

    - The International Convention for the Prevention of Pollution from Ships (MARPOL), which is the main international convention covering prevention of pollution of the marine environment by ships and sets out appropriate vessel maintenance.
    - The Environmental Damage (Prevention and Remediation (England) Regulations 2015, which set out a polluter pays principle where the operators who cause a risk of significant damage or cause significant damage to land, water or biodiversity will have the responsibility to prevent damage occurring,

or if the damage does occur will have the duty to reinstate the environment to the original condition.

- The International Convention for the Control and Management of Ships' Ballast Water and Sediments (BWM Convention), which provide global regulations to control the transfer of potentially INNS.

# 7. Monitoring

## 7.1 Possibility of post-construction monitoring of marine growth on semi-submersible structures

39. ROV maintenance visits with the primary objective of assessing the integrity and performance of subsea infrastructure during operation will take place on a regular cycle (this is subject to the operation and maintenance strategy (WHX001-FLO-CON-ENV-PLN-0008 Outline Offshore Operations and Maintenance Plan) that is not yet fully developed)). It is possible that monitoring of marine growth build-up on semi-submersible structures can be included in the scope of these surveys to validate the Offshore Environmental Statement (ES) conclusions of a lack of significant build-up of INNS; however, it is not yet clear if a safe strategy for taking samples can be developed to enable the subsequent identification of colonising taxa. If photos or underwater imagery is able to be collected which allows for identification of a marine INNS, WCOWL will notify the MMO, Joint Nature Conservation Committee (JNCC) and Centre of Environment, Fisheries and Aquaculture Science (CEFAS) in accordance with the Contingency plan for invasive non-native marine species[2].

40. At this outline plan stage, it is not possible to offer further detail on the possibility of monitoring marine growth build up; however, WCOWL are involved with similar initiatives involving the monitoring of marine growth build up on other floating devices in the UK and will endeavour to identify if tried methods (or inferences about the potential for marine growth build up) could be applied for the Project.

## 7.2 Onshore monitoring post-construction

41. The White Cross Offshore Windfarm **Outline Landscape and Ecological Management Plan** (WHX001-FLO-CON-ENV-PLN-0001) submitted as **Appendix N** of the **ES Addendum** discusses controls in known areas of INNS presence. In addition, a Biodiversity Net Gain Management Plan will be developed during the post-

[2] https://www.nonnativespecies.org/non-native-species/contingency-plans/contingency-plan-for-invasive-non-native-marine-species/#

consent phase which will set out monitoring of INNS in the Onshore Development Area.

## 8. References

Glasby T.M., Connell S.D., Holloway M.G., and Hewitt C.L., "Nonindigenous biota on artificial structures: could habitat creation facilitate biological invasions?" Marine Biology, vol. 151, no. 3, pp. 887–895, 2007.