

Title	Biomass Boiler House/ Kilns/ Dry Pallet Store and Associated Infrastructure, at Jones & Sons Ltd, Off Oak Road, Wrexham Industrial Estate, Wrexham Great Crested Newt Development Licence Application, Method Statement
Annex	K.6 – Biosecurity Risk Assessment
Date of Risk Assessment	30th June 2022

1 Introduction

Background

- 1.1 Marches Ecology was commissioned by James Jones & Sons Ltd to prepare a Biosecurity Risk Assessment (BRA) in connection with the development of a Biomass Boiler House/ Kilns/ Dry Pallet Store and associated infrastructure, at Jones & Sons Ltd, Off Oak Road, Wrexham Industrial Estate, Wrexham (NGR: 339373 349327).
- 1.2 A BRA identifies and assesses the risk posed due to the accidental spread of invasive non-native species (INNS) or diseases and proposes suitable control measures. It has been produced as a standalone document so that the salient points may be included in any Toolbox Talk or site induction provided to site contractors. The delivery of a Toolbox Talk would ensure site awareness and identify individual responsibility.
- 1.3 Planning permission has been provided by Wrexham County Borough Council (WCBC) on 10th June 2022 (ref: ISY P/2021/0217). The decision included 2 no. ecology related conditions, Condition 5 of which is as follows:

'No development, including site clearance, shall commence until a Biosecurity Risk Assessment, and Method Statement that considers invasive non-native species and specific diseases (e.g. Chytrid) has been submitted to and approved by the Local Planning Authority. The risk assessment shall include measures to prevent the introduction of and where present control, removal or for the long-term management of invasive species both during construction and operation. The risk assessment shall consider landscaping and other related plans. The Biosecurity Risk Assessment shall be carried out in accordance with the approved details.'
- 1.4 A Natural Resources Wales (NRW) Great Crested Newt (*Triturus cristatus*) 'development' licence (to include an amphibian translocation scheme) is required to lawfully undertake the development; as such this BRA will be included within the licence application submission pack (as Annex K.6), as well as being submitted to WCBC to discharge Condition 5.
- 1.5 The structure of this Risk Assessment has been adapted from that provided by Scottish Natural Heritage (SNH) in a 'Biosecurity Risk Assessment proforma' and Natural Resources Wales (NRW) in a 'Generic Tree Health Biosecurity Risk Assessment Process and Template'. This Risk Assessment was completed by Max Ellson of Marches Ecology in February and June 2022.

2 The Development

- 2.1 The development will entail the construction of a biomass boiler house, kilns, dry pallet store and associated infrastructure. Detailed information was included in the planning application which is not repeated here.
- 2.2 The application site partly comprises land within the existing curtilage of the James Jones & Sons Ltd facility (which is characterised by amenity grassland, several built structures and hard-standing), along with land to the immediate north, which comprises a small corner of a larger field unit supporting rank grassland and scrub.
- 2.3 The scheme also includes for an ex-situ Ecological Mitigation Area (EMA) which will be subject to habitat creation measures including the construction of 2 no. ponds/ associated hibernacula, scrub planting, the creation of a butterfly bank/ scrapes and the installation of pole mounted bat boxes.
- 2.4 This BRA considers both the application site and EMA.

3 Need for Biosecurity Measures

Introduction

- 3.1 The GB Non-native Species Secretariat (NNSS) states that '*Biosecurity means taking steps to make sure that good hygiene practices are in place to reduce and minimise the risk of spreading invasive non-native species. A good biosecurity routine is always essential, even if invasive non-native species are not always apparent*'¹. Prevention of the spread of parasites and diseases could also be added to this statement.
- 3.2 It is not always possible to see INNS/ diseases and they can be transmitted accidentally by people moving between sites. They are most often transported in soil or organic material, such as plant debris, that can be carried on footwear, equipment or by the wheels of vehicles and machinery. Some pathogens are dispersed in water and so the risk of these being spread increases when conditions are wet.
- 3.3 Great Crested Newts are assumed to use the application site. Marches Ecology (2021)² notes that '*...[a] Biosecurity Risk Assessment/ Method Statement ... will ... form part of any NRW licence application*'.

Known Status of INNS and Diseases at the Site

- 3.4 '*Section 14(1) of the Wildlife and Countryside Act 1981 (as amended) makes it illegal to release or allow to escape into the wild any animal which is not ordinarily resident in Great Britain and is not a regular visitor to Great Britain in a wild state, or is listed in Schedule 9 to the Act. It is also illegal to plant or otherwise cause to grow in the wild any plant listed in Schedule 9 to the Act. The Schedule 9 list of animal and plant species has been amended by the Wildlife and Countryside Act 1981 (Variation of Schedule 9)(England and Wales) Order 2010*'³. *Section 14 (1) covers spreading the species or transferring polluted ground material from one area to another.*
- 3.5 The *Invasive Alien Species (Enforcement and Permitting) Order 2019* relates to the prevention and management of the introduction and spread of non-native species and the associated licensing/ permitting system.
- 3.6 No INNS listed on *Schedule 9* of the *Wildlife and Countryside Act 1981* have been recorded from the application site or EMA. Extended Phase 1 Habitat Surveys of the application site/ adjacent land and the EMA were undertaken on 01st February, 19th May and 23rd November 2021 and no *Schedule 9* plants were recorded. However, several *Schedule 9* plants including *Fallopia japonica* (Japanese Knotweed), *Crocsmia x crocosmiiflora* (Montbretia) and *Impatiens glandulifera* (Indian Balsam) are known from the wider Wrexham Industrial Estate.
- 3.7 Marches Ecology (2021, *op. cit.*) also states that '*A very small number of Ash saplings were recorded within the proposed development/ survey site and proposed EMA. Although no symptoms of 'Ash dieback' (caused by the fungus Hymenoscyphus fraxineus) were recorded, as a precautionary approach basic biosecurity measures will be required particularly when undertaking initial vegetation clearance. Best practice guidance is*

¹ <http://www.nonnativespecies.org/index.cfm?pageid=174>

² Marches Ecology (2021). *Proposed Development at James Jones & Sons Ltd, off Oak Road, Wrexham Industrial Estate, Wrexham – Ecological Appraisal*. Produced on behalf of James Jones & Sons Ltd.

³ <http://www.nonnativespecies.org/index.cfm?pageid=67>

available on the Natural Resources Wales website⁴. Ash dieback is caused by a fungus that is generally spread via wind-blown spores. It is found throughout the Wrexham area.

Vulnerable Species/ Habitats

- 3.8 No statutory or non-statutory designated sites are located in close proximity to the application site or EMA and as such none are vulnerable to potential INNS incursion associated with the scheme.
- 3.9 While it is possible that the work-force could transfer INNS/ diseases onto the application site/ EMA/ adjacent habitats, overall the habitats present are not considered to be particularly valuable/ vulnerable. There are no watercourses in the immediately locality.
- 3.10 As Great Crested Newts and other amphibians may be present on the site it will be important not to transfer amphibian diseases on/ off-site. This is most likely to occur during the licensed translocation scheme.

Other INNS and Diseases that could be Brought to Site

- 3.11 It is possible that other INNS (e.g. Japanese Knotweed, Cotoneaster, Giant Hogweed, Indian Balsam etc.) could be inadvertently transported to the site. However, further to the Risk Assessment conducted below it is considered that the proposed general control measures should be sufficient in this instance to minimise this potential outcome. Similarly, the use of an appropriate disinfectant (if required) should be sufficient for the control of relevant amphibian diseases.

Amphibian Diseases

- 3.12 A number of amphibian diseases have caused concern in recent years, in particular the chytrid infection and ranavirus. The chytrid fungus has been recorded from Talacre and Johnstown in 2008. Spread of these diseases is largely associated with the handling of amphibians or activity at waterbodies. However, it is also possible that spores may be transported on to/ from a site on contaminated footwear, equipment and vehicles/ machinery. Froglife⁵ states that *Chytrid (Chytridiomycosis)* is an infectious disease caused by a fungus. *'It appears to be a major factor in dramatic amphibian declines in many parts of the world..... In the UK, toads appear more susceptible than other amphibian species. It is thought the disease has been introduced through imported non-native amphibians. Chytrid has been found at 19 locations in the UK. It was reported for the first time in native amphibians in 2005, at a site in the southeast of England. The disease was later found at two separate locations in northern England... In 2008 Natural England and the Institute of Zoology began widespread disease monitoring of other sites in the UK to assess the threat that the disease may pose to our native amphibian species. The vast majority of samples were negative for chytrid but there were some positives which were quite widespread.....'*
- 3.13 There is the potential for diseases to be transferred to/ from amphibians that may utilise the terrestrial habitats on/ immediately adjacent to the application site and habitats at the receptor site (part of the EMA). In turn there are three known water bodies within 250 m of the application site which support breeding Great Crested Newts. The terrestrial habitat

⁴ <https://naturalresources.wales/guidance-and-advice/business-sectors/forestry/tree-health-andbiosecurity/?lang=en>

⁵ <http://www.froglife.org/what-we-do/disease-chytrid/>

within and adjacent to the application site/ adjacent to the EMA is largely considered to be of high value for Great Crested Newts.

- 3.14 Any amphibians captured during the licenced translocation scheme will be re-located into suitable terrestrial habitat at the receptor site (retained habitat within the EMA). Taking into account the ARG-UK Advice Note 4⁶ which notes that '*Ponds within 1km of each other and not separated by major barriers to dispersal can be considered as a single site. This working guide is equivalent to the distance over which amphibians may disperse and spread pathogens in a single generation*', this is not concluded to provide an additional constraint: the EMA is located approximately 150-200 m to the southeast of the application site. As such this is within the 1 km 'site zone' as defined in the ARG-UK Advice Note 4.
- 3.15 Personnel associated with the translocation scheme/ subsequent construction/ landscaping work and associated machinery/ equipment that will be used on site (including within the EMA) have the potential to transfer amphibian diseases on/ off-site. At present the biosecurity risk posed by the development to local amphibian populations due to the potential for the spread of diseases is considered to be low. The general control measures (including an appropriate disinfectant protocol (if required)) detailed below are considered appropriate to address this level of risk.

4 Biosecurity Risk Assessment

Activities that may Cause Spread

- 4.1 The development is restricted to terrestrial activities, to include the initial licenced translocation works and subsequent construction, along with habitat creation works in the EMA. Any activities that involve disturbance of the soil/ substrate may cause the spread of invasive non-native plants and/ or plant diseases. Typical activities might include initial site clearance/ levelling and any subsequent excavation, *e.g.*, for the installation of utilities/ pipes, *etc.* This includes the transfer of soil on machinery/ equipment and human vectors on to or off-site. Animal diseases could also potentially be transferred in this way, as well as by being brought on to the development site via materials/ equipment *etc.* being used for the translocation scheme, and or contaminated footwear or equipment transferring diseases between the application site and other sites (including receptor site).
- 4.2 Existing parasites/ diseases could be transferred off site (should any be present). Ash dieback can be spread via the movement of diseased Ash plants and logs/ wood from infected trees though this is currently considered to be a low risk. Spores could also be transported on clothes, footwear and equipment/ vehicles. There is a risk that it could be spread on to/ from the site. General potential pathways for INNS/ diseases being brought onto the site include the transfer of soil on machinery and human vectors, and subsequent site works (such as the movement of excavated material around the site or off-site). Measures must therefore be implemented to prevent other INNS plant species (and/ or parasites/ diseases) being brought on to the application site/ EMA and/ or transferred off site.

⁶ <http://www.arguk.org/info-advice/advice-notes/324-advice-note-4-amphibian-disease-precautions-a-guide-for-uk-fieldworkers-pdf-2>

- 4.3 There is also the potential for imported topsoil (should this be utilised) and/ or imported trees/ shrubs to act as a vector/ pathway for invasive plant species (and/ or parasites/ diseases) to be transferred on to the application site/ EMA.

Activity Risk Assessment

- 4.4 *Table A* on the following page presents the Activity Risk Assessment based on the assessment procedure described on the SNH proforma. For each activity the severity of impact (S), should the INNS be spread is assessed on a numerical (1-5) scale. Category 5 is the highest impact. The likelihood of spread (L) is similarly assessed on a numerical (1-5) scale. Category 5 is 'very likely' that the INNS would be spread.
- 4.5 The overall risk (R) for that activity is calculated by multiplying $S \times L$. The SNH proforma provides a matrix that identifies three levels of risk rating - green-amber-red. A score of four or less (green) is usually considered acceptable. A score of 4-12 is amber; above 12 is red and is considered unacceptable.
- 4.6 Following this initial assessment control measures that should be undertaken to reduce the likelihood of INNS being spread are identified/ described. A rating of low-high (1-5) is subsequently assigned for the residual likelihood (RI) of INNS being spread after the control measures are implemented. The residual risk (Rr) is recalculated by multiplying $S \times RI$. The residual risk scale is as follows:
- **0-4 - Risk likely to be acceptable.**
 - **4-12 - Consider further options for reducing risk; if not available consider proceeding with caution.**
 - **12+ - Risk is too high; do not proceed until further consideration of control options has been taken into account.**
- 4.7 No particular additional risks are deemed relevant to the operational phase of the development. As such the operational phase is not considered further in this document.

Table A - Activity Risk Assessment

Activity	Hazard Description	Risk Rating			Control Measures	Rr after Controls		
		S	L	R		S	RI	Rr
Amphibian translocation	1). Contamination of vehicles/ machinery and subsequent spread of INNS/ diseases to/ from other sites. 2). Use of contaminated footwear/ clothing/ equipment and spread of diseases on to and off-site.	3	3	9	1). Follow ARG UK Advice Note 4. 2). Follow procedure for handling amphibians detailed below. 3). Wherever possible, avoid bringing vehicles/ machinery on to site. 4). Any machine/ equipment (e.g., carpet tiles, buckets for carrying captured amphibians) that may recently have been used on site(s) with INNS/ amphibian populations will be thoroughly cleaned using brushes/ a pressure-washer (at an appropriate location) and/ or subject to disinfection prior to being utilised on the site. All soil and other debris/ vegetation will be removed.	2	2	4
Site clearance: removal of vegetation, removal of soil, importation of materials, e.g., hardcore/ aggregate. General construction works associated with the scheme.	1). Contamination of vehicles/ machinery and subsequent spread of INNS/ diseases to from other sites. 2). Removal of contaminated soil/ materials - potential to spread INNS/ diseases within, and to other sites. 3). Importation of contaminated materials.	2	5	10	5). As 2). above. 6). All machinery/ equipment to be used on the site will be assessed in terms of sites where it has been previously utilised. Any machine/ equipment that may recently have been used on site(s) with INNS/ amphibian populations will be thoroughly cleaned using brushes/ a pressure-washer (at an appropriate location) and/ or subject to appropriate disinfection prior to being utilised on the site. All soil and other debris/ vegetation will be removed. 7). Maintain good machinery hygiene (including before accessing the site). Keep vehicles free from accumulated mud, pay particular attention to tyres/ wheel arches; tracks/ under-carriage. 8). If machinery/ equipment/ footwear has entered waterbodies on other sites they will be disinfected before accessing site, and prior to leaving. 9). All machinery utilised for the work will remain on-site for the duration of the work. On completion of the work the machinery will be thoroughly cleaned using brushes/ a pressure-washer.	2	2	4

					All soil and other debris will be removed from, in particular, the tracks, undercarriage and arm/ attachment. This will be undertaken at an appropriate location. Hand-tools/ other equipment should similarly be cleaned.			
Moving vehicles/ machinery between sites.	1). Contamination of machinery (on tyres, tracks, buckets, etc) and subsequent spread of INNS/ diseases to this and other sites.	2	4	8	10). As 3, 5-9 above.	2	2	4
Construction workers moving between sites.	1). Contamination of footwear/ hand-tools and subsequent spread of INNS/ diseases to other sites.	2	3	6	11). As 5-9 above. 12). Keep foot-wear/ hand-tools free from accumulated mud, pay particular attention to the treads on foot-wear. Thoroughly clean foot-wear/ hand-tools before entering site, and at the end of each day or leave on site. 13). As required by the Method Statement all personnel will be questioned about their recent movements. Any footwear that may have been recently utilised on sites with amphibian populations, or whose owners keep non-native amphibian species in captivity, will be subject to appropriate disinfection prior to being utilised on the site.	2	1	2
Groundworks & landscaping: any excavations including foundations, pipe installation, etc. Including pond excavation in EMA.	1). Contamination of machinery and subsequent spread of INNS/ diseases to other sites. 2). Removal of contaminated soil/ materials - potential to spread INNS/ diseases within, and to other sites. 3). Contaminated soil could roll onto adjacent land.	2	5	10	14). As 5-9 above.	2	2	4
Import/ export of (top-)soil/ hardcore/ aggregate (including for butterfly bank construction in EMA).	1). Introduction/ spread of invasive plant species (both aquatic and terrestrial) and/ or parasites/ diseases associated with top-soil.	2	3	6	As above. 15). Wherever possible, no soil material/ other material will be imported to site or exported off site. 16). All firms supplying top-soil/ other similar materials are required to confirm that they follow/ implement appropriate/ relevant measures as detailed in the Method Statement.	2	1	2

					17). Seek a declaration/ indemnity from suppliers that imported materials such as hardcore/ top-soil is weed/ disease free.			
Planting of shrubs	1). Contamination of footwear/ hand-tools and subsequent spread of INNS/ diseases to the site/ to other sites. 2). Introduction of invasive plant species (aquatic and terrestrial) and/ or parasites/ diseases associated with planting.	2	3	6	18). All firms supplying trees/ shrubs, and those undertaking the planting <i>etc.</i> are required to confirm that they follow/ implement appropriate/ relevant measures as detailed in the Method Statement.	2	1	2

5 Method Statement

Introduction

- 5.1 Biosecurity risks at the application site/ EMA are limited to the potential for INNS/ diseases to be transferred on/ off and within site. Further to the appropriate implementation of the control measures this risk is likely to be deemed 'acceptable'.
- 5.2 The publication: Scottish Government (2010). *Biosecurity guidance for SEARS staff*. Revised October 2010; describes four levels of biosecurity control dependent on the perceived risk of the activity. Based on the Risk Assessment undertaken (*Table A* above) it is considered that the proposed works require Level 1 (Low Risk) biosecurity control as described in this guidance document and the general control measures detailed below are provided on this basis. The SEARS guidance and Forestry Commission (2012)⁷ are useful sources of general information on biosecurity. Natural Resources Wales has also issued biosecurity guidelines⁸.
- 5.3 This Method Statement will be issued to the Construction Site Manager (or equivalent) and it will be discussed with all contractors/ sub-contractors as part of a Tool-box Talk/ site induction. This document will subsequently be made available on site at all times.

General Control Measures

- 5.4 To minimise the risk of spreading INNS/ diseases to/ from the site the following precautions should be put in place and adhered to by all site personnel:
- 1) An appropriate location for the cleaning of machinery/ footwear as detailed below will be identified prior to the start of any works at the site. These facilities will be maintained throughout the construction phase.
 - 2) All machinery/ equipment to be used on the site will be assessed in terms of sites where it has been previously utilised. Should invasive plant species have been, or may have been, present, all machinery/ equipment will be thoroughly cleaned using brushes/ a pressure-washer (at an appropriate off-site, hard-standing, location) prior to being utilised on the site. All soil and other debris/ vegetation will be removed. As part of good machinery hygiene this approach should ideally be followed at all times.
- Should the machinery/ equipment have previously been used in a waterbody then the procedure detailed above would be followed. In addition, the machinery/ equipment will be disinfected (e.g., with Virkon) in accordance with the guidance provided in the ARG UK Advice Note 4 [refer to footnote 6].
- When using disinfectant, the instructions should be read and safety information implemented, use should be in accordance with the instructions, contact with eyes and skin should be avoided and personal protection equipment should be worn as necessary.
- 3) The machinery utilised for the work will remain on-site for the duration of the work. On completion of the work the machinery will be thoroughly cleaned using brushes/ a pressure-washer. All soil and other debris will be removed from, in particular, the tracks, undercarriage and arm/ attachment. This will be undertaken on hard-standing within the site

⁷ Forestry Commission (2012). *Biosecurity Guidance*. Forestry Commission, Edinburgh.

⁸ E.g. <https://naturalresources.wales/guidance-and-advice/environmental-topics/woodland-management/tree-health-and-biosecurity/biosecurity/?lang=en>

but well away from the ditches/ drainage features. Hand-tools/ other equipment should similarly be cleaned.

- 4) Refuelling of machinery or vehicles will be carried out in accordance with the appropriate Environment Agency Pollution Prevention Guidelines and all other relevant pollution guidance.
- 5) No vehicles will be allowed on site (areas where there is exposed soil/ substrate/ vegetation) unless they are required for the construction works. All other vehicles will be parked on existing areas of hard-standing.
- 6) Each contractor will use the same pair of footwear for the duration of the work and this footwear will be kept in the site compound throughout or will be thoroughly cleaned at the end of each day. This footwear will be cleaned using brushes and water/ a pressure-washer (on an area of hard-standing) prior to being utilised on the site. On completion of the work or at the end of each day all footwear will be thoroughly cleaned again at the same location. All soil and other debris will be removed from the footwear to avoid transferral of seed/ plant fragments/ diseases to other sites.

As mentioned above should the contractor have entered any waterbodies on a previous site the footwear will be disinfected in accordance with the guidance provided in the ARG UK Advice Note 4.

- 7) Visitors (particularly those that will subsequently attend other sites) must clean their footwear before attending the site. The footwear used while accessing the work site must not be used when visiting other work sites until it has been thoroughly cleaned.

Other than where machinery/ footwear has entered a waterbody on a previous site it is currently considered unnecessary for anybody else accessing the site to disinfect their footwear/ vehicles – biosecurity hygiene being limited to cleaning with a brush/ water as described above.

The above detailed measures are considered sufficient with regards the control of Ash dieback. Ideally no plant material should be removed from the site.

Control Measures Associated with Top-soil Importation/ Exportation

- 5.5 To minimise the risk of introducing invasive plant species (both aquatic and terrestrial) and/ or parasites/ diseases associated with importing (top-)soil (and or other aggregates required for the construction of the butterfly bank within the EMA), all firms supplying soils/ aggregates will be required to confirm that the material is free of INNS.
- 5.6 Wherever possible, no soils will be exported off site.
- 5.7 Management of soils/ similar materials at the site and any suppliers should adhere to the following publications:
 - Defra (2009). *Construction Code of Practice for the Sustainable Use of Soils on Construction Sites*⁹.
 - BS 3882:2015: Specification for topsoil.

⁹ Defra (2009). Available online at https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/716510/pb13298-code-of-practice-090910.pdf

Control Measures Associated with Shrub Planting

5.8 To minimise the risk of introducing invasive plant species and/ or parasites/ diseases associated with planting of shrubs the following additional precautions should be put in place and adhered to:

- 1) Where possible all shrubs will be of native species/ provenance.
- 2) All firms supplying plants, and those undertaking the planting etc. are required to confirm that they will follow/ implement appropriate/ relevant measures included in the following documents:
 - the Fera publication: *'Nurseries, Retailers and Landscapers – Biosecurity Best Practice Protocols'*¹⁰ which provides advice on biosecurity measures; and
 - the Defra publication: *'Helping to prevent the spread of invasive non-native species – Horticultural Code of Practice'*¹¹ which provides useful contextual material in terms of preventing the spread of invasive non-native species.

Although the 'best practice protocols' document has been written primarily for the control of two species of *Phytophthora* (*P. ramorum* and *P. kernoviae*), the measures are intended to offer protection generically across all plant pests and diseases. The document as such provides detailed advice on sourcing plants, handling plants, risk assessment and monitoring, hygiene, disposal of plant waste, etc. The 'code of practice' provides *'advice and guidance on the responsible use, control and disposal of invasive non-native plants, for people using plants in the horticultural trade, gardening, or related activities'*.

Control Measures for Amphibian Diseases

5.9 The ARG UK Advice Note 4 [refer to footnote 6] provides further information on precautions to be taken to minimise the risk of spreading amphibian diseases. This Advice Note should be followed when undertaking any work at the site, or where amphibians may be handled. To minimise the risk of inadvertently spreading amphibian diseases, the following additional precautions should be put in place and adhered to by all site personnel:

- 1) All personnel will be questioned about their recent movements. Any footwear that may have been used on sites with amphibian populations, or whose owners keep non-native amphibian species in captivity, will be subject to appropriate cleaning/ disinfection prior to being utilised on the on the application site/ EMA. With regards the translocation scheme, as an additional precaution, personnel will clean/ disinfect footwear prior to undertaking any part of the translocation scheme.
- 2) The recent use of all machinery/ equipment (including e.g., carpet tiles, pitfall traps, buckets for carrying captured amphibians) on other sites will be reviewed. Any machine/ equipment that may have been used recently on site(s) with amphibian populations will be subject to appropriate disinfection prior to being utilised on the application site/ EMA. In addition, all buckets etc., used for transfer of amphibians, will be regularly disinfected.
- 3) Disinfection, if required, should follow the procedure provided in ARG-UK Advice Note 4 [refer to footnote 6]: Use a brush to scrub off any debris, plant fragments, mud etc. and rinse with water. Then disinfect using one of the following methods: 1) Soak/ wash in a bleach solution (diluted with water to produce a 4% solution) for 15 minutes; OR 2) Virkon

¹⁰ <http://www.botanicgardens.eu/downloads/nurseriesbiosecuritysmall.pdf>

¹¹ <https://secure.fera.defra.gov.uk/nonnativespecies/index.cfm?pageid=299>

(10 mg/ml, as per supplier's instructions) for 1 minute. Rinse with clean water and if possible, allow to dry.

- 4) When using disinfectant, the instructions should be read and safety information implemented, use should be in accordance with the instructions, contact with eyes and skin should be avoided and personal protection equipment should be worn as necessary.
- 5) Should any diseased amphibians be located or suspected, all translocation or other works will be halted and Amphibian and Reptile Conservation (ARC) (<https://www.arc-trust.org/>) NRW contacted for further advice. Works will only re-commence when it is confirmed that it is safe/ acceptable to do so.

Handling Amphibians

The following is a brief summary of biosecurity measures to be implemented when handling any amphibians. Further details are provided in the ARG UK Advice Note 4 which should be referred to for further information.

- Handle amphibians only when necessary.
- If handling amphibians, or if contact with pond water is necessary, wear powder-free disposable vinyl gloves which you rinse before contact with the amphibians. Use vinyl rather than latex or nitrile because the latter two may be harmful to amphibians.
- Use a fresh pair of gloves for each site (pond/ waterbody) visited.
- Ensure that all workers wash their hands thoroughly with soap or hand sanitising gel and water after each day/ before moving to another site.
- Wash all clothing on a 40°C cycle with biological detergent, after exposure to amphibians or pond water.
- Do not release amphibians anywhere except at the place of capture.

6 Signatories

This page should be signed by all those attending the tool-box that incorporates the Biosecurity Risk Assessment.

I have read and understand the requirements of this risk assessment.

Print	Signed	Company	Date