



Great Crested Newt Mitigation Plan

Cartref, Bedwell Road, Cross Lanes, Wrexham LL13 0TS

Michael Baker

Status	Issue	Name	Date
Draft	1	Mel Reid BSc (Hons) MRes MRSB, Consultant	28/01/2022
Reviewed	1.1	Lizi Pimlott BSc (Hons), MSc, MCIEEM, Senior Consultant	31/01/2022
Final	2	Mel Reid BSc (Hons) MRes MRSB, Consultant	31/01/2022
Updated	3	Mel Reid BSc (Hons) MRes MRSB, Consultant	07/07/2022

Arbtech Consultant's Contact Details:

Mel Reid BSc (Hons) MRes MRSB
Consultant
Tel: 07711591700 **Email:** melreid@arbtech.co.uk
<https://arbtech.co.uk>

Limitations and Copyright

Arbtech Consulting Limited has prepared this report for the sole use of the above-named client or their agents in accordance with our General Terms and Conditions, under which our services are performed. It is expressly stated that no other warranty, expressed or implied, is made as to the professional advice included in this report or any other services provided by us. This report may not be relied upon by any other party without the prior and express written agreement of Arbtech Consulting Limited. The conclusions and recommendations contained in this report are based upon information provided by third parties. Information obtained from third parties has not been independently verified by Arbtech Consulting Limited.

© This report is the copyright of Arbtech Consulting Limited. Any unauthorised reproduction or usage by any person other than the addressee is strictly prohibited.

Industry Guidelines and Standards

This report has been written with due consideration to:

- Chartered Institute of Ecology and Environmental Management (2017). Guidelines for Preliminary Ecological Appraisal. 2nd edition. Chartered Institute of Ecology and Environmental Management, Winchester.
- Chartered Institute of Ecology and Environmental Management (2018). Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine. Version 1.1. Chartered Institute of Ecology and Environmental Management, Winchester.
- Chartered Institute of Ecology and Environmental Management (2017). Guidelines on Ecological Report Writing. Chartered Institute of Ecology and Environmental Management, Winchester.
- Chartered Institute of Ecology and Environmental Management (2020). Guidelines for Accessing, Using and Sharing Biodiversity Data in the UK. 2nd Edition. Chartered Institute of Ecology and Environmental Management, Winchester.
- British Standard 42020 (2013). Biodiversity – Code of Practice for Planning and Development.
- British Standard 8683:2021 (2021). Process for Designing and Implementing Biodiversity Net Gain.

Proportionality

The work involved in preparing and implementing all ecological surveys, impact assessments and measures for avoidance, mitigation, compensation and enhancement should be proportionate to the predicted degree of risk to biodiversity and to the nature and scale of the proposed development. Consequently, the decision-maker should only request supporting information and conservation measures that are relevant, necessary and material to the application in question. Similarly, the decision-maker and their consultees should ensure that any comments and advice made over an application are also proportionate.

This approach is enshrined in Government planning guidance, for example, paragraph 174 of the National Planning Policy Framework for England.

The desk studies and field surveys undertaken to provide a Preliminary Ecological Appraisal (PEA) might in some cases be all that is necessary.

(BS 42020, 2013)

Contents

1.0 Introduction and Context.....5

 1.1 Background5

 1.2 Site Context.....5

 1.3 Survey Information and Consultation Response5

2.0 Ecological Mitigation, Management and Enhancement Measures6

 2.1 Informative.....6

 2.2 Mitigation Measures6

 2.2 Enhancement and Management Measures.....8

5.0 Ecological Compliance Audit.....12

6.0 Biodiversity Risk Assessment.....15

7.0 Bibliography.....19

 Appendix 1: Proposed Development Plan21

 Appendix 2: Site Location Plan.....22

 Appendix 3: Site Location Plan.....23

 Appendix 4: Legislation and Planning Policy24

1.0 Introduction and Context

1.1 Background

Arbtech Consulting Limited was instructed by Michael Baker to produce a Great Crested Newt (GCN) Mitigation Plan for Cartref, Bedwell Road, Cross Lanes, Wrexham LL13 OTS (hereafter referred to as “the site”).

The Plan was required to inform a planning application for an extension to the existing dwelling including a re-roof (hereafter referred to as “the proposed development”).

The aim of this plan is to outline mitigation measures required to minimise impacts on great crested newts as well as to outline management and enhancement opportunities which will ensure the long-term suitability of the site for this species.

This plan has been informed by a Preliminary Ecological Appraisal (PEA), including Preliminary Roost Assessment (PRA), which was completed by Mel Reid BSc (Hons) MRes MRSB on 28th September 2021 (Arbtech, 2021).

1.2 Site Context

The site is located at National Grid Reference SJ 37387 47736 and has an area of approximately 0.1ha. The site consists of two buildings with a garden at the front of the site (eastern side of the site) and a poor semi-improved grassland field at the rear (western side of site).

A site location plan is provided in Appendix 2.

1.3 Survey Information and Consultation Response

The PEA identified a high density of ponds within 500m of the site. Some of these are confirmed breeding ponds for GCN and there is a large population of GCN in the area (based on surveyor’s local knowledge). There are no aquatic habitats on the site, but GCN could use the grassland and hedgerow at the western end of the site for foraging and shelter. Piles of refuse within the site could also be used for shelter and hibernation although these are located on areas of hardstanding which reduce their suitability for GCN.

No vegetated habitats with suitability for GCN will be affected by the proposed development which will be restricted to the existing building and surrounding hardstanding. However, the piles of refuse will be removed from the site and clearance of these areas could result in disturbance, death or injury of GCN, albeit this likelihood is very low given the location of these piles on hardstanding.

It was concluded, within the PEA and PRA report (Arbtech, 2021), that the implementation of a GCN Mitigation Plan would be sufficient to minimise likely impacts to GCN to an acceptably low level. Consultation was held with Natural Resources Wales (NRW) on 29/10/2021 whereby it was agreed that this would be a suitable approach and that a European Protected Species Licence (EPSL) would not be required.

2.0 Ecological Mitigation, Management and Enhancement Measures

2.1 Informative

Due to the presence of confirmed GCN breeding ponds within 500m of the site, and the known large population of GCN, the following mitigation measures are outlined to ensure that no harm come to GCN during the proposed works. Further, site specific enhancements are recommended to improve the site for GCN post-development.

The responsibility for implementation during construction falls to lead contractor but following completion the site will be in control of the owner/occupier and they will be responsible for ensuring the post development management, maintenance and monitoring measures will be implemented.

2.2 Mitigation Measures

Table 1 details the ecological mitigation measures to be implemented at the site.

Table 1 – Mitigation Measures

Works	Specification
Amphibian mitigation	No work can start on site until a licence has been obtained from Natural Resource Wales. All works described below will be supervised or undertaken by an experienced and GCN licenced ecologist. This can be the named ecologist on the licence or their accredited agent. The retained ecologist will provide a toolbox talk to contractors on site prior to the start of any work. Following completion of each element of the works, a file note shall then be written to confirm that this method statement has been followed; and a record of all herpetofauna found will be provided. Works will be restricted to the buildings and surrounding hardstanding and the unsuitable short amenity grassland within eastern part of the site only. The following measures will be adhered to during construction works: • A toolbox talk to all contractors working on site will be given by the licenced ecologist to ensure everyone working on site is aware of the presence of GCN and understand the action to be taken should GCN be found during works. • Immediately prior to any works on site a finger-tip search by the licenced ecologist will be undertaken to ensure. Any GCN (or other amphibians) found during this search will be carefully captured by hand and relocated to suitable habitat in the western part of the site (see map below). • The site will then be systematically cleared by hand under supervision by a suitability qualified ecologist. This will include the dismantling of any rubble piles and removal of any vegetation. This will be done during the GCN active season between April and September, in temperatures above 5°C, to enable any animals that may still be present to move away. Clearance will be undertaken in

	a systematic pattern working from the east of the site towards the unaffected grassland to the west to prevent 'islands' that may trap animals within. Any GCN (or other amphibians) found during this vegetation/rubble clearance will be carefully captured by hand and relocated to suitable habitat in the western part of the site (see map below). • Once the site has been declared free of GCN (and other amphibians) newt fencing will then be installed to the correct specifications and requirements under supervision by the retained ecologist. This fencing will surround the working areas to prevent amphibians moving into the development area during construction. Please see map below for details. • Night-time working will avoided. • The construction zone will be kept clear of rubble piles and stored items to discourage amphibians from moving into the area. If rubble piles are created during construction and remain on site for more than 24 hours, then a re-inspection by an ecologist will be required before it can be removed. • Any materials will be stored on pallets or removed from site to prevent unintentional creation of refuge areas for amphibians. • Any remaining vegetation will be maintained at ground level within the working area. • During construction, any ditches, holes or trenches must be covered at night, or ramps must be added so that animals do not get trapped. A report will be produced by the retained ecologist documenting adherence to the measures outlined above. This will be submitted to the local council and NRW.
--	--

2.2 Enhancement and Management Measures

Table 2 details the ecological enhancement and management measures for the site.

Table 2 – Enhancement and Management Measures

Works	Specification
Amphibian habitat enhancements	The planting of wildflower and scrub will improve the area of grassland in the west of the site for GCN and other common amphibians, as well as other species including reptiles, hedgehogs, birds, bats and invertebrates. See map in Appendix 3. Areas along the western and northern site boundaries will be planted as mixed scrub to provide suitable amphibian refuge. An area of wildflower planting will be created at the western end of the site, however this is yet to be confirmed. <i>Scrub planting</i> Scrub will be planted along the northern and western site boundaries. Only species from the following list will be planted: • Bramble • Common juniper • Box scrub • Wild privet • Dogwood • Buckthorn • Hawthorn • Spindle • Hazel Planting should take place between November and March. The planting pattern should include a mix of species planted close together, with some areas left open to create natural openings. Wood chip/mulch should be placed around each newly planted scrub to prevent weed competition and improve water retention. Upon planting the area will be left for 1 year to allow the new plants to be established before any management is started. <i>Wildflower planting</i> An area of wildflower meadow will be planted on the existing field to the west of the site. See map in Appendix 3. Wildflower seed mixes can be used on regular turf to create species-rich such as the Emorsgate Wild Flowers For Lawns seed mix (EL1F). This can be sown in existing

	grass or combined with a suitable grass seed mix. Species within the mix include Lady's Bedstraw <i>Galium verum</i>, Birdsfoot Trefoil <i>Lotus corniculatus</i>, Selfheal <i>Prunella vulgaris</i> and Meadow Buttercup <i>Ranunculus acris</i>. A rate of 1.5g/m² should be used. The following is advised by Emorsgate Seeds: • Sowing: Sow in the autumn using a 100% wildflower mixture. Bulk up the seed with an inert carrier such as sand to make distribution easier. The seed must be surface sown and can be applied by machine or broadcast by hand. • Management: After sowing continue mowing or grazing as needed, aiming to keep the grass short (25-40mm). The sown flower species are perennial and will be slow to germinate, grow and flower, particularly against the competition from established grasses. Continue with regular mowing/grazing in the second and subsequent years to keep the sward short. Mowing may be suspended or relaxed for periods of 4-6 weeks in May - July to allow the flowers to bloom. Resume mowing/grazing once the flowering has gone over or when the grass growth gets too lush. A site visit will be undertaken at the start of the development to check the mitigation measures and other provisions are in accordance to this report. If satisfactory, a report will be written confirming the adherence to the plan. This will be submitted to the local council and NRW.
Amphibian refugia	Amphibian refugia can be created using materials such as log piles, brush, rock etc (see Figure 1 below). Two of these should be created and placed below the retained northern hedgerow boundary in the western part of the site. Figure 1: Permanent refugia.

Table 3 – post development management of mitigation and enhancements

Activity	Year 1 [2021]	Every year for 25 years	Every 2 years for 25 years	Every 5 years for 25 years	Responsibility and reporting of actions
Post development check	On completion of the development and prior to occupation, an ecologist will visit the site to ensure the implementation of the above mitigation, compensation and enhancement. A letter report can then be submitted to the planning department to discharge any related conditions.	N/A	N/A	N/A	Ecologist to be engaged to carry out site visit and subsequent file note report which will be submitted to the council and NRW. LPA to responsible if post-development file note report submitted. Where actions have not been completed recommendations will be made and further site visits may be required to manage and monitor the outcomes.
New planting (wildflower meadow)	Sow seeds in the spring or autumn before the development. Mow regularly throughout the first year of establishment; this will help maintain balance between faster growing grasses and slower developing wildflowers. Mowing can start as soon as there is enough growth of either weeds or sown species to take a cut.	Check uptake of new meadow habitat, add more seed where appropriate.	Mow to a height of 40-60mm every 2 years between October and February. The grass should be cut every two years on 50% rotation, so that there is always suitable cover on site for herptiles. Ideally collect and remove arisings to avoid leaving behind a damaging mulch of decomposing cut grass. Unwanted perennial weeds (docks, thistles) may need control by occasional spot treatment with a herbicide.	A tree inspection (safety) survey should be undertaken by a qualified arboriculturist every 5 years at which point a tree works spec will be provided where required. N/A.	Site manager to ensure that the proposed planting scheme is adhered to. Site manager to provide confirmation of new tree planting via photos. Where actions have not been completed recommendations will be made and further site visits may be required to manage and monitor the outcomes.

New planting (scrub)	Any new areas of scrub planting will be left for year 1 to become established. Top up the mulch where necessary and water monthly or when dry.	The areas of scrub across the site will be inspected annually to ensure the establishment of the habitat. Any plants that die in the first 5 years will need to be replaced to prevent gaps developing. If large areas of the habitat remain unestablished then these will need to be replanted as per the recommendation in the table above until they meet the right criteria. The areas of scrub across the site (northern end and western corridor) will be also be inspected for any signs of undesirable species (outlined in the table above) which should be removed. To create a greater diversity of age and structure across the scrub approximately 1/15 th of the scrub will be cut back every year. Any existing open areas will need to be cut back to retain these areas. Any stump created during cutting should be retained as these can provide important habitat for wildlife. Pruning should be undertaken outside the period 1st March to 31st August to avoid disturbing nesting birds.		Any plants that die in the first 5 years will need to be replaced to prevent gaps developing.	Site manager to ensure that the proposed planting scheme is adhered to. Site manager to provide confirmation of new tree planting via photos. Where actions have not been completed recommendations will be made and further site visits may be required to manage and monitor the outcomes.
Herptile refugia	Install site's provision of refugia for reptiles and amphibians.	Check annually and top-up or reassemble refugia if required.	N/A.	N/A.	

5.0 Ecological Compliance Audit

The following tables detail the actions to be adhered to as outlined within the above GCN RAMS.

Table 4: Actions to be carried out during construction work

Action number	Action details	Timings	Evidence required	Evidence received	Recommendations
1	Toolbox talk to be given to all contractors on site prior to works	Immediately prior to works on site	Yes – to be evidence within the file note report by the ecologist upon completion of all supervision works. Where actions have not been completed recommendations will be made and further site visits may be required to manage and monitor the outcomes		
2	Site to be checked over by a suitability qualified ecologist immediately prior to works on site	Immediately prior to works on site	Yes – to be evidence within the file note report by the ecologist upon completion of all supervision works. Where actions have not been completed recommendations will be made and further site visits may be required to manage and monitor the outcomes		
3	Site to be systematically cleared under supervision by a suitability qualified ecologist	Site clearance to be done during the GCN active season between April and September, in temperatures above 5°C	Yes - File note report from a suitably qualified ecologist following an ecological walkover of the site upon completion of the development. Where actions have not been completed recommendations will be made and further site visits may be required to manage and monitor the outcomes		
4	The site will be cleared from the east to the west of the site	Site clearance to be done during the GCN active season between April and September, in temperatures above 5°C	Yes - File note report from a suitably qualified ecologist following an ecological walkover of the site upon completion of the development. Where actions have not been completed recommendations will be made and further site visits may be required to manage and monitor the outcomes		
6	Upon clearing each section, the vegetation will be cleared using a hand-held strimmer to a length of 50mm to	Site clearance to be done during the GCN active season between April and September, in	Yes - File note report from a suitably qualified ecologist following an ecological walkover of the site upon completion of the development. Where actions have not been completed recommendations will be made		

	prevent herptile moving back on to site	temperatures above 5°C	and further site visits may be required to manage and monitor the outcomes		
7	Newt fencing to be installed correctly specifications and requirements under supervision by the retained ecologist	Immediately following site clearance during active GCN season between April and September	Yes - File note report from a suitably qualified ecologist following an ecological walkover of the site upon completion of the development. Where actions have not been completed recommendations will be made and further site visits may be required to manage and monitor the outcomes		
8	Construction zone will be kept clear of rubble piles and stored items to discourage amphibians from moving into the area	During construction works	Site Manager will document compliance via a log with photos and provide this upon request		
7	Materials will be stored on pallets or removed from site	During construction works	Site Manager will document compliance via a log with photos and provide this upon request		
8	Remaining vegetation will be maintained at ground level	During construction works	Site Manager will document compliance via a log with photos and provide this upon request		
9	During construction, any ditches, holes or trenches must be covered at night, or ramps must be added	During construction works	Site Manager will document compliance via a log with photos and provide this upon request		

Table 5: Mitigation required post-construction

Action number	Action details	Timings	Evidence required	Evidence received	Results of action
1	Two hibernacula to be created and installed on site	To be created upon completion of development and prior to first occupation	Yes – photo evidence		
2	Scrub planting at western end of site	To be created upon completion of development and prior to first occupation	Yes – photo evidence upon completion		
3	Wildflower meadow to be planted at western end of site	To be created upon completion of development and prior to first occupation	Yes – photo evidence upon completion		

6.0 Biodiversity Risk Assessment

The following tables detail the species identified as being potential risks to be imported on site during development works. The table below details potential pathways on to site and mitigation measure to prevent this.

Table 6: biodiversity risk assessment

Risk identification	Potential pathway onto site	Likelihood of risk	Mitigation
Diseases/pathogen			
<i>Phytophthora ramorum</i>	1) Spread of pathogen via construction machinery and workers.	Moderate – there will be a high number of site visits during construction	1) Disinfect all machinery/equipment/clothing/footwear between visits to any other sites other than the development site itself. 2) All debris/mud/plant fragments to be removed from footwear via scrubbing and rinsing with water, followed by disinfection using bleach or virkon (for machinery and footwear) or fabrics to be washed with a detergent.
<i>Phytophthora alni</i>	1) Spread of pathogen via construction machinery and workers.	Moderate – there will be a high number of site visits during construction	1) Disinfect all machinery/equipment/clothing/footwear between visits to any other sites other than the development site itself. 2) All debris/mud/plant fragments to be removed from footwear via scrubbing and rinsing with water, followed by disinfection using bleach or virkon (for machinery and footwear) or fabrics to be washed with a detergent.
<i>Chytrid</i>	1) Spread of pathogen via construction machinery and workers.	Moderate – there will be a high number of site visits during construction	1) Disinfect all machinery/equipment/clothing/footwear between visits to any other sites other than the development site itself. 2) All debris/mud/plant fragments to be removed from footwear via scrubbing and rinsing with water, followed by disinfection using bleach or virkon (for machinery and footwear) or fabrics to be washed with a detergent.
Species			
<i>Crassula helmsii</i>	1) Spread of species via construction machinery. 2) Importation of contaminated soil.	Low - Species not currently present on or adjacent to site.	1) Disinfect all machinery/equipment/clothing/footwear between visits to any other sites other than the development site itself. 2) All debris/mud/plant fragments to be removed from footwear via scrubbing and rinsing with water, followed by disinfection using bleach or virkon (for machinery and footwear) or fabrics to be washed with a detergent. Ensure contractor know what the species looks like and if any plants are identified on site during development works advice should be sought by a suitability qualified ecologist immediately.
<i>Azolla filiculoides</i>	1) Spread of species via construction machinery.	Low - Species not currently present on or adjacent to site.	1) Disinfect all machinery/equipment/clothing/footwear between visits to any other sites other than the development site itself.

	2) Importation of contaminated soil.		2) All debris/mud/plant fragments to be removed from footwear via scrubbing and rinsing with water, followed by disinfection using bleach or virkon (for machinery and footwear) or fabrics to be washed with a detergent. Ensure contractor know what the species looks like and if any plants are identified on site during development works advice should be sought by a suitability qualified ecologist immediately.
<i>Myriophyllum aquaticum</i>	1) Spread of species via construction machinery. 2) Importation of contaminated soil.	Low - Species not currently present on or adjacent to site.	1) Disinfect all machinery/equipment/clothing/footwear between visits to any other sites other than the development site itself. 2) All debris/mud/plant fragments to be removed from footwear via scrubbing and rinsing with water, followed by disinfection using bleach or virkon (for machinery and footwear) or fabrics to be washed with a detergent. Ensure contractor know what the species looks like and if any plants are identified on site during development works advice should be sought by a suitability qualified ecologist immediately.
<i>Hydrocotyle ranunculoides</i>	1) Spread of species via construction machinery. 2) Importation of contaminated soil.	Low - Species not currently present on or adjacent to site.	1) Disinfect all machinery/equipment/clothing/footwear between visits to any other sites other than the development site itself. 2) All debris/mud/plant fragments to be removed from footwear via scrubbing and rinsing with water, followed by disinfection using bleach or virkon (for machinery and footwear) or fabrics to be washed with a detergent. Ensure contractor know what the species looks like and if any plants are identified on site during development works advice should be sought by a suitability qualified ecologist immediately.
<i>Elodea Canadensis</i>	1) Spread of species via construction machinery. 2) Importation of contaminated soil.	Low - Species not currently present on or adjacent to site.	1) Disinfect all machinery/equipment/clothing/footwear between visits to any other sites other than the development site itself. 2) All debris/mud/plant fragments to be removed from footwear via scrubbing and rinsing with water, followed by disinfection using bleach or virkon (for machinery and footwear) or fabrics to be washed with a detergent. Ensure contractor know what the species looks like and if any plants are identified on site during development works advice should be sought by a suitability qualified ecologist immediately.
<i>Lagarosiphon major</i>	1) Spread of species via construction machinery.	Low - Species not currently present on or adjacent to site.	1) Disinfect all machinery/equipment/clothing/footwear between visits to any other sites other than the development site itself.

	2) Importation of contaminated soil.		2) All debris/mud/plant fragments to be removed from footwear via scrubbing and rinsing with water, followed by disinfection using bleach or virkon (for machinery and footwear) or fabrics to be washed with a detergent. Ensure contractor know what the species looks like and if any plants are identified on site during development works advice should be sought by a suitability qualified ecologist immediately.
<i>Elodea nuttallii</i>	1) Spread of species via construction machinery. 2) Importation of contaminated soil.	Low - Species not currently present on or adjacent to site.	1) Disinfect all machinery/equipment/clothing/footwear between visits to any other sites other than the development site itself. 2) All debris/mud/plant fragments to be removed from footwear via scrubbing and rinsing with water, followed by disinfection using bleach or virkon (for machinery and footwear) or fabrics to be washed with a detergent. Ensure contractor know what the species looks like and if any plants are identified on site during development works advice should be sought by a suitability qualified ecologist immediately.
<i>Elodea spp</i>	1) Spread of species via construction machinery. 2) Importation of contaminated soil.	Low - Species not currently present on or adjacent to site.	1) Disinfect all machinery/equipment/clothing/footwear between visits to any other sites other than the development site itself. 2) All debris/mud/plant fragments to be removed from footwear via scrubbing and rinsing with water, followed by disinfection using bleach or virkon (for machinery and footwear) or fabrics to be washed with a detergent. Ensure contractor know what the species looks like and if any plants are identified on site during development works advice should be sought by a suitability qualified ecologist immediately.
<i>Lemna minuscula</i>	1) Spread of species via construction machinery. 2) Importation of contaminated soil.	Low - Species not currently present on or adjacent to site.	1) Disinfect all machinery/equipment/clothing/footwear between visits to any other sites other than the development site itself. 2) All debris/mud/plant fragments to be removed from footwear via scrubbing and rinsing with water, followed by disinfection using bleach or virkon (for machinery and footwear) or fabrics to be washed with a detergent. Ensure contractor know what the species looks like and if any plants are identified on site during development works advice should be sought by a suitability qualified ecologist immediately.

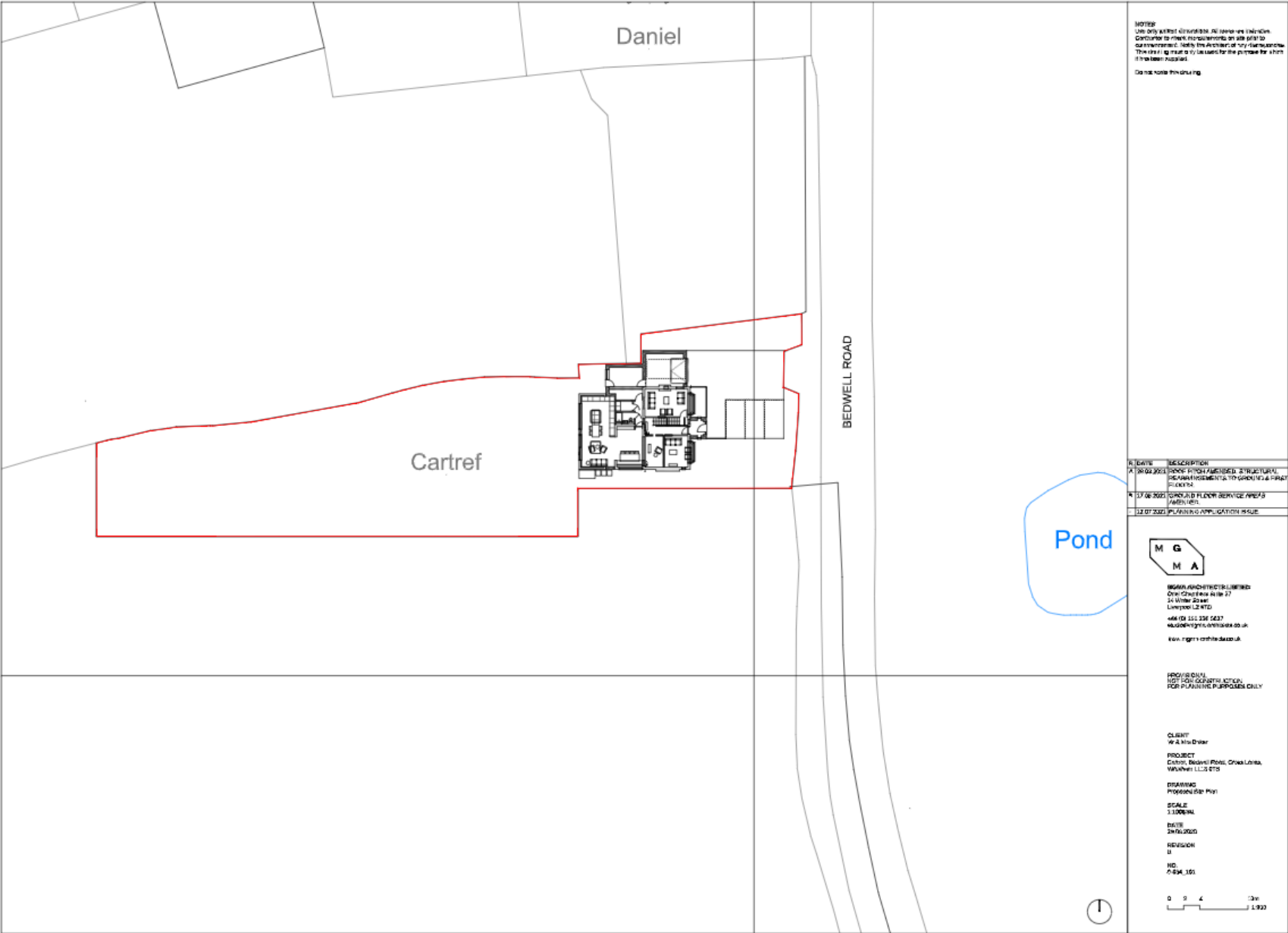
<i>Impatiens glandulifera</i>	1) Spread of species via construction machinery. 2) Importation of contaminated soil.	Low - Species not currently present on or adjacent to site.	1) Disinfect all machinery/equipment/clothing/footwear between visits to any other sites other than the development site itself. 2) All debris/mud/plant fragments to be removed from footwear via scrubbing and rinsing with water, followed by disinfection using bleach or virkon (for machinery and footwear) or fabrics to be washed with a detergent. Ensure contractor know what the species looks like and if any plants are identified on site during development works advice should be sought by a suitability qualified ecologist immediately.
<i>Reynoutria japonica</i>	1) Spread of species via construction machinery. 2) Importation of contaminated soil.	Low - Species not currently present on or adjacent to site.	1) Disinfect all machinery/equipment/clothing/footwear between visits to any other sites other than the development site itself. 2) All debris/mud/plant fragments to be removed from footwear via scrubbing and rinsing with water, followed by disinfection using bleach or virkon (for machinery and footwear) or fabrics to be washed with a detergent. Ensure contractor know what the species looks like and if any plants are identified on site during development works advice should be sought by a suitability qualified ecologist immediately.

7.0 Bibliography

- Arbtech (2021). Preliminary Ecological Appraisal including Preliminary Roost Assessment.
- Biggs, J., Ewald, N., Valentini, A., Gaboriaud, C., Dejean, T., Griffiths, R., Foster, J., Wilkinson, J., Arnell, A., Brotherton, P., Williams, P. and Dunn, F. (2014). Using eDNA to Develop a National Citizen Science-based Monitoring Programme for the Great Crested Newt (*Triturus cristatus*). Biological Conservation. 183. 10.1016/j.biocon.2014.11.029.
- British Standard 42020 (2013). Biodiversity – Code of Practice for Planning and Development.
- British Standard 8683:2021 (2021). Process for Designing and Implementing Biodiversity Net Gain.
- Chartered Institute of Ecology and Environmental Management (2017). Guidelines for Preliminary Ecological Appraisal. 2nd edition. Chartered Institute of Ecology and Environmental Management, Winchester.
- Chartered Institute of Ecology and Environmental Management (2017). Guidelines on Ecological Report Writing. Chartered Institute of Ecology and Environmental Management, Winchester.
- Chartered Institute of Ecology and Environmental Management (2018). Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine. Version 1.1. Chartered Institute of Ecology and Environmental Management, Winchester.
- Chartered Institute of Ecology and Environmental Management (2020). Guidelines for Accessing, Using and Sharing Biodiversity Data in the UK. 2nd Edition. Chartered Institute of Ecology and Environmental Management, Winchester.
- Edgar, P., Foster, J. and Baker, J (2010). Reptile Habitat Management Handbook. Amphibian and Reptile Conservation, Bournemouth
<http://downloads.gigl.org.uk/website/Reptile%20Habitat%20Management%20Handbook.pdf>
- Gent, T. and Gibson, S. (2003). Herpetofauna Workers' Manual. JNCC, Peterborough.
- Google Earth. Accessed on 28/01/2022.
- HMSO: Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019 <https://www.legislation.gov.uk/ukxi/2019/579/contents/made>
- HMSO: Countryside & Rights of Way Act (2000) <http://jncc.defra.gov.uk/page-1378>
- HMSO: Natural Environmental and Rural Communities Act (2006) <http://www.legislation.gov.uk/ukpga/2006/16/contents>
- HMSO: Wildlife and Countryside Act 1981 (as amended 01.04.1996) <http://jncc.defra.gov.uk/page-1377>
- Joint Nature Conservation Committee (2010). Handbook for Phase 1 habitat survey a technique for environmental audit.
http://jncc.defra.gov.uk/PDF/pub10_handbookforphase1habitatsurvey.pdf

- Langton, T., Beckett, C. and Foster, J (2001). Great Crested Newt Conservation Handbook. Froglife. Suffolk. http://www.froglife.org/wp-content/uploads/2013/06/GCN-Conservation-Handbook_compressed.pdf
- Oldham R.S., Keeble J., Swan M.J.S. and Jeffcote M. (2000). Evaluating the Suitability of Habitat for the Great Crested Newt (*Triturus cristatus*). Herpetological Journal 10(4), 143-155. <https://www.thebhs.org/publications/the-herpetological-journal/volume-10-number-4-october-2000/1617-03-evaluating-the-suitability-of-habitat-for-the-great-crested-newt-triturus-cristatus/file>
- Planning Policy Wales (2021) https://gov.wales/sites/default/files/publications/2021-02/planning-policy-wales-edition-11_0.pdf

Appendix 1: Proposed Development Plan



Appendix 2: Site Location Plan



Appendix 3: Site Location Plan



Appendix 4: Legislation and Planning Policy

LEGAL PROTECTION

National and European Legislation Afforded to Habitats

International Statutory Designations

Special Areas of Conservation (SACs) and Special Protection Areas (SPAs) are sites of European importance and are designated under the EC Habitats Directive 92/43/EEC on the Conservation of natural habitats and of wild fauna and flora (the Habitats Directive) and the EC Birds Directive 2009/147/EC on the conservation of wild birds (the Wild Birds Directive) respectively. Both form part of the wider Natura 2000 network across Europe.

Under the Habitats Directive Article 3 requires the establishment of a network of important conservation sites (SACs) across Europe. Over 1000 animal and plant species, as well as 200 habitat types, listed in the directive's annexes are protected in various ways:

Annex II species (about 900): core areas of their habitat are designated as Sites of Community importance (SCIs) and included in the Natura 2000 network. These sites must be managed in accordance with the ecological needs of the species.

Annex IV species (over 400, including many Annex II species): a strict protection regime must be applied across their entire natural range, both within and outside Natura 2000 sites.

Annex V species (over 90): their exploitation and taking in the wild is compatible with maintaining them in a favourable conservation status.

SPAs are classified under Article 2 of the Directive 2009/147/EC of the European Parliament and of the Council of 30 November 2009 on the conservation of wild birds both for rare bird species (as listed on Annex I) and for important migratory species.

The Conservation of Habitats and Species Regulations 2017 form the legal basis for the implementation of the Habitats and Birds Directives in terrestrial areas and territorial waters out to 12 nautical miles in England and Wales (including the inshore marine area) and to a limited extent in Scotland and Northern Ireland.

Ramsar sites are designated under the Convention on Wetlands of International Importance, agreed in Ramsar, Iran, in 1971. The Convention covers all aspects of wetland conservation and recognises the importance of wetland ecosystems in relation to global biodiversity conservation. The Convention refers to wetlands as “*areas of marsh, fen, peatland or water, whether natural or artificial, permanent or temporary, with water that is static or flowing, fresh, brackish or salt, including areas of marine water the depth of which at low tide does not exceed six metres*”. However, they may also include riparian and coastal zones. Ramsar sites are statutorily protected under the Wildlife & Countryside Act 1981 (as amended 01.04.1996) with further protection provided by the Countryside and Rights of Way (CROW) Act 2000. Policy statements have been issued by the Government in England and Wales highlighting the special status of Ramsar sites. The Government in England and Wales has issued policy statements which ensure that Ramsar sites are afforded the same protection as areas designated under the EC Birds and Habitats Directives as part of the Natura 2000 network (e.g. SACs & SPAs). Further provisions for the protection and management of SSSIs have been introduced by the Nature Conservation (Scotland) Act 2004.

National Statutory Designations

Sites of Special Scientific Interest (SSSI) are designated by nature conservation agencies in order to conserve key flora, fauna, geological or physio-geographical features within the UK. The original designations were under the National Parks and Access to the Countryside Act 1949 but SSSIs were then re-designated under the Wildlife & Countryside Act 1981 (as amended). As well as reinforcing other national designations (including National Nature Reserves), the system also provides statutory protection for terrestrial and coastal sites which are important within the European Natura 2000 network and globally.

Local Statutory Designations

Local authorities in consultation with the relevant nature conservation agency can declare Local Nature Reserves (LNRs) under the National Parks and Access to the Countryside Act 1949. LNRs are designated for flora, fauna or geological interest and are managed locally to retain these features and provide research, education and recreational opportunities.

Non- Statutory Designations

All non-statutorily designated sites are referred to as Local Wildlife Sites (LWS) and can be designated by the local authority for supporting local conservation interest. Combined with statutory designation, these sites are considered within Local Development Frameworks under the Town and Country Planning system and are a material consideration during the determination of planning applications. The protection afforded to these sites varies depending on the local authority involved.

Regionally Important Geological Sites (RIGs) are the most important geological and geomorphological areas outside of statutory designations. These sites are also a material consideration during the determination of planning applications.

National and European Legislation Afforded to Species***The Conservation of Habitats and Species Regulations 2017 (as amended)***

The Conservation of Habitats and Species Regulations 2017 (as amended) aims to promote the maintenance of biodiversity by requiring the Secretary of State to take measures to maintain or restore wild species listed within the Regulations at a favourable conservation status.

The Regulations make it an offence (subject to exceptions) to deliberately capture, kill, disturb, or trade in the animals listed in Schedule 2, or pick, collect, cut, uproot, destroy, or trade in the plants listed in Schedule 4. However, these actions can be made lawful through the granting of licenses by the appropriate authorities. Licenses may be granted for a number of purposes (such as science and education, conservation, preserving public health and safety), but only after the appropriate authority is satisfied that there are no satisfactory alternatives and that such actions will have no detrimental effect on wild population of the species concerned.

The Wildlife and Countryside Act (WCA) 1981 (as amended)

The Wildlife and Countryside Act (WCA) 1981 (as amended) implements the Convention on the Conservation of European Wildlife and Natural Habitats (Bern Convention 1979, implemented 1982) and implements the species protection requirements of EC Birds Directive 2009/147/EC on the conservation of wild birds in Great Britain (the birds Directive). The WCA 1981 has been subject to a number of amendments, the most important of which are through the Countryside and Rights of Way (CROW) Act (2000).

Other legislative Acts affording protection to wildlife and their habitats include:

- Deer Act 1991
- Natural Environment & Rural Communities (NERC) Act 2006
- Protection of Badgers Act 1992
- Wild Mammals (Protection) Act 1996

Amphibians and Reptiles

The sand lizard *Lacerta agilis*, smooth snake *Coronella austriaca*, natterjack toad *Epidalea calamita*, pool frog *Pelophylax lessonae* and great crested newt *Triturus cristatus* receive full protection under Habitats Regulations through their inclusion on Schedule 2. Regulation 41 prohibits:

- Deliberate killing, injuring or capturing of Schedule 2 species
- Deliberate disturbance of species in such a way as:
 - To impair their ability to survive, breed, or reproduce, or to rear or nurture young;
 - To impair their ability to hibernate or migrate
 - To affect significantly the local distribution or abundance of the species
- Damage or destruction of a breeding site or resting place

With the exception of the pool frog, these species are also listed on Schedule 5 of the WCA and they are additionally protected from:

- Intentional or reckless disturbance (at any level)
- Intentional or reckless obstruction of access to any place of shelter or protection
- Selling, offering or exposing for sale, possession or transporting for purpose of sale.

Other native species of reptiles are protected solely under Schedule 5, Section 9(1) & (5) of the WCA, i.e. the adder *Vipera berus*, grass snake *Natrix natrix*, common lizard *Zootoca vivipara* and slow-worm *Anguis fragilis*. It is prohibited to:

- Intentionally or recklessly kill or injure these species.

Effects on development works:

A European Protected Species Licence (EPSL) issued by the relevant countryside agency (i.e. Natural England, Natural Resources Wales, Scottish Natural Heritage) will be required for works likely to affect the breeding sites or resting places amphibian and reptile species protected under Habitats Regulations. A licence will also be required for operations liable to result in a level of disturbance which might impair their ability to undertake those activities mentioned above (e.g. survive, breed, rear young and hibernate). The licences are to allow derogation from the relevant legislation, but also to enable appropriate mitigation measures to be put in place and their efficacy to be monitored.

Although not licensable, appropriate mitigation measures may also be required to prevent the intentional killing or injury of adder, grass snake, common lizard and slow worm, thus avoiding contravention of the WCA.

NATIONAL PLANNING POLICY (WALES)

Environment (Wales) Act 2016 and the Biodiversity Duty

The Environment (Wales) Act 2016 introduces a new biodiversity duty, which highlights biodiversity as an essential component of ecosystem resilience. This new duty replaces the biodiversity duty in the Natural Environment and Rural Communities Act 2006 (referred to as the NERC Act). Part 1 of the Act deals with Sustainable management of natural resources including Biodiversity and Resilience of Ecosystems Duty. The Environment Act enhances the current NERC Act duty to require all public authorities, when carrying out their functions in Wales, to seek to “maintain and enhance biodiversity” where it is within the proper exercise of their functions. In doing so, public authorities must also seek to “promote the resilience of ecosystems”. As under the NERC Act the new duty will apply to a range of public authorities such as the Welsh Ministers, local authorities, public bodies and statutory undertakers. This ensures that biodiversity is an integral part of the decisions that public authorities take in relation to Wales. It also links biodiversity with the long-term health and functioning of our ecosystems, therefore helping to align the biodiversity duty with the framework for sustainable natural resource management provided in the Act.

Planning Policy Wales (2021)

Paragraph 6.4.3 of the document refers to Biodiversity and Ecological Networks and states:

The planning system has a key role to play in helping to reverse the decline in biodiversity and increasing the resilience of ecosystems, at various scales, by ensuring appropriate mechanisms are in place to both protect against loss and to secure enhancement. Addressing the consequences of climate change should be a central part of any measures to conserve biodiversity and the resilience of ecosystems. Information contained in SoNaRR, Area Statements and species records from Local Environmental Record Centres should be taken into account. Development plan strategies, policies and development proposals must consider the need to:

- support the conservation of biodiversity, in particular the conservation of wildlife and habitats;
- ensure action in Wales contributes to meeting international responsibilities and obligations for biodiversity and habitats;
- ensure statutorily and non-statutorily designated sites are properly protected and managed;
- safeguard protected and priority species and existing biodiversity assets from impacts which directly affect their nature conservation interests and compromise the resilience of ecological networks and the components which underpin them, such as water and soil, including peat; and
- secure enhancement of and improvements to ecosystem resilience by improving diversity, condition, extent and connectivity of ecological networks.

Biodiversity and Resilience of Ecosystems Duty (Section 6 Duty)

Planning authorities must seek to maintain and enhance biodiversity in the exercise of their functions. Planning authorities must also take account of and promote the resilience of ecosystems, in particular the following aspects:

- a) Diversity between and within ecosystems;
- b) The connections between and within ecosystems;
- c) The scale of ecosystems;
- d) The condition of ecosystems (including their structure and functioning); and
- e) The adaptability of ecosystems.

In fulfilling this duty, planning authorities must have regard to:

- a) The list of habitats of principal importance for Wales, published under Section 7 of the Environment (Wales) Act 2016;
- b) The State of Natural Resources Report (SoNaRR), published by NRW; and
- c) Any Area Statement that covers all or part of the area in which the authority exercises its functions.

Planning Authorities should also refer to up to date ecological survey information (where appropriate).

A proactive approach towards facilitating the delivery of biodiversity and resilience outcomes should be taken by all those participating in the planning process. In particular, planning authorities should demonstrate that they have sought to fulfil the duties and requirements of Section 6 of the Environment Act by taking all reasonable steps to maintain and enhance biodiversity in the exercise of their functions.

The broad framework for implementing the duty and building resilience through the planning system includes addressing:

- Diversity: to ensure mechanisms are in place to minimise further loss and that circumstances allow for species' populations to expand and recolonise their natural range (former range) or adapt to future change. This means development should provide a net benefit for biodiversity, and at the very least, with no significant loss of habitats or populations of species, locally or nationally and must provide a net benefit for biodiversity;

- **Extent:** to ensure mechanisms allow for the maintenance of existing assets and networks and promote the restoration of damaged, modified or potential habitat and the creation of new habitat. This means that planning choices should incorporate measures which seek the creation and restoration of green networks and linkages between habitats and maintaining and enhancing other green infrastructure features and networks;
- **Condition:** Ecosystems need to be in a healthy condition to function effectively, to deliver a range of important ecosystem services. Planning decisions should not compromise the condition of ecosystems. By taking an integrated approach to development, for example, which considers both direct and wider impacts and benefits it should be possible to make a positive contribution. Planning for the long term management of retained habitats is key to maintaining condition through for example, the use of planning obligations;
- **Connectivity:** to take opportunities to develop functional habitat and ecological networks within and between ecosystems and across landscapes, building on existing connectivity and quality and encouraging habitat creation, restoration and appropriate management. The opportunities could include enlarging habitat areas, developing buffers around designated sites or other biodiversity assets or corridors, including transport and river corridors, and the creation of 'stepping stones' which will strengthen the ability of habitats and ecological networks to adapt to change, including climate change; and
- **Adaptability to change:** primarily in the form of climate change, for both species (diversity) and ecosystems requires action to protect the extent, condition and connectivity of habitats, features and ecological networks. Development plans, planning proposals and applications which build on protecting designated sites and securing and enhancing green infrastructure will be key ways of addressing the attributes of ecosystems resilience identified in the Environment Act as well as facilitating social and economic resilience aspirations of the Well-being of Future Generations Act.

LOCAL PLANNING POLICY

Wrexham Unitary Development Plan (2005)

Accessed via: <https://www.wrexham.gov.uk/sites/default/files/2020-05/udp-statement.pdf>

Policy PS11

Encouragement will be given to proposals which improve the biodiversity value of sites and to the establishment of local nature reserves where the nature conservation and landscape interest of the land will be protected and enhanced.

Policy EC4

Development proposals should provide for the conservation and management of hedgerows, trees, orchards, woodland, wildlife and other natural landscape and water features, and include new planting in order to enhance the character of the landscape and townscape. Development which results in the loss or significant damage to valuable trees, important hedgerows or ancient woodland sites will not be permitted.

Policy EC6

Development either within or close to sites of biodiversity interest will only be permitted where it can be clearly demonstrated that the need for the development outweighs the need to safeguard the intrinsic nature conservation value of the site. Where such development is permitted, damage should be kept to a minimum, and compensatory measures should be provided. Measures to improve the biodiversity value of sites and enhance their natural conservation interest and landscape quality including the establishment of local nature reserves, will be supported.