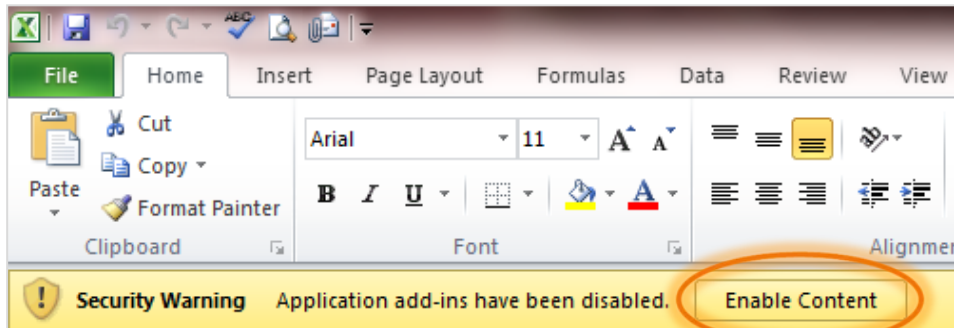


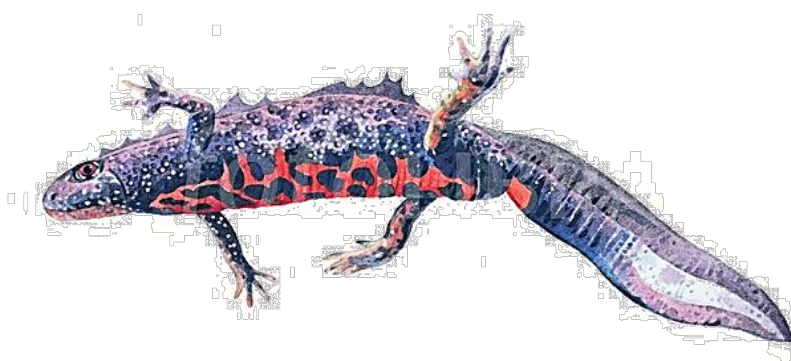
Great Crested Newt Method Statement for EPS licence application

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Template for Method Statement to support application for licence under Regulation 53(2)e of The Conservation of Habitats and Species Regulations 2010 (as amended) in respect of great crested newts *Triturus cristatus*. Form WML-A14-2 (Version December 2015)

Instructions for completion of Method Statement template

Introduction

This template is designed to make the process easier for applicants, by providing standard responses where possible and by indicating optional and mandatory fields, plus making clear the level and type of information required. It will also facilitate assessment of applications, as information will be presented in a standard way.

The Macros in this workbook enable the rows to expand with the text where this is indicated, but will require the users to hit enter to leave each cell, to avoid harmless error messages appearing on screen and to ensure that the text can be seen. Please retain page scaling at 130% to avoid the text becoming obscured.

This spreadsheet has two main sections: Instructions and advice, and the Method Statement template itself. The instructions should help you complete the Method Statement, as well as providing advice on some common areas of confusion in mitigation. These are designed to assist you in deciding whether to apply for a licence, and if you do, what kind of survey and mitigation should be proposed. Note: that this is offered as general advice and in the event of any enforcement investigation the original legislation must be referred to.

Entering information into the template

	(Pale red) Indicates mandatory fields
	(Pale green; dashed outline except in some tables) Indicates fields that are either optional or will be necessary in some cases depending on the circumstances. In many cases it is helpful to fill in green fields to provide more detail. Where the spreadsheet can detect a necessary field from data you have already given, a green field will turn red. It is your responsibility to ensure any necessary information is included.
	(Pale blue) Indicates a field that is automatically completed by the spreadsheet, based on data you have entered.
IMPORTANT: Only enter data in pale red or pale green fields. Do not enter or alter any data in other coloured fields, including whitespace, as this may affect spreadsheet function. Please do not re-format text, except to underline or make 'bold' any changes if you are submitting an amendment.	

It is your responsibility to ensure the completed template provides all information necessary for licence determination. Although we have tried to make the template as helpful as possible, some features may not be suitable for accepting the information for your scheme, and occasionally the automatic spreadsheet coding may produce unusual results. **If this happens you must take care to explain the scheme on additional sheets, and not rely on the standard responses or automatic spreadsheet coding.** It will not be acceptable to submit a Method Statement that provides misleading or incomplete information, and attribute such shortcomings to the template format.

Fill in the spreadsheet in order, as some data you enter is used in subsequent calculations or Please be concise with your descriptions and keep information only to what is required. Several questions have standard responses suitable for a maximum of 10 ponds; should your scheme involve >10 ponds provision for additional data is included in the [Additional Records tab](#).

Viewing: You may find it helpful to **zoom in and out by scrolling your mouse wheel while holding down CTRL (or View > Zoom).** Sometimes parts of a text box can appear "cut off", depending on your computer set-up. Zooming in or out may help, and all the text should be readable if you click inside the box.

Printing: To print the whole spreadsheet: *File > Print... > Print what > Entire workbook*. To print selected worksheets only, select the appropriate tabs (use shift to select a continuous range, and CTRL for non-adjacent worksheets), then *File > Print > Print what > Active sheet(s)*. Please print on both sides.

Method Statement structure

The Method Statement is divided into two sections:

(I) Background and supporting information (worksheets with lavender-coloured tabs)

(II) Delivery information (worksheets with blue-coloured tabs)

Within each section, there are subdivisions, e.g. for survey, impact assessment, etc. For modifications to projects already licensed (non-annexed or where significant changes are proposed), or re-submissions following a Further Information Request response, when submitting a hard or an electronic copy it will currently be necessary to re-submit the document in its entirety detailing where changes have been made. If submitting re-submissions or new applications electronically, send the whole template file (plus maps and appendices) because attempting to extract worksheets will cause coding problems; in any case it is no additional effort to send the whole file. See website below for current instructions on the format of licence application submission.

Important notes on technical mitigation issues

Use the *Great crested newt mitigation guidelines* (English Nature, 2001) and information on .GOV.UK here: <https://www.gov.uk/guidance/great-crested-newts-surveys-and-mitigation-for-development-projects>

This template is designed to record licence application data for a range of common development scenarios. However, this does not restrict the use of novel mitigation practice, where this is appropriate. If you wish to employ a method, approach or level of effort that deviates from the standard recommendations in the guidelines, you must point this out, and provide either: (a) direct evidence from other projects or research that it is likely to be effective; or, if no direct evidence is available (b) a sound rationale for why you think it is appropriate and likely to be effective.

Note that applications that involve reductions compared to standard recommendations (e.g. reduced capture effort or habitat provisions) may only be acceptable if you provide clear logistical and ecological reasons.

Notes on licence assessment

"Development" in this Method Statement means an activity that you believe to meet the requirements of Regulation 53(2)(e). It does not refer solely to construction-related activity.

This Method Statement is the evidence on which you must demonstrate compliance with Regulation 53(9)(b) (the "favourable conservation status test"). The "no satisfactory alternative" and "purpose" tests are assessed using other criteria.

"Pond" in this Method Statement means any waterbody that is likely to be used by GCN for foraging, resting or breeding.

Application tools

- [Do I need a licence? - rapid risk assessment](#)
- [Conversions](#)
- [Non-licensed avoidance measures](#)
- [Survey data - what kind, how much, how old?](#)
- [Measuring turbidity and vegetation cover](#)
- [Use of Habitat Suitability Index Scores](#)
- [Post development monitoring, advice and guidance](#)
- [References](#)

(1) "Do I need a licence?" - rapid risk assessment

Background

In recent years there has been a trend towards increasingly precautionary applications, resulting from a risk-averse approach to mitigation. Whilst considering potential risks to great crested newts is laudable, many recent mitigation schemes were designed for developments that actually had very little or no effect on the newt population. In part this is because it can be difficult to assess whether newts will be affected by certain activities, especially when they take place at some distance from breeding ponds. Newts tend to be present at increasingly low density the further one looks from ponds, and the task of detecting and capturing them becomes more problematic. Further from ponds, there is a corresponding reduction in the scale of impact on populations. Given that great crested newts can disperse over 1km from breeding ponds, the potential for offences may seem vast, yet the probability of an offence outside the core breeding and resting area is often rather small, and even if an offence takes place, the effect on the population may be negligible.

Natural England is concerned about the trend for increasingly risk-averse mitigation for several reasons. Primarily, there is no legal need, and little benefit to great crested newt conservation, in undertaking mitigation where there are no offences through development. Even where there technically is an offence, such as the destruction of a small, distant area of resting place habitat, it is arguable that impacts beyond the core area often have little or no tangible impact on the viability of populations. Mitigation in such circumstances is of questionable value in conservation terms. There are, however, substantial costs: developers delay projects and spend large sums on mitigation. Sometimes the mitigation project itself has environmental costs, especially when it entails substantial lengths of newt fencing. In some cases long newt fences are employed with no justification. Natural England wishes to see newt fencing used more appropriately, i.e. only where there is a reasonable risk of capturing, containing and/or excluding newts.

Natural England recognises that the two key factors leading consultants to adopt this risk-averse approach are: (a) uncertainty over the presence of newts and whether there will be an offence in areas distant from ponds; (b) undertaking mitigation under licence "just in case", so that there is no perceived risk of litigation for their client. Natural England wishes to see mitigation planning shift away from such a highly risk-averse starting point. The domestic legislation protecting great crested newts arises largely from the Habitats Directive, which has a central aim to restore scheduled species to a favourable conservation status. A more proportionate approach to mitigation, addressing tangible impacts on populations whilst giving lower priority to negligible effects, is consistent with the aims of the Directive. The loss of the "incidental result" defence from the legislation may create a tension with this approach, but it is hoped that the guidance here will assist.

Method Statement

This simple risk assessment can inform the decision as to whether to apply for a licence. It remains the responsibility of the developer - normally acting through their consultant - to decide whether to apply. Early consideration of options can often result in no licence being required - see **Non-licensed avoidance measures** tool, later in the Instructions section. A sound survey and careful comparison with development plans will often be the best guide to whether a licence should be obtained.

Guidance on use

The rapid risk assessment is done by **completing the table later in the instruction section**. Consider the impacts of the development **without any licensed mitigation**. For each "component", select a likely effect from the drop-down menu. It may help to produce a map of the land marked with 100m and 250m radii around each great crested newt breeding pond, overlaid with the development boundary. The land categories refer to all land, not just that used by newts. N.B. this risk assessment is not part of your application, and there is no obligation to use it; it is a tool to help you decide whether to apply for a licence.

Each effect is assigned a notional probability of leading to an offence. Note that these are purely notional for the purpose of this generic assessment, and should not be taken as definitive in a given real case. The score takes into account that some activities (e.g. killing newts) are not entirely predictable. The maximum notional probability is then used to derive a conclusion, which is displayed as red (probability ≥ 0.65), amber (0.3-0.65) or green (<0.3) in the "risk assessment result" box. Further information on interpreting the result is given below the table. Following this, you may wish to amend details of the development, and include additional precautions (see tool later in instructions), in order to avoid impacts on newts. You can then re-select the likely effects, to re-calculate the assessment based on the modified development, in order to see whether the risk has been reduced further. This process is in line with the general approach of avoiding offences wherever possible.

*Remember you should enter the likely effects as if the development were to proceed **without any licensed mitigation** - i.e. no trapping or fencing, etc. This may mean, for instance, that killing newts is likely as the development would destroy areas they use (though we have taken into account in the probability score that it is often uncertain as to whether newts would be killed by development in a given location away from ponds). You should **consider likely effects after taking any appropriate unlicensed precautions to reduce risks** - e.g. groundworks during daylight only. Further guidance on this is given in the **Non-licensed avoidance measures** tool, later in the Instructions section.*

Caveats and limitations

This risk assessment tool has been developed as a general guide only, and it is inevitably rather simplistic. It has been generated by examining where impacts occurred in past mitigation projects, alongside recent research on newt ecology. It is not a substitute for a site-specific risk assessment informed by survey. In particular, the following factors are not included for sake of simplicity, though they will often have an important role in determining whether an offence would occur: population size, terrestrial habitat quality, presence of dispersal barriers, timing and duration of works, detailed layout of development in relation to newt resting and dispersal. The following factors could increase the risk of committing an offence: large population size, high pond density, good terrestrial habitat, low pre-existing habitat fragmentation, large development footprint, long construction period. The following factors could decrease the risk: small population size, low pond density, poor terrestrial habitat, substantial pre-existing dispersal barriers, small development footprint, short construction period. You should bear these mitigating and aggravating factors in mind when considering risk.

It is critical that, even if you decide not to apply for a licence, you ensure that any development takes account of potential newt dispersal. Where great crested newts are present, landuse in that area must ensure there is adequate connectivity. Retaining and improving connectivity will often involve no licensable activities.

Component	Likely effect (select one for each component; select the most harmful option if more than one is likely; lists are in order of harm, top to bottom)	Notional offence probability
Great crested newt breeding pond(s)	No effect	0
Land within 100m of any breeding pond(s)	No effect	0
Land 100-250m from any breeding pond(s)	No effect	0
Land >250m from any breeding pond(s)	No effect	0
Individual great crested newts	No effect	0
	Maximum:	0
Rapid risk assessment result:	GREEN: OFFENCE HIGHLY UNLIKELY	

Guidance on risk assessment result categories

"Green: offence highly unlikely" indicates that the development activities are of such a type, scale and location that it is highly unlikely any offence would be committed should the development proceed. Therefore, no licence would be required. However, bearing in mind that this is a generic assessment, you should carefully examine your specific plans to ensure this is a sound conclusion, and take precautions (see **Non-licensed avoidance measures tool**) to avoid offences if appropriate. It is likely that any residual offences would have negligible impact on conservation status, and enforcement of such breaches is unlikely to be in the public interest.

"Amber: offence likely" indicates that the development activities are of such a type, scale and location that an offence is likely. In this case, the best option is to redesign the development (location, layout, methods, duration or timing; see **Non-licensed avoidance measures tool**) so that the effects are minimised. You can do this and then re-run the risk assessment to test whether the result changes, or preferably run your own detailed site-specific assessment. Bear in mind that this generic risk assessment will over- or under-estimate some risks because it cannot take into account site-specific details, as mentioned in caveats above. In particular, the exact location of the development in relation to resting places, dispersal areas and barriers should be critically examined. Once you have amended the scheme you will need to decide if a licence is required; this should be done if on balance you believe an offence is reasonably likely.

"Red: offence highly likely" indicates that the development activities are of such a type, scale and location that an offence is highly likely. In this case, you should attempt to re-design the development location, layout, timing, methods or duration in order to avoid impacts (see **Non-licensed avoidance measures tool**), and re-run the risk assessment. You may also wish to run a site-specific risk assessment to check that this is a valid conclusion. If you cannot avoid the offences, then a licence should be applied for.

(2) Conversions

[Return to Impact assessments](#)

All area figures in this Method Statement template should be entered in hectares, to allow consistent calculations. Some ecologists prefer to work in m², especially for smaller figures such as pond surface areas. Use this tool to easily convert between the two units.

Enter area in m²: = ha

Enter area in ha: = m²

(3) Non-licensed avoidance measures

Background

Licensable activities should ideally be designed out of developments during the early planning stages. This should result in avoiding harm to great crested newt populations, and can save developers the time and expense of licensed mitigation measures. Many potentially licensable activities can in fact be avoided by careful planning of the development combined with simple precautionary measures. In many cases, adopting such an approach may mean that no licence is required (as no offence would be committed). Even when a licence is applied for because you decide an offence is likely, such measures can still be employed to reduce the level of harm to newt populations. This application tool helps you to plan non-licensed avoidance measures for common development scenarios. You may also use them in licensed projects to reduce impacts.

Guidance on use, caveats and limitations

Check the list below for suggestions for avoiding impacts that might be appropriate for your project. You can use this in combination with the "Do I need a licence? Rapid risk assessment" tool to help you plan mitigation and decide on whether to apply for a licence. For schemes that cover a large area, you might use these tools to decide that only part(s) of the development should be subject to a licence. This section is based on an examination of approaches considered in recent projects, and is obviously generic. The suggestions may not be appropriate for your particular development, or may require fine-tuning to be helpful. Neither are they exhaustive: **we encourage you to develop your own ideas and let us know** so that we can include them in future guidance.

If you determine that no offences would be committed and therefore decide not to apply for a licence, it may be useful to keep a copy of the decision-making steps, and any precautions that will be taken. In some cases these might form the basis of a non-licensed method statement, to help a developer and their contractors understand how to carry out works with a minimal risk of breaching the law. If soundly produced, this might act as an audit trail and a "defence" in the event of any future queries about the development's effects on newts. Similarly, if you use these tools to determine that only part(s) of the development area should be subject to a licence, then it is helpful to include this rationale in the licence application, so that we can see why and how you have included and excluded particular areas in the licensed work.

Project element	Suggestions for avoidance measures
Location & layout	(a) Locate site as far as possible from potential breeding ponds and high quality terrestrial habitat. (b) Locate in areas subject to high pre-existing fragmentation. (c) Locate on hard, compacted ground with few fissures. (d) Design layout so that any hard landscaping is as far as possible from ponds, with retained habitat and soft landscaping toward ponds.
Timing & duration	(a) Restricting works to the winter period (when newts are rarely active above ground) is sensible if the project would not harm hibernation habitat. Projects with temporary habitat disruption and reinstatement, such as some pipelines, could potentially be carried out without any licensable activity in this way. (b) Keep duration of groundworks as short as possible. (c) Undertake during the day works that might only affect newts above ground.
Construction methods and special precautions	(a) Backfill trenches and other excavations before nightfall, or leave a ramp to allow newts to easily exit. (b) Raise stored materials (that might act as temporary resting places) off the ground, e.g. on pallets. (c) For pipelines, use directional drilling to cross areas of core habitat and dispersal routes. (d) Avoid installing structures that act as barriers close to ponds, or include gaps at ground level where walls or fences are unavoidable.

(4): Survey data - what kind, how much, how old?

Background

Survey data are essential for any mitigation licence application. Consultants frequently seek advice on requirements for the level of effort, type of survey and age of survey data. The answer to this is that sufficient data need to be provided to demonstrate the level of impact on the population, plan effective mitigation, and allow an assessment of development and mitigation effects. Data requirements will be proportionate to the level of impact of the development. Clearly these will vary from case to case. *The Great crested newt mitigation guidelines and .GOV.UK*

<https://www.gov.uk/guidance/great-crested-newts-surveys-and-mitigation-for-development-projects>

provide general comments and technical advice on methods. This application tool provides further guidance to assist with planning pond survey effort and Method Statement preparation. It deals only with standard newt pond surveys and Habitat Suitability Index (HSI) assessments. Other kinds of surveys, e.g. terrestrial newt surveys, may be appropriate either as a substitute or in addition, depending on the situation.

Guidance on use, caveats and limitations

Using the **table further down the instructions section in Survey Guidance Table**, check the likely type of impact that your development would have, and then read across to see which types of surveys are indicated. The table is divided into permanent and temporary habitat loss; the latter occurs when there is rapid reinstatement to appreciably similar conditions following development (e.g. typical pipeline projects). Where both presence/absence and population size class assessment surveys are indicated, these can run together. Note that the indications in this table are meant as minimum standards, and are inevitably generic. **The circumstances of a particular scheme may indicate that more surveys are required.** For example, additional effort or other types of surveys (e.g. terrestrial dispersal survey, capture-mark-recapture [CMR]) should be done where there is a sound case. Note that **different survey types and effort may be appropriate for different ponds on (or close to) the same development site**, especially for large schemes where impacts vary across the footprint.

The figures on extent of habitat loss here do not take into account overall habitat availability. **You will need to consider the spatial layout of habitat, and in particular barriers to dispersal.** So, for example, if 0.1ha of land were to be lost at a distance of 70m from a pond, and that 0.1ha seems likely (from maps, aerial photos or a walk-over survey) to provide the majority of good quality terrestrial habitat for the nearest population, then a population size class assessment should be done (contrary to the standard recommendation in the table). Conversely, for example, if this habitat were separated by major roads and built land, you may decide that no survey is necessary as it is unlikely to be used by newts. Furthermore, this table focuses on typical habitat loss/damage, and does not take into account all possible impact types, such as disturbance only. Again the general advice is to devise surveys appropriate to the level of potential impact.

Geographical limits of survey

In keeping with a proportionate and risk-based approach, surveys need reasonable boundaries. The *Great crested newt mitigation guidelines* explain that surveys of ponds up to around 500m from the development might need to be surveyed. The decision on whether to survey depends primarily on how likely it is that the development would affect newts using those ponds. For developments resulting in permanent or temporary habitat loss at distances over 250m from the nearest pond, carefully consider whether a survey is appropriate. Surveys of land at this distance from ponds are normally appropriate when all of the following conditions are met: (a) maps, aerial photos, walk-over surveys or other data indicate that the pond(s) has potential to support a large great crested newt population, (b) the footprint contains particularly favourable habitat, especially if it constitutes the majority available locally, (c) the development would have a substantial negative effect on that habitat, and (d) there is an absence of dispersal barriers.

That is not to say that all development proposals over 250m from a pond will not require surveys. There are cases where large numbers of newts have been found at 250-500m from ponds, and so impacts are potentially significant, but such cases are rare and can often be predicted by the presence of especially favourable habitat. Developments beyond 500m from the nearest pond would very rarely merit newt surveys.

Age of survey data

Newt survey data must be sufficient to accurately reflect the status of the site at the time the licence application is submitted. The older the survey data, the more likely it is to misrepresent status, and in general you are advised to carry out surveys as close as possible to submission. The larger the predicted impacts, the more important it is to have recent data. Particular care must be taken if there have been changes to the habitats on or adjacent to the site since the last survey. A walk-over survey, at the least, should be undertaken within 3 months prior to submission to check for habitat changes since the survey was carried out. If circumstances have changed, then only those areas affected by the changes need to be re-surveyed.

Re-assessment of the impacts will need to be undertaken after any re-surveys, and this may require changes to mitigation plans. The far right column in the table gives maximum acceptable age of survey, from date undertaken to date of licence submission. Note that this **assumes no significant habitat changes on or adjacent to the site since last survey**. This must be confirmed, e.g. by walk-over survey, within 3 months prior to licence application submission. Whenever you rely on old surveys, mention their key findings in the main body of your Method Statement, and attach the full survey as an annex.

Survey guidance table

Impact type and location	Potential terrestrial habitat loss or damage (ha)	Presence/likely absence survey	Population size class assessment	HSI	Maximum age of survey data (# breeding seasons)
Permanent habitat loss or damage					
Pond(s) lost or damaged, with or without other habitat loss or damage	≥0	YES	YES	YES	2
No ponds lost or damaged, development within 50m of nearest pond	≤0.01	YES	NO	YES	3
	>0.01	YES	YES	YES	2
No ponds lost or damaged, development 50-100m from nearest pond	≤0.2	YES	NO	NO	3
	>0.2	YES	YES	YES	2
No ponds lost or damaged, development 100-250m from nearest pond	≤0.5	YES	NO	NO	4
	>0.5	YES	YES	YES	3
No ponds lost or damaged, development >250m from nearest pond (NB see notes)	≤5	YES	NO	NO	4
	>5	YES	NO	YES	3
Temporary habitat loss or damage					
Pond(s) lost or damaged, with or without other habitat loss or damage	≥0	YES	YES	YES	2
No ponds lost or damaged, development within 50m of nearest pond	≤0.05	YES	NO	YES	3
	>0.05	YES	YES	YES	3
No ponds lost or damaged, development 50-100m from nearest pond	≤0.5	YES	NO	NO	4
	>0.5	YES	YES	YES	3
No ponds lost or damaged, development >100m from nearest pond	≤5	YES	NO	NO	4
	>5	YES	NO	YES	4

Example: Survey undertaken in 2011 between April to June. Application submitted in autumn 2013 using the 2011 survey. The survey supporting the application would not suffice and the 2011 survey is actually 3 survey seasons old by autumn 2013 (i.e. 1st survey season = 2011, 2nd survey season = 2012 and 3rd survey season = 2013). If the application had been submitted in March/April or even May 2013 it may have been acceptable if fully justified why no further survey effort was required.

was required.

Measuring turbidity and vegetation cover. These factors can greatly influence survey counts, so it is important to measure them consistently. In the Method Statement, we ask you to use the following convention:

Vegetation cover score (0-5): 0 = no vegetation obscuring survey; 5 = water completely obscured by vegetation.

Turbidity score (0-5): 0 = completely clear; 5 = very turbid.

(5): Use of the great crested newt Habitat Suitability Index (HSI)

Background

The great crested newt Habitat Suitability Index (HSI) is quantitative measure of habitat quality (source: Oldham R.S., Keeble J., Swan M.J.S. & Jeffcote M. (2000). Evaluating the suitability of habitat for the Great Crested Newt (*Triturus cristatus*). Herpetological Journal 10 (4), 143-155). The HSI is number between 0 and 1, derived from an assessment of ten habitat variables known to influence the presence of newts. An HSI of 1 is optimal habitat (high probability of occurrence), while an HSI of 0 is very poor habitat (minimal probability of occurrence). The HSI is calculated on a single pond basis, but takes into account surrounding terrestrial habitat and local pond density.

Application to great crested newt mitigation

The great crested newt HSI is potentially a useful tool in survey and mitigation. One benefit is that it can be undertaken in a single field visit (with supporting desk work), and at any time of the year (though some variables are more easily measured in spring and summer). Its main uses are:

1) in **surveys**, to assess habitat quality in a repeatable, objective manner. In particular, the HSI allows individual factors that influence newt presence to be easily identified. These factors could help explain a very high or very low count. A high HSI can justify employing additional survey effort or methods if no newts are found initially.

2) in **impact assessments**, to allow a measure of how damaging a development could be. HSI might also be used as a screening tool to select no impact or minimal impact options in conjunction with (3) below.

3) in **risk assessments**, helping to decide whether an offence might be committed, and therefore whether a licence should be applied for. If a pond has a very low HSI score (say <0.5) then there would typically be a minimal chance of great crested newt presence. Hence, with due care and in limited circumstances (see also caveats below), the HSI might be used in the absence of newt survey to help conclude that an offence is highly unlikely and therefore work could proceed in that area without a licence. This application of the HSI should only be used where the predicted impacts - were newts to be present - would be low (e.g. development at least 100m from pond, permanent habitat loss <0.5ha or temporary habitat loss <5ha). The developer and consultant should realise that there would still be a risk of committing an offence, but it would typically be so low as to be negligible. Obviously, note that if HSI >0.5, this is not confirmation of newt presence; a newt survey would be required to confirm this.

4) in **habitat enhancement**, HSI could be used to identify the low-scoring factors in an existing pond that need addressing to improve its quality for newts.

5) in **post-development monitoring**, to allow an assessment of habitat condition.

HSI in licence Method Statements

Natural England recommends that consultants engaged in great crested newt mitigation familiarise themselves with the HSI by reading the original paper by Oldham et al (2000). For field use in mitigation practice, we recommend that consultants follow the slightly simplified version adapted for the National Amphibian and Reptile Recording Scheme (NARRS). A helpful guidance note has been produced by The Herpetological Conservation Trust, available to download at:

www.narrs.org.uk/documents/HSI%20guidance.pdf

The survey sections of this template include fields for entering HSI data. The preceding guidance on survey data explains when it might be used most effectively.

Caveats and limitations

The HSI is not a substitute for undertaking newt surveys; it indicates but cannot confirm presence or absence. **A licence application that infers great crested newt presence solely from HSI data (i.e. no newt survey data presented) will be rejected.** Very low HSI scores may be used along with scheme details to infer a minimal chance of committing an offence in low impact situations, as explained above. This is on a risk assessment basis and consultants should be aware of the potential hazards of this approach. Whilst current data indicate a generally good relationship, HSI scores should not be used to predict population size. Care should be taken when interpreting low HSI scores; for example, a low scoring pond close to an occupied newt pond may still support newts. Whilst appropriate for most pond types, the HSI may lead to unusual scores for some atypical types (possibly including large expanses of marshes, and complex series of depressions in quarry floors). You are asked in the form to comment on any limitations of the HSI approach in your case, and if these are serious then it may be appropriate not to calculate HSI scores.

Post development monitoring advice and guidance

Licences can only be issued where Natural England is confident there will be no detriment to maintaining the conservation status of the newt population at a favourable level, and in some cases a package of monitoring and remedial action will be required to provide that confidence.

All mitigation schemes carry a risk of failure. If mitigation measures fail, then the resulting impact on the conservation status of the newts may mean that the “Favourable Conservation Status test” (FCS test) will not have been met. This risk is greatest for activities that are judged to have a medium or high impact. Post-development monitoring has a role in providing confidence in any judgement that there will be no detriment to favourable conservation status by detecting problems that may lead to such a detrimental effect and enabling appropriate remedial action to be taken to avoid it.

Post-development monitoring will be expected for most medium and high impact cases. Monitoring and remedial action will form an important component of the mitigation package in these cases and will be a key prerequisite to an application for a mitigation licence passing the FCS test.

The success of mitigation commonly depends on measures undertaken following the main phase of construction and newt capture (e.g. Edgar, Griffiths & Foster, 2005; Lewis, Griffiths & Barrios, 2007). Deficiencies in newly created ponds are a common problem and both aquatic and terrestrial habitat features may require several years of management to achieve a high value for newts. Monitoring is necessary to inform that management. Monitoring great crested newt numbers and breeding can also be used to identify the need for action.

When assessing applications, Natural England considers whether post-development monitoring proposals, in conjunction with the other mitigation measures, will be sufficient to ensure that the FCS test will be met. The need for monitoring, and the type of monitoring required, is related to the impact of the development and the status of the great crested newt population. In this way, monitoring requirements are proportionate to the risk of potential impacts on conservation status. For developments having low impacts, monitoring will not normally be required. Developers reducing the impact of their projects will therefore benefit from having lower costs following construction. *For further details, see table below.*

Site status assessment/ population size class	Impact type and size		
	Low	Medium	High
Small population/ low	None	Presence/absence; 2	Presence/absence; 4
Medium population/	None	Pop size class	Pop size class
High population/ high	pop size class	Pop size class	Pop size class

[Return to E5.2](#)

In addition to being necessary in some cases to support a conclusion of no detriment to maintenance of favourable conservation status, data produced in accordance with monitoring conditions helps Natural England and others to assess the effectiveness of mitigation measures. This in turn can feed back into good practice, so that future mitigation can be made more effective (these improvements can also help with cost effectiveness). The UK government has a duty to report to the European Commission on derogations, and for this we rely on data collected under mitigation licences.

References

Edgar, P, Griffiths, RA & Foster, JP. 2005. Evaluation of translocation as a tool for mitigating development threats to great crested newts (*Triturus cristatus*) in England, 1990-2001, *Biological Conservation*, 122: 45-52.

Lewis, B, Griffiths, RA & Barrios, Y. 2007. Field assessment of great crested newt *Triturus cristatus* mitigation projects in England. Natural England Research Report NERR001. Natural England, Peterborough.

[Next section](#)

Additional Advice for completing the Method Statement Template

Masterplan Guidance

For phased developments you are required to submit a detailed, stand alone, Masterplan to help assess the overall impacts of the entire works on the GCN population and the future mitigation across the whole scheme. A Masterplan to support a licence application must be specific to licensing (it is not appropriate to submit planning documents). As a minimum Natural England expects the Licensing Masterplan to include:

1. A map of the overall site (i.e. the entire area the proposed development will cover) to show the terrestrial and aquatic habitat types and areas CURRENTLY present.
2. Maps showing:
 - Where each construction phase or plot is to be located and where each mitigation licence will be required within these.
 - The impacts of each phase which requires a licence (loss and damage)
 - All proposed receptor areas, habitat compensation areas (which may be discrete from the receptor areas) sites, mitigation areas and development footprints
 - Post-development connectivity across the site (i.e. how will mitigation and compensation habitats link to each other and the wider landscape)
3. The proposed phasing programme (to include information on the number of phases (i.e. which need a licence) and indicative time frames for their construction start and end dates.
4. Brief, explanatory text to describe:
 - The overall size of the site (ha) and what it currently consists of (habitat types and areas).
 - Total terrestrial habitat losses (type and areas) and those for each individual phase.
 - Total aquatic habitat losses which will be incurred and those for each individual phase.
 - The impacts caused by the phasing of the development in the absence of mitigation
 - The total terrestrial habitat compensation proposed and that for each individual phase.
 - The total aquatic habitat compensation proposed and that for each individual phase.
 - Where captured newts will be translocated during each individual phase.
 - How post-development connectivity will be maintained across the entire site.
 - How the potential for double-handling will be avoided (i.e. the recapture of newts trapped during early phases of the scheme in subsequent phases).
 - Post development monitoring (in line with recommendations in the *Great crested newt mitigation guidelines*)
5. A map to show the location and extent of all of the GCN specific habitat measures proposed.
6. A detailed Habitat Maintenance and Management Plan (specific to GCN) to describe how mitigation/compensation areas will be managed and maintained in the long term to benefit GCNs (to include the time frame that it will cover).
7. Assurance of the long term security of the GCN population and confirmation that any proposals are not left as open-ended options before the application is submitted.
8. Guarantees that proposed receptor sites will be safe-guarded and free from future development pressures.

Return to [Section B1](#)

For further info please see the archived site below:

http://webarchive.nationalarchives.gov.uk/20140605090108/http://www.naturalengland.org.uk/Images/WML-G11_tcm6-9930.pdf

in relation to the number of licences required for the development and not construction phases.

If **link does not open**, please paste this into an internet search browser:

webarchive.nationalarchives.gov.uk/20140605090108/http://www.naturalengland.org.uk/Images/WML-G11_tcm6-9930.pdf

Important notes on capture methods and effort

Pitfall trapping minimum effort

Trapping may cease once there have been 5 zero capture days in suitable conditions. These 5 zero capture days may be the last 5 of the minimum capture period, but not earlier. Note: The shortest minimum capture period listed (25 days) is only appropriate in exceptional circumstances, e.g. small population size class and minor development impacts predicted. Deviations from the recommendations within the Great crested newt mitigation guidelines should be fully explained and justified. A minimum of 25 nights trapping will be acceptable for linear developments (such as pipelines, boreholes, archaeological investigations) which incur temporary impacts only (e.g. where habitats will be fully re-instated to their previous status and no ponds will be lost or damaged).

Seasonal considerations in pitfall trapping and fence installation

Natural England advises that pitfall traps are closed once newts begin to hibernate (generally after the first frosts) and re-opened in suitable weather conditions in the spring when newts become active again above ground. Although some newts may become active during the winter period, their behaviour is unpredictable and many individuals will remain in hibernation sites, where they are unavailable for capture. Furthermore, strong directional movements, which are best for trapping, are much less common during this period. Pitfall trapping over the winter period also has welfare implications for both target and non-target species caught in traps. Any animal caught in a pitfall trap is protected under the Animal Welfare Act 2006 and the operator has a duty of care to ensure that captured animals do not endure suffering whilst in captivity. Natural England will not therefore licence the terrestrial capture of great crested newts over the winter period, even during bouts of milder weather.

For applications proposing newt capture in autumn, Natural England expects consideration to be given to the possibility that weather conditions may become unsuitable for newt capture, whereby pitfall traps must be closed and trapping re-started the following spring in suitable weather conditions. In cases such as this it is advisable for 'Work schedule E6a' to reflect possible delays and ensure it is clear that no construction works are scheduled to take place until the agreed capture effort is completed and that traps will be closed and re-opened the following spring.

Amphibian fencing should only be installed in winter if there is no risk of harming dormant or hibernating newts. For example, installing fence lines across ground with no opportunities for refuge (e.g. compacted ground, amenity grassland) pose the least risk to newts. The key point to examine is whether the fence is to be installed in an area likely to be used by wintering newts.

Night searching

(1) *Application*. This capture method is appropriate only in certain circumstances, as follows: (a) capture area within 100m of pond, unless clear resting place feature more distant and no dispersal barriers (b) newts clearly visible when above ground, i.e. even ground surface, even topography and no or very little vegetation (e.g. even quarry floors, amenity grassland, hardstanding), (c) carried out during period of reasonable dispersal, i.e. March to late June, late August to end October. It may also be used in addition to pitfall trapping, and this may increase capture rates and allow an earlier finish to capture operations.

In the following cases night searching as the *sole capture method* may be used instead of pitfall trapping: where all the conditions listed previously for applicability are met, and one of the following is the case: (a) ground conditions mean installation of pitfall traps is impractical, (b) vandalism is likely to be so severe that even with standard safeguards pitfall trapping is impractical or dangerous for the newts, (c) other site-specific rationale to believe that night searching would be more effective than trapping. In such cases night searching capture effort proposals are expected to mirror that for pitfall trapping (e.g. 30 nights night searching for a small population in suitable weather conditions and ceasing only when the above criteria have been met - see pitfall trapping minimum effort). Deviations from the mitigation guidelines recommendations should be fully explained and justified).

(2) *Method*. Drift fences erected in lengths forming rough arcs around pond, with some cross-ways lengths. Lay refuges next to fence and any likely resting place features. Searching to be done by highly experienced newt ecologist with high power torch (at least 1M cp). Search on warm nights during rain or shortly after rain. Start around 22.00 even if dark earlier. Search for approx. 3 hours (more on very large sites), repeat scanning areas to check for newts emerging from ground. Check along fence lines (first and last checks) but also search other areas. Walk slowly scanning torch in front; check refuges. Cease search if much leaf fall as this makes newts difficult to detect. Take great care to avoid stepping on newts.

Destructive searching and hand searching

These methods are only appropriate for distinct habitat features that can be carefully dismantled by hand or machine, with minimal risk of harm, and after other capture methods are expended. Examples: rubble pile, topsoil mound, patio, fractured hard-standing. Not to be used on extents of habitat such as grassland or scrub. Not to be undertaken in winter when newts are inactive or in extremely hot periods in summer; capture should only be carried out in suitable weather conditions as per the *Great crested newt mitigation guidelines*.

[Return to table E4](#)

[Next Section](#)

The Conservation of Habitats and Species Regulations 2010 (as amended)**Method Statement to support application for licence under Regulation 53(2)(e) in respect of Great crested newts *Triturus cristatus*****Section A.**

Site/project name:

Brackenhurst Campus, Brackenhurst Lane

Applicant (developer) name:

Nottingham Trent University

Named Ecologist:

Mark Woods

Is this application for a new Method Statement (not previously licensed), a modification to a licensed Method Statement (non-annexed only), or a re-submission following a "Further Information Request" notice?

Resubmission of application (not yet licensed)

If a re-submission, please give previous application reference
(eg EPSL, EPSM 20XX-3142A, 20XX XXX EPS MIT):

2016-24620-EPS_MIT

NB: For re-submissions and modifications (non-annexed) the Method Statement should be re-submitted in its entirety, including all maps, appendices, reports, etc. You must clearly show any changes from the previously submitted version by underlining relevant text (CTRL-U) or by changing the font colour.

In undertaking this mitigation project, I agree to comply with good practice as set out in the *Great crested newt mitigation guidelines (GCNMG)* (English Nature, 2001). [Note: if you do not check the box to comply with good practice your application will almost certainly be rejected. See comments on *Technical mitigation issues* in Instructions]

☒ Yes

NB: Please be concise with your information and descriptions provided within your Method Statement

Section B Introduction

You have provided a brief description of proposal in the application form, please provide the following additional background and site information.

Relationship with impacts due to other nearby development

B1.1 Is this application part of a phased/multi-plot development? See: [Advice on Masterplan guidance](#)

For example, is it part of a phased mineral extraction, housing development or one plot in a multiple ownership residential scheme?..... ☐ Yes ☒ No If No, go to Question B1.2

If yes, how many great crested newt (GCN) licences will be required?

What licence application phase is this? e.g. licence application 1 of 3.

Note: sections in this Method Statement on impact assessment and mitigation measures must explicitly relate to impacts only from the development currently proposed.

Your separate master plan document is expected to take due regard of the overall project. This is important to ensure that in-combination effects are considered, and mitigation measures across the whole project are both sufficient and coherent.

Confirm you provided:

- A Separate Masterplan document..... ☐ Yes ☐ No
- Separate Masterplan figures..... ☐ Yes ☐ No
- A Habitat Management and Maintenance Plan?... ☐ Yes ☐ No

If you have selected 'No' to any of the above questions, please explain why as these are considered necessary and important documents for determination of your application. Not to provide them is likely to result in delays to being able to determine your application whilst we come back to you for this information.

Please provide below a brief summary of how the current application relates to the larger project.

For this method statement also include a map FIG. B1.1 - [see Sum & Figs. tab.](#)

B1.2 Apart from any mentioned in B1.1, are there other GCN mitigation projects which might affect the target population? You must make reasonable efforts to establish this, including discussions with your client and the LPA.

☐ Yes

☒ No

Notes: Include any projects within 100m of site boundary, and any further away that are likely to seriously impact on the population at the site. Include current projects, any from the last 5 years, and any planned to happen within the next 5 years.

If yes, provide summary information here, including site names, dates, and - if known - licence reference No.s:

A European Protected Species Licence (EPSL) Ref: EPSM2012-4411 C, was previously obtained in relation to the library works at Brackenhurst College in 2012. Works within the current application site are in excess of

B - Background & Site Info

250m from the GCN population in relation to the 2012 works. The proposed works are localised, but the ponds that will be affected are <250m distance from the nearest breeding pond, which is in turn <250m from the next breeding pond and so on until the nearest breeding ponds to the library development. There is, therefore, a continuity of breeding habitats between the application site and the nearest breeding ponds to the library. Furthermore, the population across the campus is linked by suitable terrestrial habitat such as hedgerows that allows for dispersal between the ponds. Although the populations recorded within the ponds (that are present in the proposed development site) were low, they are considered to be part of a much larger meta-population that is present at Brackenhurst. As such, the impact on the meta-population will be considered in this method statement.

NB: Locations of other GCN sites must be shown on FIG. B1.2 - [see Sum & Figs. tab](#)

[Next Section](#)

C Survey and site assessment

C1 Pre-existing survey information on GCN at survey site (eg previous to the survey data used to inform this application)

C1.1 Indicate conclusion on newts at development site from pre-existing survey data, if any. You should make reasonable efforts to find this data, including consulting the NBN Gateway and Local Records Centres.

Pre-existing survey confirms great crested newt presence

C1.2 Age of pre-existing survey data (years between now and latest survey)

Between 1 and 3 years

C1.3 Source(s) of pre-existing survey data; also include a copy or summary in an appendix

Surveys of all ponds on the campus were completed by students and appropriately licensed staff from Nottingham Trent University during 2016 with previous survey data available since 2010. This Method Statement utilises survey data provided in Appendix 1.

C2 Status of GCNs in the local area

C2.1 Local status (within approx 10km). Note: often there will be only patchy data on newt distribution, but you may feel able to assign one of the categories below when combined with pond density figures for the local area. Note: this is only a rough measure.

Frequent - known or likely to occur at c. >5 ponds per square km

Further information on local status

Due to the historical survey data a large population of GCN is known to be present within the college campus grounds concentrated within Pond A (see Figure C3.2) approximately 347m north of the application area. A further medium sized GCN population occurs at Halloughton Village ~550m to the SW of Brackenhurst Hall. 9 of the 13 ponds (A, B, C, E, F, G, H, I, N, O, P) on the Brackenhurst Estate contain GCN. Ponds K, L and M are suitable but no GCN have been recorded to date.

C3 Recent survey (to inform this mitigation project)

C3.1 Objective of survey

To assess population size class of great crested newts in specified pond(s)

C3.2 Survey area and justification

- Clearly state which areas were surveyed...

If *Other*, please provide comments below:

Survey Area

☐ 250m

☐ 500m

☒ Other

Survey information for all of the ponds within the Brackenhurst Estate are provided, because there is suitable terrestrial habitat to enable dispersal across the estate. Beyond the estate there are no ponds within 500m of the development site.

- Select which ponds were surveyed.....

If *Other*, please provide comments below:

Ponds Surveyed

☒ All Ponds

☐ Some Ponds

☐ Other

- Provide justification for the area surveyed (whether 250m or 500m of the site)

All of the ponds within the estate are included, because they have been routinely surveyed since 2000 in order to study the distribution of the GCN meta-population and rates of colonisation following pond restoration / conservation work (since 1995) and since 2000, following the creation of 3-10m wide arable margins (grass strips). There are no known ponds within 500m of the development site that are located outside of the Brackenhurst Estate.

NB: to accompany the survey section you must identify the survey area and all ponds within that area, indicating those surveyed from those not surveyed, on FIG. C3.2(a) and the 250m and 500m radii limits around the development boundary. An aerial photograph of the site and surrounding area is also useful.

Please label as FIG. C3.2(b) if included. [See Sum & Figs. tab.](#)

C3.3 Habitat description: waterbodies

C - Survey Info

C3.3i Briefly describe all waterbodies within your survey area. Please provide only a short text description, e.g. "Pond 1 is a small garden pond in the northwest of the site. Pond 2 is a marl pit pond in the centre of the site". Include pond references (names). Do not include Habitat Suitability Index (HSI) data here; this is to be added later in the Method Statement.

Pond ref	Description
J	85m ² , oval-shaped pond is clay lined within a corner of parkland surrounded by tall-herb, scrub and hedgerows. Emergent and submerged vegetation present
N	Small shallow duck pond approximately 7 x 5m surrounded by short grazing pasture and lacking any
O	Small plastic-lined, oval pond approximately 9m ² surrounded by amenity grassland. A few shoots of
A	1000m ² Dew pond in formal gardens, 1.25m deep, artificially lined with native emergent and submerged vegetation, main breeding pond for GCN
B	6m ² semi-circular, ornamental and stone-lined pond in a formal garden setting, <50cm deep, used for breeding by GCN, no vegetation so artificial substrates (stripped bin bags) added each year
C	A circular stone lined pond <1m ³ volume in a sunken patio surrounded by paving stones, formerly a receptacle for rainwater from the hall roof, which fed into Pond A. Submerged vegetation added for GCN (used for breeding)
D	3m x 1.5m rectangular, stone lined pond in a sunken patio surrounded by paving stones. No vegetation and contained goldfish for over 15 years
E	100m ² pond in formal gardens, 1m deep, artificially lined with native emergent and submerged vegetation, close to ivy covered gabions and rough grassland below woodland canopy
F	100m ² attenuation pond, rectangular, clay-lined, steep sided, surrounded by scrub and tall-herb, 0.5-1m deep (variable), with native emergent vegetation
G, H, I	Three ponds next to each other, oval, ~100m ² and 0.5-0.75m deep, clay-lined with emergent and submerged vegetation surrounded by rough unmanaged grassland and flanked by a hawthorn hedgerow and parkland. Created for loss of small garden ponds during 2002 development of former horticultural unit

Add further records to the [Additional Records tab](#).

C3.3.ii Waterbodies: distance from development site boundary and other ponds.

Provide distance (to the nearest 10m) from the development site boundary for each pond within the survey area. If pond is on site, enter "0". If a pond on site or close to the development was not surveyed for GCNs, still give the distance, and provide reason for not surveying.

Pond ref	Distance (m)	Surveyed or not?	If selected 'No- other reason' explain below
J	165	Yes	
N	5	Yes	
O	0	Yes	
	420	Yes	
	570	Yes	
	480	Yes	
	480	Yes	
	600	Yes	
	650	Yes	
	380	Yes	

Add more records here [Additional records page](#)

C3.4 Habitat description: terrestrial habitats.

What is the total area (ha) of the development site?

0.17

- Please provide a broad breakdown (ha and habitat type) of terrestrial habitat present on the development site. **Note** that this total should be the same as the area included above.
- Also, briefly describe the terrestrial habitats present on adjacent areas likely to support GCNs. If there is no defined boundary to development site, please explain the habitats affected by the works and within the surrounding area.
- The habitats described in this section should be clearly shown and identified on Figure C3 2(a)

C - Survey Info

The habitats described in this section should be clearly shown and identified on Figure C3.2(a)

On-Site Habitats (Area A): The development redline boundary area (0.106ha) predominantly consists of species-poor semi-improved grazed grassland (0.075ha) and pond N, which measures 7m x 5m and is used by geese. Next to pond N is a trough that fills with water after rainfall and gradually disappears, this is pond P. Ponds N & P are 165m distance from Pond J and between the land is a mix of bare ground and short, improved pasture grassland enclosed on three sides by species-rich hedgerows. The grassland on site offers negligible shelter / resting places and, given its use, offers a limited resource for foraging and commuting. The bare ground offers no functional value to GCN other than that it occurs within the immediate zone. The hedgerows provide suitable terrestrial habitat for foraging, resting and dispersal. **Area B:** This area measures ~0.064ha and comprises amenity grassland (0.052ha), grazing pasture (0.011ha) and plastic-lined pond O (0.0001ha). The grassland on site offers negligible shelter / resting places for GCN and only offers a limited resource for foraging and commuting. To the east of the grassland there is a poplar plantation and a short section of hawthorn hedgerow that is suitable terrestrial habitat for GCN. **Off-site Habitats (Area A):** Habitats immediately east comprise college buildings and hard-standing; short grazed horse pasture and events fields are situated immediately north and west enclosed by species-rich hedgerows; land to the south includes short, improved grassland paddocks and a lunging paddock surrounded by fences, and arable farmland is present further to the south beyond the paddocks. **Area B:** Hard-standing, domestic and college buildings are present immediately north dividing this area from area A; arable land adjoins to the south and short, improved grassland paddocks are present to the west; a strip of unmanged grassland and a poplar plantation is situated to the east alongside a gravel access track.

NB: Photographs showing the habitats on site should be provided - FIG. C3.4

[see Sum & Figs. tab](#)

C3.5 Waterbodies: quantitative assessment.

A Habitat Suitability Index (HSI) score should be calculated for each pond that would be subject to activities likely to result in adverse impacts on the local GCN population. See guidance in the Instructions section (Survey data and HSI tabs). It is not required for ponds subject to low impacts, though can be entered if you wish; this may be useful, for example, to provide objective evidence that the population affected is likely to be small.

In the boxes below, enter the Pond reference (or name) then the SI scores. The spreadsheet will automatically calculate the HSI. It is expected that, for each HSI, all ten SI scores should be entered in most cases. If you did not calculate a particular SI score, leave blank (**do not** enter "0"). If more than two variables are missing, the HSI should be treated as provisional and you should comment on this below. If more than 10 waterbodies need HSI scores, include additional information in an appendix, in the same format as below.

Date HSI assessment undertaken	25/05/2016	25/05/2016	25/05/2016		
Pond ref	J	N	O	A	B
SI1 - Location	1	1	1	1	1
SI2 - Pond area	0.1	0.1	0.1	0.95	0.05
SI3 - Pond drying	0.5	0.1	0.5	0.9	0.9
SI4 - Water quality	0.67	0.33	0.67	1	0.67
SI4 - Shade	0.7	1	1	1	1
SI6 - Fowl	0.67	0.01	0.67	0.67	1
SI7 - Fish	1	1	1	1	1
SI8 - Ponds	1	1	1	1	1
SI9 - Terr'l habitat	1	0.33	0.67	1	0.67
SI10 - Macrophytes	0.8	0.3	0.3	0.4	0.85
HSI	0.65	0.28	0.58	0.86	0.67

Date HSI assessment undertaken					
Pond ref	C	D	E	F	G, H, I
SI1 - Location	1	1	1	1	1
SI2 - Pond area	0.05	0.05	0.05	0.05	0.1

C - Survey Info

SI3 - Pond drying	0.9	0.9	0.9	0.8	0.9
SI4 - Water quality	0.67	0.67	1	0.67	0.67
SI4 - Shade	1	1	1	0.8	1
SI6 - Fowl	1	1	0.67	1	1
SI7 - Fish	1	0.01	1	1	1
SI8 - Ponds	1	1	1	1	1
SI9 - Terr'l habitat	0.67	1	1	1	0.67
SI10 - Macrophytes	0.85	0.3	0.5	0.6	0.6
HSI	0.67	0.39	0.66	0.65	0.69

Add more records here [Additional records](#) page

Please comment and describe any constraints on HSI data if appropriate. If ponds did not under go a HSI assessment please also explain why:

The above HSI data was obtained by a GCN licence holder at FPCR or students under the guidance of a

C4 Amphibian survey

C4.1 Terrestrial amphibian survey

Was a terrestrial survey undertaken?..... ☐ Yes ☒ No

If no, proceed to next section.

Objective of terrestrial survey:

Which area was surveyed for terrestrial amphibians?

Explain terrestrial survey area(s). Also mark on map, and give map reference here:

Applicants must ensure they retain or have access to the records set out in the technical advice note, and used to support the licence application, for at least 12 months after the first licence return (dates for which will be set out in any licence granted).

Fill in the boxes to show methods, timing, effort and results:

Survey start date: Survey end date:

Method:	Refuge search	Pitfall	Night search	Other**
Effort				
No. of newts*				
Total newts:	0			

Metamorphs and immatures as percentage of total catch:

*for this section, "no. of newts" refers more accurately to "no. of newt observations", as individuals are not distinguished in typical surveys. If you have individual newt data, state below.

Comments on results, e.g. ** if an 'other' method was used please explain what this was, favoured areas, migration route, juvenile dispersal route. Also mark observations and locations newts found on a map, and give map reference here:

C4.2 Aquatic surveys for presence / absence using eDNA.

A. Have you used eDNA to determine GCN presence?

☐ Yes

☒ No

B. If yes, please confirm the following:

i. The Defra [technical advice note](#) has been strictly followed -

☐ Yes

☐ No

If no, the results will not be accepted.

Applicants must ensure they retain or have access to the records set out in the technical advice note, and used to support the licence application, for at least 12 months after the first licence return (dates for which will be set out in any licence granted).

ii. Natural England's published timeframes for taking eDNA samples has been adhered to -

☐ Yes

☐ No

If no, please explain why.

iii. Confirm only licensed GCN surveyors, or suitably trained and competent Accredited Agents (see below table) have taken the eDNA samples to support this licence application. Provide their names and licence references below.

☐ Yes

☐ No

Pond ref	GCN Surveyor / Accredited Agent	Licence Reference
A		
B		
C		
D		
E		
F		
G, H, I		

Add more records here [Additional records page](#)

C. Complete the following table

Pond reference	Date eDNA sample taken	Result (presence or absence)

C - Survey Info

A		
B		
C		
D		
E		
F		
G, H, I		

Add more records here [Additional records page](#)

It is only acceptable to use Accredited Agents under a GCN survey licence to collect eDNA samples if it can be demonstrated that they are adequately trained and competent in GCN ecology, conventional survey techniques, trained in the collection of eDNA samples and are experienced GCN surveyors even if they do not hold their own GCN survey licences. The named ecologist and applicant are responsible for ensuring that this condition is met.

Results of eDNA survey data must be clearly depicted on Figure C3.2a.

[Next Section](#)

Mark Woods: Brackenhurst Campus, Brackenhurst Lane

C4.3 Aquatic amphibian survey (conventional methods) - GCN results - Pond 1

Was an aquatic amphibian survey done?	Yes	If no, proceed to next section.	
Total no. of ponds surveyed:	11	If >10 ponds or >8 visits for a pond, provide further data...	See additional Survey ponds 11-20 sheet

Surveyor name(s): Dr Richard W. Yarnell 016-22351-SCI-SCI

Important. Read before completing this section: Enter GCN survey data in relevant boxes in the table below (for Pond 1) and those on subsequent sheets (for up to 9 other ponds). Enter "0" where you did a survey and found no newts; leave box blank if no survey was done. This format is designed for a typical single season survey with typical methods and effort. Explain atypical methods/effort later. For multiple year surveys, give details in annex (convert data to this format if possible). Use these tables to provide details only for the most recent season's survey. Append older survey results in full. Automatic yellow highlight indicates possible detectability problem (see Evaluation & interpretation section, later).

Pond reference (e.g. "Pond 1") - below				Method:	Torch			Bottle-trap			Net			Egg search	Larvae
Pond A					Torch power:			No. of traps used in pond:						eggs found?	larvae found?
No. of survey visits to this pond:					>= 1,000,000 cp			11-50 traps				(any method)			
Sex/life stage:				Male	Female	Imm.	Male	Female	Imm.	Male	Female	Imm.			
(1) Date:	Air temp	Veg cover	Turbidity										No		
				Adult totals:	0		0		0						
(2) Date:	Air temp	Veg cover	Turbidity										No		
				Adult totals:	0		0		0						
(3) Date:	Air temp	Veg cover	Turbidity										No		
				Adult totals:	0		0		0						
(4) Date:	Air temp	Veg cover	Turbidity										No		
				Adult totals:	0		0		0						
(5) Date:	Air temp	Veg cover	Turbidity										No		
				Adult totals:	0		0		0						
(6) Date:	Air temp	Veg cover	Turbidity										No		
				Adult totals:	0		0		0						
(7) Date:	Air temp	Veg cover	Turbidity										No		
				Adult totals:	0		0		0						
(8) Date:	Air temp	Veg cover	Turbidity										No		
				Adult totals:	0		0		0						
Peak adult count for this pond in any one visit (by torch, trap or net):							0								

Comments and constraints: Eleven Ponds surveyed in total, results for Pond A are provided in annex document 848.02_MS_annex_06092016.

Mark Woods: Brackenhurst Campus, Brackenhurst Lane

C4.3 Aquatic amphibian survey (conventional methods)- GCN results (cont - Pond 2)

NB: This page prints in landscape format

Pond reference (e.g. Pond 2)				Method:	Torch			Bottle-trap			Net			Egg search	Larvae
Pond B					Torch power:			No. of traps used in pond:						eggs found?	larvae found?
No. of survey visits to this pond:		8				>= 1,000,000 cp			1-10 traps				(any method)		
Sex/life stage:				Male	Female	Imm.	Male	Female	Imm.	Male	Female	Imm.			
(1) Date:	Air temp	Veg cover	Turbidity										Yes		
				Adult totals:	0		0		0						
(2) Date:	Air temp	Veg cover	Turbidity												
				Adult totals:	0		0		0						
(3) Date:	Air temp	Veg cover	Turbidity												
				Adult totals:	0		0		0						
(4) Date:	Air temp	Veg cover	Turbidity												
				Adult totals:	0		0		0						
(5) Date:	Air temp	Veg cover	Turbidity												
				Adult totals:	0		0		0						
(6) Date:	Air temp	Veg cover	Turbidity												
				Adult totals:	0		0		0						
(7) Date:	Air temp	Veg cover	Turbidity												
				Adult totals:	0		0		0						
(8) Date:	Air temp	Veg cover	Turbidity												
				Adult totals:	0		0		0						
Peak adult count for this pond in any one visit (by torch, trap or net):							0								

Comments and constraints: Eleven Ponds surveyed in total, results for Pond B are provided in annex document 848.02_MS_annex_06092016.

Mark Woods: Brackenhurst Campus, Brackenhurst Lane

C4.3 Aquatic amphibian survey (conventional methods) - GCN results (cont - Pond 3)

NB: This page prints in landscape format

Pond reference (e.g. Pond 3)				Method:	Torch			Bottle-trap			Net			Egg search	Larvae
Pond C					Torch power:			No. of traps used in pond:						eggs found?	larvae found?
No. of survey visits to this pond:						>= 1,000,000 cp			11-50 traps				(any method)		
Sex/life stage:				Male	Female	Imm.	Male	Female	Imm.	Male	Female	Imm.			
(1) Date:	Air temp	Veg cover	Turbidity										Yes		
				Adult totals:	0		0		0						
(2) Date:	Air temp	Veg cover	Turbidity												
				Adult totals:	0		0		0						
(3) Date:	Air temp	Veg cover	Turbidity												
				Adult totals:	0		0		0						
(4) Date:	Air temp	Veg cover	Turbidity												
				Adult totals:	0		0		0						
(5) Date:	Air temp	Veg cover	Turbidity												
				Adult totals:	0		0		0						
(6) Date:	Air temp	Veg cover	Turbidity												
				Adult totals:	0		0		0						
(7) Date:	Air temp	Veg cover	Turbidity												
				Adult totals:	0		0		0						
(8) Date:	Air temp	Veg cover	Turbidity												
				Adult totals:	0		0		0						
Peak adult count for this pond in any one visit (by torch, trap or net):								0							

Comments and constraints: Eleven Ponds surveyed in total, results for Pond C are provided in annex document 848.02_MS_annex_06092016.

Mark Woods: Brackenhurst Campus, Brackenhurst Lane

C4.3 Aquatic amphibian survey (conventional methods) - GCN results (cont - Pond 4)

NB: This page prints in landscape format

Pond reference (e.g. Pond 4)				Method:	Torch			Bottle-trap			Net			Egg search	Larvae
Pond D					Torch power:			No. of traps used in pond:						eggs found?	larvae found?
No. of survey visits to this pond:						>= 1,000,000 cp							(any method)		
Sex/life stage:				Male	Female	Imm.	Male	Female	Imm.	Male	Female	Imm.			
(1) Date:	Air temp	Veg cover	Turbidity												
				Adult totals:	0		0		0						
(2) Date:	Air temp	Veg cover	Turbidity												
				Adult totals:	0		0		0						
(3) Date:	Air temp	Veg cover	Turbidity												
				Adult totals:	0		0		0						
(4) Date:	Air temp	Veg cover	Turbidity												
				Adult totals:	0		0		0						
(5) Date:	Air temp	Veg cover	Turbidity												
				Adult totals:	0		0		0						
(6) Date:	Air temp	Veg cover	Turbidity												
				Adult totals:	0		0		0						
(7) Date:	Air temp	Veg cover	Turbidity												
				Adult totals:	0		0		0						
(8) Date:	Air temp	Veg cover	Turbidity												
				Adult totals:	0		0		0						
Peak adult count for this pond in any one visit (by torch, trap or net):								0							

Comments and constraints: Eleven Ponds surveyed in total, results for Pond D are provided in annex document 848.02_MS_annex_06092016.

Mark Woods: Brackenhurst Campus, Brackenhurst Lane

C4.3 Aquatic amphibian survey (conventional methods) - GCN results (cont - Pond 5)

NB: This page prints in landscape format

Pond reference (e.g. Pond 5)				Method:	Torch			Bottle-trap			Net			Egg search	Larvae
Pond E					Torch power:			No. of traps used in pond:						eggs found?	larvae found?
No. of survey visits to this pond:					>= 1,000,000 cp			11-50 traps				(any method)			
Sex/life stage:				Male	Female	Imm.	Male	Female	Imm.	Male	Female	Imm.			
(1) Date:	Air temp	Veg cover	Turbidity												
				Adult totals:	0		0		0						
(2) Date:	Air temp	Veg cover	Turbidity												
				Adult totals:	0		0		0						
(3) Date:	Air temp	Veg cover	Turbidity												
				Adult totals:	0		0		0						
(4) Date:	Air temp	Veg cover	Turbidity												
				Adult totals:	0		0		0						
(5) Date:	Air temp	Veg cover	Turbidity												
				Adult totals:	0		0		0						
(6) Date:	Air temp	Veg cover	Turbidity												
				Adult totals:	0		0		0						
(7) Date:	Air temp	Veg cover	Turbidity												
				Adult totals:	0		0		0						
(8) Date:	Air temp	Veg cover	Turbidity												
				Adult totals:	0		0		0						
Peak adult count for this pond in any one visit (by torch, trap or net):							0								

Comments and constraints: Eleven Ponds surveyed in total, results for Pond E are provided in annex document 848.02_MS_annex_06092016.

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C4.3 Aquatic amphibian survey (conventional methods) - GCN results (cont - Pond 6)

NB: This page prints in landscape format

Pond reference (e.g. Pond 6)				Method:	Torch			Bottle-trap			Net			Egg search	Larvae
Pond F					Torch power:			No. of traps used in pond:						eggs found?	larvae found?
No. of survey visits to this pond:					>= 1,000,000 cp			1-10 traps				(any method)			
Sex/life stage:				Male	Female	Imm.	Male	Female	Imm.	Male	Female	Imm.			
(1) Date:	Air temp	Veg cover	Turbidity												
				Adult totals:	0		0		0						
(2) Date:	Air temp	Veg cover	Turbidity												
				Adult totals:	0		0		0						
(3) Date:	Air temp	Veg cover	Turbidity												
				Adult totals:	0		0		0						
(4) Date:	Air temp	Veg cover	Turbidity												
				Adult totals:	0		0		0						
(5) Date:	Air temp	Veg cover	Turbidity												
				Adult totals:	0		0		0						
(6) Date:	Air temp	Veg cover	Turbidity												
				Adult totals:	0		0		0						
(7) Date:	Air temp	Veg cover	Turbidity												
				Adult totals:	0		0		0						
(8) Date:	Air temp	Veg cover	Turbidity												
				Adult totals:	0		0		0						
Peak adult count for this pond in any one visit (by torch, trap or net):							0								

Comments and constraints: Eleven Ponds surveyed in total, results for Pond F are provided in annex document 848.02_MS_annex_06092016.

Mark Woods: Brackenhurst Campus, Brackenhurst Lane

C4.3 Aquatic amphibian survey (conventional methods) - GCN results (cont - Pond 7)

NB: This page prints in landscape format

Pond reference (e.g. Pond 7)				Method:	Torch			Bottle-trap			Net			Egg search eggs found?	Larvae larvae found? (any method)
Pond G, H, I					Torch power:			No. of traps used in pond:							
No. of survey visits to this pond:					>= 1,000,000 cp			11-50 traps							
Sex/life stage:				Male	Female	Imm.	Male	Female	Imm.	Male	Female	Imm.			
(1) Date:	Air temp	Veg cover	Turbidity												
				Adult totals:	0		0			0					
(2) Date:	Air temp	Veg cover	Turbidity												
				Adult totals:	0		0			0					
(3) Date:	Air temp	Veg cover	Turbidity												
				Adult totals:	0		0			0					
(4) Date:	Air temp	Veg cover	Turbidity												
				Adult totals:	0		0			0					
(5) Date:	Air temp	Veg cover	Turbidity												
				Adult totals:	0		0			0					
(6) Date:	Air temp	Veg cover	Turbidity												
				Adult totals:	0		0			0					
(7) Date:	Air temp	Veg cover	Turbidity												
				Adult totals:	0		0			0					
(8) Date:	Air temp	Veg cover	Turbidity												
				Adult totals:	0		0			0					
Peak adult count for this pond in any one visit (by torch, trap or net):					0										
Comments and constraints:					Three Ponds (recently combined into a single pond), results for new pond (combined from Ponds G, H and I) are provided in annex document 848.02_MS_annex_06092016										

Mark Woods: Brackenhurst Campus, Brackenhurst Lane

C4.3 Aquatic amphibian survey (conventional methods) - GCN results (cont - Pond 8)

NB: This page prints in landscape format

Pond reference (e.g. Pond 8)				Method:	Torch			Bottle-trap			Net			Egg search	Larvae
Pond J					Torch power:			No. of traps used in pond:						eggs found?	larvae found?
No. of survey visits to this pond:						>= 1,000,000 cp			11-50 traps				(any method)		
Sex/life stage:					Male	Female	Imm.	Male	Female	Imm.	Male	Female	Imm.		
(1) Date:	Air temp	Veg cover	Turbidity												
				Adult totals:	0			0			0				
(2) Date:	Air temp	Veg cover	Turbidity												
				Adult totals:	0			0			0				
(3) Date:	Air temp	Veg cover	Turbidity												
				Adult totals:	0			0			0				
(4) Date:	Air temp	Veg cover	Turbidity												
				Adult totals:	0			0			0				
(5) Date:	Air temp	Veg cover	Turbidity												
				Adult totals:	0			0			0				
(6) Date:	Air temp	Veg cover	Turbidity												
				Adult totals:	0			0			0				
(7) Date:	Air temp	Veg cover	Turbidity												
				Adult totals:	0			0			0				
(8) Date:	Air temp	Veg cover	Turbidity												
				Adult totals:	0			0			0				
Peak adult count for this pond in any one visit (by torch, trap or net):								0							

Comments and constraints: Eleven Ponds surveyed in total, results for Pond J are provided in annex document 848.02_MS_annex_06092016.

Mark Woods: Brackenhurst Campus, Brackenhurst Lane

C4.3 Aquatic amphibian survey (conventional methods) - GCN results (cont - Pond 9)

NB: This page prints in landscape format

Pond reference (e.g. Pond 9)				Method:	Torch			Bottle-trap			Net			Egg search	Larvae
Pond N					Torch power:			No. of traps used in pond:						eggs found?	larvae found?
No. of survey visits to this pond:					>= 1,000,000 cp			1-10 traps				(any method)			
Sex/life stage:				Male	Female	Imm.	Male	Female	Imm.	Male	Female	Imm.			
(1) Date:	Air temp	Veg cover	Turbidity												
				Adult totals:	0		0		0						
(2) Date:	Air temp	Veg cover	Turbidity												
				Adult totals:	0		0		0						
(3) Date:	Air temp	Veg cover	Turbidity												
				Adult totals:	0		0		0						
(4) Date:	Air temp	Veg cover	Turbidity												
				Adult totals:	0		0		0						
(5) Date:	Air temp	Veg cover	Turbidity												
				Adult totals:	0		0		0						
(6) Date:	Air temp	Veg cover	Turbidity												
				Adult totals:	0		0		0						
(7) Date:	Air temp	Veg cover	Turbidity												
				Adult totals:	0		0		0						
(8) Date:	Air temp	Veg cover	Turbidity												
				Adult totals:	0		0		0						
Peak adult count for this pond in any one visit (by torch, trap or net):								0							

Comments and constraints: Eleven Ponds surveyed in total, results for Pond N are provided in annex document 848.02_MS_annex_06092016.

Mark Woods: Brackenhurst Campus, Brackenhurst Lane

C4.3 Aquatic amphibian survey (conventional methods) - GCN results (Pond 10)

NB: This page prints in landscape format

Pond reference (e.g. Pond 10)				Method:	Torch			Bottle-trap			Net			Egg search	Larvae
Pond O					Torch power:			No. of traps used in pond:						eggs found?	larvae found?
No. of survey visits to this pond:					>= 1,000,000 cp			1-10 traps				(any method)			
Sex/life stage:				Male	Female	Imm.	Male	Female	Imm.	Male	Female	Imm.			
(1) Date:	Air temp	Veg cover	Turbidity												
				Adult totals:	0		0		0						
(2) Date:	Air temp	Veg cover	Turbidity												
				Adult totals:	0		0		0						
(3) Date:	Air temp	Veg cover	Turbidity												
				Adult totals:	0		0		0						
(4) Date:	Air temp	Veg cover	Turbidity												
				Adult totals:	0		0		0						
(5) Date:	Air temp	Veg cover	Turbidity												
				Adult totals:	0		0		0						
(6) Date:	Air temp	Veg cover	Turbidity												
				Adult totals:	0		0		0						
(7) Date:	Air temp	Veg cover	Turbidity												
				Adult totals:	0		0		0						
(8) Date:	Air temp	Veg cover	Turbidity												
				Adult totals:	0		0		0						
Peak adult count for this pond in any one visit (by torch, trap or net):								0							

Comments and constraints: Eleven Ponds surveyed in total, results for Pond O are provided in annex document 848.02_MS_annex_06092016.

Mark Woods: Brackenhurst Campus, Brackenhurst Lane

C4.4 Aquatic amphibian survey (continued)

1. Confirm that you have undertaken a walkover survey within 3 months prior to submission.....

<input checked="checked" type="checkbox"/> Yes	<input type="checkbox"/> No
------------------------------------------------	-----------------------------

2. If the survey was not undertaken this year, please confirm whether there are any changes to habitats (aquatic or terrestrial). If yes, please detail the nature of the changes below.

[Next Section](#)

C5 Interpretation and evaluation**Summary of presence, peak count, population size class and habitat quality**

Enter whether GCNs (any life stage) were detected for each pond, and HSI score for each pond subject to adverse impacts (see guidance in instructions). The other fields (in blue) should be generated automatically based on data you have entered in previous sheets.

Pond ref	Gt. crested newts detected?	Peak adult count	Pop size class	HSI	Low detectability warning*	Peak count visit number	Eggs
Pond A	Yes	0		0.65			No
Pond B	Yes	0		0.28			Yes
Pond C	Yes	0		0.58			Yes
Pond D		0		0.86			
Pond E		0		0.67			
Pond F		0		0.67			
Pond G, H, I		0		0.39			
Pond J		0		0.66			
Pond N		0		0.65			
Pond O		0		0.69			

***Note:** The detectability column will state "Caution" if your data suggest any survey was done in poor conditions (temp<5C, veg cover>3, turbidity>3 or torch power <500,000 cp); otherwise it is blank. Aquatic newt surveys should not be carried out when air temp is <5C or with weak torches as results can be misleading. Whilst careful timing can sometimes avoid vegetation and turbidity problems, they are inevitable at some sites. It may be appropriate to undertake more detailed surveys and interpretation techniques (e.g. CMR). If this column returns "Caution", or there is any other reason to suspect detectability problems, you should be especially careful about interpreting counts, and comment on this in the constraints box below.

Peak total site count** for all ponds surveyed:

#REF!

** This figure is derived as follows. For each survey visit, the spreadsheet picks the highest count of adult newts obtained by torch, net or bottle-trap for each pond. These individual pond counts are then summed to give a site count for each visit. The peak total site count is then the highest of these figures, i.e. highest summed count across all ponds attained on any one visit. This figure may derive from counts using a mixture of methods (torch, bottle-trap or net) - see adjacent table which shows how the figure is derived. The calculations assume survey visits per pond are undertaken within similar timeframes, if this is not the case, this Peak total site count should be calculated by hand and reasons for it explained in the general comments text box below.

Population size class for all ponds surveyed:

#REF!

*** this automatically generated size class assumes that it is appropriate to aggregate counts from all ponds, i.e. there is likely to be newt movement between ponds, for example where each pond is within approx 250m of another, with no significant barriers to dispersal. If you believe the automatically generated size class is incorrect for your site, provide your ecological justification in box below and give alternative accounts of peak total site counts and population size class for the site. Where there are meta-populations explain which ponds form each meta-population. For surveys of >10 ponds, data should be added to appendix provided, and note that peak counts etc will need to be derived separately.

The population size class estimate has not been calculated above. The results of the surveys of all ponds on the Brackenhurst Estate have been presented in an annex document, because they do not conform to the survey guidelines (and cannot be presented using the tables provided). Capture-mark-recapture (CMR) surveys combined with torch surveys confirms the presence of a large meta-population across the Estate, with small - medium populations in ponds N, O & P (within the development site) and a medium population in pond J (<250m from development site).

Site status assessment (see Section 5.8.5 of *Great crested newt mitigation guidelines* for guidance):

Quantitative	Minor importance - small population
Qualitative	Moderate - breeding on site; habitats common in area
Functional	Major importance - site plays important role for nearby population(s)
Contextual	Minor importance - population size lower than in surrounding area

General comments on overall site status, and constraints to interpretation and evaluation -

How did the constraints affect your interpretation of your survey?

- Account for the presence of any barriers to dispersal and explain how this affects your assessment of the distribution of newts across the site and the presence of meta-populations

Ponds A, B, C, E, F, G, H and I are all located >250m distance from the development site (which includes ponds N and O), but Pond J is <170m distance. Pond J is <200m from Ponds G, H and I and similarly Ponds G, H and I are <200m from Pond A, which is close to the remaining ponds (B, C, D, E and F). As such there is considered to be a network of ponds with never more than 200m between ponds. This network supports a large meta-population, which disperses between the ponds via the hedgerow network. Small patches of woodland, shrubberies, unmanaged grass margins and formal gardens provide a network of terrestrial habitats that are connected by the hedgerows. Ponds N and O are at the edge of the meta-population range and the sub-populations associated with the ponds are making use of sub-optimal breeding habitat. To reach better quality breeding habitat they will need to disperse a further 550m to the south (Pond K), or 700m to southeast (Pond L) or 650m to the northeast (Pond M). There are good hedgerow networks to facilitate dispersal, but the sub-population at ponds N, O and P need better breeding habitat to sustain a breeding population and to provide sufficient offspring to disperse further afield and enhance the local conservation status of GCN. The survey information obtained provides a robust estimate of the population size and the techniques have been carried out for several years in order to confirm population sizes. With the provision of better quality breeding habitat within the vicinity of the development it should be feasible to enhance the conservation status of what is at present, vulnerable sub-populations attempting to survive in ponds that were created for ducks and amenity rather than GCN. Replacement breeding and terrestrial habitat with hibernacula will have a knock-on benefit to the overall meta-population.

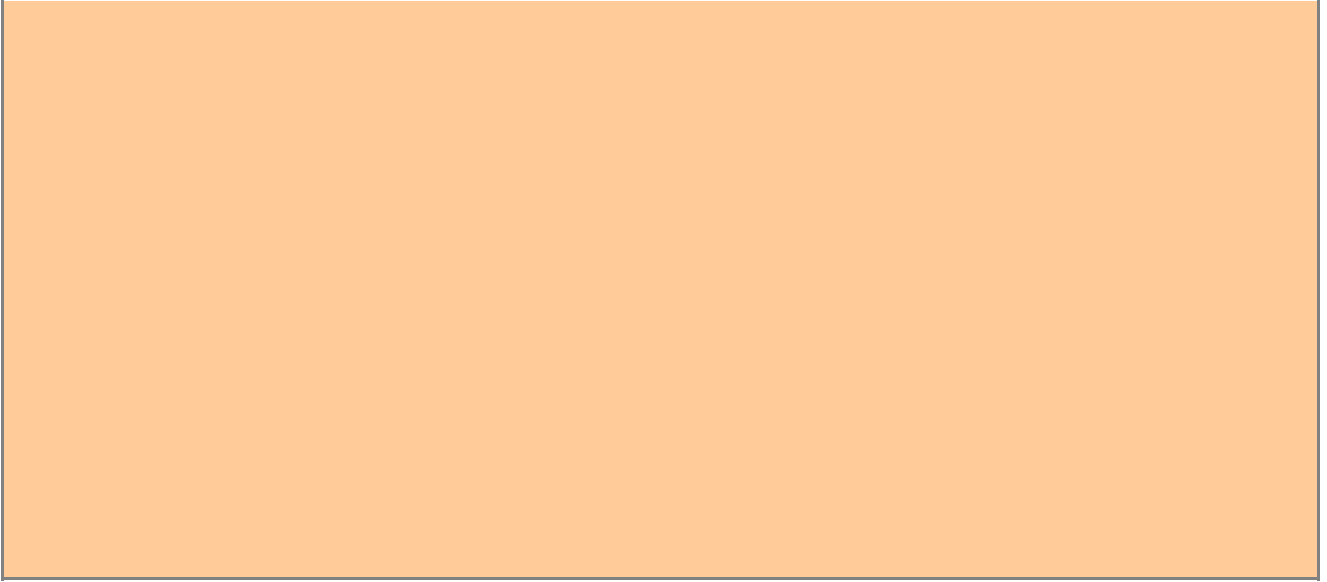
- Acknowledge any survey constraints e.g. low detectability warnings (as highlighted in section C5 above), deviation from survey recommendations in the GCNMG (methodology, timings, effort) etc.

All survey effort during 2016 and previous survey seasons within the campus was carried out by students and appropriately licensed staff from Nottingham Trent University. In part, the availability of students for the surveys has been a minor constraint on some survey nights, but the main constraints relate to on-going disturbance of the population (because of long-term studies) and time taken to carry out Capture-Mark-Recapture (CMR) work at each pond. Upon capture, each newt has to be carefully photographed to enable recognition and calculation of the population size using CMR models. Survey methods have also included torch surveys, egg searches and bottle traps, but by necessity the work has had to be carried out across several nights, because of disturbance arising from CMR and the primary focus of the research, which is comparison of the survey methods, particularly the use of the Dewsbury Traps. Constraints aside, the results of the surveys have been statistically analysed and provide reasonably accurate populations sizes for each pond rather than the more usual size class estimates (which are also provided). The investigation related to the survey methods aims to detect long term population trends and to target conservation management on the estate so that the GCN conservation status is maintained in a favourable condition and opportunities for further dispersal are realised. If required the results of previous surveys going back to 2010 can be provided, and there is also survey data collected for the Brackenhurst Hall ponds (A, B, C) between 2001 and 2006, which has contributed to the present understanding of the population size and distribution across the estate. Whilst it is understood that the Dewsbury trap is not a recognised method under the survey guidelines, the work at Brackenhurst gives a strong indication of its viability and usefulness at providing a reliable indication of population size. As such, it is considered that the survey data provided is sufficient to support this application and to give reliable estimate of population size so that suitable mitigation is put in place.

- Justify why constrained survey data is considered to accurately represent the size and distribution of the GCN population(s) present

The survey data that has been provided has been statistically analysed and confidence limits have been provided from the trapping results. Conventional bottle trapping results are provided and it is assumed that these will be the results that are analysed by Natural England for this application. However, the results of the Dewsbury Traps are also provided to give an indication of what is considered by the named ecologist (Mark Woods) and the 2016 survey co-ordinator (Dr Richard Yarnell) to be a much more robust and reliable indicator of the true population size. This assumption is based on a combined timespan of more than 25 years experience of managing and surveying the Brackenhurst Estate GCN populations.

C - Survey summary



[Next section](#)

D1 Habitat impact tables

N.B: this section must identify impacts *in the absence of mitigation or compensation measures*. Refer to the *Great crested newt mitigation guidelines* for guidance in impact types (section 6).

Should you wish to convert ha to m² or m² to ha please [use this converter](#)

Total Area of Development (ha):

0.17

D1.1 Breakdown of terrestrial impacts

Permanent		Temporary	
Habitat type	Area lost (ha)	Habitat type	Area damaged (ha)
Semi-improved Grassland (Area A)	0.04	Semi-improved Grassland	0.035
Bare Ground (Area A)	0.015	Bare Ground	0.014
Hardstanding (Area A)	0.001	Hardstanding	0.001
Improved Grassland (Area B)	0.011		
Total Loss	0.067	Total Damage	0.05

D1.2 Core, intermediate and distant terrestrial impacts

	Permanent	Temporary
	Area lost (ha)	Area damaged (ha)
Core (<50m from pond)	0.067	0.049
Intermediate (50-250m from pond)		0.001
Distant (>250m from pond)		
Total (ha)	0.067	0.05

D1.3 Aquatic impacts

	Permanent		Temporary	
	Number lost	Area lost (m ²)	Number damaged	Area damaged (m ²)
GCN Ponds	2	50	1	9
Other Ponds				
Total	2	50	1	9

Notes on terms in these tables:

■ 'GCN ponds' must include all ponds or other waterbodies in which GCN were recorded plus any others that are likely to be used by GCNs for foraging e.g. suitable ponds / waterbodies where no GCN were recorded but with good connectivity to other ponds / waterbodies within the survey area found to support GCNs.

■ Area of ponds to be calculated by measuring or estimating extent at winter maximum.

• "Terrestrial habitat" here includes any land likely to be important to the local GCN population for foraging, resting, hibernating or dispersal. This means, for example, that even unvegetated or sparsely vegetated areas close to high quality newt ponds (within around 50m) should be included in impact assessments; this could apply to quarry floors, arable, cracked or damaged hard-standing and amenity grassland.

- Areas may be excluded from calculations if you assess that they are substantially isolated by barriers to dispersal and therefore highly unlikely to be used by newts; this may even include apparently high quality areas.
 - Areas may also be excluded if you believe for any other reason that they are highly unlikely to be used by newts.
- Please always explain why you have excluded certain areas below.**

If there are discrepancies in the areas in the tables below, please explain in the Impact text boxes below.

D2 Pre- and mid-development impacts: descriptive text. Example: "Vegetation clearance and archaeological investigations in Area A would kill and injure newts, and damage core refuge sites, close to Pond 1. Moderate negative impact on population."

Area A: Permanent terrestrial habitat loss in the core impact zone will comprise 0.040ha of poor semi-improved grassland, 0.015ha of bare ground and 0.001ha of hardstanding. No habitats within the intermediate or distant zones are proposed. Ponds N & P will be lost to the new development (40m²). The vast majority of habitat lost will be poor semi-improved grazing pasture, which, due to its intensively managed nature does not provide resting places for GCN. Nearby hedgerows that are suitable for GCN will not be affected by the development. Ponds N (permanent) & P (ephemeral) are located within a goose paddock with vegetation limited to grass edges of the pond which provides limited egg laying substrate for GCN and any eggs present are likely to be lost by foraging from geese. As such the ponds are sub-optimal breeding habitat on the edge of their range at the Brackenhurst Estate. Optimal GCN breeding ponds with suitable vegetation, places of shelter and terrestrial habitat are present to the north, the nearest within 200m. Therefore the loss of this pond is considered to result in a low negative impact on GCN. **Area B:** Within the core impact zone, 0.011ha of short, improved grassland will be lost to facilitate a wooden poultry shed. The current goose paddock in area A will be re-sited to area B with Pond O being retained. However, this pond will become immediately unsuitable to GCN because of the presence of geese, so it is considered that damage will occur rather than loss. The pond is plastic lined with very little emergent vegetation and is surrounded by amenity-managed grassland. The presence of geese will affect the favourable conservation status of GCN using pond O, because of disturbance and habitat degradation. However, the impact on the GCN will be limited, because of the low numbers of GCN associated with the pond and the pond size does not allow for significant expansion of the population even if the pond was in excellent condition and undisturbed. **Overall,** pre- and mid-development impacts arising from habitat removal and construction of the new poultry research unit and wooden shelter have been assessed as having a potential negative effect on a small number of GCN: in summary a low negative impact.

D3 Long-term impacts: descriptive text (to always include fragmentation if applicable to scheme) .

Example:

"Construction of Plot 1 in Area B would kill and injure newts, destroy Pond 1 (a breeding site) and core terrestrial habitat, consisting of rough grassland and deciduous woodland, around Pond 1. Creation of play area in Area C would reduce grassland value for newts. Construction of Plot 1 would create significant dispersal barrier between Ponds 1 and 2. Serious negative impact on population."

Habitats lost within area A and area B are sub-optimal, bare ground, intensively grazed poor semi-improved and improved grassland. This represents a limited resource in terms of foraging or commuting only for GCN. Ponds N & P (breeding sites) will be lost and pond O will become less suitable for breeding because of geese presence. However, at present, these ponds provide limited suitability to GCN. Ponds N & P have no emergent vegetation, Pond P is ephemeral and regularly dries out; both ponds are situated within a grassland paddock that is heavily grazed by geese. Therefore, the pond is unlikely to function as a successful breeding pond for GCN. Pond O is situated within an area of amenity grassland south of Brackenhurst Farm and is lined with plastic; only a small number of GCN were found in the pond during the survey period. Although this pond will be retained, the terrestrial habitat associated with the pond will be used to re-house the geese paddock from area A with the pond likely to become severely impacted by geese. Therefore, this pond will immediately become much less suitable for breeding GCN and as such, the geese introduction will represent damage to a breeding habitat. The development of the poultry research unit is partially built on existing bare ground and short grazed grassland and as such this habitat is considered sub-optimal for GCN. No fragmentation effects are anticipated as a result of the development, because movement through the landscape by way of favourable terrestrial habitat (hedgerows) can still occur. However, without mitigation, the loss of ponds N & P and damage to pond O could have a minor effect on the conservation status of the meta-population, because the distance to

other, more suitable ponds (K and L, which are not currently occupied by GCN) increases beyond 750m to the south and southeast. Overall, the effect of long-term habitat loss to development would result in a minor negative impact on the meta-population.

D4 Post-development interference impacts: descriptive text. Example: "Major increase in risk of fish and invasive aquatic plant introduction due to creation of large residential development adjacent to pond. Potentially serious negative impact on population."

The geese contained in the area A paddock will be re-located to the area B grassland (south of Brackenhurst farmhouse). This will have an immediate and direct impact on Pond O, because of disturbance from geese and deterioration of water quality arising from geese activities, which will make the pond even less suitable for breeding GCN. The development of the poultry research unit will result in the loss of a small area of sub-optimal pasture grassland (in area A), which is sub-optimal for GCN dispersal and foraging. Ponds N & P will be lost to facilitate development of the poultry research unit and without mitigation will represent the loss of GCN breeding habitat, despite them both being being shallow, heavily disturbed by geese, lacking emergent vegetation and annually drying out. The loss of the ponds and associated terrestrial habitat is likely to have an adverse impact on sub-populations of GCN that are occurring at the edge of the range of the Brackenhurst Estate meta-population, because alternative breeding habitat (pond J) is >150m distance to the northwest and the pond J may already be close to carrying capacity. The development will not interfere with terrestrial dispersal routes via the hedgerow network, but the ability of individuals to reach new breeding ponds may be compromised by the loss of ponds N & P, and damage to pond O, which can act as stepping stones. As such the development could have a negative, but minor impact on the meta-population.

D5 Other impacts: descriptive text. Example: "Reduced water table due to altered local hydrology when development is complete. Increased early pond desiccation, resulting in lower breeding success. Likely serious negative impact on population." impacts when creating any mitigation or compensation measures.

D5.2 Impact assessment map notes

Impact maps must be of a suitable scale to clearly show the following:

- The development site boundary
- 50m, 250m and 500m radii around each GCN pond boundary
- Temporary and permanent impacts and habitats affected (to include a key to show the habitat types).
- Fragmentation impacts and/or barriers to dispersal.

More than one map may be required for larger schemes.

NB: Impacts must be shown on FIG. D - ensure all habitats types that will be affected by the proposals and impacts on them (indicating whether temporary or permanent) are clearly indicated and 50m, 250m and 500m radii are shown around GCN ponds.

[See Sum & Figs. tab.](#)

[Next section](#)

E1 The mitigation solution being proposed in the Method Statement should be the one that delivers the 'need' with the least impact on the newt population.

Please explain why this design was chosen over other potential solutions - set out what other mitigation proposals were considered and why they were not feasible, for example:

- if the proposal is to construct a new road and it will destroy breeding ponds, explain why it is not possible to retain the ponds in the proposed design etc; or,
- if a residential development results in a net loss of habitat, explain why it was not possible to reduce the housing footprint; or,
- if pond drain down is planned for the summer months when newts are breeding please explain why it is not possible to schedule this in, followed by pond destruction, in late September onwards; or
- if your proposal includes a non-standard approach to meeting the 'need'.

Temporary amphibian fencing (TAF) will be erected to enclose all habitats associated with the working area of area A and the perimeter of Area B. Bucket traps will be placed on both sides of TAF at 10m intervals with refugia tiles placed at 5m intervals between the buckets. Buckets and refugia tiles will be checked for a minimum period of 30 days and will, if necessary, continue until 5 days have elapsed without any GCN captures. Any captured newts will be translocated at the end of the daily trapping session into a receptor area (land surrounding pond J), which is approximately 165m north of the application site. On completion of the trapping, Ponds N, P & O will be drained and any GCN in the ponds will be transferred to Pond J. Pond O will be re-filled at a later date for the use by geese. To mitigate for the loss of sub-optimal habitat within Area A and B, the loss of ponds N and P and damage to Pond O, four ponds will be created surrounded by suitable terrestrial habitat. Three ponds will be created in the northeast corner of an arable field (Stathams Close - hereinafter referred to as Area C) approximately 90m to the west of ponds N & P, and 200m to the south of pond J, but linked by field hedgerows, mature woodland and the grass verges of a farm track. The ponds will be surrounded by scrub & 'tussocky' grassland with log piles and a hibernacula of logs and rocks. A new hedgerow will be planted to the east of the Area C increasing the overall length of hedgerows in the local area to facilitate GCN dispersal. A further pond will be created at the south end of the arable field (Sheeps Close - hereinafter referred to as Area D) that is adjacent to Area B. The pond will be located 250m to the south of pond O and will be connected by hedgerows and an arable margin (6m wide tussocky grassland strip that is located around the entire field edge). The pond at Area D will be surrounded by an area of self-sown tussocky grassland (0.15ha) that has remained uncultivated for more than 5 years, because of seasonally wet soils; 0.05ha of scrubby plantation woodland is located next to the grassland in the field corner and the nearest pond (pond K is presently unoccupied by GCN, but is suitable for breeding) is <300m to the southwest, connected by the hedgerow network. A large scrubby hedgerow (375m long), arable grass margin and a patch of dense scrub (0.06ha) containing brash piles and a rabbit warren will link Area C and Area D. On completion of the trapping exercise ponds N, O & P will be drained under ecologist supervision with a fine mesh material over the hose end. Once the ponds are confirmed absent of amphibians ponds N & P will be infilled and re-seeded; pond O will be re-filled for use by geese, which will be put in to the surrounding paddock. TAF and traps will be removed from Area A upon completion of the development. TAF and traps will be removed from Area B upon completion of the trapping and pond draining work.

E2 Receptor site selection. *NB: this relates to the place(s) where any captured newts will be released. It does not just refer to distant receptor sites or need to be the entire compensation area; where GCN will be placed must be clearly indicated on the relevant map. Enter details below unless no newts will be captured or displaced.*

NB: Location of the receptor site in relation to the development site must be provided on FIG. E2
[see Sum & Figs. tab](#)

E2.1 Existing GCN status at receptor site(s)

Great crested newts present; small population size class

E2.2 Survey information for receptor site if different from the survey for the application proposal.

GCN is present at the receptor site; medium population size class

E2.3 Receptor site locations. Must include:

Please record further sites in [Additional Records tab](#)

Site name	OS grid ref eg AB12345678	Administration area - if different from development site	Distance from development site (m).
First Park, Brackenhurst Lane, Southwell	SK69935219	N/A	165

E2.4 Receptor site(s): ownership and land status. Please note that any receptor site must be free from future development proposals/threats.

[Additional records tab.](#)

Site name	Site Ownership	Conservation Designation?
First Park, Brackenhurst	Nottingham Trent University	No

E2.5 Receptor site: habitat description, size (ha) & adjacent land use.

[Additional Records tab](#)

Site name	Habitat description	Size (ha)	Adjacent Land Use
First Park, Brackenhurst Lane, Southwell	Tall ruderal and bramble field layer, scattered mature shrubs and trees surround pond J, partially enclosed by hedgerow with drainage ditch	N/A	Improved grassland (pastures), hedgerows

E3 Habitat creation, restoration and/or enhancement

The left side of table below summarises the impacts you specified in section D. Enter the habitat creation, restoration and/or enhancement that will be undertaken to compensate for these impacts in the right hand column.

Should you wish to convert ha to m² or m² to ha please [use this converter](#)

Aquatic habitat	Impacts			Compensation		
	Effect	Number	Total Area (m ²)	Measure	Number	Total Area (m ²)
GCN ponds	Lost	2	50	Created	4	300

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Sum ponds	Damaged	1	9	Restored / reinstated / enhanced	0	0
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Terrestrial habitat	Impacts		Compensation	
	Area lost (ha)		Area gained (ha)	
	Permanent	Temporary	Created	Restored / reinstated / enhanced
Core	0.1	0.0	0.0	0.1
Intermediate	0.0	0.0	0.1	0.0
Distant	0.0	0.0	0.0	0.1
Totals	0.1	0.1	0.1	0.1

NB: All habitat creation, restoration and enhancement measures must be shown on FIG. E3.1 - see [Sum & Figs. tab](#)

If a net loss of habitat (ha) is proposed please provide in the text box below an ecological justification to explain why the habitat measures proposed are considered sufficient to compensate for the impacts of the development. Some reduction in terrestrial habitat area may be acceptable provided there is an appreciable increase in habitat quality.

E3.1 Describe the creation, restoration or enhancement of aquatic habitats (include design and water body dimensions as per *mitigation guidelines* and waterbody location. Dimensions these will be included in any annexed licence issued).

NB: Only put timing of aquatic creation, restoration or enhancement in the timetable E6a.

Pond reference	Surface Area (m ²)	Max. Depth (m)	Design / enhancement measures and location
Pond 1	75	1	1m deep in the centre with sloping sides, lined and planted with emergent vegetation surrounded by tussocky grassland and shrub planting. Irregular outline.
Pond 2	75	1	1m deep in the centre with sloping sides, lined and planted with emergent vegetation surrounded by tussocky grassland and shrub planting. Irregular outline.
Pond 3	75	1	1m deep in the centre with sloping sides, lined and planted with emergent vegetation surrounded by tussocky grassland and shrub planting. Irregular outline.
Pond 4	75	1	1m deep in the centre with sloping sides, lined and planted with emergent vegetation surrounded by tussocky grassland. Triangular outline

E Mitigation & compensation (continued)

E3.2 Terrestrial habitat measures

State number/area/length of any terrestrial habitat measures. Leave blank if not applicable. *Dimensions of hibernacula are expected to be *at least* that recommended in the mitigation guidelines.

	Number/area (ha)/length**	
	Created	Reinstated / Restored / Enhanced
Hedgerow planting	192	0
Grassland re-seeding	0.05	0

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Grassland management (just for GCN)	0.05	0.04
Scrub planting	0.025	0
Woodland planting	0	0
Hibernacula creation*	5	0
Refuge creation	4	0

** Information must be consistent with Table E3.

Please describe management methods and explain any novel designs, non-standard proposals or techniques in the free text box below. Also describe any other terrestrial habitat measures, including locations & design. (Confirm landowner agreement for these measures, if they are to be created on land outside of the applicant's ownership, in Declaration worksheet J).

NB: Do not put in specific dates here; add these into E6a (separate document).

Area C will extend to 0.14ha and contain three ponds, each with a surface area of 75m². The sides will have a gentle slope reaching a maximum depth of 1m. Emergent and submerged native species will be planted at the water margins. The spoil from the ponds will be used to create a raised area of ground on the north side of the ponds, which will support dense scrub that consists of planted native shrubs (0.025ha). To the south of the scrub, the ponds will be surrounded by 'tussocky' grassland (0.05ha). Additional features will include four standard hibernacula and four log piles, two of each in grassland and two of each on the edge of the scrub habitat. These works will be in place prior to the next breeding season for GCN. Once established the grassland will be rotationally cut every 3 years (50% during winter) to control scrub colonisation (clippings left in-situ). Planted shrubs will be 'beaten up' for a period of 5 years, after which the guards, support and mulch mats will be removed and disposed off-site and the scrub will be managed by minimal intervention. The single Area D pond (75m²) will also be excavated to 1m deep and have gently sloping sides. Emergent and submerged aquatic native plants will be planted in the margins. Excavated spoil will be used to form a bund on the woodland edge, into which a hibernacula or rocks and cut logs will be installed. The hibernacula will be placed into the bund because the surrounding land can occasionally flood during periods of high precipitation, so any hibernacula in the ground are prone to inundation. Hibernacula in a bund are less vulnerable to inundation. The bund will not be planted, so that natural colonisation from adjacent woodland and grassland can occur. The pond will be surrounded by dense, unmanaged grassland (0.04ha) that has been in place for over a decade and was originally sown as part of a Countryside Stewardship scheme in 2002. After pond creation, 50% of the grassland will be cut every two years (and the clippings left in-situ) so that scrub colonisation is controlled. The adjacent plantation woodland will continue to be managed by non-intervention.

E3.3 Integration with roads and other hard landscapes.

Explain any measures you will take to integrate mitigation with roads and other hard landscapes. If you propose any connectivity measures, such as underpasses, please specify:

- Design (to include length, width, height and guide fencing)
- Monitoring (to include methodology and duration)
- Maintenance (to detail how long-term functionality of the underpass(es) and entrances will be ensured)

NB: Locations & details of any proposed connectivity measures must be provided on FIG. E3.3 - see:

[Sum & Figs. tab](#)

NB: If you have identified fragmentation as an impact this is something you should address.

There are no measures required because there are no roads or other hard landscapes that will isolate the sub-populations of GCN from the meta-population.

E Mitigation & compensation (continued)

E4 Capture, exclusion & translocation: *Please do not refer to any dates in this section - these should be provided in E6.*

State capture +/- or exclusion methods, with effort levels.

[Pls Read Advice Notes](#)

	Use method? Yes/no	Minimum capture effort (days)
At pond: bottle-trap, net, hand search &/or drain down	Yes	2
At pond: ring-fence, pitfall trap (+ fence & refuges)	No	
Away from pond: hand search	No	
Away from pond: destructive search	Yes	2
Away from pond: fence, pitfall trap (& refuges)	Yes	30
Away from pond: night search	No	
Away from pond: exclusion fence only	No	
Other or additional method(s) - state below:		

Trapping period of 30 days is based on the evidence of the bottle trapping surveys, which indicates the presence of relatively small GCN populations in each pond. Upon completion of the trapping, a supervised destructive search will be carried out involving the removal of soft vegetation and topsoil. Ponds will be drained of water and hand-searched after emptying. The liner of Pond N will be removed and a search of the exposed substrate will be undertaken. The liner of Pond O will be lifted after draining to check for GCN below, before reinstating to provide a pond for the geese.

NB: • A minimum of 25 nights trapping will only be acceptable in exceptional circumstances which are fully justified and explained. See [guidance on capture effort](#)

NB: *Locations of all capture/exclusion activities must be shown on FIG. E4(a)*

- Any non-standard capture/exclusion measures should be detailed on FIG. E4(b) - [see H - Figures tab.](#)
- if timings of works are different for different meta-populations please separate out in your work schedule.

Briefly explain your capture/exclusion proposals, for example:

- Justify the use of non-standard methodologies and/or deviation from recommendations in the Great crested newt mitigation guidelines
 - Explain differing capture effort in trapping compartments
- NB: If a very complex capture operation is proposed the methodology should be explained in detail below.

Area A: TAF will be installed around the perimeter of the site and pitfall traps and refugia mats will be installed at 5m intervals on both sides of the TAF. The traps and refugia mats will be checked daily for 30 days and assuming that no captures occur after 25 days, the buckets will be closed and refugia mats collected and disposed off-site. Trapping will continue until 5 days without capturing any GCNs occurs. Ponds N & P will be drained using a pump with a fine mesh filter and when dry will be inspected and any newts will be captured. All GCN found in pitfall or under refugia mats will be released into the terrestrial habitat surrounding pond J within 1 hour of capture. Any GCN found in Ponds N & P will be released into Pond J within 1hr of capture. Thereafter, ponds and habitats within Area A will be cleared of vegetation and excess substrate under the supervision of an ecologist (destructive search) and any GCN captured will be transferred to land surrounding pond J within 1hr of capture. **Area B:** The same procedure as described for Area A will take place with regards to the use of TAF, pitfall traps and refugia tiles for trapping and GCN will also be released on land surrounding Pond J. Pond O will also be drained using a fine mesh filter on the pump hose and any GCN will be released into Pond J. Once emptied, the Pond O liner will be lifted and the ground below searched for GCN. Thereafter, the liner will be reinstated and the pond re-filled. The TAF, pitfall traps and refugia tiles will then be removed. Any other wildlife trapped in Areas A and B will be released into terrestrial or aquatic (as appropriate) either in or around Pond J.

E Mitigation & compensation (continued)

E5 Post-development site safeguard. Refer to Section 8.5 of the Great crested newt mitigation guidelines.

E5.1 Habitat management & maintenance

Is any specific post-development habitat management and site maintenance planned?

☒ Yes

☐ No

If no, proceed to population monitoring section E5.2.

State which of the following habitat management operations will occur:

Aquatic vegetation management in water bodies	No
Clearance of shading tree or scrub cover around pond margins	No
Mowing, cutting or grazing of grassland	Yes
Desilting and clearance of leaf-fall	No
Woodland and scrub management	Yes
Other (state below)	

NB: Details of site management and maintenance should be shown on FIG. E5.1. - see "H Sum & Figs" tab. Indicate which areas (including which ponds) the management and maintenance plan will apply to.

State which of the following site maintenance operations will occur:

Checking for fish presence, and removal through appropriate methods	No
Checking pond condition and remedial action as required	Yes
Checking for and removal of dumped rubbish	Yes
Reinstatement following fire, acute pollution or other major damage	Yes
Repair or replace fences	Yes
Maintain tunnel, underpass, guide fencing in good condition	No
Repair or replace interpretation boards	No
Other (state below)	

NOTE: A separate, detailed plan must also be attached if

- population size class is large and impacts are moderate-high,
- regionally important population and impacts are moderate-high,

E - Mitign & compn

- (c) losses of > 2 breeding water bodies on site supporting medium size class population, or
(d) phased or multi-plot developments.

If your proposal meets one of the above (a - d), confirm that such a document is attached:

☐ Yes ☒ No

Please note, if you have selected 'No', you are likely to receive a Further Information Request.

E5.2 Post-development population monitoring (refer to Section 8.5.2 of the *Great crested newt mitigation guidelines* and advice at beginning of this template).

NB: Details of ponds which will be monitored post development must be shown and referenced on FIG. E5.2.

[see Sum & Figs. tab](#)

NB: It is the licensee's responsibility to ensure that post development monitoring is carried out and that remedial action is taken if compensation measures are failing.

Is population monitoring required? Y/N ☒ Yes

[Please refer to table in the post development monitoring advice section](#)

If no, proceed to section E5.3

Indicate timing and type of post-development population monitoring:

Timing (years post-dev't):

Type of monitoring:

Specify which ponds will be monitored. Additionally, if your post-development monitoring proposals do not follow the GCNMG please provide your ecological justification below. Comments on monitoring period, methods or effort.

Although not required (only a small proportion of the meta-population affected), on-going surveys will be undertaken by Nottingham Trent University of all ponds within the college campus as part of college research and the new ponds (in Areas C and D) will be included.

NB: A Natural England mitigation licence will not confer rights of access to monitor water bodies or other habitats which lie outside the licensee's ownership. Permission/s should be granted prior to applying for a licence. Please see Declaration section in worksheet I.

E5.3 Site safeguard

Mechanism(s) for site safeguard.

Is there a mechanism in place to secure site safeguard?.....

☒ Yes

☐ N/A

If N/A, please briefly explain why.

If yes, please confirm which apply to your scheme:

i) Restrictive Covenant..... ☐ Yes

ii) Clause to relinquish future development rights in S106 agreement..... ☐ Yes

iii) NERC Act agreement..... ☐ Yes

iv) Explicit recognition of site in local planning documents..... ☐ Yes

v) Designation as County Wildlife Site or similar..... ☐ Yes

vi) other.....

Safeguarded through the internal estates and Nottingham Trent University Biodiversity Policies.

Please confirm that the receptor site and mitigation and / or compensation land is free from future development.

☒ Yes ☐ No

Note : if you state 'No' your application will almost certainly be rejected; provide justification below.

NOTE: A copy of any significant document, such as a Section 106 agreement, must be included with your application. It must be clear within any s106, or other legal document/agreement, where the specific reference to GCN is.

E6 Work Schedule

Please complete a separate [Work Schedule for Great crested newt Annexed Licence](#), and submit with your application.

[Next section](#)

F - Final post development Layout

F1 Final Post development Layout Figure F1 is required

NB: Please show the final layout on FIG. F1. - see "H and list of figures" below. This must show the final development layout and include ponds, buildings, roads, GCN tunnels, other mitigation or compensation measures, etc.

G - Checklist of Documents, figures, maps and diagrams to include

You must provide maps, photographs and diagrams to adequately explain the mitigation plans. Use the checklist below to understand what is required for your application. All maps and figures must be included as individual files. Additional maps, photos or diagrams should be included where necessary.

Map / Figure guidance: Ensure each map / figures includes the following:

- Site name and figure reference
- Scale bar and Direction of North
- Date DD/MM/YYYY

H - List of figures

Figure reference	Mandatory or not?	What it must show (also see details above on site reference, dating and naming).
Figure B1.1 <input type="checkbox"/> Included	Yes, if the application is part of a phased or multi-plot development	Masterplan map showing the location of each individual phase or plot associated with the overall scheme. The phase to which the current application refers should be highlighted
Figure B1.2 <input type="checkbox"/> Included	Yes, if there are other GCN mitigation projects nearby which might affect the target population	Map to show location of other nearby GCN mitigation sites to show development boundaries and compensation/mitigation areas.
Figure C3.2a <input checked="" type="checkbox"/> Included	Yes	Survey map to show development site location, survey area and ponds. The terrestrial and aquatic habitats described in sections C3.3 and C3.4 should also be shown. Indicate which ponds were found to support GCN, including specifying results of any eDNA sampling if relevant.
Figure C3.2b <input checked="" type="checkbox"/> Included	-	Aerial photograph of site for information only to help better inform the application.
Photos C3.4 <input checked="" type="checkbox"/> Included	Yes	Photographs to show terrestrial and aquatic habitats on the development site and surrounding area (to include the receptor area).
Figure D <input checked="" type="checkbox"/> Included	Yes	Impact map to show the location and extent of the different habitat types to be temporarily and/or permanently lost/damaged (as detailed in section D of the Method Statement). Radii of 50, 250 and 500m around each GCN pond which will be impacted must be shown.
Figure E2 <input type="checkbox"/> Included	Yes	Receptor site map to show the location of the receptor site(s) in relation to the development.
Figure E3.1 <input checked="" type="checkbox"/> Included	Yes, if habitat creation, enhancement or restoration is proposed	Habitat measures map to show the location and extent of all terrestrial and aquatic habitat measures detailed in section E3 of the Method Statement).
Figure E3.3 <input type="checkbox"/> Included	Yes, if measures to improve connectivity are proposed	Connectivity map to show the location of any measures employed to improve connectivity e.g. underpasses/tunnels, newt friendly traffic and /or drainage features (dropped kerbs/set-back gully pots) etc.

F-G-H Sum & Figs

Figure E4a <input checked="" type="checkbox"/> Included	Yes	Capture and exclusion map to show how GCNs will be cleared from the development site and prevented from entering during construction. A clear differentiation should be made between different types of amphibian fencing (e.g. permanent, temporary, perimeter, drift, ring, one-way etc). Direction of travel over one-way fences should also be shown.
Figure E4b <input type="checkbox"/> Included	Yes, if non-standard measures are proposed	Non-standard capture and exclusion measures – diagrams or photographs to show designs/specifications.
Figure E5.1 <input checked="" type="checkbox"/> Included	Yes , if habitat management and maintenance is proposed	Post-development management and maintenance map to show the location and extent of the terrestrial and aquatic habitats to be managed and maintained in accordance with section E5.1 of the Method Statement. To include tunnels/underpasses/guide fencing if applicable. Ponds to be managed and maintained must be clearly referenced.
Figure E5.2 <input checked="" type="checkbox"/> Included	Yes , if monitoring has been proposed	Post-development monitoring map to show, and reference, all of the waterbodies to be monitored (as detailed in section E5.2 of the Method Statement). To include tunnel/underpass/guide fencing if applicable.
Figure F1 <input checked="" type="checkbox"/> Included	Yes	Final development layout map to show both the development layout (e.g. buildings, rail, roads) <u>and</u> all of the mitigation/compensation measures proposed (e.g. including ponds, tunnels, receptor areas)

List of documents

Document		Mandatory or not?
Completed application form	<input checked="" type="checkbox"/> Included	Yes
Completed method statement template	<input checked="" type="checkbox"/> Included	Yes
Completed work schedule	<input checked="" type="checkbox"/> Included	Yes
Figures - as stated above	<input checked="" type="checkbox"/> Included	Yes
Separate Masterplan document	<input type="checkbox"/> Included	Yes - if part of a phased or multi-plot development
Separate Habitat Management and Maintenance Plan	<input type="checkbox"/> Included	Yes - if: (a) population size class is large and impacts are moderate-high, or (b) regionally important population and impacts are moderate-high, or (c) losses of > 2 breeding water bodies on site supporting medium size class population, or (d) phased or multi-plot developments.

List any other maps, photographs or diagrams attached:

Figure C3.a(i) Phase 1 Habitats

[Next Section](#)

Mark Woods: Brackenhurst Campus, Brackenhurst Lane

I - Declarations

☒ Yes
☐ N/A

Re: E2: I confirm that relevant landowner consent/s has/have been granted to accept great crested newts onto land outside the applicant's ownership.

☒ Yes
☐ N/A

Re: E3.1 and E3.2 – I confirm that landownership consent/s has/have been granted to allow the creation of the proposed habitat compensation (aquatic or terrestrial) on land outside the applicant's ownership.

☒ Yes
☐ N/A

Re: E5.2 – I confirm that consent/s has/have been granted by the relevant landowner/s for monitoring and maintenance purposes, as set out in E5.2, on land outside the applicant's ownership.

☒ Yes
☐ N/A

RE: E5.1 and E5.2 - I, the applicant, confirm that all habitat management, maintenance and monitoring detailed in section 5, and accompanying documents, will be undertaken.

Unsecured consents statement:

If you have been unable to secure consents for any of the four declarations please explain why and detail any plans you have in place to obtain the consent(s) or provide details of any right(s) or agreement(s) that will enable the lawful implementation of the proposed mitigation, compensation and monitoring. Important Note: Failure to provide the appropriate landowner consents means that the Method Statement is unlikely to meet the requirements for the FCS test to be met. It is therefore in your interest to ensure that the appropriate consents have been secured before applying for a licence.

[Return to beginning](#)

Records of additional pond(s) surveyed

Please use this page to record extra data, if more than 10 ponds were surveyed - Ponds 11 - 20

C3.3i continued Ponds 11 - 20

[Back to Original section](#)

Pond ref	Description
K	1250m ² rectangular field pond, clay-lined, up to 1m deep, surrounded by willow plantation and rough grassland, located alongside wooded stream. Fringed by 2-3m wide strip of emergent vegetation, submerged vegetation is limited to Chara sp.
L	300m ² rectangular field pond surrounded by scrubby woodland, bramble and tall-herb, shaded for many years, but canopy removed. Limited aquatic vegetation and >1m deep.
M	150m ² circular field pond, 1.25m deep, abundant aquatic vegetation and partly surrounded by plantation woodland and hedgerow
P	A 5m ² rectangular trough next to pond N that fills with water after rainfall. The water is temporary and after several days of dry weather disappears. The base of the trough has a cover of creeping bent-grass and patches of bare ground.

C3.3ii continued

[Back to Original section](#)

Pond ref	Distance (m)	Surveyed or not?	If not why not?
K	610	Yes	
L	770	Yes	
M	660	Yes	
P	0	Yes	

C3.5 additional ponds HSI score

[Back to Original section](#)

Date HSI assessmt					
Pond ref	K	L	M	P	
SI1 - Location	1	1	1	1	
SI2 - Pond area	0.9	0.9	0.2	0.05	
SI3 - Pond drying	0.9	0.9	0.9	0.1	
SI4 - Water quality	1	0.33	0.67	0.01	
SI4 - Shade	1	1	0.8	1	
SI6 - Fowl	0.5	1	1	0.01	
SI7 - Fish	1	1	1	1	
SI8 - Ponds	1	1	1	1	
SI9 - Terr'l habitat	1	0.8	0.67	0.67	
SI10 - Macrophytes	0.9	0.4	0.9	0.3	
HSI	0.90	0.78	0.75	0.20	

Date HSI assessmt					
Pond ref					
SI1 - Location					
SI2 - Pond area					
SI3 - Pond drying					

Additional records

SI4 - Water quality					
SI4 - Shade					
SI6 - Fowl					
SI7 - Fish					
SI8 - Ponds					
SI9 - Terr'l habitat					
SI10 - Macrophytes					
HSI					

C4.2iii Continued

[Back to Original section](#)

Pond ref	GCN Surveyor / Accredited Agent	Licence Reference
K		
L		
M		
P		

4.2c Continued

[Back to Original section](#)

Pond reference	Date eDNA sample taken	Result (presence or absence)
K		
L		
M		
P		

E2.3 Receptor site locations. Continued

[Back to original section](#)

Site name	OS grid ref eg AB12345678	Administration area - if different from development site	Distance from development site

E2.4 Receptor site(s): continued

[Back to original section](#)

Site name	Site Ownership	Conservation Designation?

E2.5 Receptor site(s): continued

[Back to original section](#)

Site name	Habitat description	Size (ha)	Adjacent Land Use

Additional records

Mark Woods: Brackenhurst Campus, Brackenhurst Lane

C4.3 Aquatic amphibian survey (conventional methods) - GCN results - Pond 11Was an aquatic amphibian survey done? **Yes** If no, proceed to next section. Return to [Ponds 1 - 10 tab](#)Total no. of ponds surveyed: **11**Surveyor name(s): **Dr Richard Yarnell 016-22351-SCI-SCI**

Important. Read before completing this section: Enter GCN survey data in relevant boxes in the table below (for Pond 1) and those on subsequent sheets (for up to 9 other ponds). Enter "0" where you did a survey and found no newts; leave box blank if no survey was done. This format is designed for a typical single season survey with typical methods and effort. Explain atypical methods/effort later. For multiple year surveys, give details in annex (convert data to this format if possible). Use these tables to provide details only for the most recent season's survey. Append older survey results in full. Automatic yellow highlight indicates possible detectability problem (see Evaluation & interpretation section, later).

Pond reference (e.g. "Pond 11") - below				Method:	Torch			Bottle-trap			Net			Egg search	Larvae
Pond P					Torch power:			No. of traps used in pond:						eggs found?	larvae found?
No. of survey visits to this pond:					>= 1,000,000 cp			1-10 traps							(any method)
Sex/life stage:					Male	Female	Imm.	Male	Female	Imm.	Male	Female	Imm.		
(1) Date:	Air temp	Veg cover	Turbidity												
Adult totals:					0			0			0				
(2) Date:	Air temp	Veg cover	Turbidity												
Adult totals:					0			0			0				
(3) Date:	Air temp	Veg cover	Turbidity												
Adult totals:					0			0			0				
(4) Date:	Air temp	Veg cover	Turbidity												
Adult totals:					0			0			0				
(5) Date:	Air temp	Veg cover	Turbidity												
Adult totals:					0			0			0				
(6) Date:	Air temp	Veg cover	Turbidity												
Adult totals:					0			0			0				
(7) Date:	Air temp	Veg cover	Turbidity												
Adult totals:					0			0			0				
(8) Date:	Air temp	Veg cover	Turbidity												
Adult totals:					0			0			0				
Peak adult count for this pond in any one visit (by torch, trap or net):								0							

Comments and constraints: Eleven Ponds surveyed in total, results for Pond P are provided in annex document 848.02_MS_annex_06092016.
Full number of survey visits not achievable because pond dried in late May and stayed dry until the end of June 2016.

Mark Woods: Brackenhurst Campus, Brackenhurst Lane

C4.3 Aquatic amphibian survey (conventional methods)- GCN results (cont - Pond 12)

NB: This page prints in landscape format

Pond reference (e.g. Pond 12)				Method:	Torch			Bottle-trap			Net			Egg search eggs found?	Larvae larvae found? (any method)
					Torch power:			No. of traps used in pond:							
No. of survey visits to this pond:															
				Sex/life stage:	Male	Female	Imm.	Male	Female	Imm.	Male	Female	Imm.		
(1) Date:	Air temp	Veg cover	Turbidity												
				Adult totals:	0			0			0				
(2) Date:	Air temp	Veg cover	Turbidity												
				Adult totals:	0			0			0				
(3) Date:	Air temp	Veg cover	Turbidity												
				Adult totals:	0			0			0				
(4) Date:	Air temp	Veg cover	Turbidity												
				Adult totals:	0			0			0				
(5) Date:	Air temp	Veg cover	Turbidity												
				Adult totals:	0			0			0				
(6) Date:	Air temp	Veg cover	Turbidity												
				Adult totals:	0			0			0				
(7) Date:	Air temp	Veg cover	Turbidity												
				Adult totals:	0			0			0				
(8) Date:	Air temp	Veg cover	Turbidity												
				Adult totals:	0			0			0				
Peak adult count for this pond in any one visit (by torch, trap or net):								0							
Comments and constraints:															

Mark Woods: Brackenhurst Campus, Brackenhurst Lane

C4.3 Aquatic amphibian survey (conventional surveys- GCN results (cont - Pond 13)

NB: This page prints in landscape format

Pond reference (e.g. Pond 13)				Method:	Torch			Bottle-trap			Net			Egg search eggs found?	Larvae larvae found? (any method)
No. of survey visits to this pond:					Torch power:			No. of traps used in pond:							
Sex/life stage:				Male	Female	Imm.	Male	Female	Imm.	Male	Female	Imm.			
(1) Date:	Air temp	Veg cover	Turbidity												
				Adult totals:	0		0		0						
(2) Date:	Air temp	Veg cover	Turbidity												
				Adult totals:	0		0		0						
(3) Date:	Air temp	Veg cover	Turbidity												
				Adult totals:	0		0		0						
(4) Date:	Air temp	Veg cover	Turbidity												
				Adult totals:	0		0		0						
(5) Date:	Air temp	Veg cover	Turbidity												
				Adult totals:	0		0		0						
(6) Date:	Air temp	Veg cover	Turbidity												
				Adult totals:	0		0		0						
(7) Date:	Air temp	Veg cover	Turbidity												
				Adult totals:	0		0		0						
(8) Date:	Air temp	Veg cover	Turbidity												
				Adult totals:	0		0		0						
Peak adult count for this pond in any one visit (by torch, trap or net):							0								
Comments and constraints:															

Mark Woods: Brackenhurst Campus, Brackenhurst Lane

C4.3 Aquatic amphibian survey (conventional methods) - GCN results (cont- Pond 14)

NB: This page prints in landscape format

Pond reference (e.g. Pond 14)				Method:	Torch			Bottle-trap			Net			Egg search eggs found?	Larvae larvae found? (any method)
No. of survey visits to this pond:					Torch power:			No. of traps used in pond:							
Sex/life stage:				Male	Female	Imm.	Male	Female	Imm.	Male	Female	Imm.			
(1) Date:	Air temp	Veg cover	Turbidity												
				Adult totals:	0		0		0		0				
(2) Date:	Air temp	Veg cover	Turbidity												
				Adult totals:	0		0		0		0				
(3) Date:	Air temp	Veg cover	Turbidity												
				Adult totals:	0		0		0		0				
(4) Date:	Air temp	Veg cover	Turbidity												
				Adult totals:	0		0		0		0				
(5) Date:	Air temp	Veg cover	Turbidity												
				Adult totals:	0		0		0		0				
(6) Date:	Air temp	Veg cover	Turbidity												
				Adult totals:	0		0		0		0				
(7) Date:	Air temp	Veg cover	Turbidity												
				Adult totals:	0		0		0		0				
(8) Date:	Air temp	Veg cover	Turbidity												
				Adult totals:	0		0		0		0				
Peak adult count for this pond in any one visit (by torch, trap or net):							0								
Comments and constraints:															

Mark Woods: Brackenhurst Campus, Brackenhurst Lane

C4.3 Aquatic amphibian survey (conventional methods) - GCN results (cont - Pond 15)

NB: This page prints in landscape format

Pond reference (e.g. Pond 15)				Method:	Torch			Bottle-trap			Net			Egg search eggs found?	Larvae larvae found? (any method)
					Torch power:			No. of traps used in pond:							
No. of survey visits to this pond:															
				Sex/life stage:	Male	Female	Imm.	Male	Female	Imm.	Male	Female	Imm.		
(1) Date:	Air temp	Veg cover	Turbidity												
				Adult totals:	0			0			0				
(2) Date:	Air temp	Veg cover	Turbidity												
				Adult totals:	0			0			0				
(3) Date:	Air temp	Veg cover	Turbidity												
				Adult totals:	0			0			0				
(4) Date:	Air temp	Veg cover	Turbidity												
				Adult totals:	0			0			0				
(5) Date:	Air temp	Veg cover	Turbidity												
				Adult totals:	0			0			0				
(6) Date:	Air temp	Veg cover	Turbidity												
				Adult totals:	0			0			0				
(7) Date:	Air temp	Veg cover	Turbidity												
				Adult totals:	0			0			0				
(8) Date:	Air temp	Veg cover	Turbidity												
				Adult totals:	0			0			0				
Peak adult count for this pond in any one visit (by torch, trap or net):								0							
Comments and constraints:															

Mark Woods: Brackenhurst Campus, Brackenhurst Lane

C4.3 Aquatic amphibian survey (conventional methods) - GCN results (cont - Pond 16)

NB: This page prints in landscape format

Pond reference (e.g. Pond 16)				Method:	Torch			Bottle-trap			Net			Egg search eggs found?	Larvae larvae found? (any method)
					Torch power:			No. of traps used in pond:							
No. of survey visits to this pond:															
				Sex/life stage:	Male	Female	Imm.	Male	Female	Imm.	Male	Female	Imm.		
(1) Date:	Air temp	Veg cover	Turbidity												
				Adult totals:	0			0			0				
(2) Date:	Air temp	Veg cover	Turbidity												
				Adult totals:	0			0			0				
(3) Date:	Air temp	Veg cover	Turbidity												
				Adult totals:	0			0			0				
(4) Date:	Air temp	Veg cover	Turbidity												
				Adult totals:	0			0			0				
(5) Date:	Air temp	Veg cover	Turbidity												
				Adult totals:	0			0			0				
(6) Date:	Air temp	Veg cover	Turbidity												
				Adult totals:	0			0			0				
(7) Date:	Air temp	Veg cover	Turbidity												
				Adult totals:	0			0			0				
(8) Date:	Air temp	Veg cover	Turbidity												
				Adult totals:	0			0			0				
Peak adult count for this pond in any one visit (by torch, trap or net):								0							
Comments and constraints:															

Mark Woods: Brackenhurst Campus, Brackenhurst Lane

C4.3 Aquatic amphibian survey (conventional methods) - GCN results (cont - Pond 17)

NB: This page prints in landscape format

Pond reference (e.g. Pond 17)				Method:	Torch			Bottle-trap			Net			Egg search eggs found?	Larvae larvae found? (any method)
					Torch power:			No. of traps used in pond:							
No. of survey visits to this pond:															
				Sex/life stage:	Male	Female	Imm.	Male	Female	Imm.	Male	Female	Imm.		
(1) Date:	Air temp	Veg cover	Turbidity												
				Adult totals:	0			0			0				
(2) Date:	Air temp	Veg cover	Turbidity												
				Adult totals:	0			0			0				
(3) Date:	Air temp	Veg cover	Turbidity												
				Adult totals:	0			0			0				
(4) Date:	Air temp	Veg cover	Turbidity												
				Adult totals:	0			0			0				
(5) Date:	Air temp	Veg cover	Turbidity												
				Adult totals:	0			0			0				
(6) Date:	Air temp	Veg cover	Turbidity												
				Adult totals:	0			0			0				
(7) Date:	Air temp	Veg cover	Turbidity												
				Adult totals:	0			0			0				
(8) Date:	Air temp	Veg cover	Turbidity												
				Adult totals:	0			0			0				
Peak adult count for this pond in any one visit (by torch, trap or net):								0							
Comments and constraints:															

Mark Woods: Brackenhurst Campus, Brackenhurst Lane

C4.3 Aquatic amphibian survey (conventional methods)- GCN results (cont - Pond 18)

NB: This page prints in landscape format

Pond reference (e.g. Pond 18)				Method:	Torch			Bottle-trap			Net			Egg search eggs found?	Larvae larvae found? (any method)
					Torch power:			No. of traps used in pond:							
No. of survey visits to this pond:															
				Sex/life stage:	Male	Female	Imm.	Male	Female	Imm.	Male	Female	Imm.		
(1) Date:	Air temp	Veg cover	Turbidity												
				Adult totals:	0			0			0				
(2) Date:	Air temp	Veg cover	Turbidity												
				Adult totals:	0			0			0				
(3) Date:	Air temp	Veg cover	Turbidity												
				Adult totals:	0			0			0				
(4) Date:	Air temp	Veg cover	Turbidity												
				Adult totals:	0			0			0				
(5) Date:	Air temp	Veg cover	Turbidity												
				Adult totals:	0			0			0				
(6) Date:	Air temp	Veg cover	Turbidity												
				Adult totals:	0			0			0				
(7) Date:	Air temp	Veg cover	Turbidity												
				Adult totals:	0			0			0				
(8) Date:	Air temp	Veg cover	Turbidity												
				Adult totals:	0			0			0				
Peak adult count for this pond in any one visit (by torch, trap or net):								0							
Comments and constraints:															

Mark Woods: Brackenhurst Campus, Brackenhurst Lane

C4.3 Aquatic amphibian survey (conventional methods) - GCN results (cont - Pond 19)

NB: This page prints in landscape format

Pond reference (e.g. Pond 19):				Method:	Torch			Bottle-trap			Net			Egg search eggs found?	Larvae larvae found? (any method)
					Torch power:			No. of traps used in pond:							
No. of survey visits to this pond:															
				Sex/life stage:	Male	Female	Imm.	Male	Female	Imm.	Male	Female	Imm.		
(1) Date:	Air temp	Veg cover	Turbidity												
				Adult totals:	0			0			0				
(2) Date:	Air temp	Veg cover	Turbidity												
				Adult totals:	0			0			0				
(3) Date:	Air temp	Veg cover	Turbidity												
				Adult totals:	0			0			0				
(4) Date:	Air temp	Veg cover	Turbidity												
				Adult totals:	0			0			0				
(5) Date:	Air temp	Veg cover	Turbidity												
				Adult totals:	0			0			0				
(6) Date:	Air temp	Veg cover	Turbidity												
				Adult totals:	0			0			0				
(7) Date:	Air temp	Veg cover	Turbidity												
				Adult totals:	0			0			0				
(8) Date:	Air temp	Veg cover	Turbidity												
				Adult totals:	0			0			0				
Peak adult count for this pond in any one visit (by torch, trap or net):								0							
Comments and constraints:															

Mark Woods: Brackenhurst Campus, Brackenhurst Lane

C4.3 Aquatic amphibian survey (conventional methods) - GCN results (cont - Pond 20)

NB: This page prints in landscape format

Pond reference (e.g. Pond 20)				Method:	Torch			Bottle-trap			Net			Egg search eggs found?	Larvae larvae found? (any method)
No. of survey visits to this pond:					Torch power:			No. of traps used in pond:							
Sex/life stage:				Male	Female	Imm.	Male	Female	Imm.	Male	Female	Imm.			
(1) Date:	Air temp	Veg cover	Turbidity												
				Adult totals:	0		0		0		0				
(2) Date:	Air temp	Veg cover	Turbidity												
				Adult totals:	0		0		0		0				
(3) Date:	Air temp	Veg cover	Turbidity												
				Adult totals:	0		0		0		0				
(4) Date:	Air temp	Veg cover	Turbidity												
				Adult totals:	0		0		0		0				
(5) Date:	Air temp	Veg cover	Turbidity												
				Adult totals:	0		0		0		0				
(6) Date:	Air temp	Veg cover	Turbidity												
				Adult totals:	0		0		0		0				
(7) Date:	Air temp	Veg cover	Turbidity												
				Adult totals:	0		0		0		0				
(8) Date:	Air temp	Veg cover	Turbidity												
				Adult totals:	0		0		0		0				
Peak adult count for this pond in any one visit (by torch, trap or net):							0								
Comments and constraints:															

Mark Woods: Brackenhurst Campus, Brackenhurst Lane

C4.3 Aquatic amphibian survey (conventional methods) - GCN results - Pond 31Was an aquatic amphibian survey done? If no, proceed to next section. Return to [Ponds 1 - 10 tab](#)Total no. of ponds surveyed: 11

Surveyor name(s):

Important. Read before completing this section: Enter GCN survey data in relevant boxes in the table below (for Pond 1) and those on subsequent sheets (for up to 9 other ponds). Enter "0" where you did a survey and found no newts; leave box blank if no survey was done. This format is designed for a typical single season survey with typical methods and effort. Explain atypical methods/effort later. For multiple year surveys, give details in annex (convert data to this format if possible). Use these tables to provide details only for the most recent season's survey. Append older survey results in full. Automatic yellow highlight indicates possible detectability problem (see Evaluation & interpretation section, later).

Pond reference (e.g. "Pond 31") - below				Method:	Torch			Bottle-trap			Net			Egg search eggs found?	Larvae larvae found? (any method)
					Torch power:			No. of traps used in pond:							
No. of survey visits to this pond:															
Sex/life stage:				Male	Female	Imm.	Male	Female	Imm.	Male	Female	Imm.			
(1) Date:	Air temp	Veg cover	Turbidity												
				Adult totals:	0		0		0						
(2) Date:	Air temp	Veg cover	Turbidity												
				Adult totals:	0		0		0						
(3) Date:	Air temp	Veg cover	Turbidity												
				Adult totals:	0		0		0						
(4) Date:	Air temp	Veg cover	Turbidity												
				Adult totals:	0		0		0						
(5) Date:	Air temp	Veg cover	Turbidity												
				Adult totals:	0		0		0						
(6) Date:	Air temp	Veg cover	Turbidity												
				Adult totals:	0		0		0						
(7) Date:	Air temp	Veg cover	Turbidity												
				Adult totals:	0		0		0						
(8) Date:	Air temp	Veg cover	Turbidity												
				Adult totals:	0		0		0						
Peak adult count for this pond in any one visit (by torch, trap or net):					0										

Comments and constraints:

Mark Woods: Brackenhurst Campus, Brackenhurst Lane

C4.3 Aquatic amphibian survey (conventional methods)- GCN results (cont.)

NB: This page prints in landscape format

Pond reference (e.g. Pond 32)				Method:	Torch			Bottle-trap			Net			Egg search eggs found?	Larvae larvae found? (any method)
No. of survey visits to this pond:					Torch power:			No. of traps used in pond:							
Sex/life stage:				Male	Female	Imm.	Male	Female	Imm.	Male	Female	Imm.			
(1) Date:	Air temp	Veg cover	Turbidity												
				Adult totals:	0		0		0		0				
(2) Date:	Air temp	Veg cover	Turbidity												
				Adult totals:	0		0		0		0				
(3) Date:	Air temp	Veg cover	Turbidity												
				Adult totals:	0		0		0		0				
(4) Date:	Air temp	Veg cover	Turbidity												
				Adult totals:	0		0		0		0				
(5) Date:	Air temp	Veg cover	Turbidity												
				Adult totals:	0		0		0		0				
(6) Date:	Air temp	Veg cover	Turbidity												
				Adult totals:	0		0		0		0				
(7) Date:	Air temp	Veg cover	Turbidity												
				Adult totals:	0		0		0		0				
(8) Date:	Air temp	Veg cover	Turbidity												
				Adult totals:	0		0		0		0				
Peak adult count for this pond in any one visit (by torch, trap or net):							0								
Comments and constraints:															

Mark Woods: Brackenhurst Campus, Brackenhurst Lane

C4.3 Aquatic amphibian survey (conventional surveys- GCN results (cont.))

NB: This page prints in landscape format

Pond reference (e.g. Pond 33)				Method:	Torch			Bottle-trap			Net			Egg search eggs found?	Larvae larvae found? (any method)
No. of survey visits to this pond:					Torch power:			No. of traps used in pond:							
Sex/life stage:				Male	Female	Imm.	Male	Female	Imm.	Male	Female	Imm.			
(1) Date:	Air temp	Veg cover	Turbidity												
				Adult totals:	0		0		0		0				
(2) Date:	Air temp	Veg cover	Turbidity												
				Adult totals:	0		0		0		0				
(3) Date:	Air temp	Veg cover	Turbidity												
				Adult totals:	0		0		0		0				
(4) Date:	Air temp	Veg cover	Turbidity												
				Adult totals:	0		0		0		0				
(5) Date:	Air temp	Veg cover	Turbidity												
				Adult totals:	0		0		0		0				
(6) Date:	Air temp	Veg cover	Turbidity												
				Adult totals:	0		0		0		0				
(7) Date:	Air temp	Veg cover	Turbidity												
				Adult totals:	0		0		0		0				
(8) Date:	Air temp	Veg cover	Turbidity												
				Adult totals:	0		0		0		0				
Peak adult count for this pond in any one visit (by torch, trap or net):								0							
Comments and constraints:															

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C4.3 Aquatic amphibian survey (conventional methods) - GCN results (cont.)

NB: This page prints in landscape format

Pond reference (e.g. Pond 34)				Method:	Torch			Bottle-trap			Net			Egg search eggs found?	Larvae larvae found? (any method)
					Torch power:			No. of traps used in pond:							
No. of survey visits to this pond:															
				Sex/life stage:	Male	Female	Imm.	Male	Female	Imm.	Male	Female	Imm.		
(1) Date:	Air temp	Veg cover	Turbidity												
				Adult totals:	0			0			0				
(2) Date:	Air temp	Veg cover	Turbidity												
				Adult totals:	0			0			0				
(3) Date:	Air temp	Veg cover	Turbidity												
				Adult totals:	0			0			0				
(4) Date:	Air temp	Veg cover	Turbidity												
				Adult totals:	0			0			0				
(5) Date:	Air temp	Veg cover	Turbidity												
				Adult totals:	0			0			0				
(6) Date:	Air temp	Veg cover	Turbidity												
				Adult totals:	0			0			0				
(7) Date:	Air temp	Veg cover	Turbidity												
				Adult totals:	0			0			0				
(8) Date:	Air temp	Veg cover	Turbidity												
				Adult totals:	0			0			0				
Peak adult count for this pond in any one visit (by torch, trap or net):								0							
Comments and constraints:															

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C4.3 Aquatic amphibian survey (conventional methods) - GCN results (cont.)

NB: This page prints in landscape format

Pond reference (e.g. Pond 35)				Method:	Torch			Bottle-trap			Net			Egg search eggs found?	Larvae larvae found? (any method)
					Torch power:			No. of traps used in pond:							
No. of survey visits to this pond:															
				Sex/life stage:	Male	Female	Imm.	Male	Female	Imm.	Male	Female	Imm.		
(1) Date:	Air temp	Veg cover	Turbidity												
				Adult totals:	0			0			0				
(2) Date:	Air temp	Veg cover	Turbidity												
				Adult totals:	0			0			0				
(3) Date:	Air temp	Veg cover	Turbidity												
				Adult totals:	0			0			0				
(4) Date:	Air temp	Veg cover	Turbidity												
				Adult totals:	0			0			0				
(5) Date:	Air temp	Veg cover	Turbidity												
				Adult totals:	0			0			0				
(6) Date:	Air temp	Veg cover	Turbidity												
				Adult totals:	0			0			0				
(7) Date:	Air temp	Veg cover	Turbidity												
				Adult totals:	0			0			0				
(8) Date:	Air temp	Veg cover	Turbidity												
				Adult totals:	0			0			0				
Peak adult count for this pond in any one visit (by torch, trap or net):								0							
Comments and constraints:															

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C4.3 Aquatic amphibian survey (conventional methods) - GCN results (cont.)

NB: This page prints in landscape format

Pond reference (e.g. Pond 16)				Method:	Torch			Bottle-trap			Net			Egg search eggs found?	Larvae larvae found? (any method)
No. of survey visits to this pond:					Torch power:			No. of traps used in pond:							
Sex/life stage:				Male	Female	Imm.	Male	Female	Imm.	Male	Female	Imm.			
(1) Date:	Air temp	Veg cover	Turbidity												
				Adult totals:	0		0		0		0				
(2) Date:	Air temp	Veg cover	Turbidity												
				Adult totals:	0		0		0		0				
(3) Date:	Air temp	Veg cover	Turbidity												
				Adult totals:	0		0		0		0				
(4) Date:	Air temp	Veg cover	Turbidity												
				Adult totals:	0		0		0		0				
(5) Date:	Air temp	Veg cover	Turbidity												
				Adult totals:	0		0		0		0				
(6) Date:	Air temp	Veg cover	Turbidity												
				Adult totals:	0		0		0		0				
(7) Date:	Air temp	Veg cover	Turbidity												
				Adult totals:	0		0		0		0				
(8) Date:	Air temp	Veg cover	Turbidity												
				Adult totals:	0		0		0		0				
Peak adult count for this pond in any one visit (by torch, trap or net):							0								
Comments and constraints:															

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C4.3 Aquatic amphibian survey (conventional methods) - GCN results (cont.)

NB: This page prints in landscape format

Pond reference (e.g. Pond 37)				Method:	Torch			Bottle-trap			Net			Egg search eggs found?	Larvae larvae found? (any method)
No. of survey visits to this pond:					Torch power:			No. of traps used in pond:							
Sex/life stage:				Male	Female	Imm.	Male	Female	Imm.	Male	Female	Imm.			
(1) Date:	Air temp	Veg cover	Turbidity												
				Adult totals:	0		0		0		0				
(2) Date:	Air temp	Veg cover	Turbidity												
				Adult totals:	0		0		0		0				
(3) Date:	Air temp	Veg cover	Turbidity												
				Adult totals:	0		0		0		0				
(4) Date:	Air temp	Veg cover	Turbidity												
				Adult totals:	0		0		0		0				
(5) Date:	Air temp	Veg cover	Turbidity												
				Adult totals:	0		0		0		0				
(6) Date:	Air temp	Veg cover	Turbidity												
				Adult totals:	0		0		0		0				
(7) Date:	Air temp	Veg cover	Turbidity												
				Adult totals:	0		0		0		0				
(8) Date:	Air temp	Veg cover	Turbidity												
				Adult totals:	0		0		0		0				
Peak adult count for this pond in any one visit (by torch, trap or net):							0								
Comments and constraints:															

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C4.3 Aquatic amphibian survey (conventional methods)- GCN results (cont.)

NB: This page prints in landscape format

Pond reference (e.g. Pond 38)				Method:	Torch			Bottle-trap			Net			Egg search eggs found?	Larvae larvae found? (any method)
No. of survey visits to this pond:					Torch power:			No. of traps used in pond:							
Sex/life stage:				Male	Female	Imm.	Male	Female	Imm.	Male	Female	Imm.			
(1) Date:	Air temp	Veg cover	Turbidity												
				Adult totals:	0		0		0		0				
(2) Date:	Air temp	Veg cover	Turbidity												
				Adult totals:	0		0		0		0				
(3) Date:	Air temp	Veg cover	Turbidity												
				Adult totals:	0		0		0		0				
(4) Date:	Air temp	Veg cover	Turbidity												
				Adult totals:	0		0		0		0				
(5) Date:	Air temp	Veg cover	Turbidity												
				Adult totals:	0		0		0		0				
(6) Date:	Air temp	Veg cover	Turbidity												
				Adult totals:	0		0		0		0				
(7) Date:	Air temp	Veg cover	Turbidity												
				Adult totals:	0		0		0		0				
(8) Date:	Air temp	Veg cover	Turbidity												
				Adult totals:	0		0		0		0				
Peak adult count for this pond in any one visit (by torch, trap or net):							0								
Comments and constraints:															

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C4.3 Aquatic amphibian survey (conventional methods) - GCN results (cont.)

NB: This page prints in landscape format

Pond reference (e.g. Pond 39):				Method:	Torch			Bottle-trap			Net			Egg search eggs found?	Larvae larvae found? (any method)
					Torch power:			No. of traps used in pond:							
No. of survey visits to this pond:															
				Sex/life stage:	Male	Female	Imm.	Male	Female	Imm.	Male	Female	Imm.		
(1) Date:	Air temp	Veg cover	Turbidity												
				Adult totals:	0			0			0				
(2) Date:	Air temp	Veg cover	Turbidity												
				Adult totals:	0			0			0				
(3) Date:	Air temp	Veg cover	Turbidity												
				Adult totals:	0			0			0				
(4) Date:	Air temp	Veg cover	Turbidity												
				Adult totals:	0			0			0				
(5) Date:	Air temp	Veg cover	Turbidity												
				Adult totals:	0			0			0				
(6) Date:	Air temp	Veg cover	Turbidity												
				Adult totals:	0			0			0				
(7) Date:	Air temp	Veg cover	Turbidity												
				Adult totals:	0			0			0				
(8) Date:	Air temp	Veg cover	Turbidity												
				Adult totals:	0			0			0				
Peak adult count for this pond in any one visit (by torch, trap or net):								0							
Comments and constraints:															

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C4.3 Aquatic amphibian survey (conventional methods) - GCN results (cont.)

NB: This page prints in landscape format

Pond reference (e.g. Pond 40)				Method:	Torch			Bottle-trap			Net			Egg search eggs found?	Larvae larvae found? (any method)
No. of survey visits to this pond:					Torch power:			No. of traps used in pond:							
Sex/life stage:				Male	Female	Imm.	Male	Female	Imm.	Male	Female	Imm.			
(1) Date:	Air temp	Veg cover	Turbidity												
				Adult totals:	0		0		0		0				
(2) Date:	Air temp	Veg cover	Turbidity												
				Adult totals:	0		0		0		0				
(3) Date:	Air temp	Veg cover	Turbidity												
				Adult totals:	0		0		0		0				
(4) Date:	Air temp	Veg cover	Turbidity												
				Adult totals:	0		0		0		0				
(5) Date:	Air temp	Veg cover	Turbidity												
				Adult totals:	0		0		0		0				
(6) Date:	Air temp	Veg cover	Turbidity												
				Adult totals:	0		0		0		0				
(7) Date:	Air temp	Veg cover	Turbidity												
				Adult totals:	0		0		0		0				
(8) Date:	Air temp	Veg cover	Turbidity												
				Adult totals:	0		0		0		0				
Peak adult count for this pond in any one visit (by torch, trap or net):							0								
Comments and constraints:															