European Site Conservation Objectives: Supplementary Advice on Conserving and Restoring Site Features

Lyppard Grange Ponds Special Area of Conservation (SAC)
Site code: UK0030198

Great Crested Newt (female)

Date of Publication: 24 June 2016

About this document

This document provides Natural England's supplementary advice about the European Site Conservation Objectives relating to Lyppard Grange Ponds SAC. This advice should therefore be read together with the SAC Conservation Objectives available here.

You should use the Conservation Objectives, this Supplementary Advice and any case-specific advice given by Natural England, when developing, proposing or assessing an activity, plan or project that may affect this site. Any proposals or operations which may affect the site or its qualifying features should be designed so they do not adversely affect any of the attributes listed in the objectives and supplementary advice.

This supplementary advice to the Conservation Objectives describes in more detail the range of ecological attributes on which the qualifying features will depend and which are most likely to contribute to a site's overall integrity. It sets out minimum targets for each qualifying feature to achieve in order to meet the site's objectives.

The tables provided below bring together the findings of the best available scientific evidence relating to the site's qualifying features, which may be updated or supplemented in further publications from Natural England and other sources. The local evidence used in preparing this supplementary advice has been cited. The references to the national evidence used are available on request. Where evidence and references have not been indicated, Natural England has applied ecological knowledge and expert judgement. You may decide to use other additional sources of information.

In many cases, the attribute targets shown in the tables indicate whether the current objective is to 'maintain' or 'restore' the attribute. This is based on the best available information, including that gathered during monitoring of the feature's current condition. As new information on feature condition becomes available, this will be added so that the advice remains up to date.

The targets given for each attribute do not represent thresholds to assess the significance of any given impact in Habitats Regulations Assessments. You will need to assess this on a case-by-case basis using the most current information available.

Some, but not all, of these attributes can also be used for regular monitoring of the actual condition of the designated features. The attributes selected for monitoring the features, and the standards used to assess their condition, are listed in separate monitoring documents, which will be available from Natural England.

These tables do not give advice about SSSI features or other legally protected species which may also be present within the European Site.

If you have any comments or queries about this Supplementary Advice document please contact your local Natural England adviser or email
HDIRConservationObjectivesNE@naturalengland.org.uk

About this site

European Site information

Name of European Site	Lyppard Grange Ponds SAC
Location	Worcestershire
Site maps	The designated boundary of this site can be viewed here on the MAGIC website
Designation Date	01/04/2005
Qualifying Features	S1166 Great crested newt *Triturus cristatus*
Designation Area	1.09ha
Designation Changes	None
Feature Condition Status	Details of the feature condition assessments made at this site can be found using Natural England's Designated Sites System
Names of component Sites of Special Scientific Interest (SSSIs)	Lyppard Grange ponds SSSI
Relationship with other European or International Site designations	None
Further information	Natura 2000 Standard Data Form for Lyppard Grange Ponds SAC

Site background and geography

Lyppard Grange Ponds SAC can be found behind the community shopping area in Warndon Villages in the city of Worcester, and was once the garden of Lyppard Grange farmhouse. The area serves as public open space within recently constructed housing and other built development.

The SAC includes two field ponds located in the grounds of the former Lyppard Grange Farm. These two ponds, along with the surrounding terrestrial habitats, support a large breeding colony of great crested newts, and are a remnant of a formerly more widespread newt habitat when large numbers of ponds were maintained for agricultural purposes.

Previously part of a formal garden and orchard, the terrestrial habitat within these grounds now comprises rough grassland with brambles and scrub, and retains many mature native and exotic trees.

Despite its small size, the site is very important for local wildlife as part of a network of nature conservation areas throughout the Villages and forms part of a Local Nature Reserve.

About the qualifying features of the SAC

The following section gives you additional, site-specific information about this SAC's qualifying features. These are the natural habitats and/or species for which this SAC has been designated.

Qualifying habitats:

Not applicable

Qualifying Species:

- **S1166** Great crested newt ***Triturus cristatus***

  The great crested newt is the largest native British newt, reaching up to around 17cms in length. Newts require aquatic habitats for breeding. Eggs are laid singly on pond vegetation in spring, and larvae develop over summer to emerge in August – October, normally taking 2–4 years to reach maturity. Juveniles spend most time on land, and all terrestrial phases may range a considerable distance from breeding sites.

  At designation, the two small ponds at this SAC consistently yielded high counts of great crested newts. The breeding ponds are surrounded by rough grassland, individual trees and the area is bordered on two sides by hedgerow. The wider area is developed, meaning that the site is enclosed by a supermarket, housing estate, school and community centre.

  The great crested newt is also fully protected under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended) and Schedule 2 of the Conservation of Habitats and Species Regulations 2010 (as amended), making it a 'European Protected Species'. A Licence may therefore be required before undertaking any activities likely to harm or disturb great crested newts.

Table 1: Supplementary Advice for Qualifying Features: S1166 Great crested newt *Triturus cristatus*

Attributes		Targets	Supporting and Explanatory Notes	Sources of site-based evidence (where available)
Supporting processes (on which the feature and/or its supporting habitat relies)	Conservation measures	Implement the management measures (either within and/or outside the site boundary as appropriate) which are necessary to maintain the structure, functions and supporting processes associated with Great Crested Newt and/or its supporting habitats.	Active and ongoing conservation management is needed to protect, maintain or restore this feature at this site. Further details about the necessary conservation measures for this site can be provided by contacting Natural England. This information will typically be found within, where applicable, supporting documents such as Natura 2000 Site Improvement Plan, site management strategies or plans, the Views about Management Statement for the underpinning SSSI and/or management agreements.	SHEPHERD, A. 2008. Lyppard Grange LNR Management Plan ENGLISH NATURE, 2005. View about the management of Lyppard Grange Ponds SSSI. Available at http://www.sssi.naturalengland.org.uk/Special/sssi/vam/VAM%2020000428.pdf NATURAL ENGLAND, 2014. Site Improvement Plan: Lyppard Grange Ponds SAC (SIP129)
Supporting habitat: extent and distribution	Extent of supporting habitat	Maintain the total extent of the habitats which support the Great Crested Newt feature at: Lowland Ponds – 0.09ha Lowland Grassland - 1.00ha	In order to contribute towards the objective of achieving an overall favourable conservation status of the feature at a UK level, it is important to maintain or if appropriate restore the extent of supporting habitats and their range within this SAC. The information available on the extent and distribution of supporting habitat used by the feature may be approximate depending on the nature, age and accuracy of data collection, and may be subject to periodic review in light of improvements in data.	Based on GIS measurements 19th Feb 2001
	Distribution of supporting habitat	Maintain the distribution and continuity of the Great Crested Newt and its supporting habitat, including where applicable its component vegetation types and associated transitional vegetation types, across the site	A contraction in the range, or geographic spread, of the feature (and its component vegetation) across the site will reduce its overall area, the local diversity and variations in its structure and composition, and may undermine its resilience to adapt to future environmental changes. Contraction may also reduce and break up the continuity of a habitat within a site and how well the species feature is able to occupy and use habitat within the site. Such fragmentation may have a greater amount of open	

Attributes		Targets	Supporting and Explanatory Notes	Sources of site-based evidence (where available)
			edge habitat which will differ in the amount of light, temperature, wind, and even noise that it receives compared to its interior. These conditions may not be suitable for this feature and this may affect its viability.	
Supporting processes (on which the feature and/or its supporting habitat relies)	Adaptation and resilience	Restore the feature's ability, and that of its supporting habitat, to adapt or evolve to wider environmental change, either within or external to the site	This recognises the increasing likelihood of supporting habitat features to absorb or adapt to wider environmental changes. Resilience may be described as the ability of an ecological system to cope with, and adapt to environmental stress and change whilst retaining the same basic structure and ways of functioning. Such environmental changes may include changes in sea levels, precipitation and temperature for example, which are likely to affect the extent, distribution, composition and functioning of a feature within a site. The vulnerability and response of features to such changes will vary. Using best available information, any necessary or likely adaptation or adjustment by the feature and its management in response to actual or expected climatic change should be allowed for, as far as practicable, in order to ensure the feature's long-term viability. The overall vulnerability of this particular SAC to climate change has been assessed by Natural England as *moderate*, taking into account the sensitivity, fragmentation, topography and management of its habitats/supporting habitats. This means that that some adaptation action for specific issues may be required, such as reducing habitat fragmentation, creating more habitat to buffer the site or expand the habitat into more varied landscapes and addressing particular management and condition issues. Individual species may be more or less vulnerable than their habitat itself. In many cases, change will be inevitable so appropriate monitoring would be required.	NATURAL ENGLAND, 2015. Climate Change Theme Plan and supporting National Biodiversity Climate Change Vulnerability Assessments (NBCCVAs) for SACs and SPAs in England [Available at http://publications.naturalengland.org.uk/publication/4954594591375360].
Supporting habitat: structure/ function	Soils, substrate and nutrient cycling	Maintain the properties of the underlying soil types, including structure, bulk density, total carbon, pH, soil nutrient status and fungal:bacterial ratio, within typical values for the Great Crested Newt's supporting habitat	Soil supports basic ecosystem function and is a vital part of the natural environment. Its properties strongly influence the colonisation, growth and distribution of those plant species which together form vegetation types, and therefore provides a habitat used by a wide range of organisms. Soil biodiversity has a vital role to recycle organic matter. Changes to natural soil properties may therefore affect the ecological structure, function and processes associated with the supporting habitat of this Annex II feature.	
Supporting	Water	Maintain pond water quality and	For many SAC features which are dependent on wetland habitats	

Attributes		Targets	Supporting and Explanatory Notes	Sources of site-based evidence (where available)
processes (on which the feature and/or its supporting habitat relies)	quantity/quality	quantity to a standard which provides the necessary conditions to support the feature; Pond levels should typically be between 200-1000mm but ponds are seasonal and can dry out completely in dry summers. Maintain the quality of pondwaters within the site as indicated by the continued presence of an abundant and diverse invertebrate community.	supported by surface and/or ground water, maintaining the quality and quantity of water supply will be critical, especially at certain times of year. Poor water quality and inadequate quantities of water can adversely affect the structure and function of the supporting habitat types and the Great Crested Newt population. Typically, meeting the surface water and groundwater environmental standards set out by the Water Framework Directive (WFD 2000/60/EC) will also be sufficient to support the achievement of SAC Conservation Objectives but in some cases more stringent standards may be needed to reflect the ecological needs of the species feature. Further site-specific investigations may be required to establish appropriate water quality standards for the SAC. The presence of an abundant and diverse community of freshwater invertebrates within breeding ponds can be indicative of suitable water quality standards. Invertebrate groups present should include groups such as mayfly larvae and water shrimps. This will ensure ponds support a healthy (mainly invertebrate) fauna to provide food for developing newt larvae and adults.	
	Air quality	Maintain or, where necessary, restore concentrations and deposition of air pollutants to at or below the site-relevant Critical Load or Level values given for this feature of the site on the Air Pollution Information System (www.apis.ac.uk).	The supporting habitat of this feature is considered sensitive to changes in air quality. Exceedance of critical values for air pollutants may modify the chemical status of a habitat's substrate, accelerating or damaging plant growth, altering its vegetation structure and composition (including food-plants) and reducing supporting habitat quality and population viability of this feature.	More information about site-relevant Critical Loads and Levels for this SAC is available by using the 'search by site' tool on the Air Pollution Information System
Supporting habitat: structure/ function	Overall Habitat Suitability Index score	For this SAC, maintain an overall Great Crested Newt Habitat Suitability Index score of no less than 0.8.	The Habitat Suitability Index provides a measure of evaluating habitat quality and quantity for Great Crested Newts. The Index score lies between 0 and 1, with 1 representing optimal GCN habitat. In general, the higher the index score the more likely the site is to support great crested newts. The HSI should not be used as a substitute for more detailed surveys and consideration of other attributes where necessary.	UK AMPHIBIAN AND REPTILE GROUPS (ARG-UK) Advice Note 5 on the Great Crested Newt Habitat Suitability Index (May 2010).

Attributes		Targets	Supporting and Explanatory Notes	Sources of site-based evidence (where available)
Supporting habitat: structure/ function	Presence of ponds	Maintain the number and/or surface area of ponds present within the site at 2 ponds covering 0.09ha.	Ponds include breeding ponds as well as non-breeding ponds, since the latter may be used for foraging or sustaining prey populations. The surface area of a pond is taken from when water reaches its highest level (excluding flooding events), which will usually be in the spring. Ponds should have a high degree of permanence (they never or rarely dry out other than though natural drought) and this may be adversely affected by changes in the supply or flow of water (from either surface water and/or groundwater sources] to the ponds.	
	Permanence of ponds	Maintain the permanence of water within ponds present within the site		
	Cover of macrophytes	Maintain a high cover of macrohytes, typically between 50-80%, within ponds	Marginal and emergent vegetation are important components of a great crested newt pond as they provide excellent egg-laying sites. Good plants for this purpose include water forget-me-not *Myosotis scorpioides*, flote/sweet grass *Glyceria fluitans* and great hairy willowherb *Epilobium hirsutum*. They are, however, an integral part of the natural successional change of a waterbody and whilst it is preferable to have a good range and area of marginal plants, they should not extend across the entire water surface. In most circumstances it will be desirable to retain a fringe of marginal and emergent vegetation around at least half of a pond's edge. Where the marginal vegetation is particularly invasive, and provides no specific benefit to crested newts, it may be decided that its complete removal is necessary.	
	Supporting terrestrial habitat	Maintain the quality of terrestrial habitat likely to be utilised by Great Crested Newts, with no fragmentation of habitat by significant barriers to newt dispersal.	Great crested newts need both aquatic and terrestrial habitat. Good quality terrestrial habitat, particularly within 500m of the breeding ponds, provides important sheltering, dispersing and foraging conditions. Such habitat can include all semi-natural habitats along with rough tussocky grassland, scrub, woodland, as well as 'brownfield' land or low-intensity farmland. Good quality terrestrial habitat for Great Crested Newts also has structural diversity which can be provided by features such as hedges, ditches, stone walls, old farm buildings, loose stone/rocks, rabbit burrows and small mammal holes. Good habitat provides a range of invertebrates, such as earthworms, insects, spiders and slugs, on which newts are known to feed. Fragmentation of habitat occurs where there are significant barriers to newt movement, such as walls and buildings, but not footpaths or tracks. Newts will disperse over land to forage for food, and move between ponds.	

Attributes		Targets	Supporting and Explanatory Notes	Sources of site-based evidence (where available)
			The distances moved during dispersal vary widely according to habitat quality and availability. At most sites, the majority of adults probably stay within around 250m of the breeding pond but may well travel further if there are areas of high quality foraging and refuge habitat extending beyond this range.	
Supporting habitat: structure/ function	Shading of ponds	Ensure pond perimeters are generally free of shade (typically no more than 60% cover of the shoreline)	Shading from trees and/or buildings (not including emergent pond vegetation) can negatively affect the abundance of marginal vegetation in ponds, water temperature and the rate of hatching and development of great crested newt eggs and larvae.	
	Presence of fish and wildfowl	Ensure fish and wildfowl are either absent or rare in all ponds.	At high densities waterfowl (i.e. most water birds such as ducks, geese and swans but excluding moorhen) can remove all aquatic vegetation, adversely affect water quality and create turbid pond water conditions. Some may also actively hunt adult Great Crested Newts and their larvae. Similarly fish can be significant predators of newt larvae. The presence of waterfowl and fish can reduce habitat suitability. These should be wholly absent form sites which support fewer than 5 ponds.	
Population (of the feature)	Population abundance	Maintain the abundance of the Great Crested Newt population at a level which consistently exceeds an average peak count of 100 adults, whilst avoiding deterioration from its current level as indicated by the latest mean peak count or equivalent.	This will ensure there is a viable population of the feature which is being maintained at or increased to a level that contributes as appropriate to its Favourable Conservation Status across its natural range in the UK. Due to the dynamic nature of population change, the target-value given for the population size or presence of this feature is considered to be the minimum standard for conservation/restoration measures to achieve. This minimum-value may be revised where there is evidence to show that a population's size or presence has significantly changed as a result of natural factors or management measures and has been stable at or above a new level over a considerable period. The values given here may also be updated in future to reflect any strategic objectives which may be set at a national level for this feature. Given the likely fluctuations in numbers over time, any impact-assessments should focus on the current size of the site's population, as derived from the latest known or estimated level established using the best available data. This advice accords with the obligation to avoid deterioration of the site or significant disturbance of the species for which the site is designated, and seeks to avoid plans or projects that may affect the site giving rise to the risk of deterioration. Similarly, where there is evidence to show that a feature has historically been more abundant than the stated minimum target and its current level, the ongoing capacity of the	

Attributes		Targets	Supporting and Explanatory Notes	Sources of site-based evidence (where available)
			site to accommodate the feature at such higher levels in future should also be taken into account in any assessment. Unless otherwise stated, the population size or presence will be that measured using standard methods, such as peak mean counts or breeding surveys. This value is also provided recognising there will be inherent variability as a result of natural fluctuations and margins of error during data collection. Whilst we will endeavour to keep these values as up to date as possible, local Natural England staff can advise that the figures stated are the best available. Estimating the average size of the Great Crested Newt population will normally be based on the peak count of adults undertaken in the known peak season for the area, and in-year weather conditions. The peak count is derived by summing the counts across the site on 'best' night for each season. Considerable natural between-year variation in population counts is frequent so monitoring targets may be lower than the baseline-value given.	
Population (of the feature)	Population viability	Maintain a consistent presence of great crested newt eggs in breeding ponds at a level which is likely to maintain the abundance of the population at or above its target level.	A "breeding pond" is defined as a pond in which egg-laying and successful metamorphosis is likely to occur at least once every three years. The optimum time to survey for eggs is mid-March to mid-May. Presence of eggs can be recorded by day or night visits and surveys should be combined with visits for the adult component.	
	Supporting meta-populations	Maintain the connectivity of the SAC population with its associated meta-population (either within or outside of the site boundary)	Great crested newts often exist as metapopulations which are groups of associated populations made up of newts which breed in, and live around, a cluster of ponds. There will be some interchange of newts between these populations, even though most adults consistently return to the same pond to breed, and so it will be important to avoid the isolation of these populations from each other. A metapopulation associated with a SAC may occur outside of the designated site boundary. The connectivity of the wider local landscape to the SAC may therefore be important as this may help to ensure the survival of the overall population even if sub-populations are temporarily affected by, for example, pond desiccation or fish introductions.	

Attributes		Targets	Supporting and Explanatory Notes	Sources of site-based evidence (where available)
			With regard to this SAC, the nearby Topham Avenue pond is outside of the SAC boundary but is known to support a good Great Created Newt population and is probably used by the same individuals comprising the SAC population	
Version Control Advice last updated: N/A				
Variations from national feature-framework of integrity-guidance: N/A				

Page intentionally blank