M54 to M6 Link Road

TR010054

Volume 6

6.3 Environmental Statement Appendices

Appendix 8.15 Great Crested Newt (2020)

Regulation 5(2)(a)

Planning Act 2008

Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009

October 2020

Infrastructure Planning

Planning Act 2008

The Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009

M54 to M6 Link Road

Development Consent Order 202[ ]

6.3 Environmental Statement Appendices

Appendix 8.15 Great Crested Newt

Regulation Number	Regulation 5(2)(a)
Planning Inspectorate Scheme Reference	TR010054
Application Document Reference	6.3
Author	M54 to M6 Link Road Project Team and Highways England

Version	Date	Status of Version
1	October 2020	DCO Application

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1 Introduction

1.1.1 Highways England are developing a link road between the M54 and M6 to provide a link between Junction 1 of the M54, M6 North and the A460 to Cannock. The M54 to M6 Link Road (the Scheme) aims to reduce congestion on local / regional routes, particularly the A449 and A460 and deliver improved transport links to encourage the development of the surrounding area.

1.1.2 This appendix has been prepared in respect of great crested newts *Triturus cristatus* (GCN) relating to the Scheme.

1.1.3 The appendix includes the following information:

- the results of surveys undertaken in spring 2020 to determine the presence/likely absence and population sizes of GCN in waterbodies not surveyed in 2019;
- technical competencies of the ecologists involved in undertaking the above surveys; and
- limitations to the assessments undertaken, and any assumptions made as a result of incomplete data.

1.1.4 This Appendix should be read in conjunction with Chapter 8: Biodiversity of the Environmental Statement (ES) Version 3 [TR010054/APP/6.1] and Appendix 8.11 Great Crested Newt [APP-183/6.3].

2 Relevant Legislation and Policy

2.1 Legislation

2.1.1 Appendix 8.1 Legislation and Planning Policy [APP-175/6.3] provides detail on the legislation that is of direct relevance to the assessment of biodiversity.

2.1.2 Appendix 8.11 Great Crested Newt [APP-183/6.3] provides detail on the legislation of direct relevance to GCN.

2.2 Planning policy

2.2.1 Full detail of relevant national and local planning policy relevant to nature conservation is provided in Appendix 8.1 Legislation and Planning Policy [APP-175/6.3] and a summary is provided in Chapter 8: Biodiversity of the ES [APP-047/6.1].

2.3 Priority species

2.3.1 Appendix 8.11 Great Crested Newt [APP-183/6.3] provides detail on the conservation status of GCN and its status as a priority species.

3 Methodology

3.1 Desk study

Background data

3.1.1 No supplementary background records have been obtained to inform GCN surveys in 2020. Appendix 8.11 Great Crested Newt [APP-183/6.3], Section 3.1 provides details on the methods of obtaining background data.

Waterbody screening

3.1.2 No supplementary waterbody screening was undertaken to inform GCN surveys in 2020. Appendix 8.11 Great Crested Newt [APP-183/6.3], Section 3.1 provides details on the methods used for screening waterbodies for further assessment.

3.2 Field surveys

Surveyor competency

3.2.1 All field surveys were led by Natural England GCN licence holders.

Habitat suitability index assessment

3.2.2 A Habitat Suitability Index (HSI) assessment was undertaken on all waterbodies surveyed in 2020, where access was possible.

3.2.3 Appendix 8.11 Great Crested Newt [APP-183/6.3], Section 3.2 provides details on the methods used when undertaking the HSI assessments.

3.2.4 Following the HSI assessment, all waterbodies considered suitable to support GCN were subject to further survey to determine GCN presence or likely absence.

Presence/ likely absence surveys

3.2.5 Further surveys of waterbodies to determine GCN presence or likely absence utilised eDNA surveys where this method was suitable i.e. the correct time of year and waterbodies with sufficient water to collect samples.

3.2.6 eDNA surveys are undertaken to determine presence or likely absence from a single survey visit, within the optimal survey season (mid-April to end of June). In addition, for waterbodies between 0 m and 250 m from the Scheme boundary, where potential impacts would be highest, due to their proximity to the Scheme, 'traditional' survey methods were also undertaken. 'Traditional' survey methods allow for a peak adult count to be recorded allowing for a population size class assessment to be made if GCN are recorded. This combination of survey effort gives a greater understanding of potential impacts.

<u>eDNA surveys</u>

3.2.7 Waterbodies subject to eDNA surveys had a water sample collected and tested for the presence of GCN. eDNA surveys were undertaken between the 15th April 2020

and 30th June 2020, in accordance with survey methodology requirements (Ref 2), by a licenced GCN ecologist.

3.2.8 Appendix 8.11 Great Crested Newt [APP-183/6.3], Section 3.2 provides further details on the methods used for eDNA surveys.

'Traditional' surveys

3.2.9 Waterbodies between 0 m and 250 m from the Scheme boundary were subject to four 'traditional' survey visits, undertaken between mid-March and mid-June, with at least two of these visits between mid-April and mid-May (the 'core period') (Ref 1).

3.2.10 Appendix 8.11 Great Crested Newt [APP-183/6.3], Section 3.2 provides further details on the 'traditional' survey methods.

3.2.11 Where no GCN were recorded during the first four surveys, it was concluded that GCN are likely to be absent from that waterbody. For all waterbodies, where a negative eDNA result was received (confirming the likely absence of GCN), no further surveys of that waterbody were undertaken from receipt of this result.

3.3 Metapopulation analysis

3.3.1 Appendix 8.11 Great Crested Newt [APP-183/6.3], Section 3.3 provides details on the 'analysis of GCN metapopulations.

3.4 Nature conservation evaluation

3.4.1 Appendix 8.11 Great Crested Newt [APP-183/6.3], Section 3.4 provides details on the evaluation of GCN populations nature conservation importance.

3.5 Assumptions and limitations

Field surveys

3.5.1 Of the 32 waterbodies requiring survey for GCN in 2020, 12 have not been accessed due to a lack of landowner permission and COVID-19 concerns. Where no data has been obtained for these waterbodies, a medium sized GCN population has been assumed in order to assess impacts and inform mitigation.

3.5.2 Two waterbodies (44 and 88) had land access either withdrawn partway through the surveys, or in the case of waterbody 88, was a controlled site where access for surveys beyond the initial HSI assessment was not permitted.

3.5.3 Limitations pertaining to the surveys of individual waterbodies are provided below in Section 4.

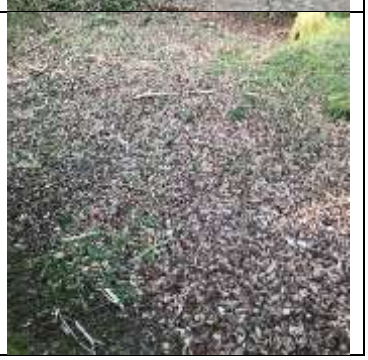
4 Results and Evaluation

4.1 Field survey

Habitat suitability index assessment

4.1.1 Table 4.1 below summarises the results of the 2020 HSI assessments.

Table 4.1: Summary of 2020 HSI assessment

No.	Grid Ref	Distance from Scheme boundary (m)	HSI Result	Suitability	Comments/ Description/ Limitations	Photograph
1	SJ 93200 04750	77	No access			Not available
2	SJ 93550 04450	35	0.85	Excellent	Large pond suitable to support GCN - further survey required.	
3	SJ 93650 04220	268	0.84	Excellent	Pond suitable to support GCN - further survey required.	
4	SJ 93870 04340	53	0.73	Good	Pond suitable to support GCN - further survey required.	Not available
5	SJ 93890 04300	54	HSI not completed - waterbody found to be dry in 2020 and has no suitability for breeding GCN – No further surveys are required.			
6	SJ 93880 04230	92	HSI not completed - waterbody found to be dry in 2020 and has no suitability for breeding GCN – No further surveys are required.			

No.	Grid Ref	Distance from Scheme boundary (m)	HSI Result	Suitability	Comments/ Description/ Limitations	Photograph
7	SJ 93850 04220	113	HSI not completed - waterbody found to be dry in 2020 and has no suitability for breeding GCN – No further surveys are required.			
8	SJ 94253 04196	244	No access			Not available
9	SJ 94264 04076	351	No access			Not available
10	SJ 94408 04325	218	No access			Not available
25	SJ 94264 05126	Inside	0.75	Good	Woodland pond suitable to support GCN - further survey required.	
26	SJ 94340 05310	Inside	0.77	Good	Woodland pond found to be suitable to support GCN - further survey required.	
29	SJ 94357 05290	Inside	0.57	Below Average	Shallow water present when HSI undertaken; however, the waterbody was found dry at the time of the eDNA survey and a water sample could not be taken. The pond is considered unsuitable to support GCN – no further survey required.	

No.	Grid Ref	Distance from Scheme boundary (m)	HSI Result	Suitability	Comments/ Description/ Limitations	Photograph
30	SJ 94777 05412	Inside	HSI not completed - waterbody found to be dry in 2020 and has no suitability for breeding GCN – No further surveys are required.			
40	SJ 94588 05930	61	0.47	Poor	Large waterbody with high waterfowl and possible fish present. May still support GCN - further surveys required.	
41	SJ 94584 05991	85	0.29	Poor	Large waterbody stocked with fish and high waterfowl present. May still support GCN - further surveys required.	
42	SJ 94608 06040	77	0.56	Below Average	Small pond suitable to support GCN – further survey required.	

No.	Grid Ref	Distance from Scheme boundary (m)	HSI Result	Suitability	Comments/ Description/ Limitations	Photograph
44	SJ 95281 05810	37	0.48	Poor	Pond surrounded by trees. Considered suitable to support GCN – further survey required. eDNA samples were not conducted on this pond due to land access issues. Reassess in 2021	
65	SJ 95627 06770	Inside	HSI not completed - waterbody found to be dry in 2020 and has no suitability for breeding GCN – No further surveys are required.			
70	SJ 95135 06631	30	0.56	Below Average	Woodland ditch within woodland. Considered suitable to support GCN - further surveys required.	
76	SJ 94869 07109	438	No access			Not available
84	SJ 95806 07258	71	0.55	Below Average	Pond shaded by surrounding trees, suitable to support GCN – further survey required.	

No.	Grid Ref	Distance from Scheme boundary (m)	HSI Result	Suitability	Comments/ Description/ Limitations	Photograph
85	SJ 95722 07406	69	0.75	Good	Open pond with moderate water quality and surrounding terrestrial habitat. Suitable to support GCN – further survey required.	
86	SJ 95735 07433	92	HSI not completed - waterbody found to be dry in 2020 and has no suitability for breeding GCN – No further surveys are required.			
87	SJ 95987 07192	11	No access			Not available
88	SJ 96407 06864	433	0.46	Poor	Garden centre water waste storage. Restricted access. HSI survey based on aerial and communication with staff.	
106	SJ 92368 04978	419	No access			Not available
107	SJ 92397 05001	436	No access			Not available

No.	Grid Ref	Distance from Scheme boundary (m)	HSI Result	Suitability	Comments/ Description/ Limitations	Photograph
108	SJ 94702 06532	339	0.58	Below average	Pond surrounded by trees, containing decaying matter. Water present when HSI undertaken; however, when eDNA was due to be undertaken, the waterbody was found to too shallow to collect water samples, so surveys were not possible. 40% of pond margin inaccessible. Considered suitable to support GCN when holding water – further survey required.	
110	SJ 95250 07668	27	No access			Not available
114	SJ 96538 07126	470	No access			Not available
130	SJ 95086 06373	1	No access			 [1]

[1] (Picture taken from 2019 survey - Appendix 8.11 Great Crested Newt [APP-183/6.3])

Presence/ likely absence surveys

eDNA surveys

4.1.2 eDNA surveys were undertaken at a total of 11 waterbodies identified as offering suitability to support GCN and holding sufficient water for samples to be collected. eDNA results for these waterbodies are provided in Table 4.2.

Table 4.2: Summary of eDNA survey results

Waterbody No.	Date eDNA sample taken	Result	Limitations
2	23/04/2020	Negative	70% of pond margin inaccessible
3	23/04/2020	Negative	10% of pond margin inaccessible
4	23/04/2020	Negative	25% of pond margin inaccessible
25	23/04/2020	Negative	30% of pond margin inaccessible
26	23/04/2020	Negative	20% of pond margin inaccessible
40	23/04/2020	Negative	None
41	23/04/2020	Negative	None
42	23/04/2020	Negative	65 - 75% of pond margin inaccessible
70	23/04/2020	Negative	10% of pond margin inaccessible
84	23/04/2020	Negative	25% of pond margin inaccessible
85	23/04/2020	Negative	None

4.1.3 The eDNA surveys found no evidence of GCN within any of the waterbodies sampled.

'Traditional' surveys

4.1.4 Presence/ likely absence surveys were commenced at 10 waterbodies; however, all waterbodies recorded a negative eDNA result prior to four survey visits being completed. When a negative eDNA result was returned, no further survey visits were undertaken.

4.1.5 Table 4.3 provides a summary of the 'traditional' presence/ likely absence surveys undertaken.

Table 4.3: Summary of 'Traditional' presence/likely absence survey results

No.	eDNA results	'Traditional' presence/likely absence survey visits				Limitations
		1	2	3	4	
2	Negative	No GCN. Smooth newt, common frog and common toad present 07/04/2020.	No survey	No survey	No survey	70% of pond margin inaccessible. Bottle trapping not conducted as pond was too shallow. Three alternative methods (torching, egg search and refugia search).
3	Negative	No GCN. Smooth newt and common frog present 07/04/2020.	No GCN, smooth newt present 15/04/2020.	No survey	No survey	10% of pond margin inaccessible.
4	Negative	No GCN. Smooth newt, common frog and common toad present 07/04/2020	No GCN, smooth newt present 15/04/2020.	No survey	No survey	25% of pond margin inaccessible.
5	No survey – Not suitable	No amphibians recorded 07/04/2020.	No survey	No survey	No survey	10% of pond margin inaccessible. Pond not suitable.
25	Negative	No GCN, smooth newt present 07/04/2020.	No GCN, smooth newt present 15/04/2020.	No survey	No survey	30% of pond margin inaccessible.
26	Negative	No GCN, smooth newt present 07/04/2020.	No GCN, smooth newt present 15/04/2020.	No survey	No survey	20% of pond margin inaccessible.
40	Negative	No survey	No survey	No survey	No survey	None
41	Negative	No survey	No survey	No survey	No survey	None
42	Negative	No amphibians recorded 07/04/2020.	No GCN, smooth newt present 15/04/2020.	No survey	No survey	65 - 75% of pond margin inaccessible.
70	Negative	No amphibians recorded 07/04/2020.	No amphibians recorded 15/04/2020.	No survey	No survey	10% of pond margin inaccessible due to steep slopes. Himalayan Balsam located at ditch edge.

No.	eDNA results	'Traditional' presence/likely absence survey visits				Limitations
		1	2	3	4	
84	Negative	No amphibians recorded 07/04/2020.	No amphibians recorded 15/04/2020.	No survey	No survey	25% of pond margin inaccessible due to steep slopes. Japanese knotweed adjacent to waterbody.
85	Negative	No GCN, common toad present 07/04/2020.	No amphibians recorded 15/04/2020.	No survey	No survey	None

4.2 Metapopulations

4.2.1 Based on 2019 and 2020 survey data, seven GCN metapopulations have been identified, where GCN have been confirmed or assumed to be present. Table 4.4 provides a list of the waterbodies present within each metapopulation and the population size class assessment for each.

4.2.2 Numbering of metapopulations has been kept consistent with the original numbering in Appendix 8.11 Great Crested Newt [APP-183/6.3].

4.2.3 Appendix 8.11 Great Crested Newt [APP-183/6.3], Section 4.3 provides details on the assessment of metapopulations.

Table 4.4: Summary of GCN metapopulations

Metapopulation number	Waterbodies within Metapopulation	Minimum distance from Scheme boundary	Metapopulation size class assessment
1	106, 107	419 m	Assumed medium population
2	1	77 m	Assumed medium population
4	8, 9, 128	244 m	Medium population
6	34, 44, 52	37 m	Medium population
8a	108	339 m	Assumed medium population
8b	76 and 110	27 m	Assumed medium population
10	87, 88, 114	11 m	Assumed medium population

4.3 Nature conservation evaluation

4.3.1 The importance of waterbodies is based on the population size class determined during surveys undertaken or assumed where access was not permitted, or surveys were incomplete. Given the confirmed or assumed presence of GCN in 15 waterbodies, all known to or assumed to support a medium population, in light of the selection criteria for LWS in Staffordshire, the seven metapopulations of GCN are each considered to be of up to County ecological importance.

5 Summary

5.1.1 The results of the 2020 GCN surveys and necessary assumptions are taken into account to define appropriate mitigation measures. These are reported in Chapter 8: Biodiversity of the ES [APP-047/6.1] and the Outline Environmental Management Plan Version 3 [TR010054/APP/6.11].

5.1.2 A total of 32 waterbodies that were not subject to survey in 2019 were scheduled for survey in 2020. Of those 32, 12 could not be accessed in 2020. Of the 20 that could be accessed, 11 were subject to eDNA surveys, six were screened out of requiring any further survey and three could not be subject to eDNA or traditional survey methods and are therefore assumed to support GCN.

5.1.3 All eDNA surveys undertaken in 2020 returned negative results.

5.1.4 The 2019 and 2020 surveys have confirmed GCN to be present in three waterbodies, 34, 52 and 128, for which medium populations are assumed for each. In addition, GCN are assumed to be present in a further 12 waterbodies. As a result, GCN are confirmed or assumed to be present in a total of 15 waterbodies within 500 m of the Scheme boundary. None of these waterbodies are situated within the Scheme boundary.

5.1.5 Seven GCN metapopulations have been identified, containing these 15 waterbodies with confirmed or assumed GCN populations.

5.1.6 Each of the metapopulations is considered to be of County ecological importance.

5.1.7 Owing to the intended programme of works, it is likely that update surveys will be required, in advance of submitting the final Natural England licence application for the Scheme, with an update walkover likely to be a minimum requirement, within 3 months of the application. In the event that waterbodies where access was not granted or surveys were incomplete become accessible, it may be that assumed results can be updated, which may in turn revise this evaluation.

6 References

Ref 1 Great Crested Newt Mitigation Guidelines. English Nature (2001)

Ref 2 Biggs J, Ewald N, Valentini A, Gaboriaud C, Griffiths RA, Foster J, Wilkinson J, Arnett A, Williams P and Dunn F 2014. Analytical and methodological development for improved surveillance of the Great Crested Newt. Defra Project WC1067. Freshwater Habitats Trust: Oxford.http://randd.defra.gov.uk/Document.aspx?Document=11973_WC1067_FinalReport.pdf