

A428 Black Cat to Caxton Gibbet improvements

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Volume 9

9.62 Reptile Survey Update Technical Note

Planning Act 2008

Rule 8(1)(k)

Infrastructure Planning (Examination Procedure) Rules
2010

November 2021

Infrastructure Planning

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**The Infrastructure Planning (Examination
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improvements
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9.62 Reptile Survey Update Technical Note

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Table of contents

Chapter	Pages
1 Summary	1
2 Introduction	2
3 Surveys	4
4 Methodology	5
4.1 Desk study	5
4.2 Coverage of Reptile Assessment Areas in 2021	5
5 Limitations	8
6 Results	9
7 Conclusion	15
8 References	16

Tables

Table 4-1: Reptile Assessment Areas Habitat Information 2018 and 2021	6
Table 6-1: Reptile Assessment Areas Habitat descriptions 2021	10

1 Summary

- 1.1.1 In 2021, an updated reptile habitat suitability assessment was undertaken of habitats previously identified as suitable for reptiles within the Survey Area of the Scheme.
- 1.1.2 An updated desk study of public domain data sources was also completed to identify relevant records of reptiles and reptile habitat that may have been reported from within the Survey Area since the reptile surveys in 2018.
- 1.1.3 The condition of the reptile habitats assessed in 2021 remains the same as described previously apart from at one site where suitability has been reduced through development. As such, the assessment and mitigation measures reported in Chapter 8, Biodiversity **[APP-077]** of the Environmental Statement remain appropriate and the findings reported in Appendix 8.13, Reptiles **[APP-200]** of the Environmental Statement remain unchanged.

2 Introduction

2.1.1 The purpose of the A428 Black Cat to Caxton Gibbet Improvements (the Scheme) is to address the problems of congestion, poor journey time reliability and poor resilience against incidents between the Black Cat and Caxton Gibbet roundabouts. The Scheme seeks to address these problems through construction of a new 10 mile (16 kilometres) dual 2-lane carriageway from the Black Cat roundabout to Caxton Gibbet roundabout, to be known as the A421, and in addition there is approximately 1.8 miles (3 kilometres) of tie-in works shown in schematic form in **Figure 2-1**.

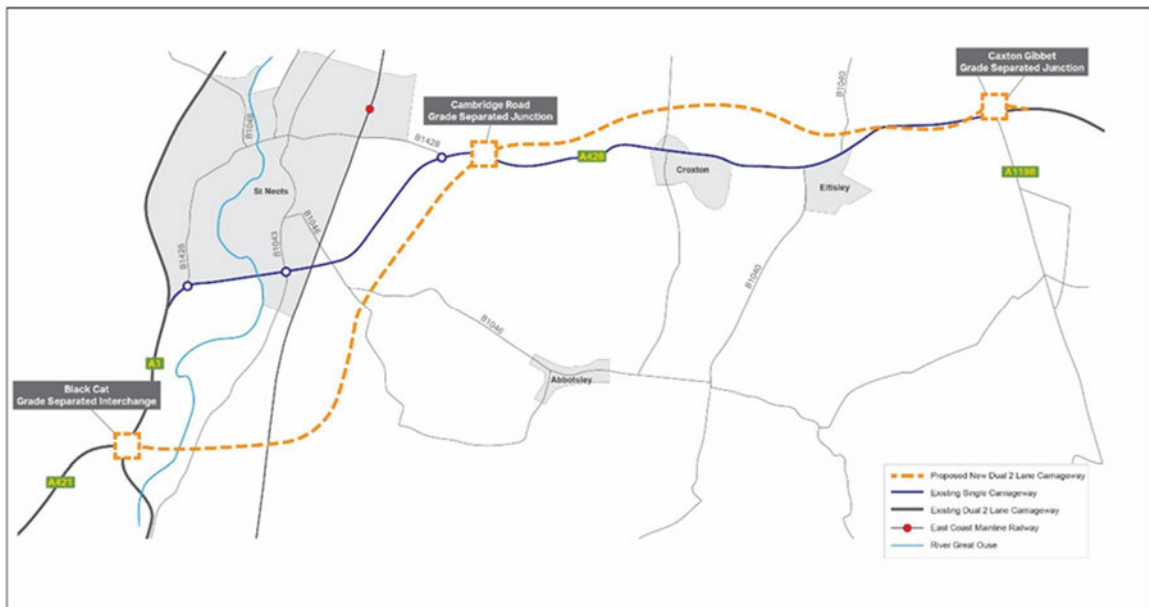


Figure 2-1 The Scheme

- 2.1.2 The purpose of this Reptile Survey Update Technical Note (the Technical Note) is to:
- Present updated baseline information on the suitability of habitats for reptiles, as part of the Scheme.
 - Identify any new records of reptiles.
 - Determine if the landscape within the Survey Area (described in Section 3) has experienced any significant changes since the reptile surveys were undertaken in 2018.
- 2.1.3 The Technical Note should be read in conjunction with the following documents:
- Chapter 8, Biodiversity **[APP-077]** of the Environmental Statement.
 - Appendix 8.3, Terrestrial Habitats **[APP-190]** of the Environmental Statement.
 - Appendix 8.13, Reptiles **[APP-200]** of the Environmental Statement.
 - Appendix 8.20, Phase 1 Habitat Survey **[APP-207]** of the Environmental Statement.

- e. Case for the Scheme [**APP-240**].
- f. Updated Background Biodiversity Information 2021 Technical Note [**TR010044/EXAM/9.57**] submitted at Deadline 5 of the Examination.

3 Surveys

- 3.1.1 The reptile assessment of the Scheme included the identification and mapping of areas of habitat suitable for reptiles within the Scheme's Order Limits and within 100m of the Order Limits (defined as the Survey Area).
- 3.1.2 Reptile surveys were undertaken in 2018 of potentially suitable areas of habitats, as reported in Appendix 8.13, Reptiles **[APP-200]** of the Environmental Statement. The results were used to inform the assessment and the identification of mitigation measures detailed in Chapter 8, Biodiversity **[APP-077]** of the Environmental Statement.
- 3.1.3 The 2018 surveys were undertaken to determine the status of reptile populations within the Survey Area and were based on survey guidance applicable at the time [REF 1-1; REF 1-2]. Of the 19 Reptile Assessment Areas (RAAs) listed in Appendix 8.13, Reptiles **[APP-200]** of the Environmental Statement, Common Lizard (*Zootoca vivipara*) was found to be present in six: RE3(E), RE4, RE5, RE6, RE8(S) and RE15(S). An individual Grass Snake (*Natrix helvetica*) was also recorded in RE8(S).
- 3.1.4 The RAAs identified and mapped in 2018 are presented in Figure 1, Annex A of Appendix 8.13, Reptiles **[APP-200]** of the Environmental Statement. These cover habitats such as, broadleaved woodland edges, unmanaged grassland areas, areas with scattered scrub, and ditches.

4 Methodology

4.1 Desk study

- 4.1.1 The objective of the 2021 desk study was to review the existing information available in the public domain concerning reptile species and habitats within the Survey Area using the following methods:
- a. An examination of the habitats of the RAAs within the Survey Area using colour 1:25,000 Ordnance Survey (OS) base maps [REF 1-3] and 2021 aerial photographs in order to observe and record discernible variations with the existing habitat baseline information from 2018, including identification of new features of ecological interest and/or significant changes in the environs of the Scheme, and nearby areas of ecological interest and features connecting these habitats (e.g. hedgerows and watercourses).
 - b. A search of new developments or other land use changes within or adjacent to the Scheme that can disturb the existing habitat baseline information.
 - c. A check for updates since 2018 to the status of internationally and nationally designated sites for reptiles, up to 2km from the Scheme using the Multi Agency Geographic Information for the Countryside (MAGIC) website [REF 1-4].
 - d. An updated data request from the two local ecological record centres relevant to the Scheme for records since 2017, including reptiles.
 - e. Consultation of the National Biodiversity Network for any updates since 2018 to reptile records within the Survey Area licensed for use for commercial purposes [REF 1-5].
 - f. A review of records of reptiles in recent publications [REF 1-6; REF 1-7; REF 1-8] to update reptile data since 2018 within the Scheme's Order Limits and the surrounding landscape up to 2km.
- 4.1.2 Further information on records obtained as part of the 2021 desk study are presented in the Updated Background Biodiversity Information 2021 Technical Note [TR010044/EXAM/9.57] submitted at Deadline 5 of the Examination.

4.2 Coverage of Reptile Assessment Areas in 2021

- 4.2.1 During 2021, detailed field surveys were undertaken across the Survey Area for the following receptors:
- a. Terrestrial habitats.
 - b. Aquatic habitats.
 - c. Bats.
 - d. Barn Owl.
 - e. Great Crested Newt.

4.2.2 The opportunity was taken during these surveys to reassess the habitat suitability for reptiles where these field surveys coincided with RAAs as identified in 2018. Observations of reptile species were also noted during the field surveys for other receptors undertaken in 2021.

4.2.3 **Table 4-1** shows which RAAs were accessed in 2018 and the surveys conducted on RAAs during 2021.

Table 4-1: Reptile Assessment Areas Habitat Information 2018 and 2021

RAA		Survey Type in 2018	Survey Type in 2021*
RE1	(W)	Not accessed but assumed no reptiles present	Roadside visual inspection and use of public rights of way
	(E)	Not accessed but assumed no reptiles present	Pond eDNA/Protected species/Terrestrial habitat survey of adjacent area
RE2		Reptile survey	Pond eDNA
RE3(W)		Reptile survey	Pond eDNA
RE3(E)		Reptile survey	Protected species
RE4		Reptile survey	Roadside visual inspection
RE5	(SW)	Reptile survey	Roadside visual inspection and use of public rights of way
	(SE)	Reptile survey	Pond eDNA/Protected species
	(N)	Reptile survey	Pond eDNA
RE6		Reptile survey	Protected species
RE7		Reptile survey	Protected species
RE8(N)		Reptile survey	Protected species
RE8(S)		Reptile survey	Aerial imagery only
RE9		Reptile survey	Protected species
RE10		Reptile survey	Protected species
RE11		Reptile survey	Protected species
RE12		Reptile survey	Pond eDNA

RAA		Survey Type in 2018	Survey Type in 2021*
RE13	(N)	Partially surveyed	Roadside visual inspection, use of public rights of way and by aerial imagery only
	(S)	Not accessed	Roadside visual inspection
RE14(N)		Not accessed but assumed no reptiles present	Not assessed
RE14(S)		Not accessed but assumed no reptiles present	Protected species
RE15(N)		Reptile survey	Roadside visual inspection
RE15	(SA)	Reptile survey	Roadside visual inspection and use of public rights of way
	(SB)	Reptile survey	Roadside visual inspection
<p>* All RAAs subject to aerial imagery assessment in 2021. Protected species refers to a survey for an alternative faunal receptor. Pond eDNA refers to samples taken during Great Crested Newt surveys.</p>			

5 Limitations

- 5.1.1 Records of reptile species are dependent upon people and organisations having made and submitted records for the area of interest. As such, a lack of records for a particular species does not necessarily mean that the species did not occur in the Survey Area. Similarly, the presence of records for any particular species does not automatically mean that said species still occurred within the Survey Area or are relevant in the context of the Scheme.
- 5.1.2 This updated assessment was based on observations made during surveys for other ecological receptors and publicly available aerial imagery. Where such surveys did not coincide with an RAA, the update was therefore limited by the date when aerial imagery was taken and the level of detail discernible from such photography.
- 5.1.3 To reduce the number of RAAs accessed only from aerial imagery, roadside inspections and public rights of way were used to provide the necessary coverage. Consequently, only one RAA – RE8(S) – relied entirely on a review of aerial photography. Using the most recent aerial imagery available from 2021 and comparing this to imagery from 2018 ensured the assessment was as accurate as possible.

6 Results

- 6.1.1 The combination of the examination of the RAA habitats within the Survey Area using colour 1:25,000 OS base maps [REF 1-1], aerial photographs and the assessment of habitats during surveys for other ecological receptors within the landscape of the Scheme and its environs has shown that they have remained very stable since 2018, apart from some successional development.
- 6.1.2 There were no significant variations found in the suitability of the habitats for reptiles (refer to **Table 6-1**)
- 6.1.3 The following developments and, or land use changes have been, or are being, undertaken since 2018:
- a. The Wintringham residential development with the capacity to provide land for the construction of some 3,500 new dwellings, plus associated community facilities and services, such as schools, shops and recreation areas.
 - b. Changes within the Breedon Quarry site (an area which needed to be assessed using aerial photography).
 - c. Archaeological trial trench excavations undertaken by the Museum of London Archaeology (MOLA) (commissioned by Skanska on behalf of Highways England (now National Highways)) during 2020 and 2021, in areas of land expected to be used by the Scheme for reasons such as floodplain compensation areas, soil storage areas, borrow pits, compound sites and construction areas.
 - d. As reported in the Case for the Scheme [**APP-240**], planning permission 17/03001/MAF was granted to Gleneden Plant Sales Ltd by Bedfordshire Borough Council on 29 June 2018. This covered the change of use to construction plant storage and sales yard, erection of workshop, office, sales reception and staff amenity facilities building, and associated parking, hardstanding, landscaping and infrastructure. This resulted in redevelopment of approximately 3.3ha (8.15 acres) of the north of the former brownfield site RE1(E).
 - e. As also reported in the Case for the Scheme [**APP-240**], planning permission 19/00841/FUL was granted on 5 February 2021 to Gleneden Plant Sales Ltd by Bedfordshire Borough Council for the erection of a new maintenance workshop with associated parking.

Table 6-1: Reptile Assessment Areas Habitat descriptions 2021

RAA		2018	2021	Comment
RE1	(W)	Short grassland and tall ruderal arable field margin adjacent to area of scrub to East	Scrub maturing with grass understorey between arable field and area of scrub in corner of road junction	Appears suitable for reptiles
	(E)	Extensive disused brownfield site with tall ruderals	North part of site now a machinery sale facility, tall ruderals in southern part of site heavily disturbed by track cycling	North part of site no longer suitable for reptiles. South part of site appears partially suitable for reptiles
RE2		Areas of mixed habitats comprising scrub, tall ruderals and bare ground	Scrub to west, bare ground to north, tall ruderals to southeast, maturing trees along north edge, hedgerow with mature trees along south edge, Rockham Ditch runs through this RAA	Remains unchanged in suitability for reptiles
RE3(W)		Hedgerow and scattered trees along West bank of River Great Ouse	Diverse vegetation structure comprising hedgerow, scattered trees, semi-improved grassland and tall ruderals giving open areas and cover between pond and West bank of River Great Ouse	Remains unchanged in suitability for reptiles
RE3(E)		Wooded strip along East bank of River Great Ouse	Wooded strip along East bank of River Great Ouse	Remains unchanged in suitability for reptiles
RE4		Roadside hedgerow with overgrown ditch	Discontinuous narrow roadside hedgerow in poor condition with distressed young trees alongside narrow roadside ditch overgrown with bramble	Remains unchanged in suitability for reptiles
RE5	(SW)	Hedgerow along East side of railway	Hedgerow along East side of railway	Remains unchanged in suitability for reptiles
	(SE)	Arable field margins with hedgerows	Largely continuous margin along South, East and North of arable field comprising tall ruderals, rough grassland, scrub and lengths of hedgerow	Remains unchanged in suitability for reptiles

RAA	2018	2021	Comment
(N)	Strip of mixed habitat including small blocks of trees on South side of farm track	Small strip of mixed tall ruderals, scrub and groups of trees along South side of farm track around two ponds	Remains unchanged in suitability for reptiles
RE6	Arable field margins	Two lengths of arable field margin, West margin comprised a discontinuous hedgerow with tall ruderal and occasional trees, East margin comprised a narrow grassland with occasional trees leading to small area of scrub at northern end	Remains unchanged in suitability for reptiles
RE7	Arable field margins, includes species rich hedgerow along length of Hen Brook to South, hedgerow with trees along West field margin and maintained hedgerow along North field margin	Species rich hedgerow/ broadleaved wooded strip with associated grassland and tall ruderal on South side of arable field along North side of Hen Brook, hedgerow with associated tall ruderal and scattered trees along West side of arable field, narrow, maintained hedgerow along North side of arable field	Remains unchanged in suitability for reptiles
RE8(N)	Intact hedgerows with occasional mature trees on both sides of stretch of existing A428 carriageway	Narrow intact mature hedgerow replanted in places with patches of grassland and tall ruderal along both sides of existing A428 carriageway	Remains unchanged in suitability for reptiles
RE8(S)	Grassland with tall ruderals and scattered shrubs and young trees alongside ditch	Narrow grassland field margin with tall ruderals, scrub and occasional shrubs and small trees alongside ditch	Remains unchanged in suitability for reptiles
RE9	Series of linked arable field margins, improved grassland margins woodland edge, banks of ditch, banks of a stretch of the Fox Brook and two small areas of broadleaved woodland in an arable field	Series of linked arable and woodland field margins including along a ditch and length of the Fox Brook comprising rough grassland, tall ruderals, scrub, occasional trees and lengths of hedgerow, as well as two small areas of woodland, one isolated in an arable field	Remains unchanged in suitability for reptiles

RAA	2018	2021	Comment	
RE10	Broadleaved woodland plantation along stretch of Gallow Brook between arable fields together with short stretch of broadleaved woodland heading South between arable fields	Strip of broadleaved woodland with scrub and tall ruderals along stretch of Gallow Brook together with hedgerow with mature trees heading South with patches of rough grassland and tall ruderals	Remains unchanged in suitability for reptiles	
RE11	Hedgerow and field margin along stretch of Gallow Brook together with roadside verge with arable farmland	Defunct hedgerow with scattered trees with arable field margin along stretch of Gallow Brook, narrow grassland and tall ruderal road verge with scattered shrubs to South, lengths of intact hedgerow with associated field margin along road verge to North	Remains unchanged in suitability for reptiles	
RE12	Hedgerow between arable fields and northern margin of area of broadleaved woodland	Hedgerow with mature broadleaved trees between arable fields and tall ruderal northern margin of area of broadleaved woodland	Remains unchanged in suitability for reptiles	
RE13	(N)	Broadleaved woodland margins and defunct hedgerow with occasional mature tree, including along ditch, in arable farmland plus strip of mature broadleaved woodland	Northern margins of mature broadleaved woodland in arable farmland, defunct hedgerow with grassland and tall ruderals strip, intact hedgerow with wide arable field margin alongside ditch and wide strip of broadleaved woodland with associated grassland and tall ruderal margins	Remains unchanged in suitability for reptiles
	(S)	Area of scrub, patch of woodland, intact hedgerows and grassland strips beside existing A428 carriageway	Mixed area of scrub, rubble, bare ground, grassland, tall ruderals, developing woodland, with well-established hedgerows	Appears suitable for reptiles
RE14(N)	Hedgerow and grassland verge on North side of stretch of existing A428 carriageway	Established hedgerow with grassland verge and tall ruderals in shallow drain along North side of stretch of existing A428 carriageway	Appears suitable for reptiles	

RAA	2018	2021	Comment	
RE14(S)	Species poor hedgerow and grass verge between existing stretch of A428 carriageway and arable field	Narrow strip of grassland verge to West with tall ruderals in shallow drain and occasional mature tree, well developed hedgerow to East between existing stretch of A428 carriageway and arable field	Appears suitable for reptiles	
RE15(N)	Roadside verge and strip of scrub on North side of existing A428 dual carriageway separating road from arable field	North side road verge comprising rough grassland and tall ruderals, with stand of Common Reed (<i>Phragmites australis</i>) and intact hedgerow with evidence of planting between existing A428 dual carriageway separating road from arable field	Remains unchanged in suitability for reptiles	
RE15	(SA)	Grassland strip between drain and A428 pond	Strip of rough grassland and tall ruderals between drain and A428 pond	Remains unchanged in suitability for reptiles
	(SB)	Strip of scrub along ditch and access trackway verge	Drain with mix of rough grassland, tall ruderals and scrub with access trackway verge comprising mown grassland	Remains unchanged in suitability for reptiles

- 6.1.4 None of these changes in the landscape has created habitat suitable for reptiles within the Survey Area. The Wintringham development is located beyond 100m of the Scheme's Order Limits and the archaeological investigation trench works have been reinstated. The 2021 surveys revealed the area covered by planning permission 17/03001/MAF had been laid to reinforced concrete with the remainder laid to hard-core, and that the buildings covered by planning permission 19/00841/FUL had been built adjoining the two storey office facility on site. No other significant changes in habitat have been identified.
- 6.1.5 No sites up to 2km from the Scheme have been recently designated internationally and nationally for their biodiversity value including the presence of reptiles.
- 6.1.6 An independently published review of records of reptiles in Bedfordshire for 2019 did not include any part of the Scheme and its environs in Bedfordshire (Muir-Howie (2021) [REF 1-6]. There were no records of any reptiles in the west of Cambridge in either of the most recent editions of Nature in Cambridgeshire (2019) [REF 1-7] and (2020) [REF 1-8].

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- 6.1.7 Two records of reptiles (Grass snake) were recorded in 2020 from the Biodiversity Recording and Monitoring Centre of Bedfordshire. These were located 884m and 1.474km from the Order Limits of the Scheme (as reported in the Updated Background Biodiversity Information 2021 Technical Note **[TR010044/EXAM/9.57]** submitted at Deadline 5 of the Examination).
- 6.1.8 No records of any reptile species were recorded during the other ecological surveys undertaken in 2021.

7 Conclusion

- 7.1.1 The desk study did not find any new reptile records and no significant landscape changes were identified within the Survey Area since the reptile assessment took place in 2018. Furthermore, no reptile species were observed during the other ecological surveys undertaken in 2021.
- 7.1.2 No new RAAs were identified. Part of one RAA (RE1(E)) has decreased in suitability for reptiles.
- 7.1.3 The desk study and habitat assessments made in 2021 verify the findings of the original survey and as such no changes to the information presented in Appendix 8.13, Reptiles **[APP-200]** of the Environmental Statement are deemed necessary. The assessment and mitigation measures presented in Chapter 8, Biodiversity **[APP-077]** of the Environmental Statement also therefore remain unchanged in relation to reptile species.

8 References

- REF 1-1. Froglife (1999). Froglife Advice Sheet 10 'Reptile Survey – An introduction to planning, conducting and interpreting surveys for snake and lizard conservation'. Froglife. London.
- REF 1-2. Gent, T. and Gibson, S. (1998). Herpetofauna Workers' Manual. JNCC, Peterborough.
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- REF 1-8. Nature in Cambridgeshire (2020). (62), 1-102.