IPSWICH
BOROUGH COUNCIL

SUPPLEMENTARY PLANNING DOCUMENT

REPTILE STRATEGY

Adopted July 2021

1. Introduction

1.1 Ipswich has a good reptile population due to its well-connected network of green spaces. The Ipswich Local Plan allocates a number of sites across the Borough for development, including sites which are allocated for housing in order to meet housing delivery targets across the Local Plan period. The Ipswich Wildlife Audit carried out in 2012 and then again in 2019, identifies the presence of, or potential for, reptiles at a number of these allocated sites.

1.2 All reptiles found in the UK are protected by law, and as such, developers must ensure that reptile populations are not damaged by development proposals. If it is not possible to avoid potential harm to existing reptile populations, or to provide mitigation on site, appropriate off-site mitigation measures must be secured.

1.3 When an allocated site comes forward for development, surveys will be required to establish whether reptiles are present (as well as other protected and priority species and habitats). In the event of any reptile species being confirmed, the mitigation hierarchy will be applied, which seeks to avoid impacts in the first instance. Where reptile populations are present on site and retention is no longer viable, they will need to be translocated to suitable receptor sites nearby. However, there is currently little capacity for suitable receptor sites across the Borough, which can cause delays to development, and potentially threaten sensitive reptile populations.

1.4 The Council recognises the pressure from development on reptile populations across the Borough and this supplementary planning document (SPD) will address the protection of these populations through the development of a strategic approach to identifying suitable receptor sites for translocation if removal from site cannot be avoided. The SPD will also look to address issues concerning the ongoing monitoring and management of receptor sites across the Borough.

1.5 Due to the nature of development, receptor sites often have to be found at relatively short notice which could result in less suitable locations being selected. Therefore, Ipswich Borough Council (IBC) has developed a strategic approach to securing receptor sites ahead of major developments to ensure that sites are available for reptile translocation as and when schemes are brought forward.

1.6 This will allow IBC to meet future housing needs, and ensure that the Council, through its developments, can both comply with the Biodiversity Duty and ensure Ipswich has an enhanced biodiversity heritage for future generations to enjoy.

2. Scope

2.1 There is already existing published advice providing guidance on planning for reptiles on development sites which can be used for assessing appropriate survey and capture methods as well as opportunities for providing on site

mitigation measures (government guidance can be found at: https://www.gov.uk/guidance/reptiles-protection-surveys-and-licences). The scope of this SPD is to set out a co-ordinated, strategic approach, specifically to address identifying, managing and monitoring receptor sites for reptile translocation. This will ensure that development in Ipswich can proceed in an appropriate, legally and policy compliant manner.

2.2 A number of allocated development sites in Ipswich may contain significant reptile populations which will need to be carefully relocated to suitable habitats before development can take place. The approach as set out by IBC will help to speed up this process by identifying a register of suitable translocation sites across the Borough and providing a standardised procedure for the successful translocation and ongoing management of reptile populations and habitats.

2.3 This SPD will provide guidance on the criteria for identifying suitable receptor sites, including privately owned sites if this is the developer's preference, and the actions required to prepare sites for translocation. This is to ensure that optimum conditions are secured for the successful relocation of the Borough's existing reptile populations.

2.4 It will explain how sites will be secured through the planning process and outline ongoing monitoring and management requirements. This will provide a procedure for holding developers to account if translocated reptile populations are not successfully maintained and protected.

2.5 The SPD will apply to any development site where an existing reptile population is identified.

3. Policy Context

3.1 Legal Protection of Reptiles

The information provided in this section is intended as general guidance to the relevant legislation. The full legislation should be referred to for the specific details.

3.2 Reptile species present in the UK include:

- common lizard (Zootoca vivipara)
- slow-worm (Anguis fragilis)
- grass snake (Natrix helvetica)
- adder (Vipera berus)
- smooth snake (Coronella austriaca)
- sand lizard (Lacerta agilis)

Please refer to **APPENDIX 4** for images of reptiles in Ipswich.

3.3 All UK native reptile species are protected by law to varying degrees. Common lizard, slow-worm, grass snake and adder all have partial protection against intentional killing and injury under *Schedule 5 of The Wildlife & Countryside Act 1981*[1]*,* as amended. The smooth snake and sand lizard are fully protected under *Schedule 2 of The Conservation of Habitats and Species Regulations 2017*[2]*,* as amended, where they are listed as European Protected Species, as well as some additional protection under *The Wildlife and Countryside Act 1981,* as amended.

3.4 All the reptile species referred to above are listed as UK Priority Species, meaning they are a conservation priority. Many UK reptile species are in decline, both locally and nationally, due to a loss in habitat through a range of factors such as urbanisation and intensive farming practices.

3.5 Suffolk is home to four of the six reptile species listed above: grass snake, adder, common lizard and slow-worm. Appropriate surveys will be required for development sites where these protected reptile species may be present and mitigation strategies proposed to indicate how any species on site will be protected, including possible translocation to appropriate receptor sites.

Environment and Biodiversity

3.6 Section 40 of the *Natural Environment and Rural Communities Act 2006*[3] places a duty on every public authority to, 'in exercising its functions, have regard, so far as is consistent with the proper exercise of those functions, to the purpose of conserving biodiversity'. The Act states that, 'conserving biodiversity includes, in relation to a living organism or type of habitat, restoring or enhancing a population or habitat'.

3.7 In 2018, the Government published its *25 Year Environment Plan*[4] which sets out plans to ensure the improvement of the environment, within a generation. One of the key goals of the paper is to achieve 'thriving plants and wildlife' across the UK including actions to create or restore wildlife-rich habitat and 'taking action to recover threatened, iconic or economically important species of animals, plants and fungi'.

3.8 The *25 Year Environment Plan*[4] states that the Government will 'seek to embed a net environmental gain principle for development to deliver environmental improvements locally and nationally'. The plan outlines the introduction of

[1] Wildlife & Countryside Act 1981 - https://www.legislation.gov.uk/ukpga/1981/69/section/9
[2] Schedule 2 of The Conservation of Habitats and Species Regulations 2017 - http://www.legislation.gov.uk/uksi/2017/1012/schedule/2/made
[3] Section 40, Natural Environment and Rural Communities Act 2006 - http://www.legislation.gov.uk/ukpga/2006/16/section/40
[4] 25 Year Environment Plan - https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/693158/25-year-environment-plan.pdf

mandatory measures to strengthen the requirement for local planning authorities to deliver environmental net gains in their locality.

3.9 On the 30th January 2020, the government released an updated policy statement for the upcoming *Environment Bill*[5], providing an overview on how the Bill will set out plans to 'protect and improve the natural environment in the UK'. The statement explains that the *Environment Bill* will introduce 'a mandatory requirement for biodiversity net gain in the planning system, to ensure that new developments enhance biodiversity and create new green spaces for local communities to enjoy. Integrating biodiversity net gain into the planning system will provide a step change in how planning and development is delivered'.

3.10 The updated *Environment Bill* will also set out requirements for the development of Local Nature Recovery Strategies, describing these as 'tools that will support better spatial planning for nature recovery, by setting out priorities and opportunities for protecting and investing in nature within a local area'. These strategies will assist local authorities in identifying 'priorities and opportunities for conserving and enhancing nature'.

3.11 Overall, it is concluded that the bill will strengthen 'the duty to cover the enhancement, as well as the conservation, of biodiversity, and requires public authorities to actively carry out strategic assessments of the actions they can take to enhance and conserve biodiversity'.

National Planning Policy Framework

3.12 Paragraph 8 of the *NPPF*[6] states that the environmental objective of the planning system is 'to protect and enhance our natural, built and historic environment; including making effective use of land, improving biodiversity, using natural resources prudently, minimising waste and pollution, and mitigating and adapting to climate change, including moving to a low carbon economy'.

3.13 Paragraph 119[6] states that 'planning policies and decisions should promote an effective use of land in meeting the need for homes and other uses, while safeguarding and improving the environment'. The demand for development land in Ipswich means that some reptile habitat is being lost, and as such, the Council needs to ensure that existing reptile populations are safeguarded effectively by providing suitable translocation sites throughout the Borough.

3.14 The *NPPF*[6] suggests that planning policies should take 'opportunities to achieve net environmental gains'. Where habitat is lost due to development, measures

[5] Environment Bill 2020 Policy Statement - https://www.gov.uk/government/publications/environment-bill-2020/30-january-2020-environment-bill-2020-policy-statement

[6] National Planning Policy Framework, 2021 – https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1005759/NPPF_July_2021.pdf

must be taken to guarantee appropriate habitat creation or enhancement to ensure overall net gain.

3.15 Paragraph 179[6] states that planning should 'promote the conservation, restoration and enhancement of priority habitats, ecological networks and the protection and recovery of priority species'. The Council must work to protect priority species including reptiles, and as such, needs to provide adequate translocation sites across the borough to ensure that development does not compromise important species populations.

3.16 The *NPPF*[6] and further *Planning Practice Guidance*[7] set out the mitigation hierarchy:

- 'Avoidance: Can significant harm to wildlife species and habitats be avoided'; for example, by retaining on site with appropriate enhancement of the remaining habitat or translocation to an alternative site.
- 'Mitigation: Where significant harm cannot be wholly or partially avoided, can it be minimised by design or by the use of effective mitigation measures that can be secured by, for example, conditions or planning obligations?
- Compensation: Where, despite mitigation, there would still be significant residual harm, as a last resort, can this be properly compensated for by measures to provide for an equivalent or greater value of biodiversity?'

3.17 As stated in Paragraph 180 of the *NPPF*[6], 'if significant harm to biodiversity resulting from a development cannot be avoided (through locating on an alternative site with less harmful impacts), adequately mitigated, or, as a last resort, compensated for, then planning permission should be refused'. If developers do not provide a suitable strategy for the protection of protected species such as reptiles on site, then development will not go ahead.

3.18 When considering development proposals on sites where existing reptile populations are present, the mitigation hierarchy as highlighted above must be applied. If it is not possible to avoid development on sensitive sites with records or potential for reptiles, it may be possible to locate the development as such that it does not impact upon the areas used by reptiles. However, this is difficult on small urban sites such as many of those allocated in the Local Plan. As such, it is more likely that mitigation measures will need to be provided to ensure that reptile populations are effectively protected from harm, including moving the reptiles to alternative sites where suitable habitat is provided and they will continue to thrive.

Adopted Ipswich Local Plan 2011 - 2031

[7] Natural Environment Planning Practice Guidance - https://www.gov.uk/guidance/natural-environment

3.19 There are two key policies set out in the Core Strategy of the adopted Local Plan which are relevant to this SPD, one strategic and one for development management.

3.20 *Policy CS4: Protecting our Assets*[8], states that the Council will 'seek to conserve and enhance local biodiversity' by 'applying an appropriate level of protection to international and nationally designated sites and protected and priority species' and 'requiring new development to incorporate provision for conserving and enhancing local biodiversity'.

3.21 The policy states that due to the significant level of development that Ipswich will experience over the plan period, it is 'essential that opportunities be taken through development to conserve and enhance the biodiversity and canopy cover that is essential to life'. It is therefore crucial that mitigation measures are undertaken to ensure the protection of reptile populations from development across the Borough.

3.22 *Policy DM31: The Natural Environment Proposals*[8], states that 'all development is expected to incorporate measures to enhance conditions for biodiversity within and around the development' and 'proposals which would result in significant harm or net loss to biodiversity, having appropriate regard to the 'mitigation hierarchy', will not normally be permitted'.

3.23 In addition, site allocations made through the *Site Allocations and Policies (incorporating IP-One Area Action Plan) Development Plan Document*[9] are accompanied by site sheets in Appendix 3A of the plan which identify sites where reptile surveys are required to be undertaken before planning applications are submitted, and mitigation measures provided where appropriate. These should be read in conjunction with the updated Wildlife Audit information from 2019, which identifies additional sites where suitable reptile habitat has now developed and as such appropriate surveys would be required on these sites also.

4. Receptor Sites

4.1 A receptor site is the location where reptile populations will be released after translocation from a habitat which is no longer viable due to proposed development. Identifying suitable receptor sites is essential in providing effective mitigation. It is also imperative that reptile populations are surveyed and moved at specific times of year; the optimal survey time for existing reptile populations on proposed developments sites is between April and May, with the potential to

[8] Adopted Ipswich Local Plan 2011-2031, Core Strategies and Policies DPD - https://www.ipswich.gov.uk/sites/default/files/adopted_core_strategy_and_policies_dpd_review_1_march.pdf

[9] Adopted Ipswich Local Plan 2011-2031 Site Allocations - https://www.ipswich.gov.uk/sites/default/files/adopted_site_allocations_and_policies_dpd_and_appendix_3a_site_sheets.pdf

also survey in September, and the potential time for capture and translocation to occur is between March and September. Developers should be advised by a suitably qualified ecologist on optimum capture times for specific sites.

4.2 Receptor sites for reptiles could be either publicly or privately owned. However, in conditioning planning permissions, Ipswich Borough Council in its capacity as Local Planning Authority will need to be satisfied that receptor sites meet the criteria as listed by government guidance on moving reptiles as mitigation. Therefore, reptiles will need to be moved to a receptor site:

- 'as close as possible to the development site, and within the same local planning authority if possible';
- 'that is at least the same size as the habitat that will be lost, and larger if the habitat to be lost is high quality (you can provide smaller habitat if it's substantially better quality' and also has good connectivity to other areas of suitable habitat). Isolated sites should be avoided as they are unlikely to support a reptile population in the long term;
- 'that will serve the same function as the habitat to be lost, e.g. it has hibernation features', foraging and basking areas;
- 'with similar habitat to the area that will be lost, including water bodies';
- 'that doesn't currently support the same species, but can be improved to make it suitable'; and
- 'that will be safe from future development and managed in the long term'[10].

4.3 Proposed receptor sites should not contain significant existing reptile populations. Government guidance suggests that it may be possible to introduce a limited number of reptiles to a site with an existing low reptile population but only if the habitat has been adequately improved to ensure it can support the increased population. It is suggested that before translocation occurs, the reasons for the low population level at the proposed receptor site should be investigated to understand why the existing population has not been thriving there.

4.4 Receptor sites should be located as close as possible to the donor site that the existing reptile population is being moved from and should be well connected to existing ecological networks and green corridors so that populations do not become fragmented. Receptor sites should provide a long-term solution for the protection of existing reptile populations, and as such, should not be proposed on sites which are allocated for future development.

4.5 Locating suitable receptor sites can be a lengthy process, and as highlighted in section 1.0 of this SPD, there are currently limited sites across the borough ready to accept reptiles. Identifying and preparing potential sites in advance allows

[10] Government guidance can be found at: https://www.gov.uk/guidance/reptiles-protection-surveys-and-licences

translocation to occur more quickly, providing effective mitigation and ensuring that development is not delayed.

4.6 IBC will need to make available sufficient land for reptile translocation over the period of the Local Plan. Resources for the creation or enhancement of suitable habitats will need to be provided and once established, these habitats will need to be protected by means such as the declaration of areas as Local Nature Reserves (LNR). For further information on the setting up and management of Local Nature Reserves, refer to **APPENDIX 6.**

4.7 Some of the Borough's parks and green spaces already support existing reptile populations and have the potential to provide further suitable habitat. However, park sites like this present potential conflicts with other land uses such as sports fields or existing wildlife projects, and as such, the creation of new reptile habitat will be limited to specific areas. Listed below are a number of sites which have been identified by Ipswich Borough Council as providing potential reptile translocation areas or the potential for new suitable habitat creation:

- Bourne Park (can accommodate a small population of slow-worm);
- Gippeswyk Park (can accommodate a small population of slow-worm);
- Pond Hall Farm (can accommodate a large population of lizard and slow-worm, small population of grass snakes and potentially adders); and
- Thorington Hall Farm (can accommodate a large population of lizard and slow-worm, small population of grass snakes).

4.8 It can take around 2-3 years or more to develop suitable reptile habitats on identified receptor sites. A range of measures will be required for the creation or enhancement of habitats prior to reptile translocation, including: changes to existing grassland maintenance regimes, the creation of appropriate habitat areas, public engagement events, interpretation boards and signage to improve public knowledge, and the creation of hibernaculum and refuges for reptiles to use for shelter.

4.9 The identification of receptor sites such as those listed above will help to ensure that development can take place without delay, providing mitigation sites for development across the Borough. Private developers may also provide their own receptor sites as an alternative, provided they meet the national criteria, are deemed as suitable reptile habitats, and their ongoing protection and maintenance is secured.

4.10 Although the two park sites identified above (Bourne Park and Gippeswyk Park) can provide some limited use in the short-term, to ensure that a sufficient number of suitable receptor sites are available for the level of development which will be occurring over the Local Plan period, IBC will need to produce a schedule of receptor sites to identify all potential sites for reptile translocation across the Borough and when they will be ready for translocation to occur.

4.11 Receptor sites provided from IBC owned land within the Borough boundary will be prioritised, but if this does not prove sufficient, additional sites outside the Borough may need to be identified. This may include the opportunity for IBC to purchase areas of land nearby, such as areas of low value agricultural land which are well connected to existing ecological networks, and to develop suitable reptile habitats there. Receptor sites should be as close to the donor site as possible and therefore, potential sites for translocation should be limited to those within the Borough and immediately adjacent parishes only. If, in bringing forward a proposal, it is not feasible for suitable sites to be identified within the areas as listed above, justification for an alternative location must be provided.

4.12 The proposed approach by IBC is to identify a sequence of potential receptor sites across the Borough and on suitable land close by, allowing sufficient time for the habitat on the sites to be properly prepared to receive the translocated animals. By identifying sites now and beginning a phased habitat creation programme, IBC will ensure that receptor sites will be ready to receive reptiles as soon as development plans come forward, and once a receptor site where suitable habitat has already been developed becomes saturated, the next receptor site will be ready to receive further populations.

4.13 Whilst work is undertaken to develop habitat at receptor sites, a number of measures will be put into place to prevent natural colonisation of the habitat by reptiles during the land preparation process. A combination of short mowing regimes and reptile fencing will be used to prevent reptiles moving into potential habitat areas. As habitat areas are developed, they will be monitored to identify any natural colonisation by reptiles, and this will be taken into account when considering potential translocation density. To further reduce the likelihood of colonisation by reptiles, hibernacula will not be placed on site until the release translocation phase.

4.14 The timescale for habitat creation at potential receptor sites which are currently used as arable fields will be longer than grassland sites. It is likely that in order to establish suitable habitats at these arable sites, a minimum of 18 months will be required. However, farmland specifically managed for reptiles from a blank canvas is likely to have a much higher capacity for reptiles. Greater heterogeneity of vegetation height and bare ground can be achieved from a low nutrient start point through patchwork stripping of topsoil. Use of farmland connected to suitable reptile habitat is crucial to the success of this Strategy. For information on the IBC Habitat Suitability Index, refer to **APPENDIX 5.**

4.15 For a full review of potential receptor sites across the Borough, refer to **APPENDIX 1.** Potential receptor sites are mapped in **APPENDIX 3.**

5. Securing Translocation

5.1 If reptiles are identified on a proposed development site, the mitigation hierarchy states that the most desirable outcome is that the reptile population can remain on site without being subject to harm from development proposals.

5.2 If this is the case, then planning conditions can be used to secure detailed mitigation information from developers before construction work commences. This could include detailed working methods and works programme to protect reptile populations during construction, and further documents such as ecological management plans setting out strategies for the ongoing monitoring and management of remaining populations on site. Further measures could include the addition of an 'informative' to the planning decision notice to outline the protocol to be followed if protected species are encountered on site during development.

5.3 If it is not viable for reptile populations to remain on site, translocation to a suitable receptor site is required. This can be secured through a Section 106 agreement with the Council, to include the translocation and ongoing monitoring and management of reptile populations and habitats through a commuted sum payment. If preferred, a suitably qualified Ecologist can carry out the physical translocation to an IBC receptor site and this will be reflected in the monetary contribution, but IBC will be responsible for any further work to the receptor site such as hibernacula installation.

5.4 The Section 106 agreement will consist of an Ecology Management Contribution; a sum paid towards the off-site translocation and future monitoring and management of a specified number of reptiles. Further contribution will be required prior to commencement should the actual number of reptiles to be moved exceed the estimation used to calculate the original sum paid. This will be charged at a set rate which will change incrementally depending on the additional number of reptiles identified. For an example breakdown of costs, refer to **APPENDIX 2**. The final cost for an individual project will be dependent on a number of variable site factors. Costs will increase in line with inflation.

5.5 Alternatively, if a developer is able to provide a suitable private receptor site, then translocation can be carried out privately. Planning conditions will be used to secure detailed receptor site information including appropriate ecological surveys to ensure that the habitat is suitable to support reptile populations. In addition, a comprehensive management plan and monitoring schedule will be required for approval by the Council and a rolling bond will be secured through a Section 106 agreement to enable the Council to undertake remedial work should the site owner be in breach of the management and monitoring obligations. If all requirements are met, the bond will be returned after ten years as agreed with the Council.

5.6 In all cases, development will not commence until the Council confirms that all reptiles have been successfully moved from site.

6. On-going Site Management

6.1 A comprehensive management plan will be vital to the ongoing success of reptile receptor sites once translocation has occurred and will be required at all receptor sites. This SPD sets out measures to ensure that arrangements are made for the monitoring and management of all receptor sites.

6.2 If reptiles are moved to a privately-owned site, translocation will not be accepted as appropriate mitigation without a ten-year management plan being in place and a ten-year monitoring arrangement at the expense of the developer. A bond will be required which, if the monitoring reveals that the management plan is not being followed, would be used to undertake remedial work or translocate the animals again.

6.3 Regular maintenance will be required to ensure that optimum reptile habitat is retained, and on-going monitoring will require regular site surveys to be undertaken to review reptile population size and health. This information will need to be recorded in appropriate reports in years 1, 3, 5, 7 and 10, which will be reviewed by the Council. The Council's Parks team will carry out site visits in agreement with the landowner to help assess whether the objectives of the management plan are being met. This will be secured through a Section 106 agreement. If management and monitoring obligations are not met, the Council will take measures to retrieve compensation through the bond collected as part of the Section 106 agreement to enable improvements to be made.

6.4 If a Section 106 agreement is secured for translocation to an Ipswich Borough Council owned site, adequate funding for a management plan and the ongoing monitoring and maintenance of reptile populations will be included within the commuted sum. Therefore, reptile monitoring and management duties will be transferred to the Council.

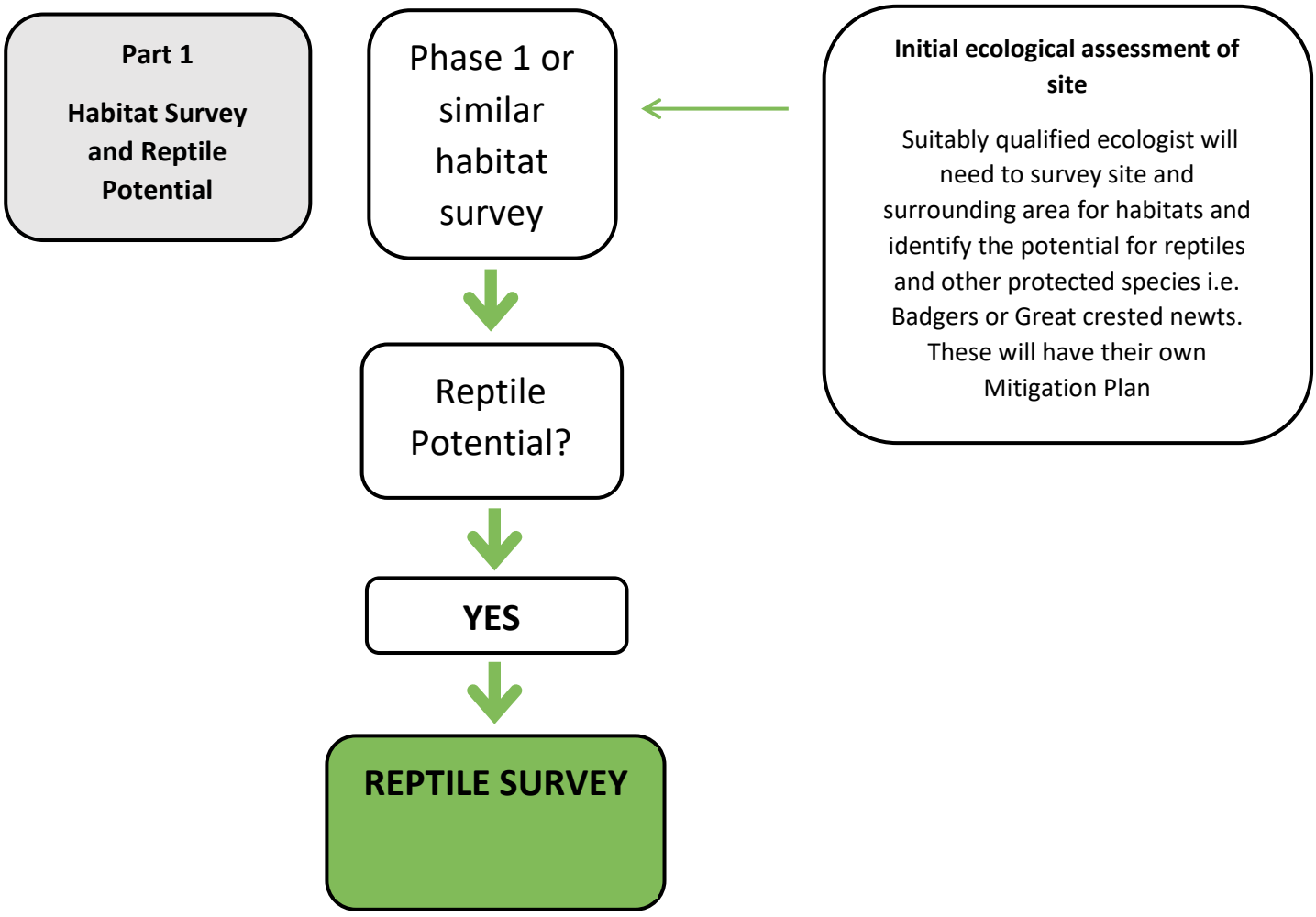
6.5 There will be opportunities to declare Council owned or privately owned reptile translocation sites as Local Nature Reserves to secure long-term protection and management. Access to sensitive reptile habitat areas would need to be restricted to ensure protection of the reptile population. Designation as an LNR would allow the involvement of other parties in the habitat management process such as community groups and school children, helping to raise awareness of the issues surrounding reptiles and development. Links to further information on Local Nature Reserves creation are available in **APPENDIX 6**.

6.6 The Council will keep an online register of reptile translocation sites, including both Council owned and privately owned sites. The sites will also be incorporated into the IBC interactive online mapping system.

7. Translocation Process

7.1 Ipswich Borough Council has developed a clear procedure to guide developers through a successful translocation process. The flow charts below provide clear guidance on how this process should be carried out:

PART 1



PART 2

Part 2

Reptile Survey and Mitigation Requirements

Reptile Survey

See guidance on time of year (Suffolk Biodiversity Validation Requirements)

Suitably qualified ecologist will need to survey site and surrounding area

Survey methods as per standing

Are reptiles present?

NO – no action needed, but could the development enable the site to support them through habitat creation or a link to an existing network/help to achieve biodiversity net gain?

YES

What impact will development have?

Reducing habitat

Fragmenting habitat

Separating summer and hibernation sites

Reducing habitat quality

Risk of fire

Effect of increased litter

Disturbance effects

Changing the management regime of the site

Apply mitigation hierarchy

Avoid: Change layout to avoid area occupied, change timing of work

Mitigate: Translocation, displace from sensitive areas by changing vegetation

Compensate: Create links to other habitats, create new habitat, improve existing habitat

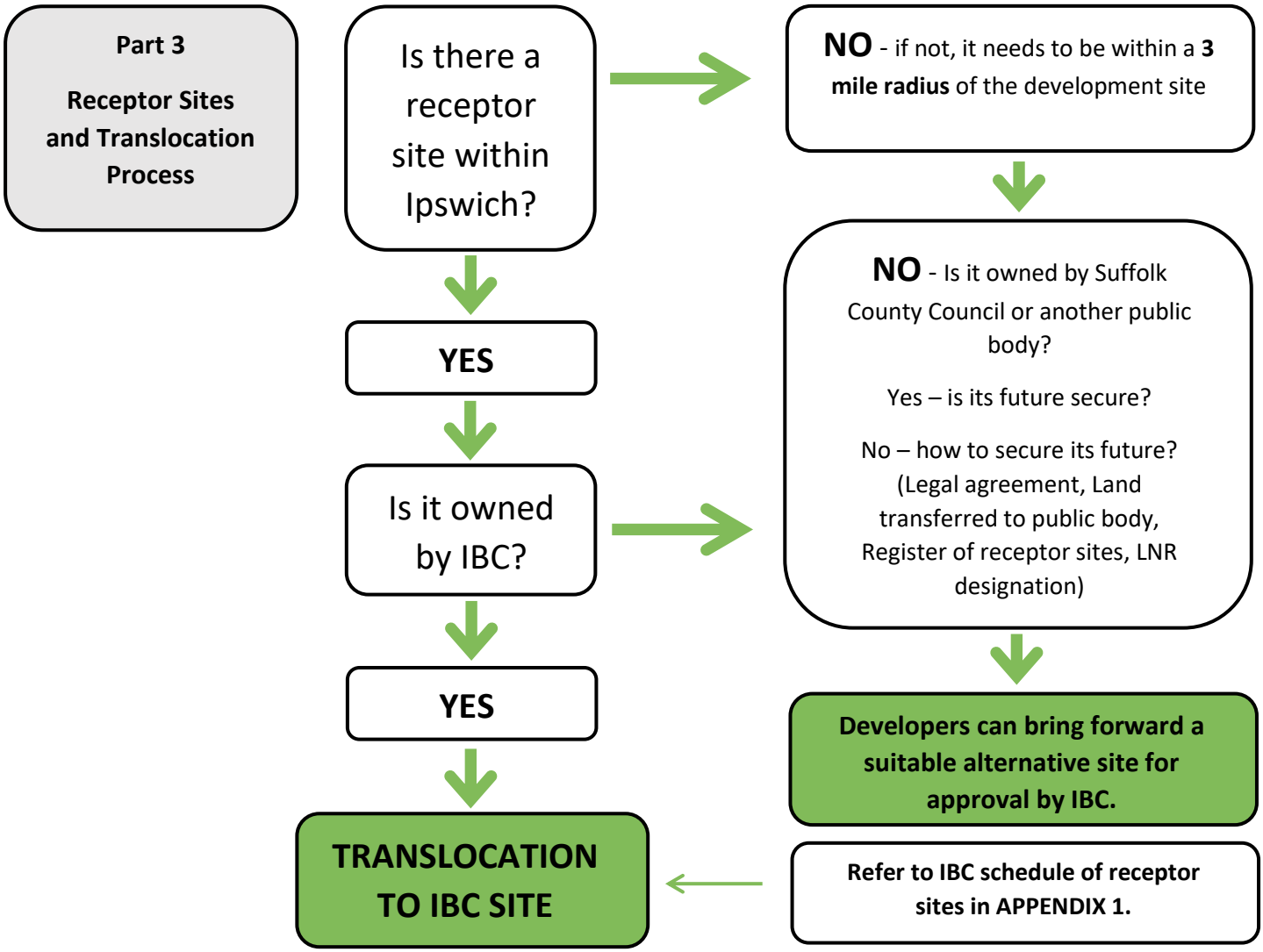
Is off-site mitigation required?

YES

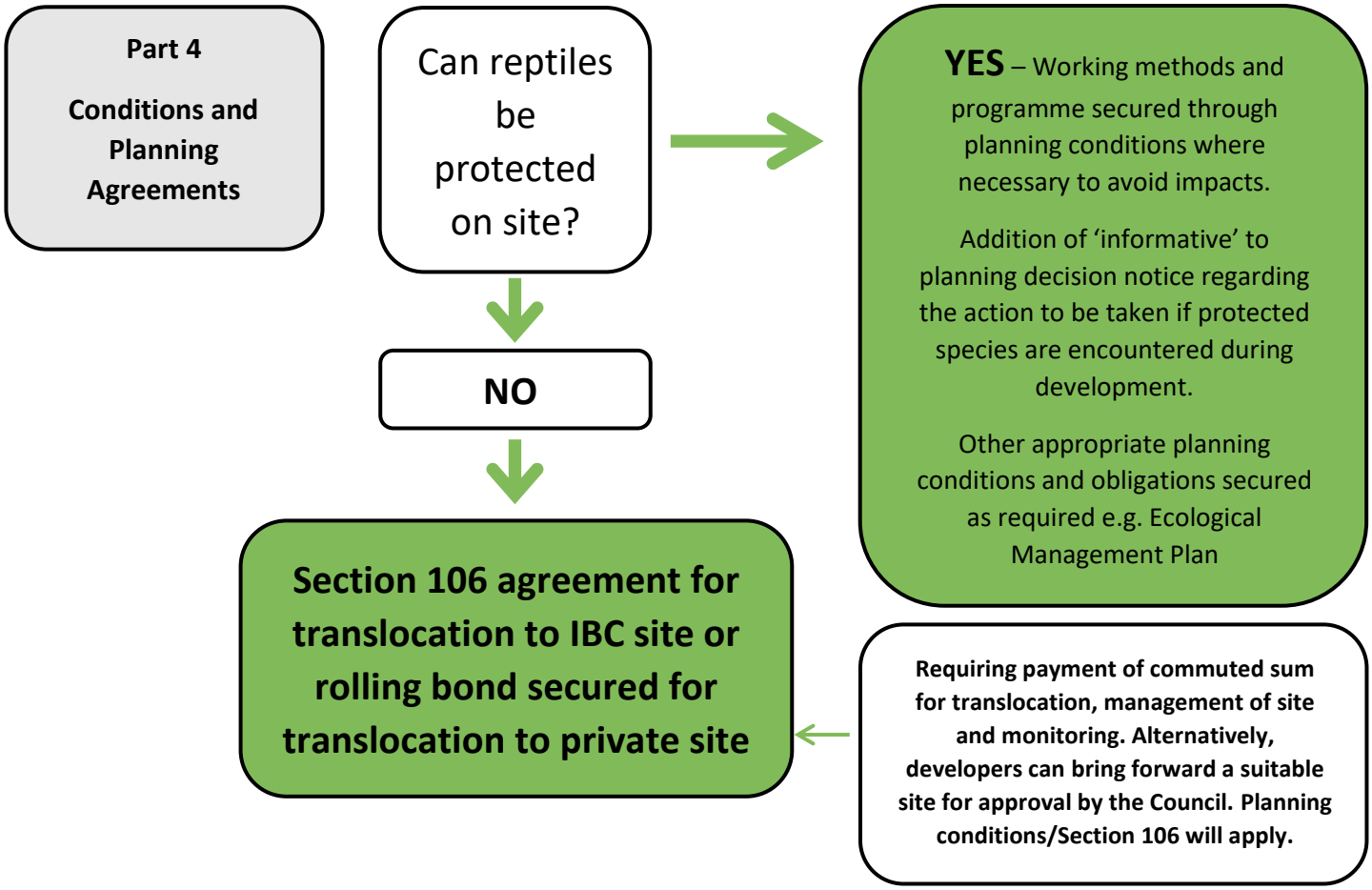
TRANSLOCATION

See gov.uk for capture methods/timing/conditions and fencing on development site

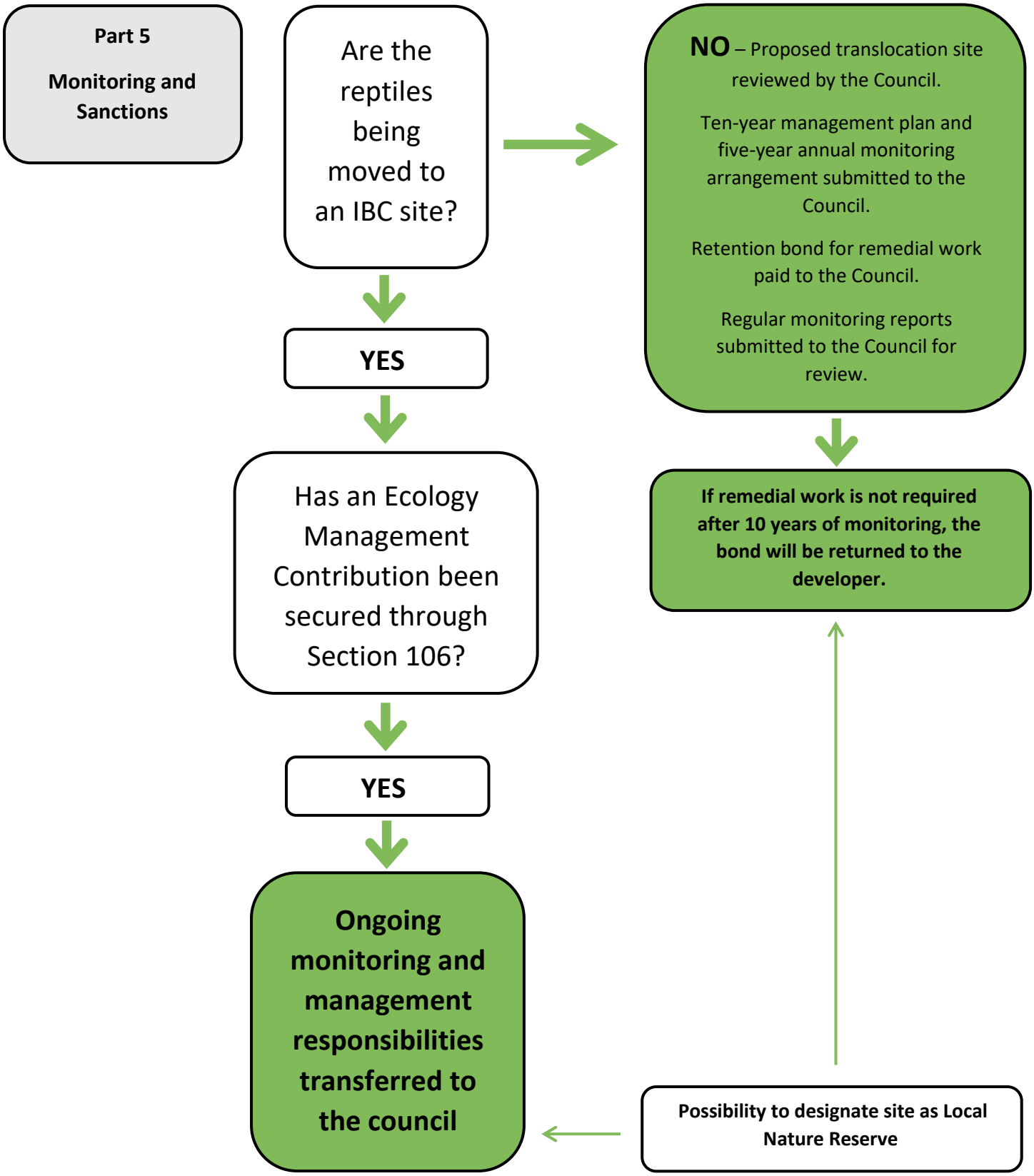
PART 3


Part 3
Receptor Sites and Translocation Process
Is there a receptor site within Ipswich?
NO - if not, it needs to be within a 3 mile radius of the development site
YES
NO - Is it owned by Suffolk County Council or another public body?
Yes – is its future secure?
No – how to secure its future? (Legal agreement, Land transferred to public body, Register of receptor sites, LNR designation)
Is it owned by IBC?
YES
Developers can bring forward a suitable alternative site for approval by IBC.
TRANSLOCATION TO IBC SITE
Refer to IBC schedule of receptor sites in APPENDIX 1.

PART 4


Part 4
Conditions and Planning Agreements
Can reptiles be protected on site?
YES – Working methods and programme secured through planning conditions where necessary to avoid impacts.
Addition of 'informative' to planning decision notice regarding the action to be taken if protected species are encountered during development.
Other appropriate planning conditions and obligations secured as required e.g. Ecological Management Plan
NO
Section 106 agreement for translocation to IBC site or rolling bond secured for translocation to private site
Requiring payment of commuted sum for translocation, management of site and monitoring. Alternatively, developers can bring forward a suitable site for approval by the Council. Planning conditions/Section 106 will apply.

PART 5


Part 5
Monitoring and Sanctions
Are the reptiles being moved to an IBC site?
NO – Proposed translocation site reviewed by the Council.
Ten-year management plan and five-year annual monitoring arrangement submitted to the Council.
Retention bond for remedial work paid to the Council.
Regular monitoring reports submitted to the Council for review.
YES
If remedial work is not required after 10 years of monitoring, the bond will be returned to the developer.
Has an Ecology Management Contribution been secured through Section 106?
YES
Ongoing monitoring and management responsibilities transferred to the council
Possibility to designate site as Local Nature Reserve

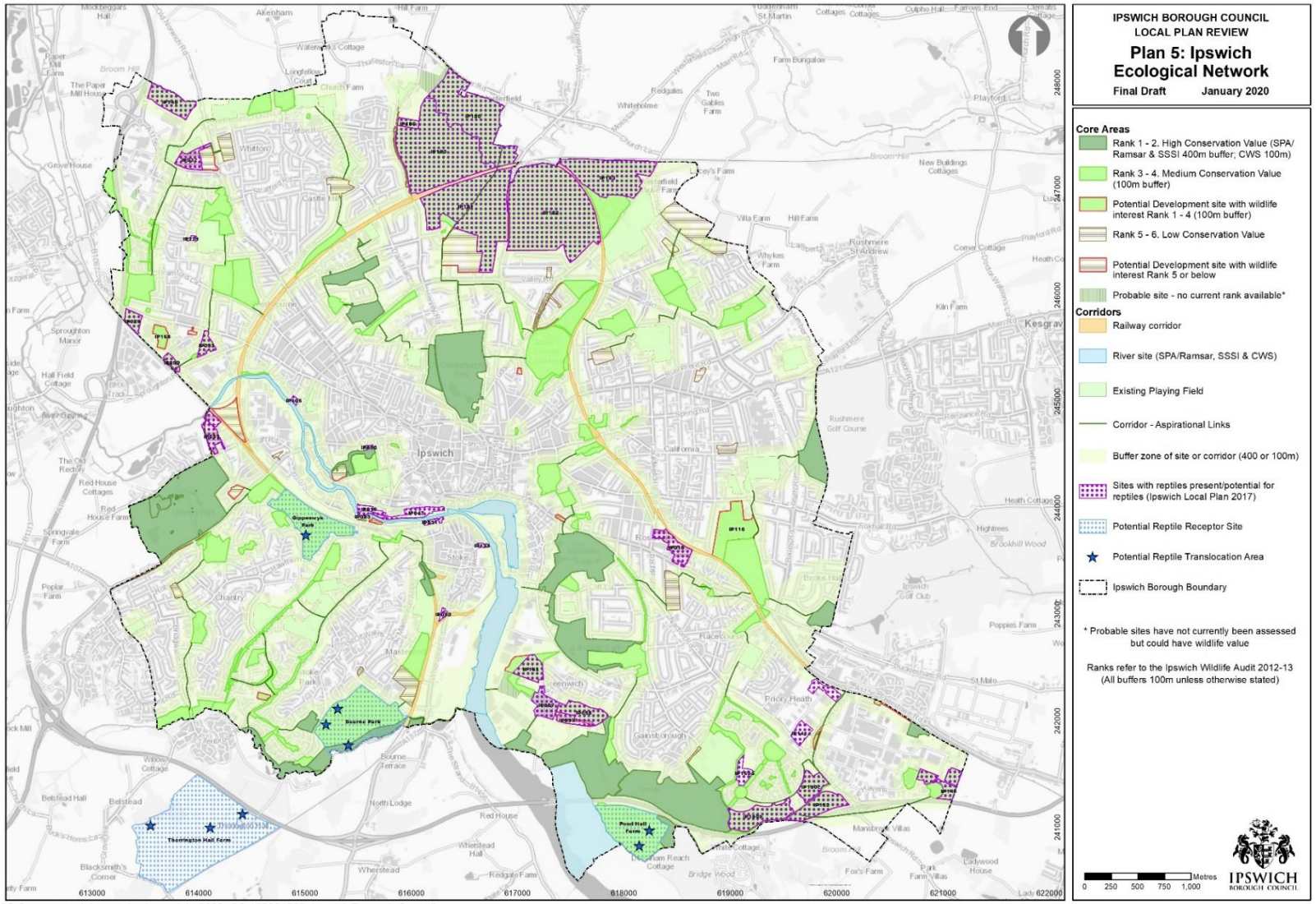
APPENDIX 1: Table of Ipswich Borough Council Potential Receptor Sites

Site	**Habitat Size (ha)**	**Ownership**	**Timescale of Habitat Suitability**	**Existing Populations**	**Capacity**	**Connectivity**
Bourne Park;	8	IBC	2022/23	Common lizard	Small slow-worm population (approx. 125)	Railway line corridor
Gippeswyk Park	4	IBC	2022/23	Common lizard	Small slow-worm population (approx. 125)	Railway line corridor
Pond Hall Farm	7.3	IBC	2022/23	Nothing in farm fields	Large population of lizard and slow-worm (approx. 6000), small population of grass snake	Piper's Vale, and Bridge wood
Thorington Hall Farm	12	IBC	2023	Nothing in farm fields	Large population of lizard and slow-worm (approx. 6000), small population of grass snake	Thorington Barn, A14 verges and embankments
Total Land Available	**31.3**					

APPENDIX 2: Example Breakdown of Section 106 Agreement Costs (based on previous IBC agreements) – costs would be subject to accurate figures supplied at the time of application

Rough Costs per Acre of Habitat (Estimated 125 reptile/acre average)		
Preliminary Ecological Appraisal (Usually done by in-house ecologist)		
Survey and report	£750	To identify Potential protected species and Habitats on site (i.e. Acid grassland, Orchids, Badger)
PEA Total	**£750**	
Presence/absence Survey (Developer Can Use IBC Wildlife Team or their own Ecologist)		
Reptile Survey	£500	7 visits
Reptile Report	£350	
Supply of 25 refugia (per acre)	£75	50 mats at £3 each
Presence survey total	**£900**	
Work to Development/Donor site (Developer Can Use IBC Wildlife Team or their own Ecologist)		
Reptile mitigation Plan (per site)	£450	Admin work to assure the Reptile population
Habitat reduction (per acre)	£2,000	Removal of scrub/small trees and grassland to facilitate trapping
Installation of reptile fencing (Per acre)	£1,680	£6 per metre
Maintenance/repair of reptile fencing	POA	£5 per metre as required
Translocation of reptiles (per acre)	£9,000	90 days trapping
Supply of 100 refugia	£300	50 mats at £3 each
Full habitat clearance - hand search & destructive search	£2,500	four sections divided by the reptile fencing. X number of days for 2 rangers (allow contingency/extension rate)
Management of donor site to keep it habitat free	POA	£350 per visit so total cost depends on when building phase starts. 5000m2 flail site including approx. 100m of roadside bank
Development site total	**£16,430**	
Work to Receptor site (Has to be done by IBC Wildlife Team If on IBC Land)		
Survey receptor site for reptile distribution and density (Acre)	£500	To assess the potential of a translocation and any on site habitat enhancements needed
Supply of reptile ready land (per Acre)	£15,000	On average acre needed per 125 animals
Installation of reptile fencing (Per acre)	£1,680	£6 per metre
Project management including CWS/LNR declaration	£2,000	This protects the site in Perpetuity
Habitat enhancements	£5,950	5 hibernaculum's, 5 log piles & some scrub planting
10 years management and surveying (years 1,3,5,7,10)	£7,500	Monitoring 5 years, 42 hrs, Habitat works, i.e. mowing, coppicing
report writing for above (years 1,3,5,7,10)	£3,000	5 reports plus a completion report in year 10
Totals	**35,630**	

APPENDIX 3: Map of Ipswich Borough Council Potential Receptor Sites – This map is based on the adopted Ipswich Local Plan 2011-2031



APPENDIX 4: Photos of Reptile Species in Ipswich

	
Male Common Lizard found at Chantry Park	**Female Slow-Worm found at Landseer Park**
	
Juvenile Grass Snake found at Holywells Park	**Female Adder found at Bixley Heath**

APPENDIX 5: Habitat Suitability Index for assessing the suitability of a receptor site for a reptile translocation (common lizard and slow-worm)

1. For the purposes of reptile translocation, a suitability index to score receptor sites for future translocations is included below. We have created a list of **16 Habitat Suitability Index (HIS) factors**, the majority of which were highlighted in the Amphibian and Reptile Conservation research report *'Developing a Habitat Suitability Index for Reptiles'* (Brady & Phillips 2012)[11] but with a few urban factors added - realised through monitoring translocated populations in the Ipswich area.

1.1. Ecology is a complicated subject with many variables, many of which are still not fully understood. The aim of this index is to assess the suitability of sites from an observation and scientific point of view. Population densities are usually assessed by the number of adults. Reptiles seem to survive at an even split of adults and non-adults (juv and immature). It aims to reach a realistic estimate of carrying capacities of proposed Receptor sites.

1.2. Survey data following best practice (NARRS, 2013) gives us an estimate of the population size by looking at the number of adults in a given habitat.

1.3. Actual translocation data however gives us a much more representative data set as this process identifies all animals captured on site.

1.4. By using data from a translocation from a nearby development and the quality of the habitat there we could estimate the carrying capacity of Receptor habitat.

1.5. The tables below indicate the Habitat Suitability Index process for the common lizard and slow worm as these are the two most likely reptile species requiring translocation within the Borough. In the event that the remaining protected reptile species require translocation, the Council will look to utilise a similar HSI process in the consideration of the translocation process.

[11] 'Developing a Habitat Suitability Index for Reptiles' (Brady & Phillips 2012) – Amphibian and reptile Conservation research report 12/06 https://www.arc-trust.org/Handlers/Download.ashx?IDMF=6f6b37ab-bd4a-41f2-a152-eced8c2bd09e

Common Lizard Habitat Suitability Index

Use the table below to score the SI points for rows 1-16. For example, if your habitat area is 2ha, SI1 score is 0.6; if your connectivity is poor, SI2 score is 0.2.

SI	0.	0.2	0.4	0.6	0.8	1	SI Score
1. SI1 - Habitat area (Hectares)		0- 0.5	0.5- 2	2- 4	4- 6	6+	e.g. SI1 = 0.6
2. SI2 - Connectivity	Non existent	Poor	Average	Good	Very good	Excellent	e.g. SI2 = 0.2
3. SI3 - Mosaic of vegetation heights	Non existent	Poor	Average	Good	Very Good	Excellent	
4. SI4 - Invertebrate prey diversity	Non existent	Poor	Average	Good	Very Good	Excellent	
5. SI5 - Presence of Hibernation features (Stumps/rabbit burrows)	Non existent	Poor	Average	Good	Very Good	Excellent	
6. SI6 - Rabbit activity	Non existent	N/A	Occasional	Low	Moderate	High	
7. SI7 - Percentage of site with free draining soil	Non existent	N/A	25	50	75	100	
8. SI8 - Public Disturbance	Constant	High	Medium	Low	Minimal	None	
9. SI9 - Disturbance from domesticated and feral animals	Constant	High	Medium	Low	Minimal	None	
10. SI10 - Frequency of bare/sparsely ground (5-15%)	None	N/A	Low (5%)	Moderate (5-10)	Very good 10-20	Excellent	
11. SI11 - Frequency of anthills	None	N/A	Occasional	Low	Moderate	High	
12. SI12 - Insolation	None	N/A	Occasional	Low	Moderate	High	
13. SI13 - Site undulation. Frequency and size of banks	Non existent	Poor	Average	Good	Very Good	Excellent	
14. SI14 - Aspect	Non existent	Poor	Average	Good	Very Good	Excellent	
15. SI15 - Assurance of long-term favourable management, and access for monitoring.	Certain to lose access	Unlikely	Possible	Likely	Very Likely	Certain	

16. SI16 - Longevity of connective habitat	Certain to disappear	Unlikely	Possible	Likely	Very Likely	Certain	
HSI SCORE TOTAL							

Using the SI scores calculated using the table above, the Habitat Suitability Index can be calculated using the following equation:

Habitat Suitability Index = (SI1 x SI2 x SI3 x SI4 x SI5 x SI6 x SI7 x SI8 x SI9 x SI10 x SI11 x SI12 x SI13 x SI14 x SI15 x SI16) ^ (1/16)[12]

This HIS score can then be applied to the table below to estimate the suitability of a site and the number of animals per hectare a site can hold.

Lizards		
HSI	**Habitat suitability**	**Number of animals per hectare**
<0.4	Poor	0
0.4- 0.59	Average	0
0.6- 0.69	Good	125 adults and 125 immature
0.7- 0.79	Very Good	250 adults and 250 immature
>0.8	Excellent	500 adults and 500 immature

<u>Explanation of importance of HSI factors for Z.Vivipara (common lizard)</u>

1. **Habitat area**. For any suitable habitat there is a potential carrying capacity of the habitat. This area figure must only count suitable or future habitat. The larger the area of suitable habitat, the greater the capacity of the habitat.

2. **Connectivity**. Habitat connectivity is one of the most important factors in maintaining biological diversity. Maintaining gene flow is essential for genetic fitness and allows for adaptation to environmental changes. For some species with limited ranges, habitat loss can threaten survival of a population if species cannot migrate to suitable replacement habitat. Maintaining connectivity allows limited-range species to shift habitats to adjacent areas if populations experience

[12] ^ to the power of (1/16)

loss of habitat. This is even more apparent with smaller populations which need to be connected to remain viable. Good connectivity to viable habitat or better, existing populations should be essential for any reptile translocation. The smaller the size of the site, the more important the connective habitat becomes.

3. **Mosaic of vegetation heights**. Z.Vivipara needs open areas (i.e. allowing for partial or full insolation) for basking in close proximity to sheltered, vegetated areas for daytime refuge. This combination leads to a need for structural heterogeneity (patchiness) of habitat at and just above, ground level. This also aids with feeding, breeding and dispersal. Ecotones are the best natural example of this and make superb reptile habitat. In Ipswich parks ecotones are hotspots for reptiles

4. **Invertebrate prey items**. Lizards feed largely on orthopterans, but dipterans, arachnids and other winged insects are all taken.

5. **Presence of hibernation sites**. Hibernation sites include rabbit burrows and tree stumps, normally south facing and below ground or in raised structures, they must protect against frost, flooding and predators. Hibernation sites along with log piles and compost heaps are often installed by developers. The provision of additional man-made hibernacula is standard practice for a translocation.

6. **Presence of rabbits**. Rabbits are very important regulators of succession when livestock grazing is absent. They are much more sporadic grazers than livestock, creating a much more heterogeneous habitat.

7. **Percentage coverage of free draining soil**. Free draining soils are more suitable for reptiles as they have less risk of flooding.

8. **Public disturbance**. Energy expenditure is a key factor in reptile success. Disturbance rapidly increases the amount of energy wastage and the more detrimental to the lizard's fitness.

9. **Disturbance from domesticated/feral animals.** Feral populations of cats/rats corvids living at artificially high densities and are known to harass and kill reptiles.

10. **Bare/sparsely vegetated ground**. Bare ground, provided it is near to cover, is a favourite basking site for reptiles. Not only does it receive high insolation, it also gives out great infra-red radiation. It also provides oviposition sites for orthopteran prey.

11. **Frequency of anthills**. Anthills are a natural radiator for thermophilic organisms. The colony constructs nests in sunny locations and modulates the temperature through the opening and closing of vents. In the spring these can be 10°C warmer than the surrounding habitat.

12. **Insolation**. Daytime temperatures on an adequate number of days in spring, summer and autumn of at least 15°C. It is important to see how trees affect sunlight levels at different times of the year

13. **Site undulation.** The greater the differentiation in topography across the site, the better it is for reptiles. This is for a number of reasons. Firstly, different angles and aspects allow for a greater spread of vegetation communities to grow, providing better thermoregulation opportunities and an increased invertebrate diversity. Secondly, slopes provide a greater number of suitable “Flood free” hibernation opportunities.

14. **Aspect.** Presence of areas of south facing habitat such as banks, woodland edges, or glades. South facing habitat provides reptiles with optimal thermoregulation opportunities. A south-east aspect is also important as it allows for thermoregulation to occur earlier in the day.

15. **Long term agreement** Assurance of long-term favourable management, and access for monitoring.

16. **Longevity of connective habitat**. Likelihood that the connective habitat such as railways, allotments or hedgerows will remain in place, and at a suitable condition for dispersal. Although all sites should be made LNRS, this will depend on whether landowners are likely to keep surrounding habitat suitable.

Slow-worm Habitat suitability index

Use the table below to score the SI points for rows 1-16. For example, if your habitat area is 2ha, SI1 score is 0.6; if your connectivity is poor, SI2 score is 0.2.

SI	0.	0.2	0.4	0.6	0.8	1	SI Score
1. SI1 - Habitat area (Hectares)		0- 0.5	0.5- 2	2- 4	4- 6	6+	e.g. SI1 = 0.6
2. SI2 - Connectivity	Non existent	Poor	Average	Good	Very Good	Excellent	e.g. SI2 = 0.2
3. SI3 - Mosaic of vegetation heights	Non existent	Poor	Average	Good	Very Good	Excellent	
4. SI4 - Invertebrate prey diversity	Non existent	Poor	Average	Good	Very Good	Excellent	
5. SI5 - Presence of Hibernation features (Stumps/ rabbit burrows)	Non existent	Poor	Average	Good	Very Good	Excellent	
6. SI6 - Tussocky vegetation/dense bracken/heather	Non-existent	N/A	Occasional	Low	Moderate	High	
7. SI7 - Percentage of site with free draining soil	Non existent	N/A	25	50	75	100	
8. SI8 - Public Disturbance	Constant	High	Medium	Low	Minimal	None	
9. SI9 - Disturbance from domesticated and feral animals	Constant	High	Medium	Low	Minimal	None	
10. SI10 - Bare ground (N/A)	N/A	N/A	N/A	N/A	N/A	N/A	
11. SI11 - Frequency of anthills	None	N/A	Occasional	Low	Moderate	High	
12. SI12 - Insolation	None	N/A	Occasional	Low	Moderate	High	
13. SI13 - Site undulation. Frequency and size of banks	Non existent	Poor	Average	Good	Very Good	Excellent	
14. SI14 - Aspect	Non existent	Poor	Average	Good	Very Good	Excellent	

15. SI15 - Assurance of long-term favourable management, and access for monitoring.	Certain to lose access	Unlikely	Possible	Likely	Very Likely	Certain	
16. SI16 - Longevity of connective habitat	Certain to disappear	Unlikely	Possible	Likely	Very Likely	Certain	
HSI SCORE TOTAL							

Using the SI scores calculated using the table above, the Habitat Suitability Index can be calculated using the following equation:

Habitat Suitability Index = (SI1 x SI2 x SI3 x SI4 x SI5 x SI6 x SI7 x SI8 x SI9 x SI10 x SI11 x SI12 x SI13 x SI14 x SI15 x SI16) ^ (1/16)

This HIS score can then be applied to the table below to estimate the suitability of a site and the number of animals per hectare a site can hold.

Slow-worms		
HSI	**Habitat suitability**	**Number of animals per hectare**
<0.4	Poor	N/A
0.4- 0.59	average	N/A
0.6- 0.69	good	100 adults and 125 immature/ha
0.7- 0.79	Very Good	200 adults and 250 immature/ha
>0.8	Excellent	400 adults and 500 immature/ha

<u>Explanation of importance of HSI factors for A.fragillis</u> (slow-worm)

1. **Habitat area**. For any suitable habitat there is a potential carrying capacity of the habitat. This area figure must only count suitable or future habitat. The larger the area of suitable habitat, the greater the capacity of the habitat.

2. **Connectivity**. Habitat connectivity is one of the most important factors in maintaining biological diversity. Maintaining gene flow is essential for genetic fitness and allows for adaptation to environmental changes. For some species with limited ranges habitat loss can threaten survival of a population if species

cannot migrate to suitable replacement habitat. Maintaining connectivity allows limited-range species to shift habitats to adjacent areas if populations experience loss of habitat. This is even more apparent with smaller populations which need to be connected in order to remain viable. Good connectivity to viable habitat or better, existing populations should be essential for any reptile translocation. The smaller the size of the site, the more important the connective habitat becomes.

3. **Mosaic of vegetation heights**. A.Fragilis needs open areas (i.e. allowing for partial or full insolation) for basking in close proximity to sheltered, vegetated areas for daytime refuge. This combination leads to a need for structural heterogeneity (patchiness) of habitat at and just above, ground level. This also aids with feeding, breeding and dispersal. Ecotones are the best natural example of this and make superb reptile habitat. In Ipswich parks ecotones are hotspots for reptiles.

4. **Invertebrate prey items**. Slow-worms feed on soft bodied invertebrates such as larvae and gastropods.

5. **Presence of hibernation sites**. Hibernation sites include rabbit burrows and tree stumps, normally south facing and below ground or in raised structures, they must protect against frost, flooding and predators. Hibernation sites along with log piles and compost heaps are often installed by developers. The provision of additional man-made hibernacula is standard practice for a translocation.

6. **Rank and tussocky vegetation**. Slow-worms are, despite being ectotherms, much more cryptic than common lizards and less dependent on open habitat. Although they still favour a habitat mosaic, they prefer a greater level of cover and rarely come out into the open. Their lack of limbs equates to their fossorial lifestyle in the undergrowth and amongst tussocks/taller vegetation. They can feed on a range of soft bodied invertebrates.

7. **Percentage coverage of free draining soil**. Free draining soils are more suitable for reptiles as they have less risk of flooding.

8. **Public disturbance**. Energy expenditure is a key factor in reptile success. Disturbance rapidly increases the amount of energy wastage and the more detrimental to the lizard's fitness.

9. **Disturbance from domesticated/feral animals.** Feral populations of Cats or rats living at artificially high densities and are known to harass and kill reptiles.

10. **Bare/sparsely vegetated ground**. Bare ground, provided it is near to cover, is a favourite basking site for reptiles. Not only does it receive high insolation, it also gives out great infra-red radiation.

11. **Frequency of anthills**. Anthills are a natural radiator for thermophilic organisms. The colony constructs nests in sunny locations and modulates the temperature through the opening and closing of vents. In the spring these can be 10°C warmer than the surrounding habitat.

12. **Insolation**. Daytime temperatures on an adequate number of days in spring, summer and autumn of at least 15°C. It is important to see how trees affect sunlight levels at different times of the year.

13. **Site undulation.** The greater the differentiation in topography across the site, the better it is for reptiles. This is for a number of reasons. Firstly, different angles and aspects allow for a greater spread of vegetation communities to grow, providing better thermoregulation opportunities and an increased invertebrate diversity. Secondly, slopes provide a greater number of suitable "flood free" hibernation opportunities.

14. **Aspect.** Presence of areas of south facing habitat such as banks, woodland edges, or glades. South facing habitat provides reptiles with optimal thermoregulation opportunities. A south-east aspect is also important as it allows for thermoregulation to occur earlier in the day.

15. **Long term agreement.** Assurance of long-term favourable management, and access for monitoring.

16. **Longevity of connective habitat**. Likelihood that the connective habitat such as railways, allotments or hedgerows will remain in place, and at a suitable condition for dispersal. Although all sites should be made LNRS, this will depend on whether Landowners are likely to keep surrounding habitat suitable.

By creating specialist habitat from a blank canvas, we can make excellent quality habitat with a very high capacity for translocation. We would never translocate the full carrying capacity but half, to allow room for expansion. For example, if very good quality habitat had the capacity for 500 Lizards, we would only translocate up to 250.

Habitat Suitability Case Studies

Using various case studies where we had entire population translocations, we were able to work out the kind of densities of local populations of both slow-worm (SW) and common lizard (CL).

	Population data from Previous Ipswich translocations					
Site Name	**Habitat description**	**Habitat suitability score**	**Area**	**Number of reptiles**	**Density /ha(adults)**	**Max survey count (adults)**
Ravenswood (2013) CL	Acid Grass land scrub mosaic and earth banks	0.72	2ha	360 (208)	104	14
Ulster Avenue (2015) SW	Overgrown garden with piles of rubble and garden waste	0.68	0.2ha	60 (16)	80	8
(Bader Close 2013) CL	Flat Heathland/Acid grassland mosaic	0.78	2ha	874(494)	247	18
Europa Way (2017) SW	Grassy earth banks with bramble scrub	0.75	0.3 ha	178 (41)	125	12

	Observation data from monitored Ipswich sites					
Site Name	**Habitat description**	**Habitat suitability score**	**Area**	**Number of reptiles Surveyed**	**Survey Density (adults)/ha**	**Estimate population density/Ha**
Pipers Vale (2020) CL	Heathland regeneration area with sand banks, bracken and gorse	0.84	2ha	175 (52)	26	500
Landseer Park (2020) CL	Edge habitat between flower meadow and grassland	0.74	2ha	104 (38)	19	250
Landseer Park SW	Edge habitat between flower meadow and grassland	0.72	2ha	88 (24)	12	125
Chantry CWS (2019) CL	Historic wildflower meadow with ancient oak trees	0.69	3ha	84 (37)	12	125
Chantry orchard (2019) SW	Sun trap walled garden with long grass and scattered fruit trees bordered either side by a hedge	0.72	0.3ha	45 (16)	48	250

APPENDIX 6: Useful Resources

Government Guidance

- Reptile Surveys and Mitigation Methods: https://www.gov.uk/guidance/reptiles-protection-surveys-and-licences
- Local Nature Reserves: https://www.gov.uk/guidance/create-and-manage-local-nature-reserves
- Reptiles and the Planning Process: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/536336/protected-species-decision-checklist.pdf
- Natural Environment: https://www.gov.uk/guidance/natural-environment

Environmental Policy Legislation

- Environment Bill Policy Statement: https://www.gov.uk/government/publications/environment-bill-2020/30-january-2020-environment-bill-2020-policy-statement
- 25 Year Environment Plan: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/693158/25-year-environment-plan.pdf
- Natural Environment and Rural Communities Act 2006: https://www.legislation.gov.uk/ukpga/2006/16/section/40
- Wildlife and Countryside Act 1981: https://www.legislation.gov.uk/ukpga/1981/69
- The Conservation of Habitats and Species Regulations 2017: http://www.legislation.gov.uk/uksi/2017/1012/schedule/2/made

Priority Species Information

http://data.jncc.gov.uk/data/98fb6dab-13ae-470d-884b-7816afce42d4/UKBAP-priority-herptiles.pdf

National Planning Policy Framework

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1005759/NPPF_July_2021.pdf

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