

Oakeley Vale, Burseldon, Southampton

Briefing Note: Additional Drainage Basin Ecology Information



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1.0 SUMMARY

- 1.1 FPCR Environment and Design Ltd were instructed by Foreman Homes in July 2023 to undertake Ecological surveys in relation to proposals to provide an additional drainage basin for an existing development (Oakeley Vale) on Land off Providence Hill, Burseldon, Southampton (O/17/81166). The drainage basin will be implemented to the east of the development on land owned by Foreman Homes.
- 1.2 The proposed location for the basin is currently a small area of grassland that was managed as garden and storage by the previous landowner until 2022. An area of grassland approximately 0.14ha will be lost to the basin and a small section of ruderal and scrub vegetation will also need to be removed temporarily to facilitate access to the basin works area. Once completed the basin will provide an area of wetland habitat with damp grassland and scrub surrounding it.
- 1.3 Following review of ecology reports in relation to the adjacent development and other nearby proposals, the key ecological constraints were identified as reptiles, nesting birds and schedule 9 plant species.
- 1.4 An initial ecological walkover was undertaken on July 11th 2023 and was followed by reptile surveys and a translocation exercise in August and September 2023. Reptiles were translocated to an adjacent field that had been secured as a reptile translocation area for the same development in 2022. This field was surveyed by EcoSupport in 2021 with no reptiles recorded. Habitat had then been allowed to establish into a tussocky grassland sward and log pile refugia were created. A total of 32 slow worm *Anguis fragilis* were then translocated to this area in 2022.

2.0 METHODOLOGY

Phase 1 Botanical Assessment

- 2.1 The survey was conducted using the methodology outlined in the Handbook for Phase 1 Habitat Survey (JNCC 2010)¹, and involved a systematic walkover of the site to classify the habitat types present (using the standardised Phase 1 Habitat classification system) and assess their value.

¹ JNCC, (2010). Handbook for Phase 1 habitat survey – a technique for environmental audit, ISBN 0861396367.

Invasive Plants, Notifiable Weed Species and Other Notable Flora

- 2.2 Consideration was given as to the presence of invasive species listed on Schedule 9 of the Wildlife and Countryside Act 1981 (as amended) (WCA 1981)² and the presence of any notable weeds including those covered under the Weed Act 1959³ (where population is significant enough to be considered injurious).
- 2.3 In addition, any rare or notable flora including those listed in the following policies as priorities were duly noted where present:
- Post 2010 UK Biodiversity Framework⁴ priority species;
 - NERC S41 species of principal importance;
 - Hampshire Biodiversity Action Plan (BAP) priority species;
 - International Union for the Conservation of Nature (IUCN) Red listed⁵ species;
 - Red Data Book (RDB)⁶ species; and
 - national, regional, county or vice-county (VC 11) rarities.

Reptiles

Survey

- 2.4 Strategic reptile presence/absence surveys were undertaken within the proposed works area following current guidance^{7,8,9}.
- 2.5 Artificial refugia (0.5m² sections of roofing felt) were placed throughout the survey area (0.46ha) at an increased density over the guideline of 10 per hectare. This was done to aid translocation post survey. A total of **50** artificial refugia were placed in habitats considered most suitable for reptiles, across the extent of the basin area and proposed translocation field in late July 2023.
- 2.6 Refugia were left to 'bed in' for a period of at least seven days, following which ten survey visits were undertaken during August 2023, by experienced FPCR ecologists, to determine the use of the site by reptiles. These were conducted during suitable weather conditions, including air temperatures of between 9-19°C, in the absence of strong winds and heavy rain.
- 2.7 Each survey visit included the following:
- Checking all refugia within the survey area at least once,
 - Approaching refugia carefully from downwind and without casting a shadow so as not to disturb basking animals,
 - Lifting and replacing refugia with care to check for the presence of reptiles underneath; and
 - Checking other suitable basking areas and resting places within the survey area, such as log piles.

² Act of Parliament, (1981). The Wildlife and Countryside Act 1981 (as amended), London: HMSO.

³ Act of Parliament. (1959). The Weed Act 1959. London: HMSO.

⁴ JNCC and Defra (on behalf of the Four Countries' Biodiversity Group). (2012). UK Post-2010 Biodiversity Framework. July 2012.

⁵ International Union for Conservation of Nature (IUCN), (2012). Red List 2012.

⁶ Cheffings, C.M. & Farrell, L. (Eds), Dines, T.D., Jones, R.A., Leach, S.J., McKean, D.R., Pearman, D.A., Preston, C.D., Rumsey, F.J., Taylor, I. (2005). The Vascular Plant Red Data List for Great Britain. Species Status 7: 1-116. Joint Nature Conservation Committee, Peterborough.

⁷ Gent, T. & Gibson, S. (eds) (2003) Herpetofauna Workers' Manual. JNCC, Peterborough.

⁸ Froglife (2016) *Surveying for reptiles: Tips, techniques, and skills to help you survey for reptiles*. Froglife, Peterborough.

⁹ Natural England & Defra (2015) *Reptiles: surveys and mitigation for development and projects* - <https://www.gov.uk/guidance/reptiles-protection-surveys-and-licences> [Accessed 18.10.2021]

Table 1: Reptile survey weather conditions in 2023

Date	Time	Weather Conditions
8 th August 2023	07:00	Rain previous day. 15°C at start of survey, 30-50% cloud, light breeze.
11 th August 2023	06:40	16°C, 10-20% cloud, no wind.
14 th August 2023	19:00	16°C, 0% cloud, no wind.
16 th August 2023	06:50	14°C, 50% cloud, light breeze.
18 th August 2023	06:45	17°C, 100% cloud no wind.
20 th August 2023	06:30	Hot day previously but cool to 13°C overnight. 0% Cloud, no wind.
22 nd August 2023	06:30	Warm temperature overnight minimum 16°C. 17°C at start of survey. 60% cloud, light breeze.
25 th August 2023	06:30	Overnight rain, 13°C, 6-70% cloud cover and moderate breeze.
28 th August 2023	07:00	14°C, 10-20% cloud, no wind.
30 th August 2023	19:30	16°C, 50% cloud, light breeze.

Population Assessment

- 2.8 Reptile populations were assessed in accordance with the Key Reptile Site Register criteria¹⁰. This system classifies populations of individual reptile species into three population categories according to importance (*Table 5*). These categories are based on the peak number of adults observed during individual surveys.

Table 5: Reptile population categories

Species	Low Population (no. of individuals)	Good Population (no. of individuals)	Exceptional Population (no. of individuals)
Adder <i>Vipera berus</i>	<5	5-10	>10
Grass Snake <i>Natrix helvetica</i>	<5	5-10	>10
Common Lizard <i>Zootoca vivipara</i>	<5	5-20	>20
Slow Worm <i>Anguis fragilis</i>	<5	5-20	>20

Translocation

- 2.9 The translocation exercise took place in September to October 2023 between the 1st of September and 1st October. A reptile exclusion fence was installed around the perimeter of the field parcel and four interior parcels were created within this area. These had additional roofing felts placed within to increase capture rates.
- 2.10 Daily visits were made during the week with some weekend visits where possible. Visits were made in the same suitable conditions as surveys and were varied between morning and late afternoon/evening to fully account for variations in conditions across the site where shading differed throughout the day. Animals found under and on refugia were gently removed by hand, placed into wet carpet tile lined buckets with vegetation and taken to one of three pre-built log piles in the translocation area.

¹⁰ Froglife (1999) *Reptile survey: an introduction to planning, conducting, and interpreting surveys for snake and lizard conservation*. Froglife Advice Sheet 10. Froglife, Halesworth.

- 2.11 After 20 days of trapping when trapping rates had slowed, a two-stage habitat manipulation clearance under Ecological Clerk of Works (EcOW) was undertaken by strimming the interior parcels initially to a length of 30mm before a wait of 30 minutes to then trim the vegetation to ground level. A 1.5m wide grassland strip was left around the interior perimeter of the reptile fencing to retain a narrow strip of suitable habitat with roofing felts. After 5 days of no further captures, the remaining grassland strips were removed under EcOW and interior fences were removed. The external reptile fence has been retained to ensure the area remains excluded from reptiles.

Limitations

- 2.12 Reptile surveys were undertaken in August 2023. Typically surveys to assess populations are best in April/May and September due to average temperatures being typically cooler and reptiles needing to bask more. Weather conditions in August 2023 were variable with some hot weather, but also cooler and wet periods. To allow for an accurate population estimate to be assessed, additional surveys over the guideline seven were undertaken and ten were completed over the month.

3.0 RESULTS

Habitats

- 3.1 The proposed basin area consists of a small grassland field bounded by a garden and fence on its southern boundary, a mature treeline with scrub on the western boundary, woodland along the northern boundary and a narrow stream along the eastern boundary. All boundary habitats are retained with the exception of a small area of the scrub on the western boundary approximately 4m wide. The field had previously been managed as part of a large garden. The grassland is now tussocky in nature, with dominant false-oat grass *Arrhenatherum elatius*, frequent cocksfoot *Dactylus glomerata*, broad-leaved dock *Rumex obtusifolius*, creeping thistle *Cirsium arvense* and common sorrel *Rumex acetosa*.
- 3.2 The stream is encroached by the grassland with dense vegetation choking much of its length through the proposed basin field. Yellow loosestrife *Lysimachia vulgaris* and water mint *Mentha aquatica* are occasional, but a Schedule 9 invasive plant species Himalayan balsam *Impatiens glandulifera* dominates the northern half of the streams length and has spread to be occasional along the remaining length. The stream is retained within the proposals.
- 3.3 The area of proposed scrub removal includes blackthorn *Prunus spinosa*, hawthorn *Crataegus monogyna* and dense bramble *Rubus fruticosus* agg. on a steep slope.

Protected species

Bats

- 3.4 No trees or buildings will be lost to the proposals. Losses of foraging and commuting habitat are minimal and not significant given the proposals to create new wetland and grassland habitat post development.

Breeding birds

- 3.5 During the walkover, 6 species of bird were recorded including blackbird, chaffinch, dunnock, robin, song thrush and wren. No evidence of breeding birds was recorded in the scrub habitat or grassland areas during this survey but given the suitability of the habitat breeding birds could be present during the active period of March to September inclusive.

Dormice

- 3.6 The scrub habitat is considered suitable to support dormice *Muscardinus avellanarius*. No dormice have been recorded during surveys for the adjacent developments and this species is likely to be absent.

Great crested newt

- 3.7 There is no suitable habitat for this species in the proposed works area and the species was not recorded during surveys for adjacent development. This species is scoped out of any further assessment.

Reptile surveys

- 3.8 Ten reptile surveys were undertaken in August 2023. A total of 13 slow worm were recorded across the surveys with a peak count of 6 on the 4th survey. No other reptile species were recorded.

Reptile translocation

- 3.9 A total of 42 slow worm were caught during the translocation exercise. The highest day capture was 7 individuals. A total of 13 female slow worm were captured, 4 males and 25 juveniles.

4.0 DISCUSSION

Habitats

- 4.1 Habitats to be lost to the drainage basin proposals include approximately 0.14ha of species poor semi-improved grassland and a 50m² area of mixed scrub. A stream that runs south to north along the eastern boundary of the parcel is retained. The habitats proposed to be lost are not priority habitats and are relatively common at a local scale. Himalayan balsam a schedule 9 invasive plant species is present along the length of the stream.
- 4.2 Post development the habitats lost will be replaced with a drainage basin and new grassland creation and scrub planting. The biodiversity value of these habitats will be enhanced by implementing the following measures.
- Native wetland planting in the drainage basin permanently wet and marginal zones.
 - Sowing of grassland areas with a species rich wildflower mix or green hay to create neutral grassland.
 - Replanting of lost scrub with a species rich native scrub mix.
 - Placing the stream into a Himalayan balsam removal programme to eradicate this species from the site.
 - Placing all habitats into a long term management plan to retain their biodiversity value in perpetuity.
- 4.3 The Himalayan balsam programme should be implemented by a qualified contractor with the appropriate control and waste permits. It is likely that chemical control will be most effective in the first instance given the extent of the plant along the stream. Subsequently it may be possible to manually pull the plant for up to 5 years in order to permanently eradicate it. Whilst this application relates only to one field parcel, this species is present in other areas along the stream within the

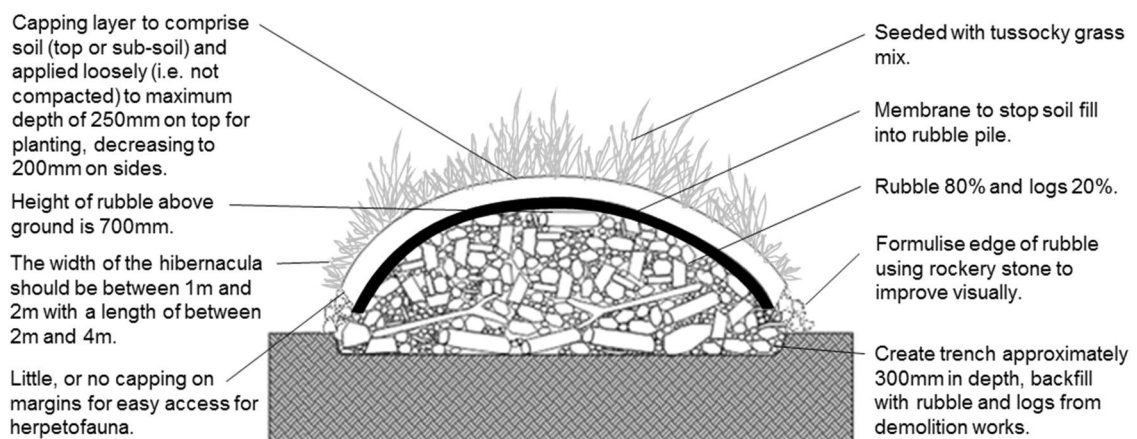
land ownership and the removal programme should cover the full extent to ensure the permanent removal of the species.

- 4.4 Post development there will not be a decrease in the overall biodiversity value of the habitats present and the likely impact of creating the drainage basin will be negligible to minor positive at a local scale.

Protected species

- 4.5 It was confirmed that reptiles and breeding birds were present at the site from the walkover and targeted surveys. Review of previous ecological surveys for the approved development (O/17/81166) to which the drainage proposal is related ruled out the presence of dormice and great crested newts. Bats will not be impacted due to the low impact nature of the proposals.
- 4.6 Reptile surveys in August 2023 recorded a peak count of 6 slow worm which is at the lower end of the good population class size for this species. The translocation area proposed in an adjacent field had adopted 32 individuals from the wider development scheme. Given the size of the translocation site and the larger area of suitable habitat present compared to the drainage basin area, it was considered suitable for translocating the 42 animals captured into the area alongside the 32 previously translocated. It should be noted that post-development, the drainage basin and adjacent habitat areas will be fully accessible to reptiles and will include high suitability habitats. To accommodate additional reptiles in the translocation site, 3 new log pile refugia were created and three more permanent reptile hibernacula will be created in 2024. These will be constructed as per figure 1 below.

Figure 1- Reptile hibernacula specification



- 4.7 In addition to the proposed hibernacula, the translocation area should be placed into an in-perpetuity management regime to ensure its permanent suitability for reptiles. This should include the following measures.
- Rotational cutting of scrub and grassland to maintain a mosaic of habitats for reptiles including open areas and a tussocky grassland sward.
 - Rotational clearance of boundary scrub perimeter habitat to prevent dense encroachment into grassland habitats.
- 4.8 It is unlikely that any reptiles remain in the works areas given the translocation and retention of the external reptile fence, however, vegetation clearance works for the grassland and adjacent scrub should be supervised under EcOW to ensure no reptiles are killed or injured during works. Vegetation clearance will take place in two stages with a 30mm preliminary cut followed by a 30

minute break to allow animals to disperse. Vegetation can then be cleared to ground level. Any reptiles found during this work would be moved by the Ecologist to the translocation area.

- 4.9 Habitats proposed to be removed including scrub and grassland are suitable to support a range of breeding bird species. Scrub removal should ideally take place outside of the breeding bird season from October to March. Where this is not possible removal should take place under EcOW supervision. Any nests found during these works must be left until all birds have fledged the nest and it becomes inactive. In the intervening period a 20m buffer must be installed around the nest site to prevent disturbance.
- 4.10 Given negative results from dormouse surveys for the main development it is unlikely that this species is present. The amount of suitable habitat to be removed is relatively minor and would not require a licence to remove if dormice were present, if removed under a non-licensed method statement. EcOW supervision of vegetation removal and the complete replanting of scrub will ensure no impacts on dormice during or after the works.
- 4.11 Overall, the proposed scheme to create a drainage basin and associated green infrastructure will likely benefit the protected species present in the long term and will have a negligible to minor positive impact at a local scale on all species considered in this assessment.