ECOSA
Ecological Survey & Assessment

TECHNICAL NOTE

Project:	Mortimer Quarry Southern Extension , Mortimer West End, Hampshire	**Client:**	Hills Quarry Products Limited
Subject:	Reptile Translocation – Phase 1: East	**Author:**	Richard Chilcott, ECOSA
Date:	17th November 2017	**cc:**	

Introduction

Ecological Survey and Assessment Limited (ECOSA) have been contracted by Hills Quarry Products Limited to undertake a reptile translocation exercise at Mortimer Quarry Southern Extension, Welshmans Road, Mortimer West End, Hampshire, RG7 3UA. The site is centred on National Grid Reference (NGR): SU 6260 6410.

The proposals for the site are for the extension to sand and gravel workings at Mortimer Quarry with restoration to commercial forestry and biodiversity, a temporary conveyor gantry crossing of Welshman's Road, retention of existing quarry plant site and associated development including construction of additional silt lagoons with restoration to commercial forestry and biodiversity. The proposed extraction works in Phase 1: East are scheduled to begin in Autumn 2017.

Background

A suite of ecological survey work has previously been undertaken at the site between 2004 and 2011 in order to support the preparation of an Environmental Statement[1] for the proposed gravel and sand extraction and subsequent restoration of the site on behalf of Hanson Quarry Products Europe Limited. Following submission of the proposals to the Mineral Planning Authority (Hampshire County Council) the site was subsequently granted planning permission for the proposed extraction works (reference BDB/73759).

As part of the previous works undertaken a population of reptiles was recorded within the site with all four widespread species of reptile recorded (adder *Vipera berus*, common lizard *Zootoca vivipara*,

[1] Scott Wilson (2011) Extension to Sand and Gravel Workings at Mortimer Quarry into Land Known as Benyon's Inclosure, with Restoration to Commercial Forestry and Biodiversity, a Temporary Conveyor Gantry Crossing of Welshman's Road, Retention of Existing Quarry Plant Site and Associated Development Including Construction of Additional Silt Lagoons with Restoration to Commercial Forestry and Biodiversity – Environmental Statement

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grass snake *Natrix natrix* and slow-worm *Anguis fragilis*). The population recorded as present was assessed as being low. Given the rotationally managed nature of the plantation woodland at the site the most suitable areas of habitat change over time. Whilst reptiles were recorded in suitable areas of mature woodland, these were considered likely to be only transitory individuals, given the heavily shaded nature of the habitat. The key areas of habitat at the time of survey in 2010 were the situated within the proposed Phase 1, Phase 3 and Phase 5 (around vegetated pond) and grassland margins to tracks in the south-west (Phase 7 and 8) and margins to the site itself.

Various mitigation works including a reptile translocation of the Phase 1: East area of the site were undertaken by URS in anticipation of an April 2012 start of extraction. A total of 185 reptiles comprising all four common species were translocated to two temporary receptor areas within the wider Mortimer Quarry site between September and October 2011 (M1 and M1a).

Following the completion of a number of elements of the proposed mitigation the project was subsequently put on hold. Subsequently, ECOSA were instructed by Hills Quarry Products to provide an updated baseline and provide an updated ecological mitigation strategy[2] for the site to reflect any changes present to the baseline which have occurred. An updating walkover survey was undertaken in May 2017. Since the previous reptile translocation exercise between 2011 and 2012, the Phase 1: East of the site has been left unmanaged and has since recolonised into lowland heathland and scrub with some areas of bare ground remaining. The reptile fencing which had previously been erected at the site appeared to be in a relatively good state of repair, with some relatively small sections either having been damaged of having vegetation grown up around them. Therefore, it was considered likely that a population of reptiles could have recolonised the area in the interim. Given this, a Reptile Assessment[3] was undertaken between May and June 2017 which confirmed that the Phase 1: East area supports a “good” population of slow-worm and “low” populations of grass snake, common lizard and adder.

The proposed works associated with Phase 1: East will result in the permanent loss of approximately 3.9 hectares of good quality on-site heathland habitat suitable for foraging, basking and hibernation.

ECOSA were subsequently commissioned to implement the ecological mitigation works proposed as part of the 2017 Updating Ecological Walkover and Mitigation Strategy[2] and Reptile Assessment[3] including a reptile translocation. This technical note should be read in conjunction with the Reptile Assessment Technical Note and the 2017 Updating Ecological Walkover and Mitigation Strategy[2]. The proposed strategy broadly involved the translocation of reptiles from the donor site to two receptor sites in the wider site (hereafter referred to as the “receptor sites”).

[2] ECOSA (2017) Mortimer Quarry Southern Extension, Mortimer West End - Updating Ecological Walkover and Mitigation Strategy FINAL dated July 2017
[3] ECOSA (2017) Mortimer Quarry Southern Extension, Mortimer West End – Reptile Assessment Technical Note dated June 2017

Scope of Report

This Technical Note presents the results of the reptile translocation carried out by ECOSA between June and October 2017.

Reptile Translocation Methodology

Prior to the commencement of the translocation the Phase 1: East site boundary fencing was repaired and reinstated in order to ensure that it continued to form an effective barrier to reptile movement and that Phase 1:East continued to be inaccessible to reptiles.

A total of 350 reptile refugia, comprising approximately 250 500 millimetres x 500 millimetres sheets of bitumen roofing felt and 100 corrugated metal tins, were distributed within the donor site by two ECOSA ecologists on 19th June 2017.

The reptile refugia were then inspected on a total of 143 occasions between June and October. Due to the high numbers of reptiles being removed from the site the translocation period extended well beyond the original 30 day period with no constructive five clear days recorded.

Habitat manipulation works in order to reduce the suitability of areas of the site and thus increase capture rates were subsequently undertaken on 22nd August 2017 and 29th August 2017. This entailed the methodical clearance of vegetation to ground level using a tractor-mounted flail under the supervision of a suitably qualified ecologist.

Due to the continued high numbers following the habitat manipulation exercise the number of visits undertaken a day was increased significantly from a single translocation visit per day to a full days' worth of capture exercises being undertaken on an almost daily basis from 2nd October. This amounted to on average three to four translocation visits undertaken per day between 2nd October and 22nd October 2017. Subsequently a total of eight consecutive clear translocation visits were recorded between 19th October and 22nd October 2017.

The translocation visits commenced on the 26th June 2017 and finished on the 22nd October 2017. Captured reptiles were sexed and aged where possible and translocated to the receptor site (M1 of M1a). The details of weather conditions for each reptile translocation date are provided in **Appendix 1**.

A destructive search was subsequently undertaken of the translocation area between Monday 30th October and Wednesday 8th November 2017. This was undertaken using an excavator under the supervision of an ecologist with detailed checks of all vegetation undertaken before clearance. Any reptiles encountered were relocated to the receptor areas.

Reptile Translocation Limitations

The reptile translocation was undertaken over a long period including at the very end of the active reptile season in 2017. Given that the translocation continued until the end of the season and the risk of the weather turning colder was not possible to achieve five clear days without risking significant delays to the project. However, given that the number of reptiles recorded towards the end of the

translocation period were low and that a minimum of three checks were undertaken a day towards the end of the active reptile season it is not considered that this presented a significant limitation to the translocation exercise. A total of eight clear checks over a four day period were achieved prior to the commencement of the destructive search.

Whilst the work continued into the autumn the weather conditions in October/early November 2017 were unseasonably mild with temperatures remaining favourable for reptile translocation.

Results

A total of 289 slow-worm, 169 common lizard, 16 grass snake and two adder were captured and removed during the translocation. An additional five slow-worm and seven common lizard were captured and removed during the habitat manipulation works. The full results of the reptile translocation exercise undertaken are provided in **Appendix 2**.

Following the completion of the translocation exercise, a destructive search of the donor site was undertaken under the supervision of an ecologist between 30th October 2017 and 8th November 2017 excluding the weekend. The destructive search involved the clearance of the top layer of vegetation using an excavator. As part of the destructive search a single juvenile common lizard and a single juvenile slow-worm were captured and relocated to a receptor area. The donor site has now been cleared of reptiles.

Conclusion and Recommendations

A total of 295 slow-worm, 177 common lizard, 16 grass snake and two adder were captured and translocated from the donor site to the two receptor sites termed M1 and M1a within the wider site.

The installed reptile fencing should be maintained in a good state of repair throughout the extraction phase in order to ensure that reptiles do not recolonise the site. Contractors should monitor the fence line for signs of any damage and repairs should be undertaken as necessary. This is essential in order to ensure that reptiles do not recolonise the site during the development works. Following the completion of the development, the reptile fence will be removed.

In order to accord with the Mitigation Strategy for the site the remainder of the Phase 1 area of the site will require destructive search under supervision of a suitably qualified ecologist prior to extraction works commencing in the remainder of the site. This will need to be undertaken in the active reptile season April – October.

The receptor sites termed M1 and M1a within the wider site will be managed by Hills Quarry Products Limited. Please refer to the Biodiversity Mitigation, Management and Monitoring Strategy[4] and the 2017 Updating Ecological Walkover and Mitigation Strategy[2] to provide details of the mitigation works and long-term ecological strategy for the site.

[4] URS (2012) Mortimer Quarry: Southern Extension - Biodiversity Mitigation, Management and Monitoring Strategy – Site Strategy and Phase 1 Detail FINAL (Phase 1) – REVISION 06

Appendix 1 Reptile translocation details

Table 1: Reptile translocation details

Date	Temperature (°C)	Weather Conditions
26th June 2017	15	Dry cloudy
27th June 2017	16	Dry cloudy
29th June 2017	17	Dry, overcast
30th June 2017	16	Dry, overcast
1st July 2017	16	Dry, overcast, sunny intervals
2nd July 2017	18	Dry, clear
3rd July 2017	18	Sun and cloud
5th July 2017	16	Warm, Sunny
6th July 2017	17	Warm, Sunny
7th July 2017	18	Warm, dry, breeze
8th July 2017	17	Dry, overcast, sunny intervals
9th July 2017	17	Dry, cloudy, sunny intervals
11th July 2017	17	Light rain, overcast
15th July 2017	15	Light rain, overcast
13th July 2017	17	Cloudy with sunny intervals
14th July 2017	18	Dry, sunny
16th July 2017	17	Dry, some cloud
17th July 2017	17	Clear
18th July 2017	17	Dry, light cloud
20th July 2017	17	Dry, cloudy
21st July 2017	17	Warm, cold breeze, cloudy
27th July 2017	16	Warm, breezy
23rd July 2017	15	Dry, light cloud
24th July 2017	15	Dry, cloudy
25th July 2017	16	Dry, cloudy
28th July 2017	16.5	Dry, cloudy
29th July 2017	16	Light cloud
30th July 2017	15	Cloud
1st August 2017	17	Warm, recent showers
3rd August 2017	16	Overcast, cool
4th August 2017	18	Sunny with intervals
6th August 2017	18	Warm, sunny
7th August 2017	16	Overcast, mild
9th August 2017	13	Overcast, mild
10th August 2017	15	Dry, cool, breezy
11th August 2017	16	Sunny, clear
12th August 2017	17-18	Warm, sunny
14th August 2017	13	Cool, calm
15th August 2017	18	Overcast, dry, sunny spells
16th August 2017	15	Dry, overcast
17th August 2017	18	Dry, overcast
18th August 2017	17	Warm, humid intermittent showers
21st August 2017	17	Overcast, humid with some light drizzle
22nd August 2017	18-20	Dry, overcast, humid

Date	Temperature (°C)	Weather Conditions
23rd August 2017	18	Dry, cloudy, humid
24th August 2017	16-18	Dry, warm
25th August 2017	17	Dry, sunny
29th August 2017	15.5	Dry, cool
30th August 2017	12	Overcast, light rain
31st August 2017	18	Sunny
1st September 2017	17	Dry, sunny
4th September 2017	16.5	Dry, fog
5th September 2017	17	Overcast, light rain
6th September 2017	15	Overcast, breezy
7th September 2017	17	Overcast, dry
11th September 2017	14	Overcast, rain showers
12th September 2017	14	Good, clear light wind
14th September 2017	15	Cloudy with sunny intervals
18th September 2017	12	Fine
19th September 2017	13	Sunny
20th September 2017	14	Fine
21st September 2017	16	Cloudy, windy, dry
22nd September 2017	13	Good, clear and dry
23rd September 2017	16	Fine and clear
24th September 2017	15	Sunny and fine
25th September 2017	14	Light drizzle, overcast
26th September 2017	14.5	Cloudy
27th September 2017	14	Overcast, misty at start, sunny and warm towards end
28th September 2017	18	Sunny, partial cloud
29th September 2017	16	Overcast
2nd October 2017	15	Dry, windy
3rd October 2017	16	Sunny
4th October 2017	13	Dry, overcast
5th October 2017	14	Dry, warm
6th October 2017	14-15	Dry, warm, sunny
7th October 2017	15	Cool, overcast
8th October 2017	14	Cool, overcast clearing later
9th October 2017	12-14	Cool, overcast, drizzle to light rain
10th October 2017	13	Overcast
12th October 2017	12	Partly cloudy
13th October 2017	14	Overcast
14th October 2017	17	Overcast
15th October 2017	15	Partly cloudy, clearing later
16th October 2017	18	Partly cloudy
17th October 2017	11	Clear
18th October 2017	12	Overcast
19th October 2017	13-15	Light rain, mist, overcast
20th October 2017	13-14	Dry, rained overnight, overcast, sunnier throughout the day
21st October 2017	13	Sunny with brief showers
22nd October 2017	13	Sunny spells, dry

Appendix 2 Reptile translocation results

Table 2: Summary of reptile translocation results

Date	Number of slow-worm translocated*	Number of common lizard translocated*	Number of grass snake translocated*	Number of adder translocated*	Translocation Area
26th June 2017	9	0	0	0	M1a
27th June 2017	3 (4)	0	0	0	M1a
29th June 2017	24 (3)	4	0	0	M1a
30th June 2017	10	0	0	0	M1a
1st July 2017	9 (1)	5 (1)	0	0	M1a
2nd July 2017	3	0	0	0	M1a
3rd July 2017	1 (1)	0	0	0	M1a
5th July 2017	10	0	0	0	M1a
6th July 2017	4	0	0	0	M1a
7th July 2017	0	0	0	0	M1a
8th July 2017	0	2 (1)	0 (1)	0	M1a
9th July 2017	3	0	0	0	M1a
11th July 2017	2	0	0	0	M1a
15th July 2017	1	0	0	0	M1a
13th July 2017	5	1	0	0	M1a
14th July 2017	2	0	0	0	M1
16th July 2017	1	1	0	0	M1a
17th July 2017	0	0	0	0	M1a
18th July 2017	3	0	0	0	M1a
20th July 2017	1 (3)	0	0	0	M1
21st July 2017	2 (1)	0	0	0	M1a
27th July 2017	6	0	0	0	M1a
23rd July 2017	4 (1)	1 (2)	0	0	M1
24th July 2017	1 (1)	0	0	0	M1a
25th July 2017	0 (2)	1	0	0	M1a
28th July 2017	3	0	0	0	M1a
29th July 2017	1	0	0	0	M1a
30th July 2017	1 (3)	0	0	0	M1a
1st August 2017	4 (3)	1	0	0	M1
3rd August 2017	4 (1)	0	0	0	M1
4th August 2017	7 (6)	0 (1)	0 (1)	0	M1a
6th August 2017	8 (2)	2 (6)	0 (2)	0	M1a
7th August 2017	2 (1)	1 (3)	0 (1)	0	M1a
9th August 2017	1 (1)	0	0	0	M1a
10th August 2017	2	0	0	0	M1a
11th August 2017	4	0	0	0	M1a
12th August 2017	2 (2)	1 (5)	0	0	M1a
14th August 2017	0	1	0	0	M1
15th August 2017	3	0	0	0	M1a

Date	Number of slow-worm translocated*	Number of common lizard translocated*	Number of grass snake translocated*	Number of adder translocated*	Translocation Area
16th August 2017	4 (5)	0	0	0	M1
17th August 2017	3 (4)	0	0	0	M1
18th August 2017	5 (2)	3 (4)	2	0	M1
21st August 2017	9 (6)	3 (4)	2	1	M1
22nd August 2017	0	3 (5)	0	0	M1
23rd August 2017	1	0	0	0	M1
24th August 2017	2 (1)	1 (1)	0 (1)	0	M1
25th August 2017	1	0	0	0	M1a
29th August 2017	0	1	0	0	M1
30th August 2017	0 (1)	0 (6)	0	0	M1a
31st August 2017	0	0	0	0	M1
1st September 2017	2	0	0	0	M1a
4th September 2017	0	0	0	0	N/A
5th September 2017	1	0 (2)	0	0	M1
6th September 2017	2	0	0	0	M1a
7th September 2017	2 (2)	1	0	0	M1
11th September 2017	0	2	0	0	M1a
12th September 2017	0 (3)	3 (2)	0	0	M1a
14th September 2017	2 (2)	3	0 (1)	0	M1
18th September 2017	0	5	0	1	M1
19th September 2017	1	1	1	0	M1a
20th September 2017	0 (2)	2 (1)	0	0	M1
21st September 2017	1 (1)	0 (3)	0 (1)	0	M1a
22nd September 2017	0	0	0	0	M1a
23rd September 2017	1	0	0	0	M1a
24th September 2017	0	3	0	0	M1a
25th September 2017	0	0	0	0	N/A
26th September 2017	2	1 (1)	0	0	M1
27th September 2017	2 (3)	2 (3)	1	0	M1a
28th September 2017	2 (2)	5	0	0	M1a
29th September 2017	5 (1)	6	0	0	M1a
2nd October 2017	1	6 (4)	0	0	M1a
3rd October 2017	3 (1)	1 (2)	0 (1)	0	M1
4th October 2017	0	2	0	0	M1a
5th October 2017	2	1 (2)	0	0	M1a
6th October 2017	4 (1)	1 (22)	0	0	M1a
7th October 2017	0	0	0	0	N/A
8th October 2017	2	0 (1)	0	0	M1
9th October 2017	1 (1)	0 (4)	0 (1)	0	M1
10th October 2017	2	1	0	0	M1
12th October 2017	3	2	0	0	M1
13th October 2017	1	1 (1)	0	0	M1

Date	Number of slow-worm translocated*	Number of common lizard translocated*	Number of grass snake translocated*	Number of adder translocated*	Translocation Area
14th October 2017	2	1	0	0	M1
15th October 2017	1	0	0	0	M1
16th October 2017	0	1	0	0	M1
17th October 2017	0	0	0	0	M1
18th October 2017	0	0	0	0	M1
19th October 2017	1	0 (1)	0	0	M1a
20th October 2017	0	0	0	0	N/A
21st October 2017	0	0	0	0	N/A
22nd October 2017	0	0	0	0	N/A

* Juvenile numbers provided in brackets