

TECHNICAL APPENDIX 9.1: EXTENDED PHASE 1 HABITAT SURVEY BASELINE REPORT

1 INTRODUCTION

1.1.1 In November 2015, Atmos Consulting Ltd (Atmos) was commissioned by Richards, Moorehead and Laing (RML), on behalf of Jones Brothers, to carry out an extended Phase 1 habitat survey of the Seiont Quarry site. This Site is proposed for use as a construction compound for the proposed A487 Caernarfon and Bontnewydd Bypass scheme.

1.1.2 This report presents the findings of the extended Phase 1 habitat survey, and provides the technical appendix to Chapter 8 of the Environmental Statement for the proposed works at the Site.

2 METHODOLOGY

2.1 Extended Phase 1 Habitat Survey

2.1.1 An extended Phase 1 habitat survey covering the Seiont Quarry Site (grid reference SH 48941 61490) was undertaken by Atmos Consulting Ltd on 25th November 2015 in order to ground truth and, if required, update the results of the Phase 1 habitat survey data obtained to inform the planning application for the Caernarfon Bypass.

2.2.2 Phase 1 habitat survey is a standardised method of recording habitat types and characteristic vegetation, as set out in the *Handbook for Phase 1 Habitat Survey - a technique for Environmental Audit* (Joint Nature Conservation Committee, 2010)¹. The survey method was 'extended' through the additional recording of specific features indicating the presence, or likely presence, of protected species or other species of nature conservation significance.

2.2.3 Target notes were made to describe characteristic habitats, features of ecological interest, or any other features which require ecologically sensitive design or mitigation.

2.2.4 Whilst not a full protected species or botanical survey, the extended Phase 1 method enables a suitably experienced ecologist to obtain sufficient understanding of the ecology of a site that it is possible either:

- to confirm the conservation significance of the site and assess the potential for impacts on habitats/species likely to represent a material consideration in planning terms; or
- to ascertain that further surveys of some aspect(s) of the site's ecology will be required before such confirmation can be made.

¹ JNCC, (2010), Handbook for Phase 1 habitat survey - a technique for environmental audit, revised re-print.

2.2 Limitations

- 2.2.1 As the survey was carried out in November, it may not have recorded many of the plant species which would be more obvious at other times of the year. For example, the species list provided for the areas of ephemeral / short perennial vegetation may not be as comprehensive as if the survey had been carried out in spring or summer when annuals would be evident. However, it is considered that the survey provided sufficient information to enable assessment of the habitats present.

3 SURVEY RESULTS

- 3.1.1 The habitats present within the survey area are shown in Figure 8.1, with target notes included in Appendix A. The Site was an area of active quarrying in the recent past, and as such is dominated by the quarry habitat and a lake which is present in the quarry sump. Habitats which have developed since the last use of the quarry include extensive areas of ephemeral / short perennial vegetation, disturbed ground and scrub. Areas of improved, neutral and poor semi-improved grassland are present around the edge of the existing quarry and in the fields to the north.

3.2 Improved Grassland Habitat

- 3.2.1 The fields to the north-west of the quarry comprise improved grassland grazed by livestock. Grassland species include annual meadow grass *Poa annua*, perennial ryegrass *Lolium perenne*, common bent *Agrostis capillaris*, crested dog's-tail *Cynosurus cristatus*, white clover *Trifolium repens* and dandelion *Taraxacum officinale* Agg., with occasional cock's foot *Dactylis glomerata*, creeping thistle *Cirsium arvense*, chickweed *Stellaria media* and soft-rush *Juncus effusus*.

3.3 Quarry Habitat

- 3.3.1 Large areas of the quarry remain un-vegetated, or very sparsely vegetated, spoil heaps. The eastern side of the quarry slope is the section which was last worked, and it has been landscaped into a series of terraces. These are largely without vegetation, although some grasses, mosses and willow *Salix* sp. scrub have begun to colonise.

3.4 Standing Water

- 3.4.1 A large, deep area of standing water was present in the centre of the quarry. No aquatic vegetation was observed during survey. The marginal vegetation included submerged willow scrub, soft-rush, hard rush *Juncus inflexus* and jointed / sharp-flowered rush *Juncus articulatus / acutiflorus*. The quarry sides rise steeply from the lake on all sides except for the south-western corner, where the land adjacent to the lake supports short perennial vegetation, growing on quarry spoil, and patches of scrub.

3.5 Hardstanding

3.5.1 The largest area of hardstanding was present on the western side of the Site, where the brick work buildings were previously located. Substantial areas of this hardstanding remain intact, although large areas have been broken and cracked. Several large piles of bricks were present, along with long bunds of quarry spoil which had vegetated over. The areas of broken hardstanding had been densely colonised with butterfly-bush *Buddleja davidii* scrub, and cracks between sections of hardstanding colonised by grasses, mosses and wildflowers, with species such as Yorkshire fog *Holcus lanatus*, common bent, false oat-grass *Arrhenatherum elatius*, creeping buttercup *Ranunculus repens*, ribwort plantain *Plantago lanceolata*, herb Robert *Geranium robertianum* and winter heliotrope *Petasites fragrans*. Other areas of hardstanding on the Site, such as the former brickyard, had vegetated over to the extent that they are now shown as short perennial vegetation.

3.6 Ephemeral / Short Perennial Vegetation

3.6.1 Short perennial vegetation had developed on many of the large areas of quarry spoil and broken hardstanding. In the former brick yard within the loop of the River Seiont, the ground was a mosaic of broken hardstanding, large piles of bricks, short perennial vegetation and patches of tree scrub. Species recorded in the short perennial vegetation included ribwort plantain, red clover *Trifolium pratense*, vetches *Vicia* sp., herb Robert, creeping buttercup, wild strawberry *Fragaria vesca*, creeping cinquefoil *Potentilla reptans*, sow thistle *Sonchus* sp., colt's-foot *Tussilago farfara*, groundsel *Senecio vulgaris*, ragwort *Senecio jacobaea* and common knapweed *Centaurea nigra*. Grasses included Yorkshire fog, perennial rye-grass, common bent, cock's-foot and false oat-grass. Mosses were also present on the ground and on rocks. Birch *Betula pendula*, willow and alder *Alnus glutinosa* scrub was also developing in some areas, as well as patches of bramble *Rubus fruticosus* Agg., butterfly-bush and the rushes soft-rush and jointed / sharp-flowered rush. A short wall present on the northern boundary provides habitat for hart's-tongue fern *Asplenium scolopendrium*.

3.6.2 In addition to the above listed species, the consultation response provided by the Gwynedd Senior Biodiversity Officer noted that cat's-ear *Hypochaeris radicata* and vervain *Verbena officinalis* also occur within this habitat.

3.6.3 There were also large areas of short perennial vegetation on stony ground on the quarry sides, with colt's-foot very locally dominant in some places and scattered willow scrub and bramble patches encroaching.

3.7 Scrub

3.7.1 Dense scrub was present at several locations within the Site. The steep northern and western sides of the quarry were covered by dense willow, silver birch, gorse

Ulex europaeus and bramble scrub. Patches of gorse scrub were present to the north-west and south-east of the quarry, and birch and willow scrub was present around the edges of the broadleaved plantation woodland to the south of the Site. Scattered scrub was also present on other sections of the quarry, where species such as willow and gorse were beginning to encroach on other habitats.

3.8 Semi-Natural Broadleaved Woodland

3.8.1 Semi-natural broadleaved woodland was present in several locations on the Site. A strip of woodland was present along the northern boundary of the quarry, to the south of the River Seiont. Species there included silver birch, hawthorn *Crataegus monogyna*, rowan *Sorbus aucuparia*, pedunculate oak *Quercus robur* and beech *Fagus sylvatica*. The banks of the River Seiont were largely tree-lined. To the north of the former brick yard was an area of wet woodland dominated by alder *Alnus glutinosa*, hawthorn, silver birch, bramble, bracken *Pteridium aquilinum* and ferns. Offsite to the west of the Site there was a large area of mature broadleaved woodland present to the south of the River Seiont that is covered by a tree preservation order (TPO).

3.9 Poor Semi-improved Grassland

3.9.1 An area of poor semi-improved grassland was present to the south-east of the quarry. Species included Yorkshire fog, cock's-foot, annual meadowgrass, perennial rye-grass, creeping thistle, broad-leaved willowherb *Epilobium montanum* and silverweed *Potentilla anserina*.

3.10 Semi-improved Neutral Grassland

3.10.1 An area of semi-improved neutral grassland was present to the north of the quarry pit. Species included Yorkshire fog, crested dog's-tail, common bent, false oat-grass, white clover, creeping buttercup, dandelion, colt's-foot, ribwort plantain, common knapweed, with small patches of soft-rush and willow or gorse scrub.

3.11 Ditch

3.11.1 A wet ditch runs from the quarry lake to the River Seiont. The ditch gully was approximately 5m wide and 1.25m deep, with a water channel approximately 1.5m wide containing around 10cm of water. Bankside vegetation included false oat-grass, Yorkshire fog, common bent, creeping buttercup, vetch, greater plantain *Plantago major* and ribwort plantain. Marginal / emergent vegetation included soft-rush, hard rush, bulrush *Typha latifolia* and broad-leaved willowherb. Aquatic vegetation included water starwort *Callitriche* sp. and round-leaved crowfoot *Ranunculus omiophyllus*.

3.11.2 A dry ditch runs along the northern quarry boundary. The ditch was approximately 1m in width and depth and was largely choked by bramble. Other species included

hawthorn, blackthorn *Prunus spinosa*, dog rose *Rosa canina*, willow scrub, foxglove *Digitalis purpurea*, hogweed *Heracleum sphondylium*, dock *Rumex* sp., common knapweed and cock's-foot.

3.12 Off Site Habitats of Note

- 3.12.1 The River Seiont flows along the northern boundary of the Site and around the former brickyard. The river was approximately 8m wide and between 0.5m and 1.5m in depth. Large rocks were present within the river and along the bank at water level, with several areas of gravel along the river edge. As the river flows around the former brickyard, the northern bank was an artificial vertical brick and stone wall. The southern bank was a more natural, sloping, wooded bank, with some areas of vertical bedrock. Along the length of the river corridor, both banks were lined with mature and semi-mature trees, including ash *Fraxinus excelsior*, sycamore *Acer pseudoplatanus*, pedunculate oak, silver birch, hazel *Corylus avellana*, holly *Ilex aquifolium* and hawthorn. Trees overhanging the river often support mosses and ferns, and the ground flora was dominated by bramble and ivy *Hedera helix*, with red campion *Silene dioica* and bluebell *Hyacinthoides non-scripta* also present.
- 3.12.2 Two derelict buildings were present to the north of the former brickyard. The derelict house on the northern edge of the brickyard, adjacent to the Site boundary, was a brick built structure with a pitched roof and open doors and windows. The brick basement is known to have been used in the past as a hibernation roost by lesser horseshoe bats. A small, dilapidated building was also present in the woodland to the north of the brickyard; it was a small brick built structure overgrown by ivy and with a collapsed roof. Other buildings in proximity to the Site were associated with private properties at Plas Treflan and Bryn Eden to the north.
- 3.12.3 Semi-natural broadleaved woodland was present in several locations adjacent to the Site: a woodland strip along the northern boundary of the quarry, a wet woodland to the north of the former brick yard, a large area of mature broadleaved woodland to the west of the Site covered by a TPO, and also the tree-lined banks of the River Seiont.
- 3.12.4 An area of more recently planted broadleaved woodland was present adjacent to the Site boundary, part of which is covered by the above described TPO.
- 3.12.5 Some scattered broadleaved trees were present near the Site. Several of the boundaries of the improved grassland fields to the north of the quarry comprised fences or stone walls with mature or semi-mature broadleaved trees present, including oak, ash, sycamore, hawthorn and silver birch. One tree, a large mature pedunculate oak tree next to a stone wall, was found to be covered by a tree preservation order (TPO 611).

3.12.6 Several of the boundaries to the east of the quarry were species-poor hedgerows with mature trees including oak, ash, sycamore, hawthorn and silver birch.

3.13 Habitats of Principal Importance

3.13.1 One habitat recorded on the Site is a Welsh Habitat of Principal Importance²: open mosaic habitats on previously developed land. Much of the habitat within the Site was open mosaic habitat, which comprises a number of Phase 1 habitat types, being by nature a mosaic of different habitats. It therefore includes the above described quarry and ephemeral / short perennial vegetation, the edges of the quarry lake, the wet ditch, the hardstanding, quarry habitat and scrub. These habitats in isolation may not necessarily have any intrinsic nature conservation value, however, when linked as a mosaic of habitats they have greater value.

3.13.2 Two other habitats near to the Site boundary are also Habitats of Principal Importance: hedgerows to the north of the quarry, and the River Seiont which runs adjacent to large sections of the Site boundary. River corridors are also covered by a Habitat Action Plan in the Gwynedd Local Biodiversity Action Plan

3.14 Protected Species

3.14.1 The large quarry lake described in section 3.4 above was assessed for potential to support great crested newts. A habitat suitability index (HSI) assessment was made and a HSI value of 0.61 was calculated as shown in Table 1 below. Waterbodies with HSI values of greater than 0.60 are assessed as having 'average' suitability for use by great crested newts. Therefore, as assessed on a habitat basis, the quarry lake does have the potential to support great crested newts.

Table 1: Habitat Suitability Index Scores

HSI Category	Score	HSI Category	Score
S1 Location	0.5	S6 Wildfowl presence	0.67
S2 Pond area	0.8	S7 Fish presence	0.67
S3 Frequency of pond drying	0.9	S8 No. of ponds	0.65
S4 Water quality	0.33	S9 Terrestrial habitat quality	0.67
S5 Degree of pond shading	1	S10 Macrophyte presence	0.35
		OVERALL HSI VALUE	0.61

3.14.2 At least six bat boxes were present on trees along the river Seiont by the quarry entrance, which would be suitable for use by individuals of all crevice-dwelling bat species. Other features on the Site with noted potential to support roosting bats include the small section of broadleaved woodland within the Site boundary north of the quarry, and the trees along the banks of the River Seiont. The known lesser

² Through inclusion in the list generated in accordance with Section 42 of the Natural Environment and Rural Communities (NERC) Act, 2006.

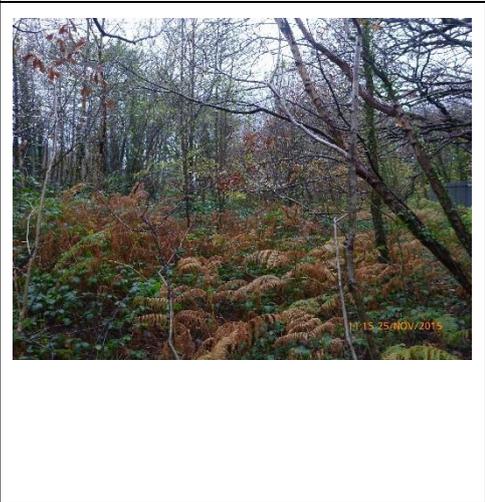
horseshoe *Rhinolophus hipposideros* hibernation roost present to the north of the former brickyard could not be accessed at the time of the survey.

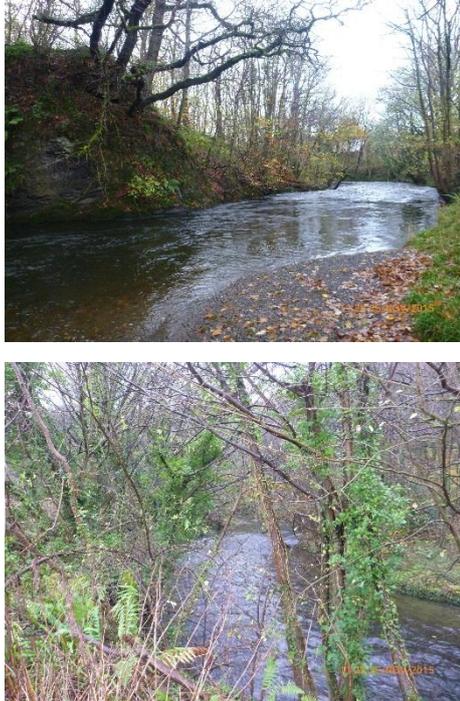
- 3.14.3 No signs of badger *Meles meles* activity were observed on the site, and no badger setts were located.
- 3.14.4 Signs of otter *Lutra lutra* were found in four locations on the River Seiont where it runs adjacent to the Seiont Quarry site. Full details of the results of the otter survey are provided in Technical Appendix 8B. No evidence of the presence of water vole *Arvicola amphibious* was observed.

3.15 Summary

- 3.15.1 The extended Phase 1 habitat survey of the Seiont Quarry Site recorded several habitats and species of note. One habitat recorded on the Site is a Welsh Habitat of Principal Importance: open mosaic habitats on previously developed land. Two other habitats near to the Site boundary are also Habitats of Principal Importance: hedgerows to the north of the quarry, and the River Seiont which runs adjacent to large sections of the Site boundary. Protected species noted to be present on or near to the Site included bats and otter. In addition, the quarry lake on the Site was noted to provide 'average' habitat suitability for great crested newts.

APPENDIX A: Phase 1 Habitat Survey Target Notes

Target Note	Description	Photograph
<p>TN1</p>	<p>Onsite habitat: the former brickyard. The ground is largely hardstanding with several large piles of bricks. The area is a habitat mosaic, with some areas still bare hardstanding, other areas covered with short perennial vegetation and others comprising patches of tree scrub. Species recorded in the short perennial vegetation included ribwort plantain <i>Plantago lanceolata</i>, red clover <i>Trifolium pratense</i>, vetches <i>Vicia</i> sp., herb Robert <i>Geranium robertianum</i>, creeping buttercup <i>Ranunculus repens</i>, wild strawberry <i>Fragaria vesca</i>, creeping cinquefoil <i>Potentilla reptans</i>, sow thistle <i>Sonchus</i> sp., colt's-foot <i>Tussilago farfara</i>, groundsel <i>Senecio vulgaris</i>, ragwort <i>Senecio jacobaea</i> and common knapweed <i>Centaurea nigra</i>. Grasses included Yorkshire fog <i>Holcus lanatus</i>, perennial rye-grass <i>Poa annua</i>, bents <i>Agrostis</i> sp., cock's-foot <i>Dactylis glomerata</i>, and false oat-grass <i>Arrhenatherum elatius</i>. Mosses were also present on the ground and on rocks. Silver birch <i>Betula pendula</i>, willow <i>Salix</i> sp., alder <i>Alnus glutinosa</i> scrub was also developing in some areas, as well as patches of bramble <i>Rubus fruticosus</i> Agg., buddleia <i>Buddleja davidii</i> and the rushes soft-rush <i>Juncus effusus</i> and jointed / sharp-flowered rush <i>Juncus articulatus / acutiflorus</i>. A short wall was present on the northern boundary, with ferns present including hart's-tongue fern <i>Asplenium scolopendrium</i>.</p>	 <p>The photograph section for TN1 contains three images. The top image shows a field with several trees and patches of vegetation under an overcast sky. The middle image shows a wet, muddy area with a large pile of red bricks in the background. The bottom image shows a field with a brick pile and various plants, including what appears to be a purple-flowered plant in the foreground.</p>
<p>TN2</p>	<p>Offsite habitat: area of broadleaved woodland to the north of the former brickyard. Ground conditions wet and woodland dominated by alder, with hawthorn <i>Crataegus monogyna</i>, silver birch and oak <i>Quercus</i> sp. saplings also present. Ground flora was dominated by bramble, with bracken <i>Pteridium aquilinum</i>, ferns and occasional dog's mercury <i>Mercurialis perennis</i> also present. A small, dilapidated building present in the northern corner of the woodland, a small brick built structure, overgrown by ivy and with a collapsed roof. A small brick basement was present, with some limited potential for use by bats, although no evidence of</p>	 <p>The photograph for TN2 shows a woodland area with several trees, including what appears to be a silver birch, and a dense ground cover of ferns and bracken.</p>

	<p>bat presence was observed.</p>	
<p>TN3</p>	<p>Offsite habitat: a derelict house within the former brickyard. Building is brick built with a pitched roof, with open doors and windows providing easy access. A brick basement is present, which is known to be used by lesser horseshoe bats as a hibernation roost.</p>	
<p>TN4</p>	<p>The River Seiont. The river is approximately 8m wide and between 0.5m and 1.5m in depth. Large rocks were present within the river and along the bank at water level, with several areas of gravel along the river edge.</p> <p>As the river flows around the former brickyard, the northern bank is an artificial vertical brick / stone wall. The southern bank was a more natural, sloping, wooded bank, with some areas of vertical bedrock. Along the length of the river corridor, both banks were lined with mature and semi-mature trees including ash <i>Fraxinus excelsior</i>, sycamore <i>Acer pseudoplatanus</i>, oak, silver birch, hazel <i>Corylus avellana</i>, holly <i>Ilex aquifolium</i> and hawthorn. Trees overhanging the river often supported mosses and ferns, and the ground flora was dominated by bramble and ivy <i>Hedera helix</i>, with red campion <i>Silene dioica</i> and bluebell <i>Hyacinthoides non-scripta</i> also present.</p>	
<p>TN5</p>	<p>Offsite habitat: to the south of the River Seiont was a large area of mature semi-natural broadleaved</p>	

	<p>woodland. Species included sycamore, ash, elder, alder, oak and hazel, with a ground flora dominated by bramble, ivy and ferns.</p>	
<p>TN6</p>	<p>Onsite habitat: stone track leading from the main quarry area to the former brickworks. To the south of the track is an area of willow scrub. To the north of the track is a strip of short perennial vegetation growing over hardstanding (including crested dog's-tail <i>Cynosurus cristatus</i>, <i>Agrostis</i> sp., Yorkshire fog, bird's-foot trefoil <i>Lotus corniculatus</i>, mosses, broad-leaved willowherb <i>Epilobium montanum</i> and ragwort) and a section of wet ditch with soft-rush growing in it.</p>	
<p>TN7</p>	<p>Onsite habitat: a wet ditch runs from the quarry lake to the river Seiont. Ditch gully is approximately 5m wide and 1.25m deep, with a water channel approximately 1.5m wide containing around 10ch of water. Bankside vegetation included false oatgrass, Yorkshire fog, common bent <i>Agrostis capillaris</i>, creeping buttercup, vetch, greater plantain <i>Plantago major</i> and ribwort plantain. Marginal / emergent vegetation included soft-rush, hard rush <i>Juncus inflexus</i>, bulrush <i>Typha latifolia</i> and broad-leaved willowherb. Aquatic vegetation included water starwort <i>Callitriche</i> sp. and round-leaved crowfoot <i>Ranunculus omiophyllus</i>.</p>	
<p>TN8</p>	<p>Onsite habitat: deep lake present in quarry sump. No aquatic vegetation was observed. Marginal vegetation included submerged willow scrub, soft-rush, hard rush and jointed / sharp-flowered rush. The quarry sides rise steeply from the lake on all sides except for the south-western corner. There, the land adjacent to the lake is short perennial vegetation growing on waste quarry material (including red clover, cinquefoil, colt's foot, crested dog's-tail, Yorkshire fog, common bent, cock's-foot, soft-rush, hard rush and jointed / sharp-flowered rush) and patches of gorse, butterfly-bush and willow scrub.</p>	

<p>TN9</p>	<p>Onsite habitat: level area in the steep sided quarry, allowing two areas of standing water to develop. Scattered willow scrub, patches of soft-rush and perennial vegetation covered the quarry slopes here.</p>	
<p>TN10</p>	<p>Onsite habitat: the eastern side of the quarry slope was most recently excavated and has been landscaped into a series of terraces. These were still largely bare of vegetation at the time of survey, although some grasses, mosses and willow scrub had begun to colonise.</p>	
<p>LP11</p>	<p>Onsite habitat: short perennial vegetation growing on stony ground on the quarry sides, with colt's-foot very locally dominant at the time of survey. Scattered willow scrub and bramble patches also present.</p>	
<p>LP12</p>	<p>Onsite habitat: dense areas of scrub on the steep quarry sides, including willow, silver birch, gorse <i>Ulex europaeus</i> and bramble.</p>	
<p>LP13</p>	<p>Onsite habitat: strip of semi-improved neutral grassland along the flatter and at the top of the quarry slope. Species included Yorkshire fog, crested dog's-tail, common bent, false oat grass, white clover <i>Trifolium repens</i>, creeping buttercup, dandelion <i>Taraxacum officinalis</i> Agg., colt's-foot, ribwort plantain, common knapweed, with small patches of soft rush and willow or gorse scrub.</p>	
<p>LP14</p>	<p>Onsite habitat: rough track with small area wet grassland habitat. Water flowing down track at time</p>	

	of survey (recent heavy precipitation). In addition to previously recorded species, several sedges present, including carnation sedge <i>Carex panacea</i> and pendulous sedge <i>Carex pendula</i> .	
LP15	Offsite habitat: strip of semi-mature broadleaved woodland, with species including silver birch, hawthorn, rowan <i>Sorbus aucuparia</i> , oak and beech <i>Fagus sylvatica</i> . Ground flora was dominated by bramble in many places.	
LP16	Onsite habitat: area of hardstanding, large sections of which remain intact. Several large piles of bricks were present, along with long bunds of quarry spoil which had vegetated over. Large areas of broken hardstanding had been densely colonised with butterfly-bush scrub, and cracks between sections of hardstanding have been colonised by grasses, such as Yorkshire fog, common bent, false oat grass, and mosses and wildflowers, including creeping buttercup, ribwort plantain, herb Robert, and winter heliotrope <i>Petasites fragrans</i> .	
LP17	Onsite habitat: four bat boxes were present on two mature trees along the eastern river bank just to the south of the quarry entrance.	
LP18	Onsite habitat: raised area of stockpiled quarry spoil, which was largely un-vegetated, although plant colonisation had begun, with some areas approximately 25% covered by short perennial vegetation.	
LP19	Offsite habitat: recently planted area of broadleaved woodland.	

<p>LP20</p>	<p>Offsite habitat: poor semi-improved grassland to the south-west of the quarry. Species included Yorkshire fog, cock's-foot, annual meadow-grass <i>Poa annua</i>, perennial rye-grass <i>Lolium perenne</i>, creeping thistle <i>Cirsium arvense</i>, willowherb and silverweed <i>Potentilla anserina</i>. The field boundary was a mature tree-line / hedgerow, including mature oak and ash trees.</p>	
<p>LP21</p>	<p>Onsite habitat: the northern quarry boundary was a ditch approximately 1m in width and depth, and dry at the time of survey. It was largely choked by bramble, with other species including hawthorn, blackthorn <i>Prunus spinosa</i>, dog rose <i>Rosa canina</i>, willow scrub, foxglove <i>Digitalis purpurea</i>, hogweed <i>Heracleum sphondylium</i>, dock <i>Rumex</i> sp., common knapweed and cock's-foot.</p>	
<p>LP22</p>	<p>Onsite habitat: improved grassland field. Species included annual meadow-grass, perennial rye-grass, common bent, crested dog's-tail, white clover, dandelion and occasional cock's-foot, thistle, chickweed <i>Stellaria media</i>, soft-rush and jointed / sharp flowered rush.</p>	
<p>LP23</p>	<p>Offsite habitats: the boundary of the improved grassland fields was a stone wall approximately 1m tall, with sections overgrown by bramble, ivy or hawthorn. Several mature trees were present, including a large mature pedunculate oak <i>Quercus robur</i> tree. This tree was covered by a tree preservation order, as indicated by the metal tag 'TPO 611' on the trunk.</p>	

LP24	Offsite habitat: a stone wall, with occasional bramble patches and several semi-mature sycamore trees present.	
LP25	Onsite habitat: improved grassland field.	