Thames Valley



Environmental Records Centre

Sharing environmental information in Berkshire and Oxfordshire

01865 815 451 <u>tverc@oxfordshire.gov.uk</u> <u>www.tverc.org</u>

STRATTON AUDLEY QUARRY 62C01

SURVEY REPORT 2018

ABOUT TVERC

Thames Valley Environmental Records Centre (TVERC) is a 'not for profit' organisation covering Berkshire and Oxfordshire. We are run by a partnership and are one of a national network of local records centres. We are a member of the Association of Local Records Centres (ALERC) and the National Biodiversity Network (NBN). Our funding partners include all the local authorities in Oxfordshire & Berkshire plus the Environment Agency. We also work closely with the Berkshire, Buckinghamshire and Oxfordshire Wildlife Trust (BBOWT). We provide our funding partners with annually updated species and sites information, and undertake surveys of Local Wildlife Sites (LWS). We also carry out data analysis for the monitoring of local authority Local Plans. We provide information to parish councils, local people, conservation bodies, land-owners, students and commercial organisations such as ecological consultants and utilities companies via data searches, data licensing and data exchanges.



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1. BACKGROUND

Stratton Audley Quarry Local Wildlife Site (LWS) is an abandoned and partly restored sand quarry. It has not been worked for a number of years and has developed considerable biodiversity interest.

Oxfordshire County Council commissioned TVERC to carry out a habitat survey of Stratton Audley Quarry LWS to identify the key features of value to wildlife that should be retained in future management options. This survey excludes the pond at the northeast corner of the LWS that is under separate ownership.

2. SURVEY METHOD

Site visits were carried out on 24th May 2018 and 20th July 2018 to complete a survey based on Phase 1 methodology (JNCC, 2010). This involved walking over accessible areas of the site to map the vegetation types present. More detailed recording of plant species was carried out where potential priority habitats (Section 41 Habitat of Principal Importance) were found. Target notes were made to describe the types of vegetation present and botanical species lists recorded for each of the main habitat types found. An estimate of abundance of each species is provided using the DAFOR scale. The DAFOR scale ranks species according to their relative abundance within a particular area of vegetation and bare no relevance to the status of the species in the wider landscape. The following abbreviations are used; D – dominant, A – abundant, F – frequent, O – occasional, R – rare. The abbreviation L is also used to indicate species that are local in their distribution.

Faunal species were recorded where observed but detailed faunal surveys are not included in this project (e.g. invertebrates, reptiles or birds). A general assessment of the sites potential value for particular species groups, based on the habitat present, is included. Additional surveys for some species groups would be beneficial to inform future management plans.

3. SURVEY DATA

Species records have been entered on to the TVERC Recorder 6 database and will be made available in data searches and in the next update of TVERC data layers to partner organisations.

Habitat data has been mapped using MapInfo GIS and has been provided as a GIS layer (available in both MapInfo TAB file and ArcGIS ESRI formats). TVERC has access to 2009 aerial photos and reference was also made to other online sources. However, the mapping of the scrub/grassland mosaic should only be used as an approximation and more recent aerial photography would be allow more accurate mapping of these areas.



4. SITE SUMMARY		
SITE NAME:	SITE CODE:	CENTRAL GRID REFERENCE:
Stratton Audley Quarry	62C01	SP 5986 2504
DATE SITE SURVEYED: 24th May and 20th July 2018	SURVEYOR(S): Julie Kerans, Judy Webb, Yolanda Vazqu	lez
DISTRICT / UNITARY: Cherwell	PARISH / WARD: Stratton Audley	

ASSESSMENT OF SURVEY (inc time taken, weather conditions and any limitations)

7 hours on 24th May and 6 hours on 20th July 2018

Hot and sunny conditions

A small open area at the southern end of the site was not accessed. Dense areas of scrub were surveyed from the edges only. Additional survey effort is likely to record additional species interest but the survey should be sufficient to assess the main habitat types present.

SITE STATUS (A	At time of survey	/):					
							BBOWT
LWS	pLWS	pLWS EX	LNR	NNR	SSSI	pSSSI	res.
					Common	Private	
BOA	AONB	RIGS	SPA	SAC	Land	Land	Other

If 'other', include details here: Geological SSSI

LANDSCAPE CONTEXT:

Stratton Audley Quarry is a former limestone quarry to the north of Bicester. It is adjacent to Bicester Airfield LWS that includes areas of lowland calcareous grassland. The site is not in a Conservation Target Area. There are two proposed Cherwell District Wildlife Sites within 2km - Skimingdish Lane Balancing Pond and Poodle Gorse.

SITE AREA (Ha):	MAJOR ASPECT:	MAJOR SLOPE:	ALTITUDE (m):
37.1	Flat ground with earth & rubble mounds	None	75-85

GEOLOGY (solid / drift from Geology maps)Bedrock:SANDSTONE, LIMESTONE AND ARGILLACEOUS ROCKSSuperficial:N/A

NOTES ON SOILS AND/OR SITE DRAINAGE

Variable with free draining and waterlogged areas

SPECIAL INTEREST OF SITE:

Habitats: Open mosaic habitat on previously developed land, Ponds, Unimproved calcareous grassland



Species: Great crested newt, birds, stoneworts (Chara species), grey clubrush, narrow-leaved bird'sfoot-trefoil, southern marsh orchid and invertebrates (including Hymenoptera, Coleoptera, Lepidoptera and Odonta)

5. SITE DESCRIPTION

HABITATS ON SITE (Phase 1 and/or S41 habitat of principal importance)	ADJACENT LAND USE / HABITAT	BOUNDARY FEATURES
Open mosaic habitat on previously developed land (S41)	Open mosaic habitat on previously developed land (S41)	Hedge
Unimproved calcareous grassland (with elements of Lowland Calcareous Grassland (S41))	Lowland Calcareous Grassland (S41)	Road
Semi-improved neutral grassland	Improved grassland	Fence
Ponds (S41)	Arable	Ditch
Ephemeral/short perennial	Scrub	Earth bank
Swamp & Marsh (including areas of Lowland fen (S41))		
Lowland mixed deciduous woodland (S41)		
Scrub		
Bare ground		

A. BRIEF OVERVIEW

Stratton Audley Quarry is a former limestone quarry. Since the cessation of quarrying a range of habitats of value for wildlife have developed, including the habitat of principal importance 'open mosaic habitats of previously developed land'. The site also includes a geological SSSI.

Both the southern and northern parts of the site include botanically diverse areas with a mosaic of habitats including bare ground, ephemeral communities, scrub, developing calcareous grassland, marshy areas and ponds. A good range of plant species have been recorded here including southern marsh orchid, bee orchid, common centaury, greater knapweed, eyebright, blue fleabane and fairy flax. Central areas are generally less botanically diverse with rougher neutral grassland and scrub. The site has some topographical diversity with a several large spoil mounds, a steep slope adjacent to the southern pond and a bund to the north along the eastern side of the site.

The early successional vegetation includes locally abundant narrow-leaved bird's foot-trefoil and the emergent vegetation around the pond margins includes grey club-rush. Both these species are listed on the Oxfordshire Rare Plants Register. The ponds also include locally abundant stonewort and there are previous records for the Oxfordshire scarce species - Bristly Stonewort and Fragile Stonewort.

The site has previous records for a range of birds (including little ringed plover, snipe and skylark), great crested newt and many invertebrates (including nationally notable species of bees and beetles). The Red



List species - White-footed Furrow Bee and Southern Bronze Furrow Bee have also been recorded here. The site provides habitat for butterflies with Dingy and Grizzled Skipper recorded in 2018. The site has good potential value for a range of other invertebrates such as soldierflies, dragonflies and damselflies.

B. DETAILED DESCRIPTION

HABITATS

Open mosaic habitat on previously developed land (S41 Habitat of Principal Importance)

The site includes good examples of this habitat type and has high numbers of the species typically associated with it. A list of these species is provided in Appendix 3 - Table 2. This habitat is found on post-industrial areas and comprises a mosaic of other habitat types including ephemeral/short perennial vegetation, various grassland communities, scrub, bare ground and wetland areas including swamp, marsh and ponds. There is small scale mosaic with blocks of individual habitat types being small (less than 0.25ha). Areas to the north and some southern parts of the site fall within this habitat type but the larger blocks of scrub and rough grassland found centrally would not be covered due to the lack of small scale variation. It includes annual and other small, low growing plants that cannot survive in denser grassland or taller swards.

Ephemeral/short perennial

This is early successional vegetation found on degrading hardstanding, trackways and bare ground with stony substrate and thin soil. The vegetation is variable and patchy but species-rich with locally abundant bryophytes, perforate St. John's-wort and narrow-leaved bird's-foot-trefoil. Broadleaved herbs dominate but there are also grasses including creeping bent, red fescue, annual meadow-grass, Yorkshire fog, false oat-grass and fern grass. There is a diverse range of broadleaved species including common whitlow grass, annual pearlwort, parsley piert, field forget-me-not, common mouse-ear, thyme-leaved sandwort, selfheal, lesser trefoil, daisy, biting stonecrop, yarrow, common sorrel, ploughman's spikenard, ribwort plantain, creeping cinquefoil, ground ivy, meadow vetchling, colt's-foot and black medick. Patches of taller vegetation includes oxeye daisy, teasel, agrimony, wild parsnip and curled dock. Locally, this grades into patches of calcareous grassland which include sheep's fescue, mouse-ear hawkweed, common centaury and wild marjoram.

Unimproved calcareous grassland

This includes the 'Limestone Heath' (at Target note 26) which has an open sward of sheep's fescue with areas of quaking grass and abundant bare ground. There is also mouse-ear hawkweed, parsley piert, daisy, lesser hawkbit, autumn hawkbit, oxeye daisy, fairy flax, narrow leaved bird's-foot-trefoil, red bartsia, selfheal and creeping cinquefoil. It also includes scattered scrub.



Other areas (such as those found at Target note 15) have a much rougher sward and calcareous grassland species including greater knapweed, field scabious, ploughman's spikenard and upright brome. The sward is locally dominated by false oat-grass with yellow oat-grass, cock's-foot and rough meadow-grass. Other broadleaved herbs include yarrow, wild parsnip, perforate St. John's-wort, red bartsia, oxeye daisy, lady's mantel and agrimony. Scrub is encroaching the grassland with patches of bramble and hawthorn.

These areas of grassland have elements of the communities included as Lowland calcareous grassland (S41 Habitat of Principal Importance) but they do not currently form good examples. A list of the species recorded here that are considered typical/indicators for lowland calcareous grassland is provided in Appendix 3 – Table 1.

<u>Scrub</u>

Scrub is abundant across most of the site with dense stands dominated by hawthorn, bramble and blackthorn. Scattered scrub occurs over much of the grassland and ephemeral vegetation with abundant hawthorn and locally abundant willow species, blackthorn, bramble and rose species. There is also elm species, hazel, elder and a small amount of gorse and buddleia. Trees include sycamore, Italian alder, Laburnham, aspen, ash, wild cherry and poplar species.

Scrub on wetter ground is dominated by willow species (including grey willow, goat willow, crack willow and osier). There is an area of stunted willows to the north of the southern pond with smaller stands centrally and to the western side of the site. The field layer is variable with some sections having seasonal standing water (bare ground at time of surveys) and other areas having locally abundant lesser pondsedge, hard rush and water mint with smaller amounts of flag iris, great willowherb, reed canary-grass, water forget-me-not and brooklime.

Hedgerows (S41 Habitat of Principal Importance)

The site boundaries have hedgerows. These are generally species-poor and dominated by hawthorn and elm species (including wych elm, English elm and small-leaved elm) with bramble, elder and blackthorn. There are smaller amounts of apple, wild privet and field maple. At the base of the hedges, the field layer includes ivy, germander speedwell, nettle, rough meadow-grass, hedge woundwort, ground ivy, lord's-and-ladies, cow parsley, herb Robert and wood avens.

To the south, north east and north west some sections of the boundary have wider strips of scrub with bramble, goat willow, grey willow, blackthorn, dog rose, hawthorn, elder, wild cherry and a small amount of buddleia.



Julie Kerans, Oxfordshire Biodiversity Officer 2018

Broadleaved semi-natural woodland (Lowland mixed deciduous woodland) (S41 Habitat of Principal Importance)

To the south on the western side of the site, there is a strip of broadleaved woodland (Target note 21). Ash is locally dominated with grey poplar to the south. Shrubs include goat willow, hawthorn, blackthorn, grey willow and elder. The woodland is secondary with a limited range of field layer species recorded. These include nettle, bramble, ivy, wood avens, ground ivy and cleavers. It forms a poor example for priority habitat - Lowland mixed deciduous woodland.

Semi-improved neutral grassland

This grassland has a rough sward with scattered scrub that grades into denser stands of scrub in places. It includes large areas dominated by false oat-grass with locally abundant bent species (Agrostis), red fescue, rough meadow-grass and Yorkshire fog. There is frequent cock's-foot and occasional sweet vernal-grass, pendulous sedge, glaucous sedge, soft brome, quaking grass, meadow foxtail and common couch. Wetter areas include locally abundant hard rush and hairy sedge with some tufted hair-grass, common reed, field horsetail and reed canary-grass. Broadleaved herbs include ground ivy, oxeye daisy, ribbed melilot, cow parsley, hogweed, creeping thistle, teasel, perforate St. John's-wort, creeping cinquefoil, black medick, bulbous buttercup, creeping buttercup, germander speedwell and common vetch. There is occasional yarrow, agrimony, rosebay willowherb and wild carrot. Scrub includes hawthorn, elder, bramble and rose species with smaller amounts willow, ash, blackthorn and dewberry.

The grassland at Target note 8 has a rough sward with areas of tall herb and encroaching bramble scrub. It also includes abundant creeping cinquefoil, ribwort plantain and ground ivy with some areas of upright brome. Tall herbs include hemlock, cow parsley, spear thistle, goat's-rue, wild parsnip and creeping thistle.

Lowland fen (S41 Habitat of Principal Importance)

There are a range of wetland vegetation types present on the site with wetter areas of grassland grading into small areas of reed swamp and lesser pond-sedge swamp. There are also small areas of early stage species-rich fen with a range of rush species (including hard rush, jointed rush and sharp-flowered rush), bryophytes, lesser spearwort, watermint, pondweed species (Potamogeton), stonewort (Chara species), hairy sedge, glaucous sedge, pendulous sedge, false fox sedge, water forget-me-not, wood small-reed, flag iris and gipsywort. The wetland areas around Target notes 15, 16, 19 and 22 include locally frequent southern marsh orchid.

The wetland to the north of the southern pond includes areas of fen in an early-stage of development (proto-fen). This is similar to habitat found at Dry Sandford Pit SSSI and is likely to be very important for invertebrates including soldierflies (pers. comm. Judy Webb – invertebrate expert)

Appendix 3 – Table 3. Lists typical species for lowland fen communities recorded during the 2018 surveys.



Ponds and waterbody in the remains of an old wheel wash

There are two large ponds over 1ha in size (1 of which is fished), two ponds (less than 1ha but over 0.1ha) and several small seasonal pools. There is also a small waterbody in the remains of an old wheel wash to the north.

The ponds appear to be relatively low in nutrients and the two largest (at Target note 12 and 18) were tested for nitrate and found to have none/low levels. Nitrate and phosphate tests would be needed for all ponds to confirm their nutrient status. The ponds on the site are likely to be habitat of principal importance but freshwater invertebrates and amphibian survey data would be needed to assess if all ponds qualify.

The marginal vegetation at the pond edges includes great willowherb, common marsh bedstraw, common spike-rush, water mint, soft rush, hard rush, jointed rush, common fleabane, water figwort and gipsywort. There are also a small amount of marsh thistle, creeping-Jenny, greater pond-sedge and lesser pond-sedge. A small amount of galingale was found at the edge of a small seasonal pond to the north of Target note 26. There is also a small patch of the non-native invasive species - New Zealand Pigmyweed in the margins of the pond at Target note 25. Emergent vegetation includes bulrush, common reed, grey club-rush and common club-rush. There is also some brooklime, water plantain and flag iris. Aquatic plants include locally abundant stonewort species (*Chara* species) with small amounts of water-crowfoot species (*Ranunculus*) and pondweed species (*Potamogeton*). There is also Nuttall's waterweed, curly waterweed and common duckweed. The pond at Target note 12 also includes areas with abundant mare's-tail. The pond at Target note 18 has white waterlily and ornamental pink-flowered waterlily species.

Scrub around the ponds edges includes areas dominated by bramble and grey willow with some ash, elder, rose species, hawthorn, osier, goat willow, crack willow, sycamore, English elm and blackthorn

Other site features of value for wildlife - Rubble and earth mounds

The northern parts of the site include several rubble mounds vegetated with a mixture of scrub, semiimproved neutral (rough) grassland and tall herb. They add some topographical diversity and include some steep sections of bank with bare rubble and soil. The grassland has a rough sward and is locally dominated by false oat-grass with tall ruderal species including nettle, teasel, common ragwort, rosebay willowherb, red campion and mugwort. Scrub includes buddleia, goat willow, bramble, white poplar, hawthorn and aspen.



SPECIES

RARE & NOTABLE PLANTS

Nationally Rare and Scarce species

Galingale is a Nationally Scarce species (as well as a red list – near threatened species). It was recorded during the 2018 survey. A small amount was found in a seasonal pond to the north of Target note 26.

There is a previous record for Jacob's-Ladder (from 2009) which is a Nationally Rare species.

England Red List Species - Vulnerable

Lesser spearwort was recorded during the 2018 surveys in wetland areas of the site (especially around Target notes 15 and 19).

England Red List Species - Near Threatened

Quaking-grass, eyebright, field scabious and galingale were recorded during the 2018 surveys. Quaking grass was found in the unimproved calcareous grassland and was locally abundant on the south-east side of Target note 26. There was a small amount of eyebright in the early successional vegetation (including at Target note 17). Small amounts of field scabious were found in the calcareous grassland at Target note 15 and in the semi-improved neutral grassland in central parts of the site (Target note 11).

There are also previous records for Hairy Rock-cress (2009), Corn Mint (2008) and Marsh Ragwort (1987).

Oxfordshire Rare species

Grey club-rush was found in the emergent and marginal vegetation around the ponds during the 2018 survey. It is locally frequent in the margins of the pond at Target note 12.

There is a previous record for Bulbous rush (2008).

Oxfordshire Scarce species

A large population Narrow-leaved bird's-foot-trefoil was found during the 2018 survey in the early successional vegetation. It is present in the open mosaic habitat around Target notes 4, 14 and 28.

The aquatic flora of the ponds includes locally abundant Stonewort (Chara species). There are previous records from the site for two Oxfordshire scarce species - Bristly Stonewort and Fragile Stonewort. Additional survey is required to confirm if these species are still present.

There is a previous record for Trailing Tormentil (2009) and Hairy Rock-cress (2009).



FAUNA

Amphibians and reptiles

The habitat on the site provides optimal conditions for reptile species including grass snake, slow worm and common lizard. Rough grassland and scrub provide cover, open areas provide potential basking sites and rubble mounds offer potential hibernacula. The presence of waterbodies and marginal vegetation increases the suitability of the site for grass snakes.

One of the ponds (at Target Note 18) is stocked with fish with reduces its suitability for amphibians. However, the site includes several other ponds with aquatic and emergent vegetation including some that are seasonally dry. The site has good potential for breeding amphibians including great crested newts which have previously been recorded here. Scrub, woodland, rough grassland and rubble mounds provide suitable terrestrial habitat.

<u>Birds</u>

The habitat on the site has potential value for birds (breeding and overwintering). There are berryproducing shrubs in the scrub and woodland and rough grassland areas with value for feeding. The site has habitat likely to support abundant invertebrates proving a food source for other species including birds. Areas of scrub, hedgerows and woodland have potential value for breeding birds. Grassland and other areas of open habitat provide nesting opportunity for species of ground nesting birds. Waterbodies provide potential habitat for wildfowl. Previous records indicate use by a range of Red and Amber Birds of Conservation Concern as can be seen in Table 10 in Appendix 5.

<u>Mammals</u>

Bats

The rough grassland with ponds, scrub, hedgerows and woodland provide good potential for feeding and commuting (hedgerows and scrub/woodland margins). There is low potential for roosting over most of the site due to limited number of mature trees or suitable structures. However, there are some semi-mature trees including in the woodland to the south (Target note 21) and one pipe/tunnel was found at Target note 30 which has some small crevices with low potential for roosting.

Bats recorded within 1km of the site include – Common Pipistrelle, Soprano Pipistrelle, Nathusius's Pipistrelle, Natterer's Bat, Brown Long-eared Bat and Noctule.

Badgers

There are previous records for badger on the site and the habitats recorded have good potential for this species including woodland, scrub and hedgerows. Wider areas of rough grassland have some value for foraging but are sub-optimal.



Brown Hare

There are previous records for brown hare and the site offers potential habitat for this species.

Otters

The habitat on the site has potential value (low) with ponds and sections of wet ditch. At least one of the ponds contains fish but is subject to disturbance through use for recreational fishing. There are no records for this species within 1km of the site.

Dormice

The habitat on the site has some potential value (low) including species-poor hedgerows, scrub and woodland. There are no records for this species within 1km of the site.

Invertebrates

The site provides important habitat for invertebrates with a diverse range of microhabitats. These include sheltered pockets of grassland and early successional short-sward vegetation, species-rich vegetation with locally abundant nectar-producing plants, tussocky grassland, willow scrub on waterlogged ground with some deadwood, areas of bare limestone and bare soil, shallow seasonal pools and larger, low nutrient waterbodies with a range of aquatic, emergent and marginal vegetation.

The site has previous records for many invertebrates (including nationally notable species of bees and beetles). The Red List species - White-footed Furrow Bee and Southern Bronze Furrow Bee have also been recorded here.

Dingy skipper, grizzled skipper and small heath were recorded in 2018. There are previous records for small blue.

TVERC do not hold records for dragonflies and damselflies on the site the habitat identified on the site also has good potential value for this species group.

6. **RECOMMENDATIONS**

GENERAL

The site includes the habitats of principal importance – open mosaic habitat on previously developed land, ponds and lowland fen. It also includes areas of unimproved calcareous grassland that has elements of



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Lowland Calcareous grassland. These habitats are a priority for conservation and should be retained through sensitive management. The areas of lowland fen vary in their botanical species-richness with the vegetation around Target notes 15, 19 and 22 being the richest and support a good population of southern marsh-orchids. The diversity of habitat on the site should be retained including scattered and denser scrub and variation from dry to waterlogged ground.

The site has records for a range of rare, scarce and declining species. It is desirable to maintain populations of these species on the site and where the habitat requirements of these species are known, they should be incorporated into management plans.

Based on the information collected during the 2018 surveys, the site is of county importance for its habitat and species interest. The site is potentially an important site for invertebrates and likely to have interest for a number of different species groups but addition surveys are required to assess this.

The site provides valuable habitat for invertebrates and additional surveys are recommended including freshwater invertebrates and soldierflies (pers. comm. Judy Webb – invertebrate expert).

The site is likely to support a range of legally protected species with existing records for breeding birds, grass snake, great crested newt, badger and bat species. When the details of proposed management options are known, the potential impacts on these species will need to be assessed and appropriate precautions taken to avoid negative impacts.

RECOMMENDATIONS FOR FURTHER SURVEYS

Surveys for the following groups are recommended to more fully assess the wildlife interest of Stratton Audley Quarry LWS.

- Invertebrates (including ants, bees and wasps; beetles; flies; bugs; butterflies and moths; dragonflies and damselflies; freshwater invertebrates)
- Aquatic plants (including Chara species);
- Amphibians (including Great crested newt)
- Reptiles
- Birds
- Bats



SUMMARY MANAGEMENT RECOMMENDATION

The following table provides some recommendations that could be included in future management plans to maintain and/or enhance the wildlife interest of the site. They are based on the current recorded interest of the site and if additional interest is identified through further surveys, appropriate amendment and/or additions should be made. As the site has interest for rare species including invertebrates, specialist advice should also be sort to identify their management requirements so these can be incorporated into management plans.

Part of the site is a geological SSSI and any management requirements relating to this will need to be incorporated but are not covered here.

Feature	Recommendation	Value
Open mosaic on previously developed land	 Maintain the range of habitat currently present in the mosaic including areas of bare ground. Retaining a varied structure of the vegetation as this is beneficial for invertebrate interest. Maintain the extent of wetland (swamp/marsh/seasonal ponds) and species-rich areas of early successional vegetation and patches of calcareous grassland. Manage on rotation to limit scrub encroachment Periodically scrape some sections back to bare ground/bare substrate (as required) to maintain open areas of bare ground and create suitable areas for early successional/annual plants and invertebrates Minimise nutrient inputs onto the site (such as those associated with dog walking/dog fouling) to maintain low nutrient inputs onto areas currently with nutrient-poor soils to limit successional to ranker grassland/tall herb communities Take into account the locations and abundance of rare plant - narrow-leaved bird's-foot-trefoil when planning management activities so the population of this species is maintained. 	High (County)
Ponds	 Maintain the range of aquatic, emergent & marginal flora currently present at Target notes 12, 25 and 27 Take into account the locations and abundance of rare plants including grey club-rush and stonewort species when planning management activities so populations of these species can be maintained. Water test indicated low/no nitrates for ponds at 18 and 25. Confirm nutrient status with Nitrate/Phosphate tests for all ponds. Minimise nutrient inputs onto the site (such as those associated with dog walking/dog fouling) to maintain nutrient-poor status of waterbodies. The pond at Target Note 18 is used for fishing. Do not stock the other ponds with fish/use for fishing as this is likely to have a negative impact on the 	Medium for pond at Target note 18 (local) High for other ponds (County)



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	 associated flora and reduce the suitability of these waterbodies for other species including great crested newt. Control small patches of New Zealand Pigmyweed (<i>Crassula helmsii</i>) at the margins of the pond at Target note 25 Manage the site to limit spread of New Zealand Pigmyweed, especially from the pond at Target note 25 and from the large pond at the northern end of the LWS (outside the survey area covered by this report). 	
Lowland fen	 This vegetation is variable in type and botanical species-richness. It includes species-poor stands of common reed and pond-sedge swamp but also species-rich areas of fen in an early stage of development. Species-poor stands should be retained where possible as they offer added additional diversity of habitat and have value for some invertebrates and birds but are lower priority than species-rich areas. Species-rich areas of fen in early-stage of development should be retained and managed to limit encroachment of scrub. They are likely to be important for invertebrates and support the declining species - lesser spearwort and other desirable species such as Southern marsh orchid 	High for species- rich fen (County) Medium for other areas (Local)
Unimproved Calcareous grassland	 These areas do not currently represent a good example of lowland calcareous grassland but with sympathetic management they have potential to improve. They provide important habitat for invertebrates including botanically rich areas with a range of nectar-producing plants and should be retained. Limestone heath is value for invertebrates due to the fine mosaic of grassland and bare limestone and should be retained. Some scattered scrub should be retained but this area is likely to require some rotational scrub removal to prevent loss of open habitat to denser stands of scrub over time. Rougher grassland would benefit from some management to reduce nutrient building up from dead plant material (e.g. mowing with removal of cuttings) and removal of some of the encroaching scrub 	High (County)
Rubble/earth mounds	 These should be retained if possible as they have potential value as hibernacula for reptiles and amphibians. They also provide steep, sunny banks with bare ground that may have value for invertebrates including Hymenoptera species. The mound at Target note 30 includes a section of large diameter pipe that forms a short section of tunnel through the mound. There are a few crevices along this that may have potential for roosting bats. 	Medium (local)
Semi-improved neutral grassland	 Much of this grassland across central areas of the site is relatively species-poor with moderately rich patches more locally. Less botanically diverse areas would benefit from management to increase floristic diversity by implementing a cutting regime (with removal of cuttings). Some sections should be left uncut as 	Low (local/site)



Julie Kerans, Oxfordshire Biodiversity Officer 2018

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	 rough, tussocky grassland is an important part of the range of habitats and provides the cover needed by species such as great crested newts during their terrestrial stage/overwintering invertebrates. Zoned and staged cutting to different heights could be used to create a more varied structure to the grassland. Scattered scrub provides structural diversity and some areas should be retained. Where encroachment is more extensive, rotational control is likely to be required to keep open grassland habitat. 	
Scrub	 Stands of scrub are generally dominated by a limited number of woody species but do have potential value for a range of animal species as described earlier including breeding birds, mammals, amphibians and reptiles. There is a large amount of scrub on the site and it is encroaching open habitats including early successional/ephemeral vegetation, unimproved calcareous grassland, semi-improved grassland, marsh and swamp. Some areas of scrub should be retained including scattered scrub and some dense stands but it should be controlled where it is encroaching onto more valuable habitat. As described in other sections of this table priority should be giving to managing scrub where it is forming denser stands in unimproved calcareous grassland, early-stage species-rich fen and species-rich grassland/early successional vegetation within open mosaic habitat on previously developed land. Male willows were identified as a feature of value for spring bees in the 2009 hymenoptera survey and where possible these should be retained. 	Low (local/site)
Hedgerow	 The hedgerows are species-poor but have value for birds and provide potential flight lines for commuting bats Hedgerows were identified in the 2009 hyemoptera survey a feature of value. 	Low (local/site)

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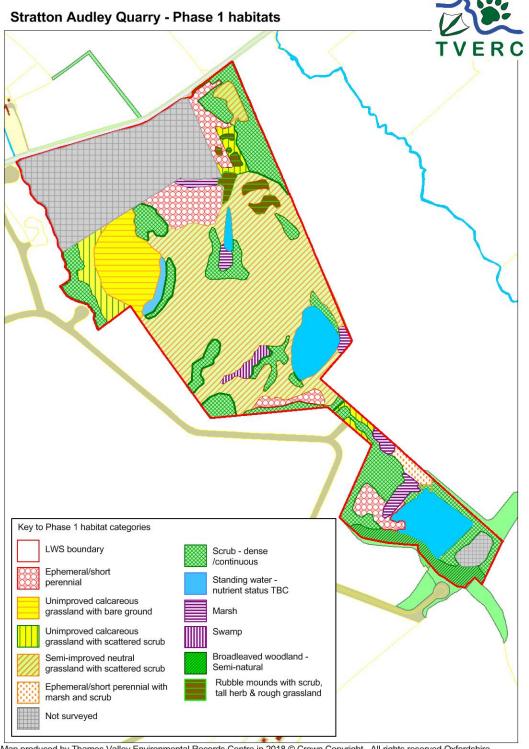
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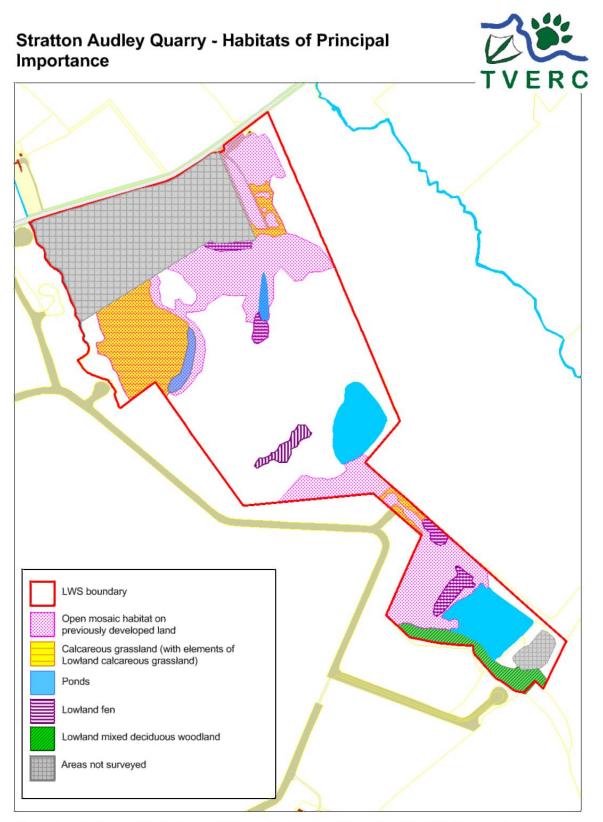
8. APPENDICES

APPENDIX 1: MAPS



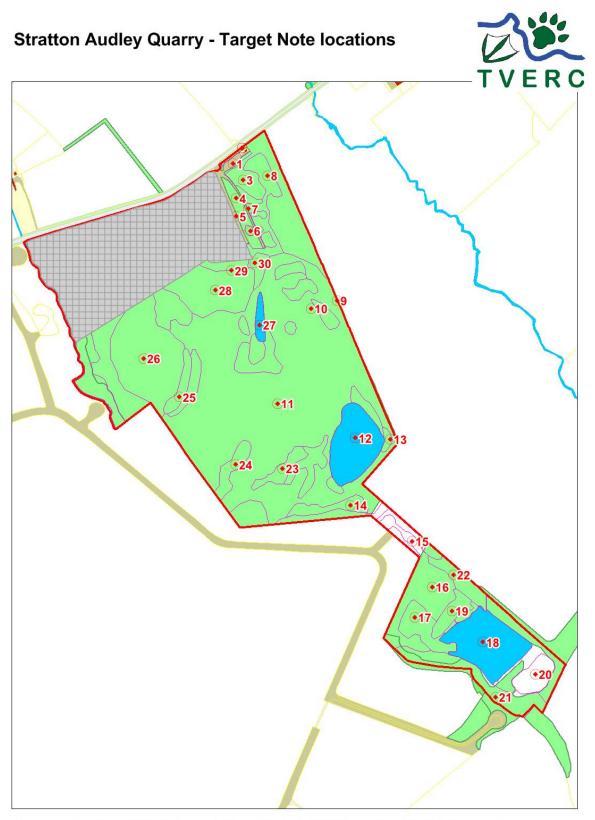
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APPENDIX 2: TARGET NOTES AND PHOTOGRAPHS

Target note 1. Ephemeral/short perennial vegetation at the northern end of the site on degrading hardstanding. It has low growth with locally abundant bryophytes, perforate St. John's-wort and narrow-leaved bird's-foot-trefoil. Grasses include creeping bent, Yorkshire fog, false oat-grass, red fescue, annual meadow-grass and fern grass. Broadleaved species include common whitlow grass, annual pearlwort, parsley piert, field forget-me-not, common mouse-ear, sticky mouse-ear, thyme-leaved sandwort, scentless mayweed, selfheal, lesser trefoil, daisy, biting stonecrop, yarrow, common sorrel, cut-leaved crane's-bill, ribwort plantain, hoary willowherb, creeping cinquefoil, herb Robert, ground ivy, meadow vetchling, wood avens, dove's foot trefoil, colt's-foot, black medick and common vetch. Tall herbs include curled dock, agrimony, wood dock, teasel, oxeye daisy, wild parsnip and ploughman's spikenard.



Target note 2. Species-poor boundary hedge. It is hawthorn and elm dominated with bramble, ivy, wych elm, small-leaved elm, blackthorn, wild privet, English elm and sycamore. To the north east, it widens to a strip of scrub locally dominated by bramble with goat willow, grey willow, dog rose, hawthorn, elder, wild cherry and a small amount of buddleia.





Target note 3. Scrub. It is mainly bramble with hybrid black poplar, buddleia, elder, elm species, hazel, dog rose and hawthorn. At the scrub edges, there is rough grassland with tall herb locally dominant false oatgrass, nettle and creeping thistle with spear thistle, ragwort, tare species, hard rush, oxeye daisy, columbine, teasel, hemlock, broadleaved dock, bulbous buttercup, ivy, common comfrey, everlasting sweet pea and hoary willowherb.



Target note 4. Ephemeral/short perennial vegetation grading into rough grassland with some patches of scrub. It is similar to the vegetation described in Target note 1 with locally abundant narrow-leaved bird's-foot-trefoil, perforate St. John's-wort, creeping cinquefoil and yarrow with occasional fern grass. Other species include ploughman's spikenard, fairy flax, bladder campion, hairy sedge, scarlet pimpernel, sheep's fescue, herb Robert, rough meadow-grass, common stork's-bill, shining crane's-bill, selfheal and goat's beard. There are small amounts of lady's bedstraw, cowslip, creeping buttercup, sweet vernal grass, cow parsley, rosebay willowherb and cuckooflower. Scrub includes dog rose, buddleia and grey willow.





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Target note 5. Species-poor boundary hedge. It has locally dominant hawthorn and elm species including English elm with dog rose, blackthorn, sycamore, hybrid black poplar, bramble and wild privet. At the base of the hedge, there is wood avens, variegated lord's-and-ladies, ground ivy, garden daffodils and Spanish bluebell.

Target note 6. Several rubble mounds with semi-improved neutral (rough) grassland, tall herb and scrub. The grassland has a rough sward and is locally dominated by tall herb. It includes nettle, red valerian, pendulous sedge, teasel, common ragwort, black knapweed, common toadflax, rosebay willowherb, melilot species, red campion, lady's mantel, field madder, hedge crane's-bill, green alkanet, ground elder, false oat-grass and mugwort. Wetter areas adjacent to the mounds include bulrush, water forget me not and water mint. Scrub includes buddleia, goat willow, bramble, white poplar, hawthorn and aspen.





Target note 7. Remains of a wheel wash. This is a small pool of standing water in hard structured feature. It has emergent bulrush and some grey willow. The margins have bramble, rose species and grassland species as for the surrounding area including rough meadow-grass, great willowherb, pendulous sedge and cock's-foot.





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Target note 8. Semi-improved neutral (to calcareous) grassland with tall herb grading into scrub. The grassland sward is rough and there appears to be little management. This open grassy area is on higher ground at the north-east corner of the site amongst larger areas of bramble scrub. It is locally dominated by false oat-grass and Yorkshire fog with abundant creeping cinquefoil, ribwort plantain, ground ivy, creeping thistle, red fescue, rough meadow-grass and wild parsnip. There is also some glaucous sedge, field forget-me-not, hemlock, cock's-foot, meadow foxtail, tufted hair-grass, meadow buttercup, cow parsley, spear thistle, goat's-rue, colt's-foot, common mouse-ear and germander speedwell. There are some patches of upright brome. There is a small amount of hairy brome and hedge bindweed at the scrub edges.



Target note 9. Species-poor boundary hedge to the east. It includes hawthorn, blackthorn, elm species and elder. There is also some apple, bramble, dog rose and field maple.





Target note 10. Scrub. Bramble dominates with hawthorn and willow species. It includes a small amount of gorse.



Target note 11. Mosaic of semi-improved (rough) neutral grassland and scrub. It includes locally dominant false oat-grass with locally abundant hard rush, field horsetail, teasel, melilot species, glaucous sedge, rough meadow-grass and creeping cinquefoil. Scrub includes hawthorn, rose species, grey willow, bramble and dogwood. There is also pendulous sedge, hairy sedge, great willowherb and silverweed. There is a patch of wood small reed between the large rubble mound and the eastern boundary track.

To the south, the grassland sward is rough and is locally dominated by false oat-grass with abundant rough meadow-grass and oxeye daisy. There is cock's-foot, teasel, black medick, meadow buttercup, ribwort plantain, red fescue, dove's-foot crane's-bill, agrimony, common vetch, colt's-foot and red clover with a small amount of meadow vetchling and cowslip. On wetter ground there are some patches of common reed and hard rush with great willowherb, creeping Jenny, cuckooflower and grass vetchling. To the south west, there is locally abundant meadow fescue and glaucous sedge with small amount of pendulous sedge.





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Target note 12. Pond with emergent bulrush, common reed, grey club-rush and common club-rush. There is marginal great willowherb and common marsh bedstraw. The banks include rough grasses and tall herb with scrub. Grasses include false oat-grass with creeping bent, sterile brome and soft brome. Tall herbs include nettle, oxeye daisy, cow parsley, wild parsnip, goat's-beard, creeping thistle and teasel. There is also some black medick and common vetch. Scrub includes areas dominated by bramble with some ash, elder, rose species, hawthorn and willows.



Target note 13. Marsh. The pond edge to the east includes a small area of marsh. It has creeping bent, reed canary-grass and hard rush with amphibious bistort, greater pond-sedge, common marsh bedstraw, common spike-rush, grey willow and osier. There is also some tall fescue and curled dock.



Target note 14. Ephemeral/short perennial vegetation to the south west of pond described in Target note 12. There is abundant narrow-leaved bird's-foot-trefoil and much bare ground. It also includes mouse-ear hawkweed, autumn hawkbit, hard rush, colt's-foot, lesser hawkbit, oxeye daisy, common centaury, daisy,



dandelion and bryophytes. To the south of this, the site boundary has a hedge and wet ditch with willows and locally abundant bulrush.





Target note 15. Narrow strip of willow scrub with small open patches of rough calcareous grassland and marsh with seasonal pools. The marsh and scrub edges have frequent southern marsh orchids. The grassland has a rough species-rich sward locally dominated by false oat-grass with yellow oat-grass, cock's-foot, rough meadow-grass, smooth meadow-grass, upright brome, glaucous sedge, red fescue and Yorkshire fog. It includes some large anthills. There is abundant greater knapweed with yarrow, field scabious, wild parsnip, black knapweed, fairy flax, ploughman's spikenard, common centaury, perforate St. John's-wort, red bartsia, creeping cinquefoil, oxeye daisy, black medick, colt's-foot, creeping thistle, ribwort plantain, common vetch, lady's mantel, hairy tare, agrimony, teasel, goat's-beard, creeping buttercup, selfheal, common bird's-foot-trefoil and bulbous buttercup. Grizzled skippers and dingy skippers were seen here. Marshy areas have hairy sedge, hard rush, glaucous sedge, pendulous sedge, false fox sedge, wood small-reed, flag iris, jointed rush and gipsywort. The scrub is dominated by grey willow with goat willow, osier, rose species, dogwood and bramble.





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Target note 16. Scrub. This is an area of willow scrub with a mosaic of open patches of marsh and early successional vegetation. The willows are low-growing and the ground is uneven with mounds of earth. There is some bramble and hawthorn. Under the denser scrub, there are areas of bare ground and bryophytes while more open areas have jointed-rush, hard rush, soft rush, lesser spearwort and southern marsh orchids.



Target note 17. Ephemeral/short perennial. This has areas of bare ground and bryophytes with early successional vegetation including mouse-ear hawkweed, oxeye daisy, biting stonecrop, black knapweed, common centaury, fairy flax, field wood-rush, common bird's-foot-trefoil, ribwort plantain, lesser hawkbit, ploughman's spikenard, daisy, wild parsnip and perforate St. John's-wort. There is some scrub including bramble, hawthorn and willows.



Target note 18. Pond. This a large pond used for fishing with a path around edge. The banks are wooded with grey willow, hawthorn, sycamore, English elm and blackthorn. Aquatic plants include white water lily and ornamental pink-flowered water lily. There are some patches of emergent bulrush. The margins include common spike-rush, watermint, soft rush, hard rush, common fleabane and gipsywort. To the



north west, the path edges include species-rich areas of species-rich grassland with mouse-ear hawkweed, eyebright, carline thistle, fairy flax, glaucous sedge and common centaury.



Target note 19. Marsh (Lowland fen). This is an area of establishing early stage fen (proto-fen) with willow scrub and bare ground. It includes areas dominated by lesser pond-sedge, bryophytes and with glaucous sedge, stonewort (Chara species) and pondweed (Potamogeton species), lesser spearwort, southern marsh orchids, sharp-flowered-rush and jointed rush.



Target note 20. Open area of grassland surrounded by scrub. This area was not seen in any detail the as Fishing pond boundary has electric fencing. It was last recorded as developing calcareous grassland. This area still includes grassland but type needs confirming.



Target note 21. Broadleaved semi-natural woodland (Lowland mixed deciduous woodland). It is locally dominated by ash, grey poplar and goat willow. Shrubs include hawthorn, blackthorn, grey willow and elder. The field layer has nettle, ivy and bramble with water figwort, great willowherb, wood avens, ground ivy and cleavers.



Target note 22. Ephemeral/short perennial vegetation with patches of marsh and scrub. There is also some rougher grassland and tall herb at the scrub edges. This area has similar species to those recorded for Target note 17 with colt's-foot but grades into marshy areas with glaucous sedge, jointed rush, hard rush and southern marsh orchids.

Target note 23. Swamp. Small area dominated by common reed with hard rush and great willowherb surrounded willow scrub. There is also some meadow vetchling and common fleabane.



Target note 24. Scrub. It includes locally dominant hawthorn with grey willow and bramble. Under denser areas the field layer is poorly developed but the edges have rough grassland species similar to the



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surrounding vegetation with ground ivy, rough meadow-grass, creeping bent, cock's-foot, hard rush, hairy sedge, creeping buttercup and wood avens.



Target note 25. Pond with areas of emergent bulrush and common club-rush. The margins include locally abundant watermint, bulrush and common spike-rush with hard rush, jointed rush, common marsh bedstraw, creeping bent, false fox-sedge and water forget-me-not. The western bank also includes bittersweet, hairy sedge and gipsywort. The eastern bank has willow scrub including grey willow and osier. At the time of the second visit, the pond had dried out and abundant stonewort species (*Chara* species) could be seen with a small amount of water-crowfoot species (*Ranunculus*). There is also a small amount of New Zealand Pigmyweed along the pond margin to the east (a patch approximately 1.5m by 2m).



Target note 26. Unimproved calcareous grassland with bare ground ('Limestone heath'). To the north and centrally, there is open sward grassland dominated by sheep's fescue in mosaic with bare limestone and scattered scrub. To the south east, near the pond margin quaking grass is locally dominant. The grassland includes red fescue, creeping cinquefoil, lesser hawkbit, daisy, narrow-leaved bird's-foot trefoil, bryophyte species, wild carrot, glaucous sedge, selfheal, mouse-ear hawkweed, common centaury and oxeye daisy.



There is a small amount of selfheal, whitlow grass, lady's bedstraw, bee orchid and fairy flax. Scrub includes hawthorn, rose species with willows including grey willow. There is denser hawthorn scrub to the west with patches of wood small-reed at the scrub edges. At the northern edge, there is a small area of wetter ground with a seasonal pond. It has common reed, hard rush, jointed rush and a small amount of galingale.



Target note 27. Pond. Long narrow pond with locally dominant emergent bulrush and common spike-rush with brooklime, water plantain and flag iris. There is marginal jointed rush, hard rush, great willowherb and gipsywort. The banks include field horsetail, common fleabane, grey willow, hawthorn, bramble and silverweed. There is also some lady's bedstraw and melilot species.





Target note 28. Ephemeral/short perennial vegetation. It has a short open sward with areas of bare ground. It includes lesser hawkbit, common centaury, perforate St. John's-wort, narrow-leaved bird's-foot-trefoil, daisy, teasel, creeping buttercup, common ragwort, creeping cinquefoil, yarrow, creeping bent and common centaury.



Target note 29. Marsh with seasonal pond. It has locally abundant hard rush, jointed rush and smaller amounts of common club-rush. Grassy areas have Yorkshire fog and creeping bent with narrow-leaved bird's-foot-trefoil, smooth tare, common fleabane and common centaury. Scrub at the margins includes hawthorn, elm species and grey willow.



Target note 30. Scrub on earth and rubble mound with a section of large diameter pipe that forms a short tunnel through the mound. The vegetation found here is similar to that described for Target note 6.



APPENDIX 3: TYPICAL & INDICATOR SPECIES

Table 1. Species typical/indicators for lowland calcareous grassland recorded during 2018 surveys (TVERC & BMERC 2018).

Taxon Name	Common Name
Ophrys apifera	Bee Orchid
Erigeron acer	Blue fleabane
Carlina vulgaris	Carline thistle
Centaurium erythraea	Common centuary
Primula veris	Cowslip
Euphrasia	Eyebright
Linum catharticum	Fairy Flax
Catapodium rigidum	Fern grass
Knautia arvensis	Field scabious
Centaurea scabiosa	Greater knapweed
Origanum vulgare	Marjoram
Pilosella officinarum	Mouse-ear hawkweed
Inula conyzae	Ploughman's-spikenard
Briza media	Quaking grass
Festuca ovina agg.	Sheep's Fescue
Bromopsis erecta	Upright brome
Total	16

Table 2. Species typical of 'Open mosaic habitat on previously developed land' recorded during 2018 surveys (as defined by ADAS 2010 for southern England)

Common name	Scientific name
Mugwort	Artemisia vulgaris
Michaelmas-Daisy	Aster novi-belgii
Common Knapweed	Centaurea nigra
Common Centaury	Centaurium erythraea
Common Mouse-Ear	Cerastium fontanum
Hemlock	Conium maculatum
Smooth Hawk's-beard	Crepis capillaris
Southern Marsh-Orchid	Dactylorhiza praetermissa



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Common name	Scientific name
Wild Carrot	Daucus carota ssp. sativus
Field Horsetail	Equisetum arvense
Blue Fleabane	Erigeron acer
Eyebright	Euphrasia spp.
Goat's-rue	Galega officinalis
Perforate St. John's-Wort	Hypericum perforatum
Hard Rush	Juncus inflexus
Common Toadflax	Linaria vulgaris
Fairy Flax	Linum catharticum
Narrow-leaved Bird's-foot-trefoil	Lotus glaber
Black Medick	Medicago lupulina
Tall Melilot	Melilotus altissimus
Ribbed Melilot	Melilotus officinalis
Red Bartsia	Odontites vernus
Bee Orchid	Ophrys apifera
Bristly Oxtongue	Picris echioides
Ribwort Plantain	Plantago lanceolata
Weld	Reseda luteola
Bladder Campion	Silene vulgaris
Goat's-Beard	Tragopogon pratensis
Hop Trefoil	Trifolium campestre
Lesser Trefoil	Trifolium dubium
Red Clover	Trifolium pratense
Yellow Oat-Grass	Trisetum flavescens
Colt's-Foot	Tussilago farfara
Tufted Vetch	Vicia cracca
Hairy Tare	Vicia hirsuta
Smooth Tare	Vicia tetrasperma
Total	36



Table 3. Typical species for lowland fen recorded during 2018 surveys (TVERC & BMERC 2018).

Taxon Name	Common Name
Solanum dulcamara	Bittersweet
Veronica beccabunga	Brooklime
Carex panicea	Carnation sedge
Schoenoplectus lacustris	Common Club-rush
Galium palustre	Common marsh bedstraw
Eleocharis palustris	Common spike rush
Vicia sativa	Common vetch
Apium nodiflorum	Fools watercress
Epilobium hirsutum	Great willowherb
Calystegia sepium	Hedge bindweed
Carex acutiformis	Lesser Pond-sedge
Cirsium palustre	Marsh thistle
Lythrum salicaria	Purple loosestrife
Phalaris arundinacea	Reed Canary-Grass
Typha latifolia	Reedmace
Dactylorhiza praetermissa	Southern marsh orchid
Mentha aquatica	Water mint
Total	17



APPENDIX 4: SPECIES RECORDED

The following species were recorded during the site visits carried out on 24th May 2018 and 20th July 2018. Lists are provided for the main habitat types found and include estimates of species abundance using the DAFOR scale. Where the abundance of a species could not be determined 'P' has been entered to indicate the species was present.

Common name	Scientific name	Abundance
Agrimony	Agrimonia eupatoria	R
Common Bent	Agrostis capillaris	R
Creeping Bent	Agrostis stolonifera	R
Parsley Piert	Aphanes arvensis agg.	LF
False Oat-Grass	Arrhenatherum elatius	LD
Daisy	Bellis perennis	LF
Quaking-Grass	Briza media	LA
Upright brome	Bromopsis erecta	R
Fern-Grass	Catapodium rigidum	R
Common Knapweed	Centaurea nigra	R
Greater knapweed	Centaurea scabiosa	LF
Common Centaury	Centaurium erythraea	R
Creeping Thistle	Cirsium arvense	0
Hawthorn	Crataegus monogyna	F
Field Horsetail	Equisetum arvense	R
Blue Fleabane	Erigeron acer	R
Eyebright	Euphrasia	R
Sheep's Fescue agg.	Festuca ovina agg.	LD
Ploughman's-Spikenard	Inula conyzae	R
Field scabious	Knautia arvensis	R
Autumnal Hawkbit	Leontodon autumnalis	0
Rough Hawkbit	Leontodon hispidus	R
Lesser Hawkbit	Leontodon saxatilis	LF
Oxeye Daisy	Leucanthemum vulgare	0
Fairy Flax	Linum catharticum	0
Common Bird's-Foot-Trefoil	Lotus corniculatus	0
Narrow-leaved Bird's-foot-trefoil	Lotus tenuis	LF
Marjoram	Origanum vulgare	R
Red Bartsia	Odontites vernus	0
Bee Orchid	Ophrys apifera	R
Bristly Oxtongue	Picris echioides	R
Mouse-Ear-Hawkweed	Pilosella officinarum	LF
Annual Meadow-Grass	Poa annua	R
Creeping Cinquefoil	Potentilla reptans	0
Selfheal	Prunella vulgaris	LF
Dog Rose	Rosa canina agg.	F
Common Ragwort	Senecio jacobaea	R
Dandelion	Taraxacum officinale agg.	R
Common Vetch	Vicia sativa	LF

Table 4. Species recorded in unimproved calcareous grassland (including at Target Note 15 and 26)



Table 5. Species recorded in semi-improved grassland (including Target notes 8 and 11)

Common name	Scientific name	Abundance
Yarrow	Achillea millefolium	0
Ground-Elder	Aegopodium podagraria	R
Agrimony	Agrimonia eupatoria	0
Common Bent	Agrostis capillaris	LD
Creeping Bent	Agrostis stolonifera	LD
Lady's-Mantle	Alchemilla mollis	R
Garlic Mustard	Alliaria petiolata	R
Meadow Foxtail	Alopecurus pratensis	0
Barren Brome	Anisantha sterilis	LF
Orange-tip	Anthocharis cardamines	Р
Sweet Vernal Grass	Anthoxanthum odoratum	0
Cow Parsley	Anthriscus sylvestris	LF
Parsley Piert	Aphanes arvensis agg.	R
Columbine	Aquilegia vulgaris	R
Greater Burdock	Arctium lappa	R
Wormwood	Artemisia absinthium	R
Lesser Burdock	Arctium minus	R
False Oat-Grass	Arrhenatherum elatius	LD
Mugwort	Artemisia vulgaris	R
Lords-And-Ladies	Arum maculatum	R
Michaelmas-Daisy	Aster	R
Winter-Cress	Barbarea vulgaris	R
Daisy	Bellis perennis	0
False-Brome	Brachypodium sylvaticum	LA
Quaking-Grass	Briza media	0
Upright Brome	Bromopsis erecta	LA
Soft-Brome	Bromus hordeaceus	0
Butterfly-Bush	Buddleja davidii	R
Wood Small-reed	Calamagrostis epigejos	R
Hedge Bindweed	Calystegia sepium	R
Cuckooflower	Cardamine pratensis	R
Glaucous Sedge	Carex flacca	LF
Hairy Sedge	Carex hirta	LF
False Fox-Sedge	Carex otrubae	R
Pendulous Sedge	Carex pendula	0
Fern-Grass	Catapodium rigidum	R
Common Knapweed		R
	Centaurea nigra	LF
Greater Knapweed	Centaurea scabiosa	
Common Mouse-Ear	Cerastium fontanum	0
Sticky Mouse-Ear	Cerastium glomeratum	R
Rosebay Willowherb	Chamerion angustifolium	0
Creeping Thistle	Cirsium arvense	LF
Spear Thistle	Cirsium vulgare	0
Wild Basil	Clinopodium vulgare	R
Small Heath	Coenonympha pamphilus	P
Hemlock	Conium maculatum	R
Dogwood	Cornus sanguinea	R
Wall Cotoneaster	Cotoneaster horizontalis	R
Hawthorn	Crataegus monogyna	LF



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Common name	Scientific name	Abundance
Smooth Hawk's-Beard	Crepis capillaris	R
Montbretia	Crocosmia	R
Crested Dog's-Tail	Cynosurus cristatus	0
Cock's-Foot	Dactylis glomerata	F
Common Spotted-Orchid	Dactylorhiza fuchsii	R
Wild Carrot	Daucus carota	0
Tufted Hair-Grass	Deschampsia caespitosa	LF
Wild Teasel	Dipsacus fullonum	LF
Common Spike-Rush	Eleocharis palustris	R
Great Willowherb	Epilobium hirsutum	R
Hoary Willowherb	Epilobium parviflorum	R
Square-Stalked Willowherb	Epilobium tetragonum	R
Field Horsetail	Equisetum arvense	R
Blue Fleabane	Erigeron acer	R
Tall Fescue	Festuca arundinacea	R
Sheep's Fescue agg.	Festuca ovina agg.	LA
Red Fescue	Festuca rubra	LA
Ash	Fraxinus excelsior	R
Goat's-rue	Galega officinalis	R
Cleavers	Galium aparine	R
Common Marsh-Bedstraw	Galium palustre	R
Lady's Bedstraw	Galium verum	R
Cut-Leaved Crane's-Bill	Geranium dissectum	F
Dove's-Foot Crane's-Bill	Geranium molle	F
Herb-Robert	Geranium robertianum	R
Herb Bennet	Geum urbanum	R
Ground-Ivy	Glechoma hederacea	LA
Brimstone	Gonepteryx rhamni	Р
lvy	Hedera helix	R
Hogweed	Heracleum sphondylium	0
Yorkshire-Fog	Holcus lanatus	LA
Hairy St. John's-Wort	Hypericum hirsutum	0
Imperforate St John's-wort	Hypericum maculatum	R
Perforate St. John's-Wort	Hypericum perforatum	LF
Ploughman's-Spikenard	Inula conyzae	R
Hard Rush	Juncus inflexus	LA
Field Scabious	Knautia arvensis	R
Great Lettuce	Lactuca virosa	R
White Dead-Nettle	Lamium album	R
Broad-leaved Everlasting-pea	Lathyrus latifolius	R
Grass Vetchling	Lathyrus nissolia	R
Meadow Vetchling	Lathyrus pratensis	R
Autumnal Hawkbit	Leontodon autumnalis	0
Lesser Hawkbit	Leontodon saxatilis	LF
Oxeye Daisy	Leucanthemum vulgare	LA
Common Toadflax	Linaria vulgaris	R
Fairy Flax	Linum catharticum	R
Perennial Rye-Grass	Lolium perenne	R
Common Bird's-Foot-Trefoil	Lotus corniculatus	0
Creeping-Jenny	Lysimachia nummularia	R



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Common name	Scientific name	Abundance
Dotted Loosestrife	Lysimachia punctata	R
Black Medick	Medicago lupulina	LF
Tall Melilot	Melilotus altissimus	R
Ribbed Melilot	Melilotus officinalis	LA
Balm	Melissa officinalis	R
Water Mint	Mentha aquatica	R
Field Forget-Me-Not	Myosotis arvensis	0
Wild Marjoram	Origanum vulgare	R
Orobanche	Orobanche	R
European Rabbit	Oryctolagus cuniculus	Р
Wild Parsnip	Pastinaca sativa	VLF
Green Alkanet	Pentaglottis sempervirens	R
Reed Canary-Grass	Phalaris arundinacea	R
Common Reed	Phragmites australis	R
Magpie	Pica pica	Р
Bristly Oxtongue	Picris echioides	R
Large White	Pieris brassicae	Р
Mouse-Ear-Hawkweed	Pilosella officinarum	0
Ribwort Plantain	Plantago lanceolata	LF
Greater Plantain	Plantago major	R
Annual Meadow-Grass	Poa annua	R
Smooth Meadow-Grass	Poa pratensis	0
Rough Meadow-Grass	Poa trivialis	LA
Common Blue	Polyommatus icarus	Р
Aspen	Populus tremula	R
Silverweed	Potentilla anserina	R
Creeping Cinquefoil	Potentilla reptans	LF
Cowslip	Primula veris	R
Selfheal	Prunella vulgaris	0
Blackthorn	Prunus spinosa	LF
Meadow Buttercup	Ranunculus acris	0
Bulbous Buttercup	Ranunculus bulbosus	LF
Creeping Buttercup	Ranunculus repens	LF
Yellow-Rattle	Rhinanthus minor	R
Red Currant	Ribes rubrum	R
Field Rose	Rosa arvensis	0
Dog Rose	Rosa canina agg.	LF
Japanese Rose	Rosa rugosa	Р
Dewberry	Rubus caesius	LF
Bramble	Rubus fruticosus agg.	LA
Common Sorrel	Rumex acetosa	0
Clustered Dock	Rumex conglomeratus	R
Curled Dock	Rumex crispus	0
Broad-Leaved Dock	Rumex obtusifolius	R
Wood Dock	Rumex sanguineus	R
Goat Willow	Salix caprea	0
Grey Willow	Salix cinerea	LF
Elder	Sambucus nigra	R
Hoary Ragwort	Senecio erucifolius	R
Common Ragwort	Senecio jacobaea	R



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Common name	Scientific name	Abundance
White Campion	Silene latifolia	R
Bladder Campion	Silene vulgaris	R
Stone Parsley	Sison amomum	R
Prickly Sow-Thistle	Sonchus asper	R
Smooth Sow-Thistle	Sonchus oleraceus	R
Hedge Woundwort	Stachys sylvatica	R
Common Comfrey	Symphytum officinale	R
Russian Comfrey	Symphytum x uplandicum	R
Dandelion	Taraxacum officinale agg.	R
Upright Hedge-Parsley	Torilis japonica	R
Goat's-Beard	Tragopogon pratensis	R
Lesser Trefoil	Trifolium dubium	LF
Red Clover	Trifolium pratense	0
Scentless Mayweed	Tripleurospermum inodorum	R
Yellow Oat-Grass	Trisetum flavescens	0
Blackbird	Turdus merula	Р
Colt's-Foot	Tussilago farfara	R
Wych Elm	Ulmus glabra	R
English Elm	Ulmus procera	R
Common Nettle	Urtica dioica	LF
Common Cornsalad	Valerianella locusta	R
Mullein	Verbascum	R
Germander Speedwell	Veronica chamaedrys	LF
Thyme-Leaved Speedwell	Veronica serpyllifolia	0
Tufted Vetch	Vicia cracca	R
Hairy Tare	Vicia hirsuta	0
Common Vetch	Vicia sativa	LF
Bush Vetch	Vicia sepium	R
Smooth Tare	Vicia tetrasperma	0
Sweet Violet	Viola odorata	R

Table 6. Species recorded in scrub and hedgerows (including at Target notes 2, 3, 5, 6, 9, 16, 24 and 30)

Common name	Scientific name	Abundance
Field Maple	Acer campestre	R
Sycamore	Acer pseudoplatanus	R
Common Bent	Agrostis capillaris	LF
Creeping Bent	Agrostis stolonifera	LF
Garlic Mustard	Alliaria petiolata	R
Italian Alder	Alnus cordata	R
Alder	Alnus glutinosa	R
Barren Brome	Anisantha sterilis	LA
Cow Parsley	Anthriscus sylvestris	0
Greater Burdock	Arctium lappa	R
Lesser Burdock	Arctium minus	R
False Oat-Grass	Arrhenatherum elatius	LA
Lords-And-Ladies	Arum maculatum	R
Butterfly-Bush	Buddleja davidii	R
Hedge Bindweed	Calystegia sepium	R
Glaucous Sedge	Carex flacca	VLF



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Scientific name	Abundance
Carex pendula	0
Centranthus ruber	R
Cirsium arvense	R
Cirsium vulgare	R
Columba palumbus	Р
Conium maculatum	R
Cornus sanguinea	0
Corylus avellana	R
Crataegus monogyna	LD
Cynosurus cristatus	R
Cytisus scoparius	R
Dactylis glomerata	R
Dactylorhiza praetermissa	R
Epilobium hirsutum	R
Epilobium parviflorum	R
Festuca arundinacea	R
	0
Frangula alnus	R
Fraxinus excelsior	0
Galium aparine	R
	R
	0
	LF
	LF
	R
	LF
	R
	R
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	Carex pendulaCentranthus ruberCirsium arvenseCirsium vulgareColumba palumbusConium maculatumCornus sanguineaCorylus avellanaCrataegus monogynaCynosurus cristatusCytisus scopariusDactylis glomerataDactylorhiza praetermissaEpilobium hirsutumEpilobium parviflorumFestuca arundinaceaFrangula alnus



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Common name	Scientific name	Abundance
Field Rose	Rosa arvensis	LF
Dog Rose	Rosa canina agg.	LA
Dewberry	Rubus caesius	LA
Bramble	Rubus fruticosus agg.	LD
Curled Dock	Rumex crispus	R
Broad-Leaved Dock	Rumex obtusifolius	R
Wood Dock	Rumex sanguineus	R
Goat Willow	Salix caprea	А
Grey Willow	Salix cinerea	LD
Crack Willow	Salix fragilis	R
Osier	Salix viminalis	R
Elder	Sambucus nigra	0
Whitebeam	Sorbus aria agg.	R
Hedge Woundwort	Stachys sylvatica	R
Gorse	Ulex europaeus	R
Wych Elm	Ulmus glabra	0
Ulmus minor agg.	Ulmus minor agg.	R
English Elm	Ulmus procera	LA
Common Nettle	Urtica dioica	R
Germander Speedwell	Veronica chamaedrys	R
Bush Vetch	Vicia sepium	R
Common Dog-Violet	Viola riviniana	R

Table 7. Species recorded in ephemeral/short perennial vegetation (including at Target notes 1, 4, 14, 17,
22 and 28)

Common name	Scientific name	Abundance
Yarrow	Achillea millefolium	0
Agrimony	Agrimonia eupatoria	0
Common Bent	Agrostis capillaris	LA
Creeping Bent	Agrostis stolonifera	F
Lady's-Mantle	Alchemilla mollis	R
Meadow Foxtail	Alopecurus pratensis	R
Scarlet Pimpernel	Anagallis arvensis	R
Barren Brome	Anisantha sterilis	LA
Sweet Vernal Grass	Anthoxanthum odoratum	LF
Cow Parsley	Anthriscus sylvestris	R
Parsley Piert	Aphanes arvensis agg.	LF
Lesser Burdock	Arctium minus	R
Thyme-Leaved Sandwort	Arenaria serpyllifolia	R
False Oat-Grass	Arrhenatherum elatius	LD
Mugwort	Artemisia vulgaris	R
Daisy	Bellis perennis	LF
False-Brome	Brachypodium sylvaticum	R
Quaking-Grass	Briza media	LA
Soft-Brome	Bromus hordeaceus	0
Butterfly-Bush	Buddleja davidii	R
Cuckooflower	Cardamine pratensis	R
Glaucous Sedge	Carex flacca	LA
Hairy Sedge	Carex hirta	LF



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Common name	Scientific name	Abundance
False Fox-Sedge	Carex otrubae	R
Carline Thistle	Carlina vulgaris	R
Fern-Grass	Catapodium rigidum	0
Common Knapweed	Centaurea nigra	R
Common Centaury	Centaurium erythraea	LA
Red Valerian	Centranthus ruber	R
Common Mouse-Ear	Cerastium fontanum	LF
Sticky Mouse-Ear	Cerastium glomeratum	0
Rosebay Willowherb	Chamerion angustifolium	R
Creeping Thistle	Cirsium arvense	R
Spear Thistle	Cirsium vulgare	R
Wild Basil	Clinopodium vulgare	R
Hemlock	Conium maculatum	R
Field Bindweed	Convolvulus arvensis	R
Hawthorn	Crataegus monogyna	0
Smooth Hawk's-Beard	Crepis capillaris	R
Cock's-Foot	Dactylis glomerata	F
Wild Carrot	Daucus carota	R
Tufted Hair-Grass	Deschampsia caespitosa	R
Wild Teasel	Dipsacus fullonum	R
Great Willowherb	Epilobium hirsutum	R
Broad-Leaved Willowherb	Epilobium montanum	R
Hoary Willowherb	Epilobium parviflorum	LF
Blue Fleabane	Erigeron acer	LF
Common Stork's-Bill	Erodium cicutarium	R
Common Whitlowgrass	Erophila verna	LF
Eyebright	Euphrasia	R
Sheep's Fescue agg.	Festuca ovina agg.	LD
Red Fescue	Festuca rubra	0
Cleavers	Galium aparine	R
Lady's Bedstraw	Galium verum	R
Cut-Leaved Crane's-Bill	Geranium dissectum	F
Shining Crane's-Bill	Geranium lucidum	R
Dove's-Foot Crane's-Bill	Geranium molle	LF
Herb-Robert	Geranium robertianum	R
Herb Bennet	Geum urbanum	R
Ground-Ivy	Glechoma hederacea	LA
Hogweed	Heracleum sphondylium	R
Yorkshire-Fog	Holcus lanatus	0
Perforate St. John's-Wort	Hypericum perforatum	LA
Ploughman's-Spikenard	Inula conyzae	R
Hard Rush	Juncus inflexus	R
White Dead-Nettle	Lamium album	R
Meadow Vetchling	Lathyrus pratensis	R
Autumnal Hawkbit	Leontodon autumnalis	LF
Lesser Hawkbit	Leontodon saxatilis	LF
Oxeye Daisy	Leucanthemum vulgare	LF
Common Toadflax	Linaria vulgaris	0
Fairy Flax	Linum catharticum	
Common Bird's-Foot-Trefoil	Linum catnarticum Lotus corniculatus	RLF



Common name	Scientific name	Abundance
Narrow-leaved Bird's-foot-trefoil	Lotus tenuis	LA
Honesty	Lunaria annua	R
Field Wood-Rush	Luzula campestris	R
Musk-Mallow	Malva moschata	R
Common Mallow	Malva sylvestris	R
Black Medick	Medicago lupulina	LF
Field Forget-Me-Not	Myosotis arvensis	F
Changing Forget-Me-Not	Myosotis discolor	R
Red Bartsia	Odontites vernus	0
Wild Marjoram	Origanum vulgare	R
Wild Parsnip	Pastinaca sativa	0
Bristly Oxtongue	Picris echioides	R
Mouse-Ear-Hawkweed	Pilosella officinarum	VLA
Ribwort Plantain	Plantago lanceolata	0
Greater Plantain	Plantago major	R
Annual Meadow-Grass	Poa annua	0
Smooth Meadow-Grass	Poa pratensis	LF
Rough Meadow-Grass	Poa trivialis	LF
Creeping Cinquefoil	Potentilla reptans	LF
Cowslip	Primula veris	R
Selfheal	Prunella vulgaris	0
Blackthorn	Prunus spinosa	R
Meadow Buttercup	Ranunculus acris	0
Bulbous Buttercup	Ranunculus bulbosus	LF
Creeping Buttercup	Ranunculus repens	0
Weld	Reseda luteola	0
Field Rose	Rosa arvensis	R
Dog Rose	Rosa canina agg.	R
Dewberry	Rubus caesius	R
Bramble	Rubus fruticosus agg.	R
Common Sorrel	Rumex acetosa	R
Curled Dock	Rumex crispus	0
Broad-Leaved Dock	Rumex obtusifolius	R
Wood Dock	Rumex sanguineus	R
Annual pearlwort	Sagina apetala	R
Procumbent Pearlwort	Sagina procumbens	R
Grey Willow	Salix cinerea	R
Biting Stonecrop	Sedum acre	LA
Common Ragwort	Senecio jacobaea	R
Field Madder	Sherardia arvensis	R
White Campion	Silene latifolia	R
Bladder Campion	Silene vulgaris	R
Prickly Sow-Thistle	Sonchus asper	R
Common Comfrey	Symphytum officinale	R
Dandelion	Taraxacum officinale agg.	R
Hop Trefoil	Trifolium campestre	0
Lesser Trefoil	Trifolium dubium	R
Goat's-Beard	Tragopogon pratensis	R
Red Clover	Trifolium pratense	R
White Clover	Trifolium repens	R



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Common name	Scientific name	Abundance	
Scentless Mayweed	Tripleurospermum inodorum	R	
Colt's-Foot	Tussilago farfara	R	
Common Cornsalad	Valerianella locusta	R	
Great Mullein	Verbascum thapsus	R	
Germander Speedwell	Veronica chamaedrys	LA	
Common Field-Speedwell	Veronica persica	R	
Thyme-Leaved Speedwell	Veronica serpyllifolia	0	
Common Vetch	Vicia sativa	R	
Sweet Violet	Viola odorata	R	

Table 8. Species recorded in marsh and swamp (including at Target note 15, 19, 22, 23 and 29)

Common name	Scientific name	Abundance
Creeping Bent	Agrostis stolonifera	LA
Alder	Alnus glutinosa	R
Fools watercress	Apium nodiflorum	R
Wood Small-reed	Calamagrostis epigejos	R
Hedge bindweed	Calystegia sepium	R
Wavy Bitter-Cress	Cardamine flexuosa	R
Cuckooflower	Cardamine pratensis	R
Lesser Pond-Sedge	Carex acutiformis	VLA
Glaucous Sedge	Carex flacca	LF
Hairy Sedge	Carex hirta	LF
False Fox-Sedge	Carex otrubae	R
Carnation Sedge	Carex panicea	R
Pendulous Sedge	Carex pendula	0
Marsh Thistle	Cirsium palustre	R
Southern Marsh-Orchid	Dactylorhiza praetermissa	LF
Tufted Hair-Grass	Deschampsia caespitosa	R
Common Spike-Rush	Eleocharis palustris	VLF
Great Willowherb	Epilobium hirsutum	R
Hoary Willowherb	Epilobium parviflorum	R
Field Horsetail	Equisetum arvense	LF
Tall Fescue	Festuca arundinacea	R
Meadow Fescue	Festuca pratensis	LF
Common Marsh-Bedstraw	Galium palustre	R
Yorkshire-Fog	Holcus lanatus	0
Square-Stalked St. John's-Wort	Hypericum tetrapterum	R
Yellow Iris	Iris pseudacorus	LF
Sharp-flowered Rush	Juncus acutiflorus	R
Jointed Rush	Juncus articulatus	LA
Toad Rush agg.	Juncus bufonius agg.	0
Compact Rush	Juncus conglomeratus	R
Soft Rush	Juncus effusus	R
Hard Rush	Juncus inflexus	LA
Gipsywort	Lycopus europaeus	LF
Creeping-Jenny	Lysimachia nummularia	R
Purple loosestrife	Lythrum salicaria	R
Water Mint	Mentha aquatica	LA
Water Forget-Me-Not	Myosotis scorpioides	LA



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Common name	Scientific name	Abundance
Amphibious Bistort	Persicaria amphibia	0
Redshank	Persicaria maculosa	R
Reed Canary-Grass	Phalaris arundinacea	VLF
Common Reed	Phragmites australis	VLA
Silverweed	Potentilla anserina	R
Common Fleabane	Pulicaria dysenterica	R
Lesser Spearwort	Ranunculus flammula	VLA
Curled Dock	Rumex crispus	R
White Willow	Salix alba	R
Goat Willow	Salix caprea	0
Grey Willow	Salix cinerea	LF
Crack Willow	Salix fragilis	R
Osier	Salix viminalis	R
Common Club-rush	Schoenoplectus lacustris	R
Water Figwort	Scrophularia auriculata	R
Bittersweet	Solanum dulcamara	R
Bulrush	Typha latifolia	VLF
Brooklime	Veronica beccabunga	R
Tufted Vetch	Vicia cracca	R
Common vetch	Vicia sativa	R

Table 9. Species recorded in ponds (including at Target Notes 12, 18, 25 and 27)

Common name	Scientific name	Abundance
Water-Plantain	Alisma plantago-aquatica	R
Alder	Alnus glutinosa	R
Pendulous Sedge	Carex pendula	R
Stonewort species	Chara	LA
Marsh Thistle	Cirsium palustre	R
New Zealand Pigmyweed	Crassula helmsii	R
Galingale	Cyperus longus	R
Tufted Hair-Grass	Deschampsia caespitosa	R
Common Spike-Rush	Eleocharis palustris	VLF
Nuttall's Waterweed	Elodea nuttallii	Р
Great Willowherb	Epilobium hirsutum	R
Hoary Willowherb	Epilobium parviflorum	R
Common Marsh-Bedstraw	Galium palustre	R
Mare's-tail	Hippuris vulgaris	0
Yellow Iris	Iris pseudacorus	0
Jointed Rush	Juncus articulatus	LA
Toad Rush agg.	Juncus bufonius agg.	0
Soft Rush	Juncus effusus	R
Hard Rush	Juncus inflexus	LA
Curly Waterweed	Lagarosiphon major	Р
Common Duckweed	Lemna minor	R
Gipsywort	Lycopus europaeus	LA
Creeping-Jenny	Lysimachia nummularia	R
Water Mint	Mentha aquatica	LF
Water Forget-Me-Not	Myosotis scorpioides	LF
Yellow Water-Lily	Nuphar lutea	LF



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Common name	Scientific name	Abundance
Redshank	Persicaria maculosa	R
Common Reed	Phragmites australis	VLA
Pondweed species	Potamogeton	Р
Common Fleabane	Pulicaria dysenterica	R
Water Crowfoot	Ranunculus	Р
Lesser Spearwort	Ranunculus flammula	R
Goat Willow	Salix caprea	0
Grey Willow	Salix cinerea	LF
Crack Willow	Salix fragilis	R
Osier	Salix viminalis	R
Common Club-Rush	Schoenoplectus lacustris	LA
Grey Club-rush	Schoenoplectus tabernaemontani	R
Water Figwort	Scrophularia auriculata	R
Bulrush	Typha latifolia	VLD
Blue Water-Speedwell	Veronica anagallis-aquatica	R
Brooklime	Veronica beccabunga	R

APPENDIX 5: PROTECTED AND NOTABLE SPECIES

This is a summary list of the protected and notable species records for the site held by TVERC (July 2018). It does not include the species recorded during the second site visit carried in July 2018 as the data extract from which it was produced pre-dates the survey.

Table 10. Protected and notable species records from Stratton Audley Quarry

Taxon Group	Taxon Name	Common Name	Status	Last Year
Amphibians	Lissotriton vulgaris	Smooth Newt	WACA-Sch5-s9.5a	2009
Amphibians	Rana temporaria	Common Frog	HabDir-A5 WACA-Sch5-s9.5a	2008
Amphibians	Triturus cristatus	Great Crested Newt	HabDir-A2np, HabDir-A4 HabReg-Sch2, WACA-Sch5- s9.4b/s9.4c/s9.5a NERC-S41	2009
Birds	Actitis hypoleucos	Common Sandpiper	Bird-Amber	2008
Birds	Alauda arvensis	Skylark	NERC-S41; Bird-Red	2009
			BirdsDir-A1 WACA-Sch1-p1	
Birds	Alcedo atthis	Kingfisher	Bird-Amber	2008
Birds	Anas platyrhynchos	Mallard	Bird-Amber	2008
Birds	Apus apus	Swift	Bird-Amber	2009
Birds	Charadrius dubius	Little Ringed Plover	WACA-Sch1-p1	2009
Birds	Chlidonias niger	Black Tern	BirdsDir-A1 WACA-Sch1-p1	1996
Birds	Chroicocephalus ridibundus	Black-headed Gull	Bird-Amber	2009
Birds	Columba oenas	Stock Dove	Bird-Amber	2009
Birds	Cygnus olor	Mute Swan	Bird-Amber	2003
Birds	Emberiza citrinella	Yellowhammer	NERC-S41; Bird-Red	2009
Birds	Emberiza schoeniclus	Reed Bunting	NERC-S41; Bird-Amber	2009
Birds	Falco tinnunculus	Kestrel	Bird-Amber	2009
Birds	Gallinago gallinago	Snipe	Bird-Amber	2008



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Taxon Group	Taxon Name	Common Name	Status	Last Year
Birds	Larus fuscus	Lesser Black-backed Gull	Bird-Amber	2009
Birds	Linaria cannabina	Linnet	NERC-S41; Bird-Red	2009
Birds	Motacilla cinerea	Grey Wagtail	Bird-Red	2009
Birds	Passer domesticus	House Sparrow	NERC-S41; Bird-Red	2009
Birds	Perdix perdix	Grey Partridge	NERC-S41; Bird-Red	2008
Birds	Phylloscopus trochilus	Willow Warbler	Bird-Amber	2003
Birds	Poecile palustris	Marsh Tit	NERC-S41; Bird-Red	2003
Birds	Prunella modularis	Dunnock	NERC-S41; Bird-Amber	2003
				-
Birds	Pyrrhula pyrrhula	Bullfinch	NERC-S41; Bird-Amber	2009
Birds	Sterna hirundo	Common Tern	BirdsDir-A1; Bird-Amber	2009
Birds	Streptopelia turtur	Turtle Dove	NERC-S41; Bird-Red	2008
Birds	Sturnus vulgaris	Starling	NERC-S41; Bird-Red	2009
			WACA-Sch1-p1	
Birds	Tringa ochropus	Green Sandpiper	Bird-Amber	2008
Birds	Tringa totanus	Redshank	Bird-Amber	2009
Birds	Turdus philomelos	Song Thrush	NERC-S41; Bird-Red	2009
Birds	Vanellus vanellus	Lapwing	NERC-S41; Bird-Red	2009
Higher Plants - Flowering			Oxon-Scarce, RL-Eng-	
Plants	Arabis hirsuta	Hairy Rock-cress	post2001-NT	2009
Higher Plants - Flowering			pool_00	
Plants	Briza media	Quaking-grass	RL-Eng-post2001-NT	2018
Higher Plants - Flowering			Status-NS, RL-Eng-post2001-	
Plants	Cyperus longus	Galingale	NT, RL-GB-post2001-NT	2018
Higher Plants - Flowering		Guingale		2010
Plants	Euphrasia nemorosa	Eyebright	RL-Eng-post2001-NT	2006
Higher Plants - Flowering				
Plants	Hyacinthoides non-scripta	Bluebell	WACA-Sch8	2009
Higher Plants - Flowering	,			
Plants	Juncus bulbosus	Bulbous Rush	Oxon-Rare	2008
Higher Plants - Flowering				
Plants	Knautia arvensis	Field Scabious	RL-Eng-post2001-NT	2008
Higher Plants - Flowering		Narrow-leaved Bird's-		
Plants	Lotus tenuis	foot-trefoil	Oxon-Scarce	2018
Higher Plants - Flowering				
Plants	Mentha arvensis	Corn Mint	RL-Eng-post2001-NT	2008
Higher Plants - Flowering				
Plants	Polemonium caeruleum	Jacob's-ladder	Status-NR	2009
Higher Plants - Flowering				
Plants	Potentilla anglica	Trailing Tormentil	Oxon-Scarce	2009
Higher Plants - Flowering				
Plants	Ranunculus flammula	Lesser Spearwort	RL-Eng-post2001-VU	2018
Higher Plants - Flowering	Schoenoplectus			
Plants	tabernaemontani	Grey Club-rush	Oxon-Rare	2018
Higher Plants - Flowering	Constitution and the	Manah Danu		400
Plants	Senecio aquaticus	Marsh Ragwort	RL-Eng-post2001-NT	1987
Invertebrates - Ants,	Androno (Androno) veriene	Dooldhorn Mining Doo	Notabla D	2007
Bees, Sawflies & Wasps	Andrena (Andrena) varians	Backthorn Mining Bee	Notable-B	2003
Invertebrates - Ants,	Holiotus (Colodonia) confusur	Southern Bronze Furrow		200
Bees, Sawflies & Wasps	Halictus (Seladonia) confusus	Вее	RL-GB-pre94-R	2003
Invertebrates - Ants,	Lasioglossum (Dialictus)	White feeted Eurrow Bas	PL CP pro04 P	200
Bees, Sawflies & Wasps	leucopus Lasioglossum (Evylaeus)	White-footed Furrow Bee Sharp-collared Furrow	RL-GB-pre94-R	2003
Invertebrates - Ants,				



Taxon Group	Taxon Name	Common Name	Status	Last Year
Invertebrates - Ants,	Lasioglossum (Evylaeus)			
Bees, Sawflies & Wasps	pauxillum	Lobe-spurred Furrow Bee	Notable-A	2003
Invertebrates - Ants,	Lasioglossum (Lasioglossum)	Orange-footed Furrow		
Bees, Sawflies & Wasps	xanthopus	Вее	Notable-B	2003
Invertebrates - Ants,				
Bees, Sawflies & Wasps	Osmia (Neosmia) bicolor	Red-tailed Mason Bee	Notable-B	2003
Invertebrates - Ants,		Swollen-thighed Blood		
Bees, Sawflies & Wasps	Sphecodes crassus	Вее	Notable-B	2003
Invertebrates - Ants,	Tiphia minuta	Cmall Tinhia	Notabla D	2002
Bees, Sawflies & Wasps	Tiphia minuta Remelidian (Diale servera) startii	Small Tiphia	Notable-B	2003
Invertebrates - Beetles	Bembidion (Diplocampa) clarkii	A Beetle	Notable-B	2000
Invertebrates - Beetles	Brachinus (Brachinus) crepitans	Bombadier Beetle	Notable-B	1988
Invertebrates - Beetles	Cryptocephalus aureolus	A Beetle	Notable-B	2004
Invertebrates - Beetles	Haploglossa picipennis	A Beetle	Notable	2000
Invertebrates - Beetles	Lebia (Lamprias) chlorocephala	A Beetle	Notable-B	1991
Invertebrates - Beetles	Microplontus campestris	A Beetle	Notable-B	2004
Invertebrates - Beetles	Ophonus (Ophonus) azureus	A Beetle	Notable-B	1988
	Pterostichus (Pseudomaseus)			
Invertebrates - Beetles	anthracinus	A Beetle	Notable-B	1988
			NERC-S41	
Invertebrates - Butterflies	Coenonympha pamphilus	Small Heath	RL-GB-post2001-NT	2018
			WACA-Sch5-s9.5a	
			NERC-S41	
Invertebrates - Butterflies	Cupido minimus	Small Blue	RL-GB-post2001-NT	2002
			NERC-S41	
Invertebrates - Butterflies	Erynnis tages	Dingy Skipper	RL-GB-post2001-VU	2018
			NERC-S41	
Invertebrates - Butterflies	Lasiommata megera	Wall	RL-GB-post2001-NT	2004
			NERC-S41	
Invertebrates - Butterflies	Pyrgus malvae	Grizzled Skipper	RL-GB-post2001-VU	2018
Invertebrates - Moths	Chiasmia clathrata	Latticed Heath	NERC-S41	1986
Invertebrates - Moths	Tyria jacobaeae	Cinnabar	NERC-S41	2008
Invertebrates - True Bugs	Macropsis glandacea	A True Bug	Notable-B, RL-GB-pre94-Insu	1986
Lower Plants - Stonewort	Chara globularis	Fragile Stonewort	Oxon-Scarce	2008
Lower Plants - Stonewort	Chara hispida	Bristly Stonewort	Oxon-Scarce	2008
Mammals - Terrestrial	Lepus europaeus	Brown Hare	NERC-S41	2004
Mammals - Terrestrial	Meles meles	Eurasian Badger	Badgers-1992	2004
		במימשמו שמעצבו		2000
Reptiles	Natrix helvetica	Grass Snake	WACA-Sch5-s9.1k/s9.5a NERC-S41	1991

