Whiteshute Ridge
Annual Survey Report 2021

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Contents

1. Summary

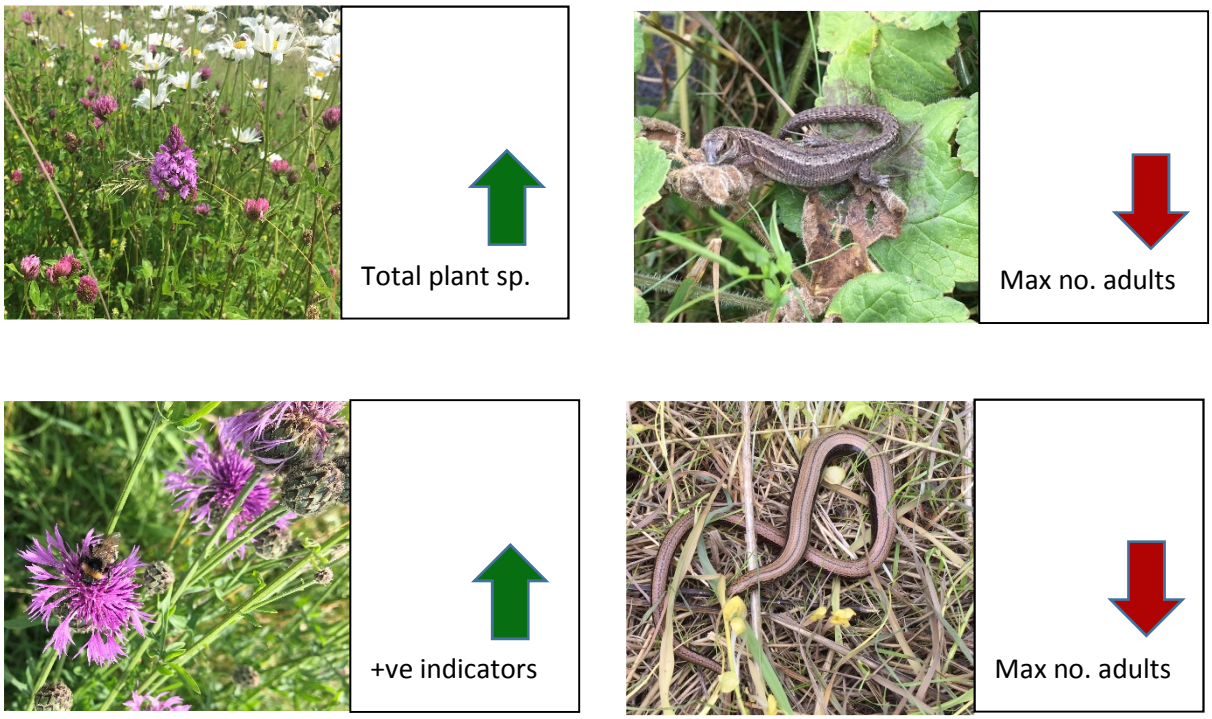

Figure 1. Headline results of 2021 biodiversity surveys at Whiteshute Ridge. Green arrows show an increase compared to 2020 and red arrows show a decrease.

Table 1. Results of 2021 surveys compared to previous surveys at Whiteshute Ridge. This shows the maximum number of adults recorded in one visit.

SURVEY	2019	2020	2021
BOTANY			
TOTAL NO. SPECIES	34	32	39
POSITIVE INDICATORS	8	9	13
REPTILES			
SLOW WORM	30	30	26
COMMON LIZARD	28	12	9
DORMOUSE			
NO. FOOTPRINTS		0	0

3. Introduction

Whiteshute Ridge is a designated Site of Importance for Nature Conservation (SINC) with significant areas of lowland calcareous grassland.

Whiteshute Ridge was previously under the management of Badger Farm Parish Council, until the 1st April 2017, when Winchester City Council took over the management duties. In terms of previous management, the grass was being cut, however the biodiversity at the site was gradually declining.

Cattle have now been introduced onto the grassland at Whiteshute Ridge with the aim of increasing biodiversity at the site through grazing management. The provision of grazing is aimed at creating a non-uniform sword of grassland, which in turn creates more structural diversity for the microhabitats at the site. Similarly, cattle grazing on the land will create poached and trampled areas of land which will ultimately reduce the amount of tussock vegetation and, more effectively, will open up swards in the land. The cattle are only present on site between September and April in order to allow flowers to grow and set seed in the summer months.

Figure 2. British White cattle at Whiteshute

The first botany survey was undertaken by Belinda Wheeler in 2017(1). She noted that the site supports a number of grassland communities, which consist mainly of *Arrhenatherum elatius* grassland, dominated by tussocky grasses and only few species that are typical of long-established calcicolous grassland. Only four positive indicators were present at the site. Similarly, the other major grassland present at the site consists of *Avenula pubescens* grassland dominated by both *Avenula pubescens* downy-oat grass and *Festuca rubra* red fescue. Overall there are 79 recorded species of grass present at the site alongside 16 positive indicator species of chalk grassland (although these have limited distribution across the site).

The first reptile survey was undertaken in 2019 and the first dormouse survey in 2020. These surveys are undertaken to monitor the abundance and distribution of species on site which enables WCC to monitor the effectiveness of the management plan and helps inform future management objectives.

These surveys have been undertaken with the help of volunteers and placement students without whom this monitoring work would not be possible.

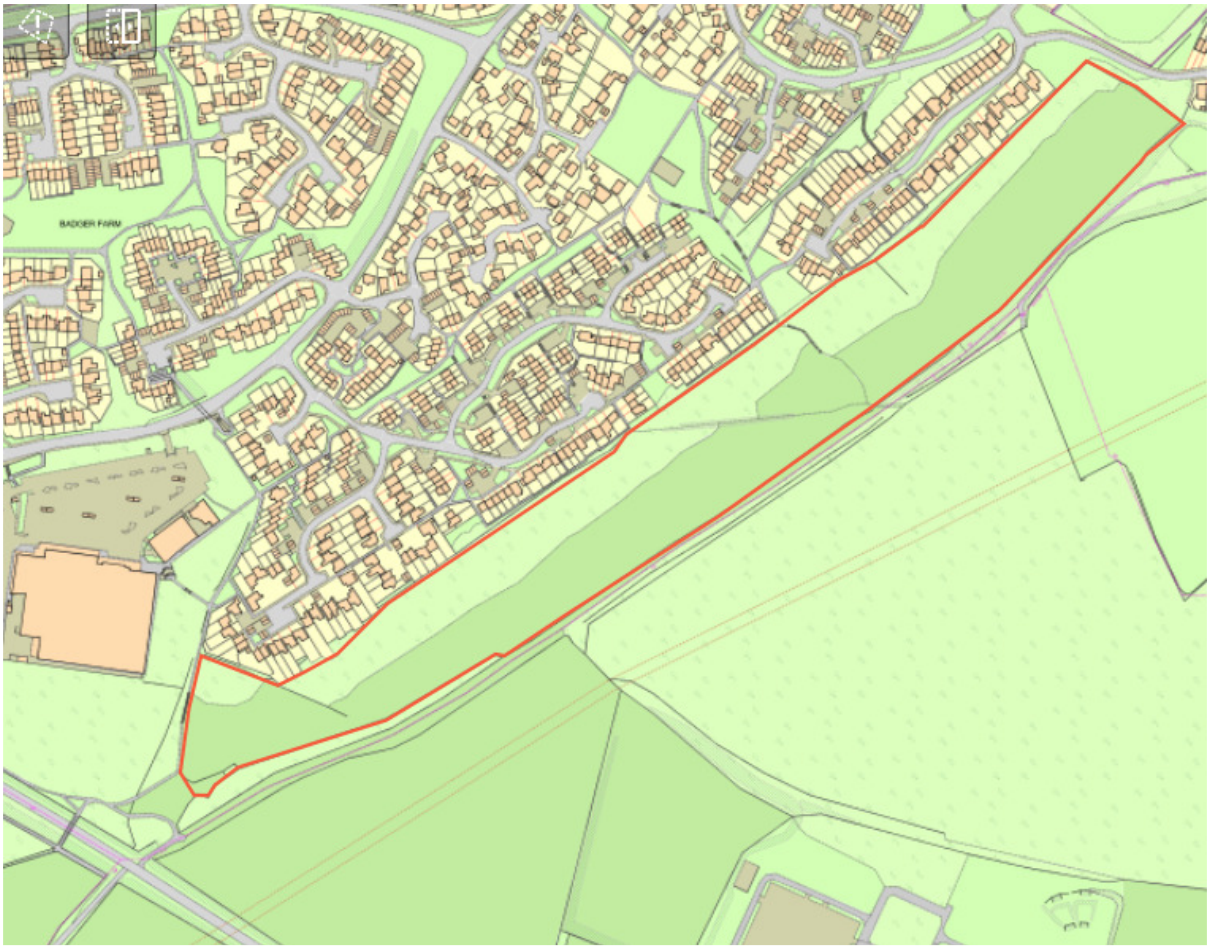

Figure 3. Location plan of Whiteshute Ridge in Badger Farm.

4. Methodology

Botany

The methodology was kept as similar as possible to Wheeler et al 2017 (1) to allow comparison across WCC sites. The condition assessment followed the common standards monitoring guidance for lowland grassland habitats (2).

14 quadrat locations were marked on the map prior to the survey in order to get an even coverage across the entire site

The survey involved identifying as many vascular plants within the 2x2m^2 quadrats as possible and recording the abundance using the DAFOR scale:

- D (Dominant) 50-100%
- A (Abundant) 30-50%
- F (Frequent) 15-30%
- O (Occasional) 5-15%
- R (Rare) <5%

The abundance of negative and positive indicator species for lowland meadow and calcareous grassland were recorded to show the condition of the grassland.

Figure 4. Locations of 14 quadrats at Whiteshute Ridge.

Reptiles

50 reptile refugia (roofing felt mats) were placed across the site in suitable habiat. Reptiles can be found either basking on top or warming themselves up underneath these mats. 10 survey visits were undertaken during the reptile active season (March to September) during suitable weather conditions according to best practice guidelines (3). All refugia were lifted during each survey visit and any reptiles present were recorded.

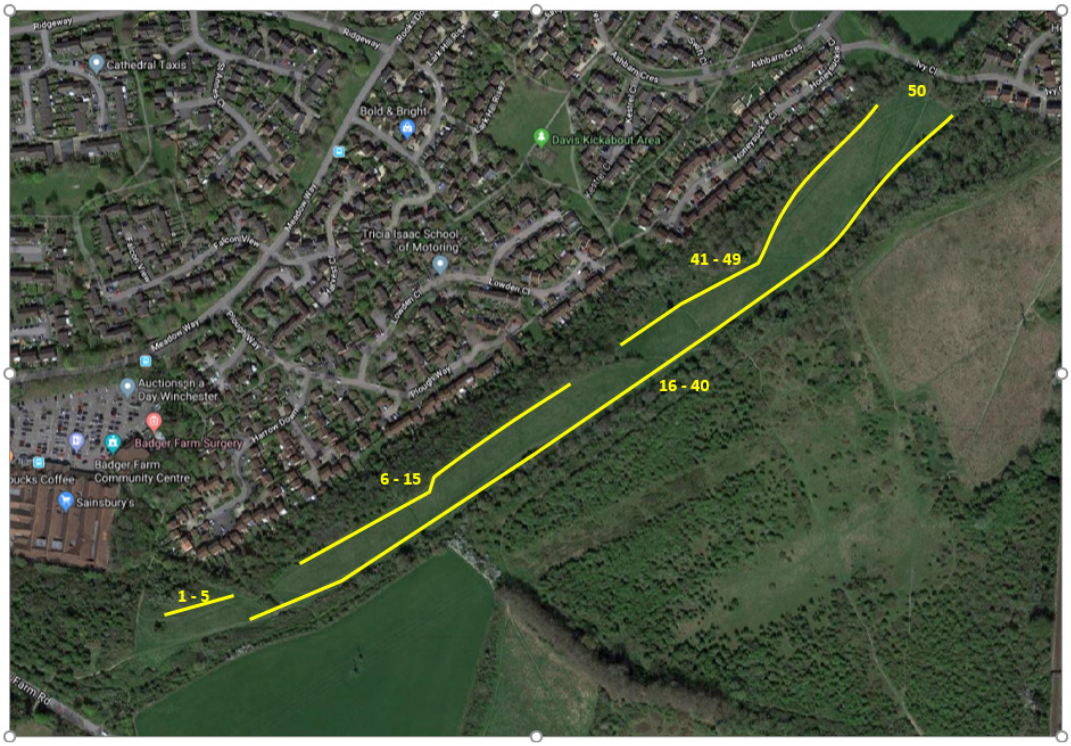

Figure 5. Locations of 50 reptile refugia placed at Whiteshute Ridge.

Figure 6. Female slow worm at Whiteshute Ridge.

Hazel Dormouse

Hazel dormice have unique footprints which can be easily identified with experience. These differ from other rodent footprints such as wood mice and yellow-necked mice.

25 footprint tunnels were placed within sections of hedgerow on and adjacent to the site around 25m apart. They were attached to suitable branches using garden wire to keep them in place. A piece of card is fitted to the wooden insert using masking tape at either end, a mix of charcoal and oil is then painted onto the masking take so that any small rodents entering the tunnel will walk through the charcoal mix leaving footprints.

These tunnels need to be checked approximately every two weeks for a minimum period of 3 months (from May to October) in order to confidently determine presence/absence in line with PTES guidance.

Figure 7. Dormouse footprint tunnel placed at Whiteshute Ridge.

Figure 8. Locations of 25 dormouse footprint tunnels placed at Whiteshute Ridge.

5. Results

Botany

Table 2. Abundance of plant species (DAFOR) across 14 quadrats surveyed at Whiteshute Ridge in 23 July 2021.

Quadrat		1	2	3	4	5	6	7	8	9	10	11	12	13	14	Constancy	Cover
Agrimonia eupatoria	**Agrimony**	R	O				R	R	R	R	R	O	O	R		10	R-O
Poa annua	Annual meadow grass			O		R	R							O	F	5	R-O
Lotus corniculatus	**Bird's-foot-trefoil**				O											1	O
Centaurea nigra	**Black Knapweed**									R						1	R
Pimpinella saxifraga	**Burnet-saxifrage**	R	R													2	R
Dactylis glomerata	Cock's-foot	R	O	O	F	A	F	F	O	O		F	R	O	F	13	R-A
Primula veris	**Cowslip**															+	
Ranunculus repens	Creeping buttercup	R						O		O				R		4	R-O
Arrhenatherum elatius	False Oat-grass	A	F	O	F	O	F	A	F	A	A	F	A	F	A	14	O-A
Convolvulus arvensis	Field Bindweed	A		O	F			R	F		R					6	R-F
Knautia arvensis	**Field Scabius**															+	
Veronica chamaedrys	Germander speedwell	R	R	D			O			R		R	R			7	R-D
Centaurea scabiosa	**Greater Knapweed**		A													1	A
Senecio Vulgaris	Groundsel										R					1	R
Crataegus monogyna	Hawthorn											R				1	R
jacobaea erucifolia	Hoary ragwort	R	O		R			O		R	O	R		R		8	R-O
Heracleum sphondylium	Hogweed		R			R	O		R					R		5	R-O
Galium verum	**Lady's Bedstraw**							F		F		O		A		4	O-A
Origanum vulgare	**Marjoram**															+	
Ranunculus acris	Meadow Buttercup				O									R		2	O
Festuca pratensis	Meadow Fescue	R	R	R	F			F	R		R	R	O			9	R-O
Lathyrus pratensis	**Meadow Vetchling**	R					A	R	D			F	O	R	R	8	R-D
Hypericum hisutum	Perforate St John's-wort		O	R				R						R		4	R-O
Lolium perenne	Perrenial Rye-grass					F										1	F
Anacamptis pyramidalis	**Pyramidal Orchid**															+	

Senecio jacobaea	Ragwort			D												1	D
Odontites verna	Red Bartsia	R				O	R	O	R	R	R			F	R	9	R-O
Trifolium pratense	Red Clover	R		R	A	O	O	A	F	R		F	D	D	R	12	R-D
Plantago lanceolata	Ribwort Plantain	O	R	A	F	F	F	O	R	O	F	F	F	O	F	14	R-F
Leontodon hispidus	**Rough Hawkbit**						R			O			F	O		4	R-F
Poa trivialis	Rough Meadow-grass												O			1	O
Potentilla anserina	Silverweed	R	F		R		O					R	R			6	R-F
Phleum bertolonii	Smaller Cat's-tail	R			R	R		R		R			R			6	R
Cirsium vulgare	Spear Thistle															+	
Carex spicata	Spiked sedge		R													1	R
Anthoxanthum odoratum	Sweet Vernal-grass															+	
Vicia cracca	Tufted Vetch															+	
Daucus carota	Wild Carrot				R											1	R
Rhianthus minor	**Yellow-rattle**	D	O	D	A		A	O		F	D	D	O		O	11	O-D
Holcus lanatus	Yorkshire Fog	R	R	R			O	O	R	R						7	R-O
Species in **bold black** are positive indicators of UK BAP habitat lowland meadow only; species in **bold blue** are positive indicators of both lowland meadows and lowland calcareous grassland; whilst species in **bold red** are calcareous grassland indicators. + shows presence outside of the quadrats.																	

Table 3. Results of Grassland Condition Assessment.

Negative Indicator Species		**Total (quadrats)**	**DAFOR**	**LM indicator**	**LCG indicator**
Senecio jacobaea	Ragwort	1	D		
Cirsium vulgare	Spear Thistle	+			
Positive Indicator Species					
Agrimonia eupatoria	Agrimony	10	R	**Y**	
Lotus corniculatus	Bird's-foot-trefoil	1	O	**Y**	**Y**
Centaurea nigra	Black Knapweed	1	R	**Y**	
Pimpinella saxifraga	Burnet-saxifrage	2	R	**Y**	**Y**
Primula veris	Cowslip	+		**Y**	
Knautia arvensis	Field Scabius	+			**Y**
Centaurea scabiosa	Greater knapweed	1	A		**Y**
Galium verum	Lady's Bedstraw	4	F	**Y**	**Y**
Origanum vulgare	Marjoram	+			**Y**
Lathyrus pratensis	Meadow Vetchling	8	O	**Y**	
Anacamptis pyramidalis	Pyramid Orchid	+		**Y**	**Y**
Leontodon hispidus	Rough Hawkbit	4	O	**Y**	**Y**
Rhianthus minor	Yellow-rattle	11	A	**Y**	
Trees and Scrub					
Crataegus monogyna	Hawthorn	1	R		
Species in **bold black** are positive indicators of UK BAP habitat lowland meadow only; species in **bold blue** are positive indicators of both lowland meadows and lowland calcareous grassland; whilst species in **bold red** are calcareous grassland indicators. + shows presence outside of the quadrats.					

39 plant species were recorded within the quadrats including 13 positive indicators of lowland Meadow and/or calcareous grassland UK BAP habitats.

Reptiles

Table 4. Reptile survey results across 10 visits at Whiteshute ridge in 2021.

VISIT NUMBER	**DATE**	**TIME START**	**END**	**TEMPERATURE (°C)**	**SLOW WORMS MALE**	**FEMALE**	**JUV**	**COMMON LIZARD MALE**	**FEMALE**	**UNI**	**JUV**
1	22/03/21	11:30	12:15	11				1	2		
2	31/03/21	14:30	15:30	19	3	8	3	4	3	1	
3	20/04/21	18:00	18:45	15	8	10	2				
4	09/05/21	12:30	13:30	15	6	9	12	7	2		
5	27/05/21	10:40	11:40	18	3	4	2	1	2		1
6	29/06/21	15:30	16:30	18	4	24	54	2	1		1
7	08/07/21	18:00	19:00	19	2	14	40	1	3		
8	24/07/21	12:30	13:15	22	1	5		1	1		
9	14/08/21	17:10	18:05	22	7	19	29	1		1	8
10	16/09/21	17:20	18:20	19	3	16	26	1			1
TOTAL					37	109	168	19	14	2	11
MAX					26 ADULTS			9 ADULTS			

Hazel Dormouse

Table 5. Dormouse footprint tunnel survey results at Whiteshute Ridge in 2020.

VISIT NUMBER	DATE	TIME START	TIME END	TEMP (°C)	DORMOUSE PRINTS (NO. TUNNELS)	WOODMOUSE PRINTS (NO. TUNNELS)
1	18/05/21	15:35	17:40	14		7
2	31/05/21	14:30	16:30	23		
3	17/06/21	17:30	19:30	17		9
4	28/06/21	17:30	19:40	25		6
5	17/07/21	17:30	19:00	19		8
6	16/07/21	17:30	19:00	24		9
7	11/08/21	17:30	18:45	21		5
8	03/09/21	17:30	18:45	25		11
9	21/09/21	17:30	18:40	17		14
TOTAL					NONE RECORDED	31% TUNNELS

Other species

Peacock (*Aglais io*), Small heath (*Coenonympha pamphilus*), Common blue (*Polyommatus Icarus*), Small blue (*Cupido minimus*), Meadow brown (*Maniola jurtina*) and Marbled white (*Melanargia galathea*) butterflies were recorded on site throughout the survey visits.

6. Discussion and comparison with previous years

39 plant species were recorded across the quadrats in 2021 including 13 positive indicators of lowland meadow and/or calcareous grassland. This is a slight increase from 2020 (32 species and 9 positive indicators). Slightly fewer plant species were recorded in 2020 due to the survey being carried out when species such as cowslip and pyramidal orchid had already gone over. Additional positive indicators including Burnet-saxifrage and Marjoram were recorded on site in 2021. Ragwort was also recorded in less quadrats in 2021.

The botany surveys have been undertaken by surveyors who are not as experienced in plant identification as Belinda Wheeler in 2017 who is an expert. As a baseline Belinda recorded 79 plant species across 17 quadrats and a whole site walkover.

In 2020 the max count of adult slow worms in one visit was 30 and the max count of adult lizards was 12. This year a very similar max number of adults was recorded with 26 slow worms and 9 common lizards. However the total number recorded across all visits was higher for slow worms at 314 compared to 163 but lower for common lizards with 35 compared to 84. This differences could just be fluctuations within the populations due to environmental factors such as weather. However surveys will continue to ensure the numbers of lizards does not continue to decline at Whiteshute Ridge.

The dormouse presence/absence survey was repeated despite no evidence being recorded in 2020. This year fewer tubes were placed on and surrounding the site but these were more widely distributed within the path to the south of the ridge. They were also installed at the start of the dormouse survey season. No evidence of dormice was recorded so it is likely they are absent from the hedgerows and woodland surrounding the ridge. However it is still likely they are present within the wider area with suitable habitat connected to areas where they are known to be present (St Catherine's Hill).

7. Management Recommendations

- Continue current grazing management although grazing intensity will be reduced as grass growth has reduced since the cows were first introduced.
- Continue management of scrub encroachment were necessary.
- Use experienced botany surveyor in 2022 to repeat Wheeler et al. 2017 survey (5 years of grazing management).

Figure 9. Common lizard basking on refugia at Whiteshute Ridge.

8. References

1. Wheeler, B. and Wilson P. (2017). Vegetation Survey and Condition Assessment of Whiteshute Ridge, 2017.
2. JNCC (2004). Common Standards Monitoring Guidance for Lowland Grassland Habitats. ISSN 1743-8160 (online).
3. Froglife (1999) Reptile survey: an introduction to planning, conducting and interpreting surveys for snake and lizard conservation. Froglife Advice Sheet 10. Froglife, Halesworth.