Meopham U3A Bee Watch Group

REPORT ON 2018 BEE WALK SURVEYS, NORTHFIELD DA3 8EX SITE

The BeeWalk Scheme:

BeeWalk is a national recording scheme run by the Bumblebee Conservation Trust (BBCT) to monitor the abundance of bumblebees on transects across the country. These transects would be impossible without volunteers, who identify and count the bumblebees they see on a monthly walk along a set route from March to October.

Anyone can become a BeeWalker – all that is needed is a spare hour or so every month to walk a fixed route of about a mile (you choose where it goes), and send in your sightings. The information collected by BeeWalk volunteers is integral to monitoring how bumblebee populations change through time, and will allow the BBCT to detect early warning signs of population declines. All data collected will contribute to important long-term monitoring of bumblebee population changes in response to changes in land-use and climate change, and ultimately to informing how we manage the countryside.

The Meopham U3A Bee Watch Group began in 2017 & in 2017 & 2018 operated 5 BeeWalks, including the NORTHFIELD DA3 8EX transect. Although monthly walks are the norm, the volunteers, mainly Hartley & New Ash Green residents, operated Northfield BeeWalks approximately every two weeks during the March – October recording period.

This Report:

The essential part of this report is contained the first five pages. The remainder consists of 2 appendices - the observation records & sectional information breakdowns.
We hope that the Northfield Management Committee will consider our recommendations made at the end of our 'Comments On Results'.

Observations by P.Blezdell-Williams, L.Bolton, B.Connelly, J.Crook, C.Hague-Smith, J.Hutchinson, C.Stanley. ID assistance from C.Cook & P.Robb.

This report compiled by Christopher Hague-Smith ©2019

BBCT BEE WALK SURVEY NORTHFIELD DA3 8EX SITE GRID REF: TQ607664 (Centre of yellow outlined square)

Section	Grid Ref	(m)	Land Use	Habitat
S1	TQ604666	266	L6 Outdoor amenity & Open Spaces. *Wildflower meadow edge – 1 annual hay mow.*	H18 Agriculturally improved grassland H25 Hedgerows
S2	TQ604663	215	L6 Outdoor amenity & Open Spaces. *Wildflower meadow edge – 1 annual hay mow.*	H18 Agriculturally improved grassland H25 Hedgerows
S3	TQ604664	144	L6 Outdoor amenity & Open Spaces. *Wildflower meadow edge – 1 annual hay mow.*	H18 Agriculturally improved grassland H25 Hedgerows
S4	TQ607662	213	L6 Outdoor amenity & Open Spaces. *Play area mowed fortnightly in Spring/Summer*	H18 Agriculturally improved grassland H25 Hedgerows
S5	TQ608662	150	L6 Outdoor amenity & Open Spaces. *Wildflower meadow edge – 1 annual hay mow.*	H18 Agriculturally improved grassland H25 Hedgerows
S6	TQ610662	260	L6 Outdoor amenity & Open Spaces. *Wildflower meadow – 1 annual hay mow.*	H18 Agriculturally improved grassland
S7	TQ609664	151	L6 Outdoor amenity & Open Spaces. L3 Managed Forest. (*Woodland /Wildflower meadow edge – 1 annual hay mow).*	H18 Agriculturally improved grassland H26 Mature Broadleaved Woodland
S8	TQ607664	136	L6 Outdoor amenity & Open Spaces. L3 Managed Forest. (*Woodland /Wildflower meadow edge – 1 annual hay mow).*	H18 Agriculturally improved grassland H30 Small man-made woodland
S9	TQ607665	145	L6 Outdoor amenity & Open Spaces. L3 Managed Forest. (*Woodland /Wildflower meadow edge – 1 annual hay mow).*	H18 Agriculturally improved grassland H30 Small man-made woodland
S10	TQ606666	181	L6 Outdoor amenity & Open Spaces. *Wildflower meadow edge – 1 annual hay mow.*	H18 Agriculturally improved grassland H25 Hedgerows
	TOTAL (Metres)	**1861**	**(This site was reconfigured from the 2017 NORTHFIELD DA3 Site [GR TQ608664] from 2018 on).**	

Northfield DA3 8EX Bee Walk - 2018 Site Map

Northfield DA3 8EX Bee Walk - 2018 Mowing Regime

2018 NORTHFIELD DA3 8EX BEE WALK SURVEYS:

*(*BBCT Bee Walk observations are made from March – October inclusive, Minimum 1 per month)*

March: We were unable to carry out any walks during this month.

4th April: Three of us made our 1st walk of the year. We expected to see nothing given F4 wind, waterlogged ground & showers predicted, but we were delighted to record no less than 10 bumblebees in various sections & identified 4 as B.terrestris – 3 of them queens - the rest being too quick for us! We were also lucky enough to do the walk between showers & thus avoided getting soaked. The Black Lion proved to be a useful base & the proprietor helpful; we had a cup of tea & chat over progress.

18th April: We were pleased to record 17 bumblebee sightings - 11 unidentified, 1 B.terrestris queen, 3 B.lapidarius queens, 1 B.pascuorum queen & 1 later confirmed as B.vestalis (Southern Cuckoo Bumblebee), i.e. 4 identified species. We also recorded our 1st 2 Apis mellifera (Honey Bee) workers of the season.

3rd May: Heavy rain, cold & windy on May 2nd, so our walk was rescheduled for May 3rd, when it went ahead in sunny, warm & calm conditions. We counted 2 B.terrestris queens, 2 B.lapidarius queens, & 3 unidentified Bombus sp. + 24 Apis mellifera.

16th May: Four of us turned up, but although conditions were quite good, only 1 Bombus sp. observed (in flight) + 4 Apis mellifera. Although disappointing, we had fun trying to identify many of the plants which had now grown & were beginning to flower prolifically.

30th May: A really good session. Hadn't expected too much, but we counted bumblebees in every one of our 10 sections, totalling 82 individuals, with 5 bumblebee species confirmed including 1 B.soroensis, which we'd not seen here before, & a couple of queen bees. Also counted 8 Apis mellifera (Honey Bee) - surprisingly few given the bumblebee activity! Plants were now flowering in profusion & the first signs of bramble flowers observed.

6th June: An EXTRA WALK was scheduled at short notice as most of us could not come on 13th. Our best to date; very busy with a lot of bumblebee activity & 7 species confirmed, including 6 B.pratorum workers (the 1st time we'd recorded this species here) & another B.soroensis worker. The total number of bumblebees recorded was 176! We recorded 11 Apis mellifera - again this seemed low compared with the amount of bumblebee activity.

13th June: WALK CANCELLED.

27th June: 5 of us turned up. After the recent hot spell most of the flowers seen last time were now in decline & bumblebee activity correspondingly much less; we still recorded a total of 56 Bombus, of 5 species (15 unidentified), + 27 Apis Mellifera & 1 unidentified bee. Pleased to find our 1st B.hortorum (Garden Bumblebee) & another B.vestalis (Southern Cuckoo Bee). The group decided to meet at 11.00 from now on.

11th July: Our earlier start time (11.00) proved to be more convenient. On starting we found that **the annual hay mow** had just taken place, with only about ⅓rd of Northfield's meadow remaining unmown, so we expected bumblebee sightings to be fewer, but whilst sections 3 & 6 produced none at all, we were pleased to record a total of 64 bumblebees, including another B.hortorum (Garden Bumblebee), not common here, in S4, another B.vestalis (Southern Cuckoo Bumblebee) in S7, & our first B.rupestris (Hill Cuckoo Bee) in S8, where we also found 20 of its host species B.lapidarius. Few Apis Mellifera yet again - only 3 were seen!

25th July: Four of us met on this extremely hot day (26°C-33°C). Given a pronounced lack of flowers (following the accelerated growing season, extended heatwave & recent hay mow) we did not expect to see many bumblebees. We observed a total of 12 bumblebees of 4 species, but NO Apis Mellifera (Honey Bee). However it was striking that all 4 bumblebee species (& 8 of the total 12 bees seen) were present in section 7, on burdock which was in full bloom there!

8th August: Six of us gathered; a pleasantly warm sunny day with moderate wind. With the season well advanced, very few flowers were now in evidence & thus just the odd bumblebee seen - none at all in 6 of our10 sections - & only 1 Apis mellifera. The big surprise was S4 - mowed fortnightly for a play area - where plenty of Catsear plants were in flower & we observed no less than 22 of the 25 bumblebees seen, mostly B.lapidarius & some B.terrestris (& possibly lucorum), with the odd queen, plus one male B.rupestris. We felt this graphically demonstrated how well bumblebees react to & utilize the food sources available to them.

22nd August: Reasonable conditions - Cloudy, 17°C, wind force 3. However, very disappointing; relatively few flowers - no bees seen at all, not even on the plants which were in flower!

5th September: Cloudy, 14°C, wind force 3; ground damp underfoot after recent drizzle. The **remaining annual hay mow** (Sections 8 & 9) had been completed! Given the conditions, no bees were seen at all, as expected. However, we were pleased to welcome a new group member. Despite a lack of bees, the walk was most enjoyable.

9th September: A rapid impromptu solo walk on a fine Sunday evening - sunny, wind F3 & a temperature of 21°C. 3 Common Carders were seen, 2 in S1 & 1 in S6; all on vetch flowers.

19th September: Two people made the survey in unpromising conditions - 20°C but recent light rain & WSW wind force 5-6. S1, S3, S4 & S10 were sheltered, but the rest exposed. However, they saw 1 unidentified Bombus species on Lotus corniculatus (Birds-foot Trefoil) in S1, 5 B.pascuorum (Common Carder) in S1, S3, S6 & S10, almost all on Trifolium pratense (Red Clover), & recorded 6 Apis mellifera (Honey Bee) on new Hedera helix (ivy) flowers in S10. They also noted various other plants re-flowering after the recent mows, but observed no bees on them. These were Taraxacum officionale (Dandelion), Crepis capillaries (Soft Hawksbeard), Centaurium nigra (Hardheads) & Linum bienne (Pale Flax).

3rd October: Wind F1, 15°C, Fair/overcast. Very little was in flower. 3 observers, but only 1 bee seen - B.pascuorum (Common Carder) worker on Trifolium pratense (Red Clover) in S2. Now well towards the end of the bumblebee annual cycle.

17th October: Wind F1, Cloudy, Temperature 14.5°C, air damp. 3 observers; only 1 unidentified Bombus was seen in flight, in S6.

31st October: Wind F3, Sunny/Cloudy, 11°C. Few flowers; edge of hedgerow trimmed 1.0 - 1.5m in S1-5 & S10, & brambles in S5/6. No bees seen at all. Bee Walk recording now ended.

NORTHFIELD DA3 8EX - 2018 BEE WALK SURVEY RESULTS SUMMARY: Dates, Species & Numbers of BumbleBees Recorded:

Dates >>>		04-Apr	18-Apr	03-May	16-May	30-May	06-Jun	27-Jun	11-Jul	25-Jul	08-Aug	22-Aug	05-Sep	09-Sep	19-Sep	03-Oct	17-Oct	31-Oct		
Wind Speed (Beaufort Scale) >>>		3	2	1	4	1	1	3	2	0	3	3	3	3	6	1	1	3		
Temperature (°C)>>>		13	17	15	15	16	21	21	18	30	22	17	14	21	21	15	14	11		
Weather: (S=Sunny, C=Cloudy) >>>		S/C	S	S	C	C	S	S	S/C	S	S	C	C	S	C	C	C	S/C		
SPECIES	**CASTE**	(Key to Castes: Q=Queen, W = Worker, M = Male, ? = Unknown).																	Species Totals	
B.hortorum (Garden Bumblebee)	Q																		0	
	W							1	1										2	
	M																		0	
	?																		0	2
B.hypnorum (Tree Bumblebee)	Q						1		1										2	
	W						39	11	7										57	
	M																		0	
	?																		0	59
B.lapidarius (Red Tailed)	Q		3	2		1					1								7	
	W					21	46	14	17	2	11								111	
	M								3	2									5	
	?																		0	123
B.lucorum (White Tailed)	Q						1		1										2	
	W					6	4		6	1									17	
	M																		0	
	?								1										1	20
B.pascuorum (Common Carder)	Q		1								1								2	
	W					10	9	7	6	3	2			3	5	1			46	
	M																		0	
	?																		0	48
B.pratorum (Early Bumblebee)	Q																		0	
	W						6												6	
	M																		0	
	?																		0	6
B.terrestris (Buff Tailed)	Q	3	1	2		1	2				1								10	
	W						4		4	2	5								15	
	M																		0	
	?	1																	1	26
B.soroensis (Broken Belted)	Q																		0	
	W					1	1												2	
	M																		0	
	?																		0	2
B.lucorum/terrestris workers.	W					17	33	7	9		3								69	69
B.rupestris (Hill Cuckoo)	F																		0	
	M								1		1								2	2
B.vestalis (Southern Cuckoo)	F		1					1	1										3	
	M																		0	3
Total identified		4	6	4	0	57	146	41	58	10	25	0	0	3	5	1	0	0		360**
B. Species (Unidentified)	?	6	11	3	1	25	30	15	6	2					1		1			101
Bombus Totals Seen		10	17	7	1	82	176	56	64	12	25	0	0	3	6	1	1	0		461
No of Bombus Species Identified		1	4	2	0	5	7	6 or 7*	8	4	4 or 5*	0	0	1	1	1	0	0		

[*If 'B.lucorum/terrestris workers' includes both species]. [**Includes 69 Luc/Terr Workers]

NORTHFIELD DA3 8EX- 2018 BEE WALK SURVEY RESULTS: Dates & Numbers of APIS MELLIFERA (Honey Bees) Recorded:

	Dates >>>	04-Apr	18-Apr	03-May	16-May	30-May	06-Jun	27-Jun	11-Jul	25-Jul	08-Aug	22-Aug	05-Sep	09-Sep	19-Sep	03-Oct	17-Oct	31-Oct	
	Wind Speed (Beaufort Scale) >>>	3	2	1	4	1	1	3	2	0	3	3	3	3	6	1	1	3	
	Temperature (°C)>>>	13	17	15	15	16	21	21	18	30	22	17	14	21	21	15	14	11	
	Weather: (S=Sunny, C=Cloudy) >>>	S/C	S	S	C	C	S	S	S/C	S	S	C	C	S	C	C	C	S/C	
SPECIES	CASTE	(Key to Castes: Q=Queen, W = Worker, M = Male, ? = Unknown).																	Totals:
Apis Mellifera (Honey Bee)	Q																		0
Apis Mellifera (Honey Bee)	W		2	24	4	8	11	27	3		1				6				86
Apis Mellifera (Honey Bee)	M																		0
Apis Mellifera (Honey Bee)	?																		0
Totals:		0	2	24	4	8	11	27	3	0	1	0	0	0	6	0	0	0	86

RESULTS BY SECTIONS

DATES → SECTION↓	04-Apr	18-Apr	03-May	16-May	30-May	06-Jun	27-Jun	11-Jul	25-Jul	08-Aug	22-Aug	05-Sep	09-Sep	19-Sep	03-Oct	17-Oct	31-Oct	TOTAL SEEN	No of Species
S1	2	1	1		13	25	1	1		1			2	4				52	6
S2	1	3	1		5	23	6	4		1					1			46	7
S3	1				7	5								1				14	2
S4		2	1		2	4		3	2	22								37	5
S5	1	1	1		10	65	1	2										81	5
S6		4	2		29	43	2						1			1		82	6
S7		2		1	4	2	18	22	8	1								58	6
S8		1			1	2	20	22	1									50	7
S9	1				4	6	6	6	1									24	2
S10	1	3			6	1	1	4						1				17	4
Totals	10	17	7	1	82	176	56	64	12	25	0	0	3	6	1	1	0		

COMMENTS ON RESULTS:

- According to the BBCT, **2017** was an exceptionally good year for bumblebees with a warm spring & summer & all species emerging in March. In contrast, in **2018** the 'Beast from the East' brought late snow, with a delayed spring, & a very hot & dry summer - not ideal conditions for bumblebee flight, or for plants to flower & produce nectar. 2018 figures are still to be finalized.
- In 2018 our surveys found that Northfield attracted an excellent variety of bumblebee species, though not always very numerous – in all, 10 species of Bumblebee were identified. These included the 'big seven' (the 7 commonest bumblebee species), 2 common species of Cuckoo Bumblebee, plus B.soroensis (Broken Belted Bumblebee). Although we checked as carefully as we were able, it is quite possible that as novices, we misidentified a more common species as the latter, which is very rare in Kent. It would be very pleasing if we were correct.
- As might be expected, the highest numbers of bumblebees were recorded between May 30th & August 8th, with a total of 176 on 30th June. There was a marked build-up in May, but the summer's record breaking heatwave caused the flowering season to peak very early, followed by a marked decline in the flowers available, greatly exacerbated by the hay mows.
- Two hay mows occurred, in early July & late August. After the first mow numbers recorded fell considerably, though 64 were seen on 11th July; however ⅓ of these were in section 7 where the wood edge was sheltered & profuse in bramble flowers & ⅓ were in section 8, still unmown. After the second mow, numbers of bumblebees seen were negligible in ALL sections.
- Section results indicate that overall, the largest numbers of bumblebees were found in Sections 6 & 5, followed by 7, 1 & 8, whilst the most species were found in Sections 2 & 8, followed by 1, 5 &6. Section 3 was the least productive in both respects, followed by Sections 10 & 9.
- Surprisingly, although mowed fortnightly as a play area, section 4 numbers were in the middle range of numbers seen (37), with more species than expected. However, these results were skewed on August 8th, after the 1st annual hay mow & early peak in flower growth had severely depleted flowers in the other areas. More flowers had grown in Section 4, particularly Catsears; & although we never otherwise observed more than 4 bumblebees here, 22 were seen on this day (⅔ of the section's annual total), along with species not seen at other times, indicating the remarkable ability of bumblebees to find & exploit the available food supplies.
- Numbers of Apis mellifera (Honey Bees) recorded on Northfield in 2018 were generally extremely poor.
- **As a really helpful bee-friendly policy the BBCT recommends leaving mowing as late as possible in the year. We believe it would also be highly beneficial to Northfield's bee populations to introduce some late flowering bee-friendly plant species, particularly in hedge areas, (especially sections 3, 10 & 9), e.g. mallow, lavender & buddleia species, &/or create a designated bee friendly area. This would help to counteract the effects of the sudden removal of bee foraging occasioned by the annual hay mows, & extend the active flowering period.**

ON THE FOLLOWING PAGES:

APPENDIX 1:

MEOPHAM U3A BEE WATCH GROUP. **NORTHFIELD DA38EX.**

BEAUFORT WIND SPEED SCALE USED:

FORCE		KPH	MPH	DESCRIPTION
0	Calm	<1	<1	Smoke rises vertically
1	Light Air	1-5	1-3	Direction shown by smoke drift but not by wind vanes
2	Light Breeze	6-11	4-7	Wind felt on face; leaves rustle; wind vane moved by wind
3	Gentle Breeze	12-19	8-12	Leaves & small twigs in constant motion; light flags extended
4	Moderate Breeze	20-28	13-18	Raises dust & loose paper; small branches moved.
5	Fresh Breeze	29-38	19-24	Small trees in leaf begin to sway.
6	Strong Breeze	38-49	25-31	Large branches in motion; whistling heard in telegraph wires; umbrellas used with difficulty.
6+				Bumblebees unlikely to be flying

APPENDIX 2:

Meopham U3A Bee Watch Group NORTHFIELD DA3 8EX. OBSERVATION RECORDS

BEAUFORT WIND FORCE IN THE FOLLOWING OBSERVATIONS AS FOLLOWS:

0 smoke rises vertically; 1 slight smoke drift; 2 wind felt on face; 3 leaves in slight motion; 4 dust raised & small branches move; 5 small trees in leaf sway; 6 large branches move & trees sway)

Date:	04/04/2018	Start Time:	13:30	Finish Time:	14:33	Temp (°C):	13°C
Recorders:	CHS; PBW; JW	Average wind speed:	3	Weather:	Sunny/Cloudy		

NOTES: Rain prior to recording

Section	Ended	Species	Caste	Nos.	Flowers / Comments
1		B.terrestris (Buff Tailed)	Q	2	
2		B.terrestris (Buff Tailed)	?	1	Prob queen
3		B.species unknown	?	1	
4		NIL			
5		B.species unknown	?	1	
6		NIL			
7		NIL			
8		B.species unknown	?	3	
9		B.species unknown	?	1	
10		B.terrestris (Buff Tailed)	Q	1	

04/04/2018 Sectional Analysis/Totals:

Species	Caste	1	2	3	4	5	6	7	8	9	10	Total
B.terrestris (Buff Tailed)	Q	2									1	3
Total: 4	?		1									1
B.species unknown. Total: 6	?			1		1			3	1		6
Totals for Bombus:	10	2	1	1		1			3	1	1	10
Number of Bombus species confirmed:	1											
Apis mellifera (Honey Bee)												NIL
Totals for Apis Mellifera:	NIL											

Date:	18/04/2018	Start Time:	09:37	Finish Time:	11:32	Temp (°C):	17°C
Recorders:	CHS; PBW; JH	Average wind speed:	2	Weather:	Sunny		

NOTES: Temperature 23°C by end of walk

Section	Ended	Species	Caste	Nos.	Flowers / Comments
1		B.species unknown	?	1	
2		B.vestalis (Southern Cuckoo)	F	1	Southern Cuckoo bumblebee female
2		B.species unknown	?	2	
3		NIL			
4		B.species unknown	?	2	On wild cherry. *Fortnightly mow in progress.
5		B.species unknown	?	1	
6		B.species unknown	?	3	
6		B.lapidarius (Red Tailed)	Q	1	
7		B.species unknown	?	1	
7		B.pascuorum (Common Carder)	Q	1	
8		B.lapidarius (Red Tailed)	Q	1	
9		NIL			
10		B.lapidarius (Red Tailed)	Q	1	
10		B.terrestris (Buff Tailed)	Q	1	
10		B.species unknown	?	1	
10		Apis mellifera	W	2	

18/04/2018 Sectional Analysis/Totals:

Species	Caste	1	2	3	4	5	6	7	8	9	10	Total
B.lapidarius (Red Tailed)	Q						1		1		1	3
B.pascuorum (Common Carder)	Q							1				1
B.terrestris (Buff Tailed)	Q										1	1
B.species unknown	?	1	2		2	1	3	1			1	11
B.vestalis (Southern Cuckoo)	F		1									1
Totals for Bombus	17	1	3		2	1	4	2	1		3	17
Number of Bombus species confirmed:	4											4
Apis Mellifera (Honey Bee)	W										2	2
Totals for Apis Mellifera	2											

Date:	03/05/2018	Start Time:	12:30	Finish Time:	14:33	Temp (°C):	15°C
Recorders:	CHS	Average wind speed:	1	Weather:	Sunny		

NOTES: Lots of dandelion flowers in most sections; 21°C by end of walk.

Section	Ended	Species	Caste	Nos.	Flowers / Comments
1		B.terrestris (Buff Tailed):	Q	1	Dandelion
1	12.43	B.species unknown.	?	1	Dandelion
2		Apis mellifera	W	5	Dandelion
2	13.06	B.species unknown	?	1	Dandelion
3	13.21	Apis mellifera	W	2	Dandelion
4	13.39	B.terrestris (Buff Tailed):	Q	1	Dandelion
5	13.47	B.lapidarius (Red Tailed)	Q	1	Dandelion
6		B.species unknown.	?	1	Dandelion
6		B.lapidarius (Red Tailed)	Q	1	Dandelion
6	14.05	Apis mellifera	W	4	Buttercup
7	14.17	Apis mellifera	W	1	Dandelion
8	14.21	Apis mellifera	W	2	Dandelion
9	14.25	Apis mellifera	W	1	Dandelion
10	14.33	Apis mellifera	W	9	Dandelion

03/05/2018 Sectional Analysis/Totals:

Species	Caste	1	2	3	4	5	6	7	8	9	10	Total
B.lapidarius (Red Tailed)	Q					1	1					2
B.terrestris (Buff Tailed)	Q	1			1							2
B.species unknown. Total:	?	1	1				1					3
Totals for Bombus:	7	2	1		1	1	2					7
Number of Bombus species confirmed:	2											
Apis mellifera (Honey Bee)	W		5	2			4	1	2	1	9	24
Totals for Apis Mellifera:	24											

Date:	16/05/2018	Start Time:	12:34	Finish Time:	13:55	Temp (°C):	15°C
Recorders:	CHS, PBW, JC, JH	Average wind speed:	4	Weather:	Cloudy (Showers forecast).		

NOTES: Very disappointing – little seen. ('May' [Hawthorn] Blossom, Grass & Buttercups now profuse

Section	Ended	Species	Caste	Nos.	Flowers / Comments
1	12.47	NIL			
2	12.54	NIL			
3	13.01	NIL			
4	13.14	NIL			
5	13.18	NIL			
6	13.26	NIL			
7	13.32	Bombus species	?	1	In flight
8	13.35	NIL			
9	13.47	Apis mellifera	W	4	
10	13.55	NIL			

16/05/2018 Sectional Analysis/Totals:

Species	Caste	1	2	3	4	5	6	7	8	9	10	Total
B.species unknown. Total:	?							1				1
Totals for Bombus:	1							1				1
Number of Bombus species confirmed:	NIL											
Apis mellifera (Honey Bee)	W									4		4
Totals for Apis Mellifera:	4											

Date:	30/05/2018	Start Time:	12:50	Finish Time:	15:11	Temp (°C):	16°C
Recorders:	CHS; JC	Average wind speed:	1	Weather:	Cloudy		

NOTES: Humid

Section	Ended	Species	Caste	Nos.	Flowers / Comments
1		B.lapidarius (Red Tailed)	W	7	
1		B.pascuorum (Common Carder)	W	1	
1		B.lucorum/terrestris workers	W	3	
1		B.species unknown.	?	2	
1	13:15	Apis mellifera (Honeybee)	W	3	
2		B.lapidarius (Red Tailed)	W	1	
2		B.lucorum/terrestris workers	W	3	
2	13:26	B.species unknown.	?	1	
3		B.pascuorum (Common Carder)	?	3	
3	13:56	B.species unknown.	?	4	
4		B.pascuorum (Common Carder)	W	2	
4	14:04	B.species unknown.	?	1	
5		B.lucorum (White Tailed)	W	3	
5		B.lapidarius (Red Tailed)	W	1	
5		B.species unknown.	?	3	
5		B.pascuorum (Common Carder)	W	2	
5	14:14	B.lucorum/terrestris workers	W	1	
6		B.species unknown.	?	10	
6		Apis mellifera (Honeybee)	W	5	
6		B.lucorum/terrestris workers	W	5	
6		B.soroensis (Broken Belted)	W	1	
6		B.lapidarius (Red Tailed)	Q	1	
6		B.lapidarius (Red Tailed)	W	9	
6		B.terrestris (Buff Tailed)	Q	1	
6		B.lucorum (White Tailed)	W	1	
6	14:37	B.pascuorum (Common Carder)	W	1	
7		B.lucorum/terrestris workers	W	1	
7		B.species unknown.	?	1	
7	14:42	B.lucorum (White Tailed)	W	2	
8	14:46	B.species unknown.	?	1	
9		B.lucorum/terrestris workers	W	3	
9	15:02	B.species unknown.	?	1	
10		B.lapidarius (Red Tailed)	W	3	
10		B.pascuorum (Common Carder)	W	1	
10		B.species unknown.	?	1	
10	15:11	B.lucorum/terrestris workers	W	1	

30/05/2018 Sectional Analysis/Totals:

Species	Caste	1	2	3	4	5	6	7	8	9	10	Total
B.lapidarius (Red Tailed)	W	7	1			1	9				3	21
B.lapidarius (Red Tailed)	Q						1					1
B.lucorum (White Tailed)	W					3	1	2				6
B.lucorum/terrestris workers. Total:	W	3	3			1	5	1		3	1	17
B.pascuorum (Common Carder)	W	1		3	2	2	1				1	10
B.soroensis (Broken Belted)	W						1					1
B.terrestris (Buff Tailed)	Q						1					1
B.species unknown. Total:	?	2	1	4	1	3	10	1	1	1	1	25
Totals for Bombus:	82	13	5	7	3	10	29	4	1	4	6	82
Number of Bombus species confirmed:	5											
Apis mellifera (Honey Bee)	W	3					5					8
Totals for Apis Mellifera:	8											

Date:	06/06/2018	Start Time:	12:35	Finish Time:	14:42	Temp (°C):	21°C
Recorders:	CHS / PB-W / BC	Average wind speed:	1	Weather:	Sunny		

NOTES: A remarkably good day. Again the number of Apis mellifera seen seems low compared with the amount of bumblebee activity.

Section	Ended	Species	Caste	Nos.	Flowers / Comments
1		B.pratorum (Early Bumblebee)	W	3	
1		B.hypnorum (Tree Bumblebee)	Q	1	
1		B.hypnorum (Tree Bumblebee)	W	9	
1		B.pascuorum (Common Carder)	W	2	
1		B.terrestris (Buff Tailed)	Q	1	
1		B.terrestris (Buff Tailed)	W	4	
1		B.species unknown	W	1	
1		B.lapidarius (Red Tailed)	W	1	
1		B.soroensis (Broken Belted)	W	1	
1	13.12	B.lucorum (White Tailed)	Q	2	
2		Apis mellifera (Honeybee)	W	2	
2		B.pratorum (Early Bumblebee)	W	2	
2		B.lapidarius (Red Tailed)	W	6	
2		B.species unknown	W	5	
2		B.pascuorum (Common Carder)	W	1	
2		B.hypnorum (Tree Bumblebee)	W	7	
2		B.terrestris (Buff Tailed)	Q	1	
2	13.37	B.lucorum/terrestris workers	W	1	
3		Apis mellifera (Honeybee)	W	1	
3		B.lapidarius (Red Tailed)	W	3	
3	13.43	B.species unknown	W	2	
4		B.lucorum/terrestris workers	W	3	
4	13.45	B.lapidarius (Red Tailed)	W	1	
5		B.hypnorum (Tree Bumblebee)	W	14	On bramble patch
5		B.species unknown	W	14	Estimated total - Mainly on bramble patch
5		B.lapidarius (Red Tailed)	W	16	Estimated total - Mainly on bramble patch
5	13.59	B.lucorum/terrestris workers	W	21	Estimated total - Mainly on bramble patch
6		B.hypnorum (Tree Bumblebee)	W	9	
6		B.lapidarius (Red Tailed)	W	14	
6		B.lucorum/terrestris workers	W	8	
6		Apis mellifera (Honeybee)	W	4	
6		B.pascuorum (Common Carder)	W	3	
6		B.species unknown	Q	1	A very large specimen – clearly a queen, but too far away to identify.
6		B.species unknown	W	5	
6		B.lucorum (White Tailed)	Q	2	
6	14.17	B.lucorum (White Tailed)	W	1	
7		Apis mellifera (Honeybee)	W	1	
7		B.pascuorum (Common Carder)	W	1	
7	14.24	B.lapidarius (Red Tailed)	W	1	
8		B.pratorum (Early Bumblebee)	W	1	
8	14.28	B.species unknown	W	1	
9		Apis mellifera (Honeybee)	W	2	
9		B.lapidarius (Red Tailed)	W	4	
9		B.species unknown	W	1	
9	14.35	B.pascuorum (Common Carder)	W	1	
10		Apis mellifera (Honeybee)	W	1	
10	14.43	B.pascuorum (Common Carder)	W	1	

06/06/2018 Sectional Analysis/Totals:

Species	Caste	1	2	3	4	5	6	7	8	9	10	Total
B.hypnorum (Tree Bumblebee)	W	9	7			14	9					39
	Q	1										1
B.lapidarius (Red Tailed)	W	1	6	3	1	16	14	1		4		46
B.lucorum (White Tailed)	W						1					1
	Q	2					2					4
B.lucorum/terrestris workers.	W		1		3	21	8					33
B.pascuorum (Common Carder)	W	2	1				3	1		1	1	9
B.pratorum (Early Bumblebee)	W	3	2						1			6
B.soroensis (Broken Belted)	W	1										1
B.terrestris (Buff Tailed)	W	4										4
	Q	1	1									2
B.species unknown.	W	1	5	2		14	5		1	1		29
	Q						1					1
Totals for Bombus:	176	25	23	5	4	65	43	2	2	6	1	176
Number of Bombus species confirmed:	7											
Apis mellifera (Honey Bee)	W		2	1			4	1		2	1	11
Totals for Apis Mellifera:	11											

Date:	27/06/2018	Start Time:	12.30	Finish Time:	15.00	Temp (°C):	21°C
Recorders:	JC / CHS / PB-W / JH / CC	Average wind speed:	3	Weather:	Sunny		

NOTES: Wind prominent in sections 1-6; 7-10 well sheltered.

Section	Ended	Species	Caste	Nos.	Flowers / Comments
1	12.47	B.pascuorum (Common Carder)	W	1	
2		B.lapidarius (Red Tailed)	W	2	
2		B.lucorum/terrestris workers	W	1	White Clover
2		B.species unknown	?	2	1 In Flight
2		B.hortorum (Garden Bumblebee)	W	1	Red Clover
2	13.11	B.hypnorum (Tree Bumblebee)	W	1	
3	13.21	NIL			
4	13.30	Apis mellifera (Honeybee)	W	1	
5	13.40	B.species unknown	?	1	Brambles
6		B.species unknown	?	1	In Flight
6	13.53	B.lapidarius (Red Tailed)	W	1	Clover
7		B.lucorum/terrestris workers	W	5	Brambles
7		Apis mellifera (Honeybee)	W	10	Hypericum
7		B.hypnorum (Tree Bumblebee)	W	9	Hypericum
7		B.pascuorum (Common Carder)	W	1	Brambles
7	14.20	B.species unknown	?	3	Brambles
8		Apis mellifera (Honeybee)	W	12	Brambles
8		B.hypnorum (Tree Bumblebee)	W	1	
8		B.species unknown	?	8	Brambles
8		B.pascuorum (Common Carder)	W	5	Vetch / Brambles
8		B.vestalis (Southern Cuckoo)	F	1	Vetch
8		B.lapidarius (Red Tailed)	W	4	
8	14.40	B.lucorum/terrestris workers	W	1	
9	14.57	B.lapidarius (Red Tailed)	W	6	Red Clover
10		Apis mellifera (Honeybee)	W	4	Brambles
10	15.00	B.lapidarius (Red Tailed)	W	1	

27/06/2018 Sectional Analysis/Totals:

Species	Caste	1	2	3	4	5	6	7	8	9	10	Total
B.hortorum (Garden bumblebee)	W		1									1
B.hypnorum (Tree Bumblebee)	W		1					9	1			11
B.lapidarius (Red Tailed)	W		2				1		4	6	1	14
B.lucorum/terrestris workers	W		1					5	1			7
B.pascuorum (Common Carder)	W	1						1	5			7
B.species unknown.	?		2			1	1	3	8			15
B.vestalis (Southern Cuckoo Bumblebee)	F								1			1
Totals for Bombus:	56	1	7			1	2	18	20	6	1	56
Number of Bombus species confirmed:	5											
Apis mellifera (Honey Bee)	W				1			10	12		4	27
Totals for Apis Mellifera:	27											

Date:	11/07/2018	Start Time:	11:00	Finish Time:	12:58	Temp (°C):	18°C
Recorders:	BC, CHS, PB-W, CC	Average wind speed:	2	Weather:	Sunny/Cloudy		

NOTES: Annual hay mow had taken place! All sections mowed short except 8 & 9

Section	Ended	Species	Caste	Nos.	Flowers / Comments
1		B.species unknown	?	1	
1	11:11	Apis mellifera	W	2	
2		B.hypnorum (Tree Bumblebee)	W	3	
2	11:22	B.hypnorum (Tree Bumblebee)	Q	1	
3	11:30	NIL			
4		B.pascuorum (Common Carder)	W	1	
4		B.terrestris (Buff Tailed)	W	1	On bindweed flower
4	11:46	B.hortorum (Garden bumblebee)	W	1	
5		B.terrestris (Buff Tailed)	W	1	Possibly a queen. On bindweed flower
5	12:01	B.species unknown	?	1	
6	12:07	NIL			Meadow mown short
7		B.terrestris (Buff Tailed)	W	2	On Bramble
7		B.pascuorum (Common Carder)	W	4	On Bramble
7		B.lucorum (White Tailed)	W	5	On Bramble
7		B.lucorum (White Tailed)	Q	1	On Bramble
7		B.lucorum (White Tailed)	?	1	
7		B.lucorum/terrestris workers	W	4	
7		B.vestalis (Vestal/S Cuckoo BBee)	F	1	
7		B.hypnorum (Tree Bumblebee)	W	3	
7	12:24	B.species unknown	?	1	
8		B.lapidarius (Red Tailed)	W	13	Meadow left long - few flowers.
8		B.lapidarius (Red Tailed)	M	3	
8		B.rupestris (Hill Cuckoo Bumblebee)	F	1	Later confirmed by BBCT (Photos
8		B.lucorum/terrestris workers	W	4	
8		B.lucorum (White Tailed)	W	1	
8	12:44	Apis mellifera	W	1	
9		B.pascuorum (Common Carder)	W	1	
9		B.lapidarius (Red Tailed)	W	3	
9	12:50	B.species unknown	?	2	
10		B.lapidarius (Red Tailed)	W	1	
10		B.lucorum/terrestris workers	W	1	
10		B.hypnorum (Tree Bumblebee)	W	1	
10	12:58	B.species unknown	?	1	

11/07/2018 Sectional Analysis/Totals:

Species	Caste	1	2	3	4	5	6	7	8	9	10	Total
B.hortorum (Garden Bumblebee)	W				1							1
B.hypnorum (Tree Bumblebee)	W		3					3			1	7
Total: 12	Q		1									1
B.lapidarius (Red Tailed Bumblebee)	W								13	3	1	17
Total: 20	M								3			3
B.lucorum (White Tailed Bumblebee)	W							5	1			6
	Q							1				1
Total: 8	?							1				1
B.lucorum/terrestris workers.	W							4	4		1	9
B.pascuorum (Common Carder Bumblebee)	W				1			4		1		6
B.terrestris (Buff Tailed Bumblebee)	W				1	1		2				4
B.rupestris (Hill Cuckoo Bumblebee).	M								1			1
B.vestalis (Southern Cuckoo Bumblebee).	F							1				1
B.species unknown.	?	1				1		1		2	1	6
Totals for Bombus:	64	1	4		3	2		22	22	6	4	64
Number of Bombus species confirmed:	8											
Apis mellifera (Honey Bee)	W	2							1			3
Totals for Apis Mellifera:	3											

Date:	25/07/2018	Start Time:	11:00	Finish Time:	12:01	Temp (°C):	30°C
Recorders:	CHS / LB / PBW / BC	Average wind speed:	0	Weather:	Sunny		

NOTES: Weather very hot - 26°C-33°C – no rain for many days.

Section	Ended	Species	Caste	Nos.	Flowers / Comments
1	11:11	NIL			
2	11:20	NIL			
3	11:24	NIL			
4		B.terrestris (Buff Tailed)	W	1	On Ragwort
4	11:30	B.Species unknown	?	1	In flight
5	11:35	NIL			
6	11:40	NIL			
7		B.lucorum (White Tailed)	W	1	On Burdock
7		B.pascuorum (Common Carder)	W	2	On Burdock
7		B.species unknown	W	1	On Burdock
7		B.terrestris (Buff Tailed)	W	1	On Burdock
7		B.lapidarius (Red Tailed)	W	1	On Burdock
7	11:47	B.lapidarius (Red Tailed)	M	2	On Burdock
8	11:48	B.lapidarius (Red Tailed)	W	1	
9	11.58	B.pascuorum (Common Carder)	W	1	
10	12:01	NIL			

25/07/2018 Sectional Analysis/Totals:

Species	Caste	1	2	3	4	5	6	7	8	9	10	Total
B.lapidarius (Red Tailed)	W							1	1			2
Total: 4	M							2				2
B.lucorum (White Tailed)	W							1				1
B.pascuorum (Common Carder)	W							2		1		3
B.terrestris (Buff Tailed)	W				1			1				2
B.species unknown. Total: 2	?				1			1				2
Totals for Bombus:	12				2			8	1	1		12
Number of Bombus species confirmed:	4											
Apis mellifera (Honey Bee):												NIL
Totals for Apis Mellifera:	NIL											

Date:	08/08/2018	Start Time:	11:00	Finish Time:	12:19	Temp (°C):	22°C
Recorders:	BC, CHS, PBW, JC, CC,PR	Average wind speed:	3	Weather:	Sunny		

NOTES: Catsears in flower had appeared in section 4; few or no flowers in other sections.

Section	Ended	Species	Caste	Nos.	Flowers / Comments
1	11:12	B.pascuorum (Common Carder)	W	1	Clover
2	11:15	B.pascuorum (Common Carder)	Q	1	Clover
3	11:23	NIL			
4		B.lapidarius (Red Tailed)	Q	1	On Catsear/Smooth Catsear
4		B.terrestris (Buff Tailed)	Q	1	On Catsear/Smooth Catsear
4		B.rupestris (Hill Cuckoo Bumblebee)	M	1	On Catsear/Smooth Catsear
4		B.terrestris (Buff Tailed)	W	5	On Catsear/Smooth Catsear
4		B.lapidarius (Red Tailed)	W	11	On Catsear/Smooth Catsear
4		B.lucorum/terrestris workers	W	3	On Catsear/Smooth Catsear
4	11:46	Apis mellifera (Honey Bee)	W	1	On Catsear/Smooth Catsear
5	11:52	NIL			
6	11:58	NIL			
7	12:05	B.pascuorum (Common Carder)	W	1	
8	12:08	NIL			
9	12:14	NIL			
10	12:19	NIL			

08/08/2018 Sectional Analysis/Totals:

Species	Caste	1	2	3	4	5	6	7	8	9	10	Total
B.lapidarius (Red Tailed)	W				11							11
Total: 12	Q				1							1
B.lucorum/terrestris workers. Total:3	W				3							3
B.pascuorum (Common Carder).	W	1						1				2
Total:3	Q		1									1
B.rupestris (Hill Cuckoo Bumblebee). Total: 1	M				1							1
B.terrestris (Buff Tailed).	W				5							5
Total: 6	Q				1							1
Totals for Bombus:	25	1	1		22			1				25
Number of Bombus species confirmed:	4											
Apis mellifera (Honey Bee)	W				1							1
Totals for Apis Mellifera:	1											

Date:	22/08/2018	Start Time:	11:15	Finish Time:	12:17	Temp (°C):	17°C
Recorders:	BC, CHS, PBW, JC	Average wind speed:	3	Weather:	Cloudy		

NOTES: Relatively few flowers out apart from CatsEars.

Section	Ended	Species	Caste	Nos.	Flowers / Comments
1	11:24	NIL			
2	11:30	NIL			
3	11:34	NIL			
4	11:39	NIL			
5	11:42	NIL			
6	11:50	NIL			
7	11:59	NIL			
8	12:07	NIL			
9	12:10	NIL			
10	12:17	NIL			

22/08/2018 Sectional Analysis/Totals:

Species	Caste	1	2	3	4	5	6	7	8	9	10	Total
Totals for Bombus:	NIL											
Number of Bombus species confirmed:	NIL											
Apis mellifera (Honey Bee):	NIL											NIL
Totals for Apis Mellifera:	NIL											

Date: 05/09/2018	Start Time: 11:05	Finish Time: 11:51	Temp (°C): 14°C
Recorders: BC, CHS, CS	Average wind speed: 3	Weather: Cloudy	

NOTES: Damp underfoot after recent drizzle. Remainder of hay mow (S8 & S9) had been completed.

Section	Ended	Species	Caste	Nos.	Flowers / Comments
1	11:14	NIL			
2	11:17	NIL			
3	11:21	NIL			
4	11:26	NIL			
5	11:31	NIL			
6	11:36	NIL			
7	11:39	NIL			
8	11:42	NIL			2nd Hay Mow had been completed.
9	11:46	NIL			2nd Hay Mow had been completed.
10	11:51	NIL			

05/09/2018 Sectional Analysis/Totals:

Species	Caste	1	2	3	4	5	6	7	8	9	10	Total
Totals for Bombus:	NIL											
Number of Bombus species confirmed:	NIL											
Apis mellifera (Honey Bee):	NIL											NIL
Totals for Apis Mellifera:	NIL											

Date: 09/09/2018	Start Time: 18:15	Finish Time: 18:50	Temp (°C): 21°C
Recorders: CHS	Average wind speed: 3	Weather: Sunny	

NOTES: Fine evening

Section	Ended	Species	Caste	Nos.	Flowers / Comments
1	18:23	B.pascuorum (Common Carder)	W	2	On Vetch
2	18:26	NIL			
3	18:28	NIL			
4	18:31	NIL			
5	18:34	NIL			
6	18:39	B.pascuorum (Common Carder)	W	1	On Vetch
7	18:41	NIL			
8	18:43	NIL			
9	18:45	NIL			
10	18:50	NIL			

09/09/2018 Sectional Analysis/Totals:

Species	Caste	1	2	3	4	5	6	7	8	9	10	Total
B.pascuorum (Common Carder)	W	2					1					3
Totals for Bombus:	3	2					1					3
Number of Bombus species confirmed:	1											
Apis mellifera (Honey Bee):	NIL											NIL
Totals for Apis Mellifera:	NIL											

Date: 19/09/2018	Start Time: 11:17	Finish Time: 12:17	Temp (°C): 21°C
Recorders: JC; CC	Average wind speed: 6		Weather: Cloudy
NOTES: Wind WSW 5-6. Recent light rain. S1, 3 4 & 10 sheltered; rest exposed to wind			

Section	Ended	Species	Caste	Nos.	Flowers / Comments
1		B.pascuorum (Common Carder)	W	3	On Trifolium pratense (Red Clover)
1	11:26	B.species unknown	?	1	On Lotus corniculatus (Birds-foot Trefoil)
2	11:36	NIL			
3	11:46	B.pascuorum (Common Carder)	W	1	On Trifolium pratense (Red Clover)
4	11:50	NIL			
5	11:56	NIL			
6	11:59	NIL			
7	12:02	NIL			
8	12:06	NIL			
9	12:11	NIL			
10		B.pascuorum (Common Carder)	W	1	
	12:17	Apis mellifera	W	6	On Hedera helix (Ivy) just in flower. At entrance

19/09/2018 Sectional Analysis/Totals:

Species	Caste	1	2	3	4	5	6	7	8	9	10	Total
B.pascuorum (Common Carder)	W	3		1							1	5
B.species unknown.	?	1										1
Totals for Bombus:	6	4		1							1	6
Number of Bombus species confirmed: 1	1											
Apis mellifera (Honey Bee):	W										6	6
Totals for Apis Mellifera: 6	6											

Date: 03/10/2018	Start Time: 11:02	Finish Time: 12:50	Temp (°C):15°C
Recorders: JC; CC, PR	Average wind speed: 1		Weather: Cloudy
NOTES: Fair, overcast. Very little in flower.			

Section	Ended	Species	Caste	Nos.	Flowers / Comments
1	11:17	NIL			
2	11:33	B.pascuorum (Common Carder)	W	1	On Trifolium pratense (Red Clover)
3	11:39	NIL			
4	11:49	NIL			
5	11:58	NIL			
6	12:18	NIL			
7	12:25	NIL			
8	12:33	NIL			
9	12:42	NIL			
10	12:50	NIL			

03/10/2018 Sectional Analysis/Totals:

Species	Caste	1	2	3	4	5	6	7	8	9	10	Total
B.pascuorum (Common Carder)	W		1									1
Totals for Bombus:	1		1									1
Number of Bombus species confirmed:	1											
Apis mellifera (Honey Bee):	NIL											NIL
Totals for Apis Mellifera:	NIL											

Date: 17/10/2018	Start Time: 11:00	Finish Time: 11:43	Temp (°C): 14.5°C
Recorders: CHS, LB, CC	Average wind speed: 1	Weather: Cloudy	
NOTES: Dampness in air.			

Section	Ended	Species	Caste	Nos.	Flowers / Comments
1	11:05	NIL			
2	11:09	NIL			
3	11:12	NIL			
4	11:16	NIL			
5	11:20	NIL			
6	11:26	B.species unknown	?	1	In flight.
7	11:30	NIL			
8	11:33	NIL			
9	11:37	NIL			
10	11:43	NIL			

17/10/2018 Sectional Analysis/Totals:

Species	Caste	1	2	3	4	5	6	7	8	9	10	Total
B. species unknown.	?						1					1
Totals for Bombus:	1						1					1
Number of Bombus species confirmed:	NIL											NIL
Apis mellifera (Honey Bee):	NIL											NIL
Totals for Apis Mellifera:	NIL											

Date: 31/10/2018	Start Time: 11:05	Finish Time: 12:18	Temp (°C):11°C
Recorders: CC	Average wind speed: 3	Weather: Sunny/Cloudy	
NOTES: Few flowers; Edge of hedgerow trimmed 1-1.5m in S1-5 & 10; + brambles in S5/6.			

Section	Ended	Species	Caste	Nos.	Flowers / Comments
1	11:17	NIL			
2	11:28	NIL			
3	11:34	NIL			
4	11:41	NIL			
5	11:47	NIL			
6	11:56	NIL			
7	12:01	NIL			
8	12:06	NIL			
9	12:12	NIL			
10	12:18	NIL			

31/10/2018 Sectional Analysis/Totals:

Species	Caste	1	2	3	4	5	6	7	8	9	10	Total
Totals for Bombus:	NIL											NIL
Number of Bombus species confirmed:	NIL											NIL
Apis mellifera (Honey Bee): NIL	NIL											NIL
Totals for Apis Mellifera: NIL	NIL											

(END OF BBCT BEE WALK OBSERVATIONS FOR SEASON).

APPENDIX 3:

NORTHFIELD DA3 8EX RESULTS BY SECTIONS

APPENDIX 3:

MEOPHAM U3A BEE WATCH GROUP. NORTHFIELD DA38EX. RESULTS BY SECTIONS.

SECTION 1	Dates>	04-Apr	18-Apr	03-May	16-May	30-May	06-Jun	27-Jun	11-Jul	25-Jul	08-Aug	22-Aug	05-Sep	09-Sep	19-Sep	03-Oct	17-Oct	31-Oct		
Wind Speed (Beaufort Scale) >>>		3	2	1	4	1	1	3	2		3	3	3	3	6	1	1	3		
Temperature (°C)>>>		13	17	15	15	16	21	21	18	30	22	17	14	21	21	15	14	11		
Weather: (S=Sunny, C=Cloudy) >>>		S/C	S	S	C	C	S	S	S/C	S	S	C	C	S	C	C	C	S/C		
SPECIES	CASTE	(Key to Castes: Q=Queen, W = Worker, M = Male, ? = Unknown).								Species found (not counting Lucorum/Terrestris Workers) =								6		
B.hortorum (Garden Bumblebee)	Q																			
	W																			
	M																			
	?																			
B.hypnorum (Tree Bumblebee)	Q						1												1	
	W						9												9	
	M																			
	?																			10
B.lapidarius (Red Tailed)	Q																			
	W					7	1												8	
	M																			
	?																			8
B.lucorum (White Tailed)	Q						2												2	
	W																			
	M																			
	?																			2
B.pascuorum (Common Carder)	Q																			
	W					1	2	1			1			2	3				10	
	M																			
	?																			10
B.pratorum (Early Bumblebee)	Q																			
	W						3												3	
	M																			
	?																			3
B.terrestris (Buff Tailed)	Q	2		1			1												4	
	W						4												4	
	M																			
	?																			8

SECTION 1 (Continued)	Dates>	04-Apr	18-Apr	03-May	16-May	30-May	06-Jun	27-Jun	11-Jul	25-Jul	08-Aug	22-Aug	05-Sep	09-Sep	19-Sep	03-Oct	17-Oct	31-Oct		
Wind Speed (Beaufort Scale) >>>		3	2	1	4	1	1	3	2		3	3	3	3	6	1	1	3		
Temperature (°C)>>>		13	17	15	15	16	21	21	18	30	22	17	14	21	21	15	14	11		
Weather: (S=Sunny, C=Cloudy) >>>		S/C	S	S	C	C	S	S	S/C	S	S	C	C	S	C	C	C	S/C		
SPECIES	CASTE	(Key to Castes: Q=Queen, W = Worker, M = Male, ? = Unknown).																		
B.soroensis (Broken Belted)	Q																			
	W						1												1	
	M																			
	?																			1
B.lucorum/terrestris workers.	W					3													3	3
B.rupestris (Hill Cuckoo Bumblebee)	F																			
	M																			
B.vestalis (Southern Cuckoo Bumblebee)	F																			
	M																			
No of Identified Bombus		2		1		11	24	1			1			2	3				45	
No of Unidentified Bombus	?		1	1		2	1		1						1				7	
Total Bombus Seen		2	1	2		13	25	1	1		1			2	4				52	
Apis Mellifera (Honey Bee)	Q																			
	W					3			2										5	
	M																			
	?																			
Apis Mellifera Totals						3			2										5	

SECTION 2	Dates>	04-Apr	18-Apr	03-May	16-May	30-May	06-Jun	27-Jun	11-Jul	25-Jul	08-Aug	22-Aug	05-Sep	09-Sep	19-Sep	03-Oct	17-Oct	31-Oct		
Wind Speed (Beaufort Scale) >>>		3	2	1	4	1	1	3	2		3	3	3	3	6	1	1	3		
Temperature (°C)>>>		13	17	15	15	16	21	21	18	30	22	17	14	21	21	15	14	11		
Weather: (S=Sunny, C=Cloudy) >>>		S/C	S	S	C	C	S	S	S/C	S	S	C	C	S	C	C	C	S/C		
	CASTE	(Key to Castes: Q=Queen, W = Worker, M = Male, ? = Unknown).																Species found (not counting Lucorum/Terrestris Workers) =	7	
B.hortorum (Garden Bumblebee)	Q																			
	W							1											1	
	M																			
	?																			1
B.hypnorum (Tree Bumblebee)	Q								1										1	
	W						7	1	3										11	
	M																			
	?																			12
B.lapidarius (Red Tailed)	Q																			
	W					1	6	2											9	
	M																			
	?																			9
B.lucorum (White Tailed)	Q																			
	W																			
	M																			
	?																			
B.pascuorum (Common Carder)	Q										1								1	
	W						1									1			2	
	M																			
	?																			3
B.pratorum (Early Bumblebee)	Q																			
	W						2												2	
	M																			
	?																			2
B.terrestris (Buff Tailed)	Q						1												1	
	W																			
	M																			
	?	1																	1	2

SECTION 2 (Continued)	Dates>	04-Apr	18-Apr	03-May	16-May	30-May	06-Jun	27-Jun	11-Jul	25-Jul	08-Aug	22-Aug	05-Sep	09-Sep	19-Sep	03-Oct	17-Oct	31-Oct		
Wind Speed (Beaufort Scale) >>>		3	2	1	4	1	1	3	2		3	3	3	3	6	1	1	3		
Temperature (°C)>>>		13	17	15	15	16	21	21	18	30	22	17	14	21	21	15	14	11		
Weather: (S=Sunny, C=Cloudy) >>>		S/C	S	S	C	C	S	S	S/C	S	S	C	C	S	C	C	C	S/C		
SPECIES	CASTE	(Key to Castes: Q=Queen, W = Worker, M = Male, ? = Unknown).																		
B.soroensis (Broken Belted)	Q																			
	W																			
	M																			
	?																			
B.lucorum/terrestris workers.	W					3	1	1											5	5
B.rupestris (Hill Cuckoo Bumblebee)	F																			
	M																			
B.vestalis (Southern Cuckoo Bumblebee)	F		1																1	
	M																			1
No of Identified Bombus		1	1			4	18	5	4		1					1			35	
No of Unidentified Bombus	?		2	1		1	5	2											11	
Total Bombus Seen		1	3	1		5	23	7	4		1					1			46	
Apis Mellifera (Honey Bee)	Q																			
	W			5			2												7	
	M																			
	?																			
Apis Mellifera Totals				5			2												7	

SECTION 3	Dates>	04-Apr	18-Apr	03-May	16-May	30-May	06-Jun	27-Jun	11-Jul	25-Jul	08-Aug	22-Aug	05-Sep	09-Sep	19-Sep	03-Oct	17-Oct	31-Oct		
Wind Speed (Beaufort Scale) >>>		3	2	1	4	1	1	3	2		3	3	3	3	6	1	1	3		
Temperature (°C)>>>		13	17	15	15	16	21	21	18	30	22	17	14	21	21	15	14	11		
Weather: (S=Sunny, C=Cloudy) >>>		S/C	S	S	C	C	S	S	S/C	S	S	C	C	S	C	C	C	S/C		
SPECIES	CASTE	(Key to Castes: Q=Queen, W = Worker, M = Male, ? = Unknown).								Species found (not counting Lucorum/Terrestris Workers) =								2		
B.hortorum (Garden Bumblebee)	Q																			
	W																			
	M																			
	?																			
B.hypnorum (Tree Bumblebee)	Q																			
	W																			
	M																			
	?																			
B.lapidarius (Red Tailed)	Q																			
	W						3												3	
	M																			
	?																			3
B.lucorum (White Tailed)	Q																			
	W																			
	M																			
	?																			
B.pascuorum (Common Carder)	Q																			
	W														1				1	
	M																			
	?					3													3	4
B.pratorum (Early Bumblebee)	Q																			
	W																			
	M																			
	?																			
B.terrestris (Buff Tailed)	Q																			
	W																			
	M																			
	?																			

SECTION 3 (Continued)	Dates>	04-Apr	18-Apr	03-May	16-May	30-May	06-Jun	27-Jun	11-Jul	25-Jul	08-Aug	22-Aug	05-Sep	09-Sep	19-Sep	03-Oct	17-Oct	31-Oct		
Wind Speed (Beaufort Scale) >>>		3	2	1	4	1	1	3	2		3	3	3	3	6	1	1	3		
Temperature (°C)>>>		13	17	15	15	16	21	21	18	30	22	17	14	21	21	15	14	11		
Weather: (S=Sunny, C=Cloudy) >>>		S/C	S	S	C	C	S	S	S/C	S	S	C	C	S	C	C	C	S/C		
SPECIES	CASTE	(Key to Castes: Q=Queen, W = Worker, M = Male, ? = Unknown).																		
B.soroensis (Broken Belted)	Q																			
	W																			
	M																			
	?																			
B.lucorum/terrestris workers.	W																			
B.rupestris (Hill Cuckoo Bumblebee)	F																			
	M																			
B.vestalis (Southern Cuckoo Bumblebee)	F																			
	M																			
No of Identified Bombus						3	3								1				7	
No of Unidentified Bombus	?	1				4	2												7	
Total Bombus Seen		1				7	5								1				14	
Apis Mellifera (Honey Bee)	Q																			
	W			2			1												3	
	M																			
	?																			
Apis Mellifera Totals				2			1												3	

SECTION 4	Dates>	04-Apr	18-Apr	03-May	16-May	30-May	06-Jun	27-Jun	11-Jul	25-Jul	08-Aug	22-Aug	05-Sep	09-Sep	19-Sep	03-Oct	17-Oct	31-Oct		
Wind Speed (Beaufort Scale) >>>		3	2	1	4	1	1	3	2		3	3	3	3	6	1	1	3		
Temperature (°C)>>>		13	17	15	15	16	21	21	18	30	22	17	14	21	21	15	14	11		
Weather: (S=Sunny, C=Cloudy) >>>		S/C	S	S	C	C	S	S	S/C	S	S	C	C	S	C	C	C	S/C		
SPECIES	CASTE	(Key to Castes: Q=Queen, W = Worker, M = Male, ? = Unknown).										Species found (not counting Lucorum/Terrestris Workers) =						5		
B.hortorum (Garden Bumblebee)	Q																			
	W								1										1	
	M																			
	?																			1
B.hypnorum (Tree Bumblebee)	Q																			
	W																			
	M																			
	?																			
B.lapidarius (Red Tailed)	Q										1								1	
	W						1				11								12	
	M																			
	?																			13
B.lucorum (White Tailed)	Q																			
	W																			
	M																			
	?																			
B.pascuorum (Common Carder)	Q																			
	W					2			1										3	
	M																			
	?																			3
B.pratorum (Early Bumblebee)	Q																			
	W																			
	M																			
	?																			
B.terrestris (Buff Tailed)	Q			1							1								2	
	W								1	1	5								7	
	M																			
	?																			9

SECTION 4 (Continued)	Dates>	04-Apr	18-Apr	03-May	16-May	30-May	06-Jun	27-Jun	11-Jul	25-Jul	08-Aug	22-Aug	05-Sep	09-Sep	19-Sep	03-Oct	17-Oct	31-Oct		
Wind Speed (Beaufort Scale) >>>		3	2	1	4	1	1	3	2		3	3	3	3	6	1	1	3		
Temperature (°C)>>>		13	17	15	15	16	21	21	18	30	22	17	14	21	21	15	14	11		
Weather: (S=Sunny, C=Cloudy) >>>		S/C	S	S	C	C	S	S	S/C	S	S	C	C	S	C	C	C	S/C		
SPECIES	CASTE	(Key to Castes: Q=Queen, W = Worker, M = Male, ? = Unknown).																		
B.soroensis (Broken Belted)	Q																			
	W																			
	M																			
	?																			
B.lucorum/terrestris workers.	W						3				3								6	6
B.rupestris (Hill Cuckoo Bumblebee)	F																			
	M										1								1	1
B.vestalis (Southern Cuckoo Bumblebee)	F																			
	M																			
No of Identified Bombus				1		2	4		3	1	22								33	
No of Unidentified Bombus	?		2			1				1									4	
Total Bombus Seen			2	1		3	4		3	2	22								37	
Apis Mellifera (Honey Bee)	Q																			
	W							1			1								2	
	M																			
	?																			
Apis Mellifera Totals								1			1								2	

SECTION 5	Dates>	04-Apr	18-Apr	03-May	16-May	30-May	06-Jun	27-Jun	11-Jul	25-Jul	08-Aug	22-Aug	05-Sep	09-Sep	19-Sep	03-Oct	17-Oct	31-Oct		
Wind Speed (Beaufort Scale) >>>		3	2	1	4	1	1	3	2		3	3	3	3	6	1	1	3		
Temperature (°C)>>>		13	17	15	15	16	21	21	18	30	22	17	14	21	21	15	14	11		
Weather: (S=Sunny, C=Cloudy) >>>		S/C	S	S	C	C	S	S	S/C	S	S	C	C	S	C	C	C	S/C		
SPECIES	CASTE	(Key to Castes: Q=Queen, W = Worker, M = Male, ? = Unknown).								Species found (not counting Lucorum/Terrestris Workers) =								5		
B.hortorum (Garden Bumblebee)	Q																			
	W																			
	M																			
	?																			
B.hypnorum (Tree Bumblebee)	Q																			
	W						14												14	
	M																			
	?																			14
B.lapidarius (Red Tailed)	Q			1															1	
	W					1	16												17	
	M																			
	?																			18
B.lucorum (White Tailed)	Q																			
	W					3													3	
	M																			
	?																			3
B.pascuorum (Common Carder)	Q																			
	W					2													2	
	M																			
	?																			2
B.pratorum (Early Bumblebee)	Q																			
	W																			
	M																			
	?																			
B.terrestris (Buff Tailed)	Q																			
	W								1										1	
	M																			
	?																			1

SECTION 5 (Continued)	Dates>	04-Apr	18-Apr	03-May	16-May	30-May	06-Jun	27-Jun	11-Jul	25-Jul	08-Aug	22-Aug	05-Sep	09-Sep	19-Sep	03-Oct	17-Oct	31-Oct		
Wind Speed (Beaufort Scale) >>>		3	2	1	4	1	1	3	2		3	3	3	3	6	1	1	3		
Temperature (°C)>>>		13	17	15	15	16	21	21	18	30	22	17	14	21	21	15	14	11		
Weather: (S=Sunny, C=Cloudy) >>>		S/C	S	S	C	C	S	S	S/C	S	S	C	C	S	C	C	C	S/C		
SPECIES	CASTE	(Key to Castes: Q=Queen, W = Worker, M = Male, ? = Unknown).																		
B.soroensis (Broken Belted)	Q																			
	W																			
	M																			
	?																			
B.lucorum/terrestris workers.	W					1	21												22	22
B.rupestris (Hill Cuckoo Bumblebee)	F																			
	M																			
B.vestalis (Southern Cuckoo Bumblebee)	F																			
	M																			
No of Identified Bombus				1		7	51		1										60	
No of Unidentified Bombus	?	1	1			3	14	1	1										21	
Total Bombus Seen		1	1	1		10	65	1	2										81	
Apis Mellifera (Honey Bee)	Q																			
	W																			
	M																			
	?																			
Apis Mellifera Totals																				

SECTION 6	Dates>	04-Apr	18-Apr	03-May	16-May	30-May	06-Jun	27-Jun	11-Jul	25-Jul	08-Aug	22-Aug	05-Sep	09-Sep	19-Sep	03-Oct	17-Oct	31-Oct		
Wind Speed (Beaufort Scale) >>>		3	2	1	4	1	1	3	2		3	3	3	3	6	1	1	3		
Temperature (°C)>>>		13	17	15	15	16	21	21	18	30	22	17	14	21	21	15	14	11		
Weather: (S=Sunny, C=Cloudy) >>>		S/C	S	S	C	C	S	S	S/C	S	S	C	C	S	C	C	C	S/C		
SPECIES	CASTE	(Key to Castes: Q=Queen, W = Worker, M = Male, ? = Unknown).								Species found (not counting Lucorum/Terrestris Workers) =								6		
B.hortorum (Garden Bumblebee)	Q																			
	W																			
	M																			
	?																			
B.hypnorum (Tree Bumblebee)	Q																			
	W						9												9	
	M																			
	?																			9
B.lapidarius (Red Tailed)	Q		1	1		1													3	
	W					9	14	1											24	
	M																			
	?																			27
B.lucorum (White Tailed)	Q					1	2												3	
	W						1												1	
	M																			
	?																			4
B.pascuorum (Common Carder)	Q																			
	W					1	3							1					5	
	M																			
	?																			5
B.pratorum (Early Bumblebee)	Q																			
	W																			
	M																			
	?																			
B.terrestris (Buff Tailed)	Q					1													1	
	W																			
	M																			
	?																			1

SECTION 6 (Continued)	Dates>	04-Apr	18-Apr	03-May	16-May	30-May	06-Jun	27-Jun	11-Jul	25-Jul	08-Aug	22-Aug	05-Sep	09-Sep	19-Sep	03-Oct	17-Oct	31-Oct		
Wind Speed (Beaufort Scale) >>>		3	2	1	4	1	1	3	2		3	3	3	3	6	1	1	3		
Temperature (°C)>>>		13	17	15	15	16	21	21	18	30	22	17	14	21	21	15	14	11		
Weather: (S=Sunny, C=Cloudy) >>>		S/C	S	S	C	C	S	S	S/C	S	S	C	C	S	C	C	C	S/C		
SPECIES	CASTE	(Key to Castes: Q=Queen, W = Worker, M = Male, ? = Unknown).																		
B.soroensis (Broken Belted)	Q																			
	W					1													1	
	M																			
	?																			1
B.lucorum/terrestris workers.	W					5	8												13	13
B.rupestris (Hill Cuckoo Bumblebee)	F																			
	M																			
B.vestalis (Southern Cuckoo Bumblebee)	F																			
	M																			
No of Identified Bombus			1	1		19	37	1						1					60	
No of Unidentified Bombus	?		3	1		10	6	1									1		22	
Total Bombus Seen			4	2		29	43	2						1			1		82	
Apis Mellifera (Honey Bee)	Q																			
	W			4		5	4												13	
	M																			
	?																			
Apis Mellifera Totals				4		5	4												13	

SECTION 7	Dates>	04-Apr	18-Apr	03-May	16-May	30-May	06-Jun	27-Jun	11-Jul	25-Jul	08-Aug	22-Aug	05-Sep	09-Sep	19-Sep	03-Oct	17-Oct	31-Oct		
Wind Speed (Beaufort Scale) >>>		3	2	1	4	1	1	3	2		3	3	3	3	6	1	1	3		
Temperature (°C)>>>		13	17	15	15	16	21	21	18	30	22	17	14	21	21	15	14	11		
Weather: (S=Sunny, C=Cloudy) >>>		S/C	S	S	C	C	S	S	S/C	S	S	C	C	S	C	C	C	S/C		
SPECIES	CASTE	(Key to Castes: Q=Queen, W = Worker, M = Male, ? = Unknown).								Species found (not counting Lucorum/Terrestris Workers) =								6		
B.hortorum (Garden Bumblebee)	Q																			
	W																			
	M																			
	?																			
B.hypnorum (Tree Bumblebee)	Q																			
	W							9	3										12	
	M																			
	?																			12
B.lapidarius (Red Tailed)	Q																			
	W						1			1									2	
	M									2									2	
	?																			4
B.lucorum (White Tailed)	Q								1										1	
	W					2			5	1									8	
	M																			
	?								1										1	10
B.pascuorum (Common Carder)	Q		1																1	
	W						1	1	4	2	1								9	
	M																			
	?																			10
B.pratorum (Early Bumblebee)	Q																			
	W																			
	M																			
	?																			
B.terrestris (Buff Tailed)	Q																			
	W								2	1									3	
	M																			
	?																			3

SECTION 7 (Continued)	Dates>	04-Apr	18-Apr	03-May	16-May	30-May	06-Jun	27-Jun	11-Jul	25-Jul	08-Aug	22-Aug	05-Sep	09-Sep	19-Sep	03-Oct	17-Oct	31-Oct		
Wind Speed (Beaufort Scale) >>>		3	2	1	4	1	1	3	2		3	3	3	3	6	1	1	3		
Temperature (°C)>>>		13	17	15	15	16	21	21	18	30	22	17	14	21	21	15	14	11		
Weather: (S=Sunny, C=Cloudy) >>>		S/C	S	S	C	C	S	S	S/C	S	S	C	C	S	C	C	C	S/C		
SPECIES	CASTE	(Key to Castes: Q=Queen, W = Worker, M = Male, ? = Unknown).																		
B.soroensis (Broken Belted)	Q																			
	W																			
	M																			
	?																			
B.lucorum/terrestris workers.	W					1		5	4										10	10
B.rupestris (Hill Cuckoo Bumblebee)	F																			
	M																			
B.vestalis (Southern Cuckoo Bumblebee)	F								1										1	
	M																			1
No of Identified Bombus			1			3	2	15	21	7	1								50	
No of Unidentified Bombus	?		1		1	1		3	1	1									8	
Total Bombus Seen			2		1	4	2	18	22	8	1								58	
Apis Mellifera (Honey Bee)	Q																			
	W			1			1	10											12	
	M																			
	?																			
Apis Mellifera Totals				1			1	10											12	

SECTION 8	Dates>	04-Apr	18-Apr	03-May	16-May	30-May	06-Jun	27-Jun	11-Jul	25-Jul	08-Aug	22-Aug	05-Sep	09-Sep	19-Sep	03-Oct	17-Oct	31-Oct		
Wind Speed (Beaufort Scale) >>>		3	2	1	4	1	1	3	2		3	3	3	3	6	1	1	3		
Temperature (°C)>>>		13	17	15	15	16	21	21	18	30	22	17	14	21	21	15	14	11		
Weather: (S=Sunny, C=Cloudy) >>>		S/C	S	S	C	C	S	S	S/C	S	S	C	C	S	C	C	C	S/C		
SPECIES	CASTE	(Key to Castes: Q=Queen, W = Worker, M = Male, ? = Unknown).								Species found (not counting Lucorum/Terrestris Workers) =								7		
B.hortorum (Garden Bumblebee)	Q																			
	W																			
	M																			
	?																			
B.hypnorum (Tree Bumblebee)	Q																			
	W							1											1	
	M																			
	?																			1
B.lapidarius (Red Tailed)	Q		1																1	
	W							4	13	1									18	
	M								3										3	
	?																			22
B.lucorum (White Tailed)	Q																			
	W								1										1	
	M																			
	?																			1
B.pascuorum (Common Carder)	Q																			
	W							5											5	
	M																			
	?																			5
B.pratorum (Early Bumblebee)	Q																			
	W						1												1	
	M																			
	?																			1
B.terrestris (Buff Tailed)	Q																			
	W																			
	M																			
	?																			

SECTION 8 (Continued)	Dates>	04-Apr	18-Apr	03-May	16-May	30-May	06-Jun	27-Jun	11-Jul	25-Jul	08-Aug	22-Aug	05-Sep	09-Sep	19-Sep	03-Oct	17-Oct	31-Oct		
Wind Speed (Beaufort Scale) >>>		3	2	1	4	1	1	3	2		3	3	3	3	6	1	1	3		
Temperature (°C)>>>		13	17	15	15	16	21	21	18	30	22	17	14	21	21	15	14	11		
Weather: (S=Sunny, C=Cloudy) >>>		S/C	S	S	C	C	S	S	S/C	S	S	C	C	S	C	C	C	S/C		
SPECIES	CASTE	(Key to Castes: Q=Queen, W = Worker, M = Male, ? = Unknown).																		
B.soroensis (Broken Belted)	Q																			
	W																			
	M																			
	?																			
B.lucorum/terrestris workers.	W							1	4										5	5
B.rupestris (Hill Cuckoo Bumblebee)	F								1										1	
	M																			1
B.vestalis (Southern Cuckoo Bumblebee)	F							1											1	
	M																			1
No of Identified Bombus			1				1	12	22	1									37	
No of Unidentified Bombus	?					1	1	8											10	
Total Bombus Seen			1			1	2	20	22	1									47	
Apis Mellifera (Honey Bee)	Q																			
	W			2				12	1										15	
	M																			
	?																			
Apis Mellifera Totals				2				12	1										15	

SECTION 9	Dates>	04-Apr	18-Apr	03-May	16-May	30-May	06-Jun	27-Jun	11-Jul	25-Jul	08-Aug	22-Aug	05-Sep	09-Sep	19-Sep	03-Oct	17-Oct	31-Oct		
Wind Speed (Beaufort Scale) >>>		3	2	1	4	1	1	3	2		3	3	3	3	6	1	1	3		
Temperature (°C)>>>		13	17	15	15	16	21	21	18	30	22	17	14	21	21	15	14	11		
Weather: (S=Sunny, C=Cloudy) >>>		S/C	S	S	C	C	S	S	S/C	S	S	C	C	S	C	C	C	S/C		
SPECIES	CASTE	(Key to Castes: Q=Queen, W = Worker, M = Male, ? = Unknown).								Species found (not counting Lucorum/Terrestris Workers) =								2		
B.hortorum (Garden Bumblebee)	Q																			
	W																			
	M																			
	?																			
B.hypnorum (Tree Bumblebee)	Q																			
	W																			
	M																			
	?																			
B.lapidarius (Red Tailed)	Q																			
	W						4	6	3										13	
	M																			
	?																			13
B.lucorum (White Tailed)	Q																			
	W																			
	M																			
	?																			
B.pascuorum (Common Carder)	Q																			
	W						1		1	1									3	
	M																			
	?																			3
B.pratorum (Early Bumblebee)	Q																			
	W																			
	M																			
	?																			
B.terrestris (Buff Tailed)	Q																			
	W																			
	M																			
	?																			

SECTION 9 (Continued)	Dates>	04-Apr	18-Apr	03-May	16-May	30-May	06-Jun	27-Jun	11-Jul	25-Jul	08-Aug	22-Aug	05-Sep	09-Sep	19-Sep	03-Oct	17-Oct	31-Oct		
Wind Speed (Beaufort Scale) >>>		3	2	1	4	1	1	3	2		3	3	3	3	6	1	1	3		
Temperature (°C)>>>		13	17	15	15	16	21	21	18	30	22	17	14	21	21	15	14	11		
Weather: (S=Sunny, C=Cloudy) >>>		S/C	S	S	C	C	S	S	S/C	S	S	C	C	S	C	C	C	S/C		
SPECIES	CASTE	(Key to Castes: Q=Queen, W = Worker, M = Male, ? = Unknown).																		
B.soroensis (Broken Belted)	Q																			
	W																			
	M																			
	?																			
B.lucorum/terrestris workers.	W					3													3	3
B.rupestris (Hill Cuckoo Bumblebee)	F																			
	M																			
B.vestalis (Southern Cuckoo Bumblebee)	F																			
	M																			
No of Identified Bombus						3	5	6	4	1									19	
No of Unidentified Bombus	?	1				1	1		2										5	
Total Bombus Seen		1				4	6	6	6	1									24	
Apis Mellifera (Honey Bee)	Q																			
	W			1	4		2												7	
	M																			
	?																			
Apis Mellifera Totals				1	4		2												7	

SECTION 10	Dates>	04-Apr	18-Apr	03-May	16-May	30-May	06-Jun	27-Jun	11-Jul	25-Jul	08-Aug	22-Aug	05-Sep	09-Sep	19-Sep	03-Oct	17-Oct	31-Oct		
Wind Speed (Beaufort Scale) >>>		3	2	1	4	1	1	3	2		3	3	3	3	6	1	1	3		
Temperature (°C)>>>		13	17	15	15	16	21	21	18	30	22	17	14	21	21	15	14	11		
Weather: (S=Sunny, C=Cloudy) >>>		S/C	S	S	C	C	S	S	S/C	S	S	C	C	S	C	C	C	S/C		
SPECIES	CASTE	(Key to Castes: Q=Queen, W = Worker, M = Male, ? = Unknown).								Species found (not counting Lucorum/Terrestris Workers) =								4		
B.hortorum (Garden Bumblebee)	Q																			
	W																			
	M																			
	?																			
B.hypnorum (Tree Bumblebee)	Q																			
	W								1										1	
	M																			
	?																			1
B.lapidarius (Red Tailed)	Q		1																1	
	W					3		1	1										5	
	M																			
	?																			6
B.lucorum (White Tailed)	Q																			
	W																			
	M																			
	?																			
B.pascuorum (Common Carder)	Q																			
	W					1	1								1				3	
	M																			
	?																			3
B.pratorum (Early Bumblebee)	Q																			
	W																			
	M																			
	?																			
B.terrestris (Buff Tailed)	Q	1	1																2	
	W																			
	M																			
	?																			2

SECTION 10 (Continued)	Dates>	04-Apr	18-Apr	03-May	16-May	30-May	06-Jun	27-Jun	11-Jul	25-Jul	08-Aug	22-Aug	05-Sep	09-Sep	19-Sep	03-Oct	17-Oct	31-Oct		
Wind Speed (Beaufort Scale) >>>		3	2	1	4	1	1	3	2		3	3	3	3	6	1	1	3		
Temperature (°C)>>>		13	17	15	15	16	21	21	18	30	22	17	14	21	21	15	14	11		
Weather: (S=Sunny, C=Cloudy) >>>		S/C	S	S	C	C	S	S	S/C	S	S	C	C	S	C	C	C	S/C		
SPECIES	CASTE	(Key to Castes: Q=Queen, W = Worker, M = Male, ? = Unknown).																		
B.soroensis (Broken Belted)	Q																			
	W																			
	M																			
	?																			
B.lucorum/terrestris workers.	W					1			1										2	2
B.rupestris (Hill Cuckoo Bumblebee)	F																			
	M																			
B.vestalis (Southern Cuckoo Bumblebee)	F																			
	M																			
No of Identified Bombus		1	2			5	1	1	3						1				14	
No of Unidentified Bombus	?		1			1			1										3	
Total Bombus Seen		1	3			6	1	1	4						1				17	
Apis Mellifera (Honey Bee)	Q																			
	W		2	9			1	4							6				22	
	M																			
	?																			
Apis Mellifera Totals			2	9			1	4							6				22	