ENTOMOLOGICAL SURVEY AND MONITORING AT CASTLE COVE, ISLE OF WIGHT, 2014.

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INTRODUCTION.

Following coastal protection works in 1996, which included the clearing of vegetation from the coastal slope to the North of Castle Cove, Isle of Wight, this soft rock slope was allowed to regenerate naturally. The resultant habitat is rough coastal grassland with a bare ground element. The site is split into two sections which are separated by a tarmac path. The western section is considerably larger than the eastern section.

A baseline survey was carried out in 2003, and further survey and monitoring was undertaken in 2004, 2005, 2006, 2007, 2010, 2011, 2012 and 2013. The Castle Cove site was again surveyed during 2014, and changes in vegetation composition and the amounts of available bare ground were monitored. As in previous surveys, counts were made of certain target insect species in order to assess changes in population densities, and the number of nesting holes for certain species of ground nesting Hymenoptera were counted in order to monitor any changes.

METHODS.

Survey methods were confined to visual searching, the use of a hand net or pooter to capture individual species, sweeping vegetation, beating foliage and grubbing. The site was visited throughout the main insect flight period of 2014, commencing on 9th April and with the final visit on 4th September. All visits were made in suitable weather.

RESULTS.

CHANGES IN VEGETATION.

During survey in 2006 and 2007 dominant plant species included common bird's - foot trefoil *Lotus corniculatus*, common fleabane *Pulicaria dysenterica*, ox - eye daisy *Leucanthemum vulgare*, teasel *Dipsacus fullonum*, wild carrot *Daucus carota* and ribwort plantain *Plantago lanceolata*. The northern margin of the site is comprised of scrub and scrubby woodland with some bramble *Rubus fruticosus* agg. and buddleja *Buddleja davidii* . The main tree species was sycamore *Acer pseudoplatanus*.

During 2013, the following changes in the character of the vegetation were noted :

Eastern Section.

Very little common bird's – foot trefoil remains on the plateau. Giant horsetail *Equisetum telmetela* continues to spread, and has now reached the lower sections of the site. Bracken *Pteridium aquilinum* and bramble are encroaching further on to the site. Quantities of ox – eye daisy were comparable to last year. The vegetation is becoming increasingly rank. Five plants of stinking iris *Iris foetidissima* were noted close to the gabions. Quantities of privet *Ligustrum vulgare* are increasing. Small quantities of common fleabane were present. Ragwort *Senecio jacobae* appeared to be less abundant than in 2012. Amounts of prickly sow – thistle *Sonchus asper* are increasing.

Western Section.

Common bird's – foot trefoil remains well established in the eastern and central areas of the compartment, but is slowly declining. The grassland is continuing to become progressively rank, and giant horsetail is becoming well established in the North of the compartment. The amounts of alexanders *Smyrnium olusatrum* are similar to those noted in the previous season. Meadow vetchling *Lathyrus pratensis* is increasing in the North – west of the site. Ox – eye daisy remains fairly abundant. Red clover *Trifolium pratense* is well established in places in the North of the compartment. Small yellow composites are well established on the lower slopes. Wild carrot remains plentiful, and teasel is increasing in abundance.

The following changes in the vegetation were noted in 2014 :

Eastern Section.

Giant horsetail continues to encroach onto the lower part of the site, and bracken and bramble are becoming more widespread. Only small amounts of common bird's – foot trefoil remain. Ox – eye daisy is less frequent than in previous years. An increase in the abundance of common fleabane is noted. The amounts of stinking iris present by the gabions remains unchanged.

Western Section.
The quantities of common bird's – foot trefoil in the eastern and central areas of the compartment remain similar to those noted in 2013. The amounts of alexanders present are roughly the same as in the previous year. Ox – eye daisy remains fairly abundant. The sward height has continued to increase over much of the site. Rock rose *Helianthemum spp*. is declining in frequency. Small yellow composites remain abundant on the lower slopes, particularly in the middle of the site. Increases in the amounts of common fleabane, prickly sow – thistle and teasel present are noted. Marjoram *Origanum vulgare* is becoming more abundant.

INVERTEBRATE SURVEY.

A full list of all insect species recorded during the course of survey in 2014 is appended as **Appendix 1**. A number of the species encountered are considered to be Nationally Scarce or Red Data Book species. These are marked as such within **Appendix 1** and are discussed in more detail below. Additionally, some of the species found are included in the National Biodiversity Action Plan (BAP) or Isle of Wight BAP species listings. Again, these are clearly marked in **Appendix 1**.

The status category definitions and criteria for individual species are those devised by the JNCC and are as follows:

STATUS CATEGORY DEFINITIONS AND CRITERIA.

RDB 1 - Endangered.
Taxa in danger of extinction and whose survival is unlikely if causal factors continue operating.

Species which are known or believed to occur as only a single population within one 10km square of the National Grid.
Species which only occur in habitats known to be particularly vulnerable
Species which have shown a rapid or continuous decline over the last twenty years and are now estimated to exist in five or fewer 10km squares.
Species which are possibly extinct but have been recorded in the 20th century and if rediscovered would need protection.

RDB 2 - Vulnerable.
Taxa believed likely to move into the endangered category in the near future if the causal factors continue operating.

Species declining throughout their range.
Species in vulnerable habitats.

RDB 3 - Rare.
Taxa with small populations that are not at present Endangered or Vulnerable, but are at risk

Species which are estimated to exist in only fifteen or fewer post 1970 10km squares. This criterion may be relaxed where populations are likely to exist in over fifteen 10km squares but occupy small areas of especially vulnerable habitat.

Nationally Scarce (Na).
Taxa which do not fall within the RDB categories but which are none - the - less uncommon in Great Britain and thought to occur in 30 or fewer 10km squares of the National Grid.

Nationally Scarce (Nb).
Taxa which do not fall within the RDB categories but which are none - the - less uncommon and thought to occur in between 31 and 100 10km squares of the national Grid.

Nationally Scarce (N).
Species which are estimated to occur within the range of 16 to 100 10km squares.

ORTHOPTERA.

The long-winged conehead *Conocephalus discolor* **Nationally Scarce Na.**
This species was recorded whilst sweeping in the eastern compartment on 19th August and 4th September. Perhaps surprisingly, this was the first time that the long – winged conehead has been recorded during the Castle Cove surveys since 2007.The long – winged conehead is associated with coarse grassland habitats. *Conocephalus discolor* was formerly very scarce in Britain, being confined to just a handful of counties in south-east England, but it has spread rapidly to the north and west of its former range during the last two decades, and is now present in southern England, East Anglia, the Midlands and South Wales. In light of this range expansion, its current Nationally Scarce status needs to be down-graded as it is now considered a common insect. The long – winged conehead is regularly recorded on the Isle of Wight.

DICTYOPTERA.
The tawny cockroach *Ectobius pallidus* **Nationally Scarce Nb. IOW BAP.**
A single nymph was found using a suction sampler in the eastern compartment on 4th September. *Ectobius pallidus* has a two – year life history, and is an omnivorous species. It is found in a wider variety of habitats than the other two native cockroach species, and has been recorded from coastal cliffs and chalk grassland on the Isle of Wight. The tawny cockroach is more nocturnal than the other two native species, which may be part of the reason that it has not previously been recorded during the Castle Cove surveys.

LEPIDOPTERA.
The Wall *Lasiommata megera* **UK BAP.**
Two specimens were noted in the western section of the site on 30th April. This species has previously been recorded in the 2005, 2007, 2011, 2012 and 2013 surveys. The Wall requires warm bare ground for basking. Larvae feed on Annual Meadow Grass *Poa annua* and Cock's - foot *Dactylis glomerata*. Although this butterfly remains widespread on the Island, numbers are decreasing. The Wall is in serious national decline and has recently been added to the national BAP listings.

The large skipper *Ochlodes faunus* **IOW BAP.**
This butterfly was noted in the western compartment on 13th June. This species was last recorded during the Castle Cove surveys in 2006. The main larval foodplant is cock's – foot *Dactylis glomerata*, although other grasses are occasionally utilised. The large skipper remains reasonably common and widely distributed, both on the Isle of Wight and nationally. It has, however been added to the Isle of Wight BAP list because of an observed decline in numbers over recent years.

The six - belted clearwing *Bembecia scopigera* **Nationally Scarce Na. IOW BAP.**
Two specimens of the six – belted clearwing were recorded from the western compartment on 30th June. Up until 2010, this species was recorded in all of the Castle Cove surveys, but the 2014 records are the first since 2010. It was feared that the increase in rank vegetation may have had a deleterious effect on the population of *Bembecia scopigera* here, although the larval foodplant, common bird's – foot trefoil, remains reasonably abundant in the short sward areas of the site. However, it would appear that the six – belted clearwing went through a period of considerable scarcity along the south coast of the Island between 2010 and 2013, as the author failed to find it at several sites where it was previously well established. During 2014 *Bembecia scopigera* was seen at several of these other sites. Nationally it has a scattered distribution through England as far North as Yorkshire. It has also been recorded in Wales. *Bembecia scopigera* is included in the Isle of Wight BAP listings.

DIPTERA.
The dotted beefly *Bombylius discolor* **Nationally Scarce N. UK BAP.**
The dotted beefly was recorded from the western area of the site on 9th April, when three specimens were seen. The dotted beefly has also been recorded here in 2004, 2005, 2006, 2011, 2012 and 2013. Larvae of *Bombylius discolor* are ectoparasitic on the larvae of the mining bee *Andrena flavipes*. Although *Bombylius discolor* remains a reasonably common species on the Isle of Wight in areas where it's host may be found (especially soft rock cliffs), Stubbs & Drake (2001) state that the species has declined nationally to the stage where it is regarded as a rarity. It is classed as a national BAP priority species.

A picture – winged fly *Myopites inulaedyssentericae* **Rare RDB 3.**
Several specimens were swept from common fleabane in the eastern compartment on 23rd July and 4th September. This is the first time that *Myopites inulaedyssentericae* has been recorded during the Castle Cove surveys since 2007. Larvae of *Myopites inulaedyssentericae* develop in the seed heads of common fleabane, which is increasing in abundance in this compartment. In the past this was an extremely localised species in southern and south - eastern England. Although it is still largely confined to this geographical

area, *Myopites inulaedyssentericae* appears to have become more common in recent decades, particularly in Dorset, Hampshire and the Isle of Wight. Clemons (1996) suggests that in view of this increase in frequency, *Myopites inulaedyssentericae* should be downgraded to Nationally Scarce (Nb) status. On the Isle of Wight, *Myopites inulaedyssentericae* is widespread and regularly recorded.

HYMENOPTERA.

A mining bee *Andrena proxima* **Rare RDB3.**

A single specimen of this restricted species was found in visiting alexanders in the north – west corner of the western section of the site at SZ 55157696 on 1st May 2012, representing the first record of *Andrena proxima* from Castle Cove. During the 2013 survey, two specimens were recorded in the same area on 27th May. Two specimens were also recorded from the same area on 12th May 2014. *Andrena proxima* is a spring species which collects pollen from umbels, with alexanders being a favoured source. This species is largely confined to coastal sites in southern England, and requires warm, sunny areas with sparsely vegetated turf. Falk (1991) notes that *Andrena proxima* has undergone considerable recent decline, and cites some 20 post 1970 records. Locally, the author has previously encountered *Andrena proxima* at Woody Bay and at some of the chines on the south coast of the Island.

A mining bee *Lasioglossum malachurum* **Nationally Scarce Nb.**

This small mining bee was again found nesting in both compartments of the site as in every survey year, where it formed nesting aggregations on the paths or in areas of bare or sparsely vegetated ground. As in previous years, counts of the number of nests in these aggregations were undertaken in 2014, and are discussed in detail later in this report. *Lasioglossum malachurum* is polylectic, collecting pollen from a wide variety of plants. It has been recorded from a range of habitats where there is warm disturbed ground. Typical breeding sites are in bare clayey soil on coastal cliffs and landslips, but it also occurs inland, in quarries, chalk grassland and heaths. Nationally, this species is restricted to southern England. Previously a very local and scarce species, *Lasioglossum malachurum* has become far more frequent and is extending its British range (Edwards, R. & Broad, 2005). If this expansion continues, it is likely that the status of *Lasioglossum malachurum* will require review. The Isle of Wight remains a national stronghold for *Lasioglossum malachurum*, which is typical of the fauna of the soft rock systems on the south coast of the Island.

A mining bee *Lasioglossum puncticolle* **Nationally Scarce Nb.**

A single specimen of this species was found during general sweeping on 19th June in the western section of the site. In 2003, *Lasioglossum puncticolle* was found to be nesting in small numbers on the site, but no nests have been seen since, and the species was not found during the Castle Cove surveys for several years, although a specimen was recorded in the 2011 survey. *Lasioglossum puncticolle* requires warm, light, disturbed soils in which to nest, and is primarily associated with the southern coastal counties of England. *Lasioglossum puncticolle* appears to have suffered recent population declines, particularly at inland sites. (Falk, 1991). This species is reasonably common locally, especially in coastal situations, and the Island may be considered one of it's strongholds.

COLEOPTERA.

A Weevil *Mononychus punctum –album* **Nationally Scarce Na.**

Mononychus punctum - album was first recorded at Castle Cove in 2005 when a single specimen was swept from the leaves of stinking iris *Iris foetidissima* on the western section of the site. Larvae of this weevil develop in the seed pods of this plant. *Mononychus punctum – album* became increasingly established, with maximum counts of 14 in 2006 and 37 in 2007. A decline in numbers followed in 2010 and 2011, with maximum counts falling to 9 and 5 respectively. During 2012 the maximum count was of 12 specimens, whilst in 2013 the maximum count was 21 specimens. During the current survey the highest count was of 29 specimens on 13th June. Specimens were noted in both compartments. *Mononychus punctum - album* is associated with coastal cliffs and has a very restricted distribution in southern England. Hyman and Parsons (1992) cite post 1970 UK records for just 4 Vice Counties, which include the Isle of Wight. They consider coastal stabilisation, and activities that change the rate of erosion to be major threats to this species.

NESTING AGGREGATION COUNTS.

Andrena flavipes.
No nesting aggregations of this species have been recorded in the survey area since 2012.

***Lasioglossum morio*.**
In 2011 a new colony of around 30 nests of *L. morio* was found in the eastern sector of Castle Cove, to the north of the gabions. Numbers of nest holes in this colony were significantly down in 2012, and the rare cleptoparasite *Sphecodes niger* recorded here in 2011 was not found in 2012. During 2013, this nesting aggregation continued to diminish in size. No nesting aggregation was present in 2014.

Lasioglossum malachurum.
The favoured nesting areas for the mining bee *Lasioglossum malachurum* are areas of gently sloping bare ground, including the compacted soils of the footpaths across the site. Detailed counts of the number of nest holes within these nesting aggregations were made in 2004, 2005, 2006, 2007, 2010 and 2011.; attempts to repeat this process in 2012 were impaired by the wet weather which regularly washed away the excavated soil and obliterated the nest holes. A return to more typical weather patterns in 2013 allowed counts to be undertaken satisfactorily.

Eastern Compartment.
In 2004, a large loose nesting aggregation was located around SZ 55295 77001, containing 311 *L. malachurum* nests.

In 2005, a nesting aggregation on the same terrace and slopes occurred, in roughly the same area, being centred around SZ 55291 76997 where 109 nests were counted. A second, small nesting aggregation was found lower down the slope, centred around SZ 55292 76981; however this contained only 27 nest holes. Even with these additional nest sites, the total number of *L. malachurum* nests counted in this compartment in 2005 was 136 nests, less than 44% of the 2004 count for this section.

In 2006, 151 nests were counted around SZ 55306 76942, and a further 76 were counted around SZ 55293 76984, giving a total of 227 nests.

The counts in 2007 were as follows : the nesting aggregation on the upper slope around SZ 55292 76998 was no longer present, and the amount of bare ground here had decreased. The nesting aggregation on the lower slope, around SZ 55296 76986 was found to support 72 nest holes, roughly the same as in 2006.

During 2010, 2 *L. malachurum* nests were found on the upper slope on 27th April. On 28th May, 48 *L. malachurum* nests were found on the bare ground at the base of the slope at SZ 55307693. This area had been very wet earlier in the season and this may account for the relatively late establishment of the nests here. The total of 50 nests recorded for this section of the site continues the downward trend of nesting abundance of *L. malachurum* on this section of the site.

In 2011, 102 nests were noted in an aggregation at the base of the slope around SZ 55297698 on 20th April. This is the largest number of nests recorded in this location since survey began. However, the nesting aggregation which used to occur on the plateau higher up the slope had been lost due to continued loss of bare ground in this area.

In 2012, no nests were recorded from the plateau area and it is thought this area no longer has sufficient bare ground to support a nesting aggregation. Attempts to count the number of nest holes around SZ 55297698 were made difficult by the fact that the area was waterlogged during late April and early May, although 84 *Lasioglossum malachurum* nests were counted here on 21st May. Considering the weather conditions, this count is not significantly down on the 2011 count for this area.

In 2013, nests were confined to the lower slope around SZ 552975698, but the maximum count was of only 24 nests on 27th May. Parts of this area are now permanently waterlogged, making them unsuitable for nesting purposes.

In 2014, nests were again confined to the lower slope, but the maximum count reduced to only 16 nest holes. The area continues to be partially waterlogged.

Western Compartment.

In 2004, the *L. malachurum* nesting aggregations on the paths totaled 278 nest holes, with a further 209 nests further down the paths at SZ 55246 76978. This gave a 2004 total of 487 nest holes for this compartment.

In 2005, nests along the upper footpath around SZ 55167 76969 totaled only 40 nests, with a further 26 nests around SZ 55256 76977. This gives a 2005 total for this compartment of only 66 nests.

In 2006 , 72 nests were counted around SZ 55215 76977 on the lower path, and a further 231 were nest holes were located widely spread along the upper path, giving a total of 303 nests.

In 2007, 134 *L. malachurum* nest holes were counted along the top path, with the largest concentration of nest holes around SZ 55169 76972. A further aggregation of 25 nests was situated further East on the path around SZ 55239 76975. Some 13 nests were found in a patch of sparsely vegetated soil on the main body of the site around SZ 55205 76977. Thus the total *L. malachurum* nest count for this sector in 2007 was 172.

During 2010, a total of 464 *L. malachurum* nests were counted in the bare ground of the upper path or immediately to the South of this path in sparsely vegetated soil. This represented a significant increase in the number of nests here in comparison to 2007, and shows a recovery almost back to the maximum levels recorded in 2004.

In 2011, the maximum number of nests recorded around the bare ground of the upper path was 263, on 20th April.

In 2012, very muddy conditions on the top path throughout the main nesting period for *Lasioglossum malachurum* made counting nest holes very difficult, and the highest count recorded was of only 66 nests on 21st May. It is probable that this figure does not accurately reflect the number of nesting attempts made here.

In 2013, the maximum count along the path was of 79 nest holes on 30th April. This count is not significantly better than the 2012 count, and it would appear that the species may be in decline at Castle Cove. The path is now heavily compacted, and most nest holes are now confined to the path edges where compaction is less.

This situation continued in 2014, and the highest count was of only 37 nest holes, on 12th May. Of these 25 nests were adjacent to the top path, with a further 12 nests counted along the lower path. It would appear that *Lasioglossum malachurum* is now in significant decline in both site compartments.

DISCUSSION.

The amount of available bare ground is continuing to decrease. For some species this has resulted in a considerable loss of suitable nest sites, with a resultant decrease in this species' numbers. For example, the mining bee *Lasioglossum malachurum* has not been recorded nesting on the plateau of the eastern compartment in any quantity since 2006, whilst prior to this date the area contained a significant nesting aggregation. It would appear that heavy soil compaction may now be affecting the nesting success of *Lasioglossum malachurum* along the top path in the western section.

The coarse, rank grassland element of the site continues to increase. Tall ruderal plants, including teasel, ragwort and prickly sow – thistle are also increasing. Bramble continues to spread in some areas of the site. Common bird's – foot trefoil is in decline in some areas, most notably on the plateau section of the eastern compartment. Common fleabane is increasing, particularly in the eastern compartment, leading to an increase in the numbers of the rare picture – winged fly *Myopites inulaedyssentericae*. Alexanders is not increasing greatly within the survey area, consequently the population of the rare mining bee *Andrena proxima* is not increasing significantly.

A number of scarce species recorded during 2013 were not seen in 2014; these are discussed below :

The Glanville Fritillary *Melitaea cinxia* **RDB 3. UK BAP.**
This species had previously been recorded at Castle Cove in every survey until 2013. No specimens were seen here in 2014, and it is likely that the species no longer breeds at the site.

A mining bee *Andrena humilis* **Nationally Scarce Nb.**

A single specimen of this pretty mining bee was found on 27th May 2013 in the western compartment. No specimens were seen during the course of the 2014 survey, so it appears that *Andrena humilis* has not become established within the survey area. It nests in hard sand or compacted soils such as paths in sunny locations, so suitable nesting habitat is present. *Andrena humilis* collects it's pollen for nest provision from small yellow composites, which have increased in numbers at Castle Cove over the last few years, so it is possible that this species may yet colonise.

A Mining bee *Andrena pilipes* **Nb. IOW BAP.**
This species has been in decline at Castle Cove since 2007, when 10 individuals were recorded. Subsequently, numbers of *Andrena pilipes* have steadily declined, with maximum counts of 7 in 2010, 4 in 2011, 2 in 2012 and only one in 2013. No specimens of *Andrena pilipes* were recorded in the 2014 survey. At Castle Cove, this species has normally been found visiting bramble flowers, a resource that is increasing, so it would seem that a lack of suitable nest sites has resulted in the demise of this species within the survey area.

A mining bee *Dasypoda hirtipes* **Nationally scarce Nb.**
This species was recorded for the first time at Castle Cove in 2013. None were recorded during the 2014 survey, but the species is associated with sandy soils. The specimen noted in 2013 was regarded as a stray since no suitable nesting habitat is present within the survey area.

A nomad bee *Nomada fucata* **Na.**
Numbers of this species at Castle Cove have fluctuated over the years, although both 2012 and 2013 were poor years for this species on site. *Nomada fucata* was not recorded during the 2014 survey – the first time it has not been seen here since the surveys began. It is a cleptoparasite of the mining bee *Andrena flavipes*, which has declined considerably in numbers since the early Castle Cove surveys. Whilst the host is still present, it no longer forms nesting aggregations and it is possible that it no longer breeds in sufficient numbers on the site to support a population of *Nomada fucata*.

A nomad bee *Nomada fulvicornis* **Rare RDB 3.**
This rare bee had been in decline at Castle Haven for several years, and was not recorded in 2013 or 2014. *Nomada fulvicornis* is a cleptoparasite of *Andrena pilipes*, which was not found at Castle Haven in 2014. It is probable that both species have now been lost from the site.

CONCLUSION.

The Castle Cove habitats and associated insect communities are still changing, with tall ruderal plants and scrub becoming further established, and bare ground diminishing. This is reflected by the loss of some species which were previously well established at Castle Cove, including the glanville fritillary, the nomad bee *Nomada fucata*, the mining bee *Andrena pilipes* and it's cleptoparasite *Nomada fulvicornis*. Many of the scarce coastal soft rock cliff specialist insects are now absent or in decline. Conversely, certain species such as the mining bee *Andrena proxima* and the weevil *Mononychus punctum – album*, both of which are primarily coastal, are maintaining existing population levels.

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APPENDIX 1. Insect species recorded during Castle Cove survey 2013.

Species marked with an asterisk * have not been recorded on previous Castle Cove surveys.

	ORDER	FAMILY	SCIENTIFIC NAME		DATE FIRST RECORDED	STATUS
	ORTHOPTERA		Grasshoppers & Crickets			
			Conocephalus	discolor	19/08/2014	Na
			Leptophyes	punctatissima	23/07/2014	Common, Widespread
			Pholidoptera	griseoaptera	13/06/2014	Common, Widespread
	DICTYOPTERA		Cockroaches			
*			Ectobius	pallidus	04/09/2014	Nb IOW BAP
	DERMAPTERA		Earwigs			
			Forficula	auricularia	13/06/2014	Common, Widespread
	HEMIPTERA		True Bugs			
		Pentatomidae	Shield Bugs			
			Palomena	prasina	19/08/2014	Common, Widespread
		Rhopalidae	Rhopalid Bugs			
*			Coryzus	hyoscyami	04/09/2014	Common, Widespread
	LEPIDOPTERA		Butterflies & Moths			
			Aglais	urticae	25/05/2014	Common, Widespread
			Inachis	io	23/07/2014	Common, Widespread
			Lasiommata	megera	30/04/2014	UK BAP
			Maniola	jurtina	13/06/2014	Common, Widespread
			Melanargia	galathea	13/06/2014	Common, Widespread
			Ochlodes	faunus	13/06/2014	IOW BAP
			Pieris	brassicae	25/05/2014	Common, Widespread
			Pieris	rapae	12/05/2014	Common, Widespread
			Polygonia	c - album	23/07/2014	Common, Widespread
			Polyommatus	icarus	12/05/2014	Common, Widespread
			Pyronia	tithonus	23/07/2014	Common, Widespread
			Thymelicus	lineolus	30/06/2014	Common, Widespread
			Thymelicus	sylvestris	30/06/2014	Common, Widespread
			Bembecia	scopigera	30/06/2014	Na IOW BAP
	DIPTERA		True Flies			
		Bibionidae	Fever Flies			
			Bibio	marci	30/04/2014	Common, Widespread
		Stratiomyidae	Soldier Flies			
			Chloromyia	formosa	13/06/2014	Common, Widespread
		Bombyliidae	Bee Flies			
			Bombylius	discolor	09/04/2014	N UK BAP
		Syrphidae	Hoverflies			
			Chrysotoxum	bicinctum	13/06/2014	Common, Widespread
			Dasysyrphus	albostriatus	19/08/2014	Common, Widespread
			Epistrophe	eligans	30/04/2014	Common, Widespread
			Episyrphus	balteatus	09/04/2014	Common, Widespread

		Eristalis	arbustorum	19/08/2014	Common, Widespread
		Eristalis	interruptus	19/08/2014	Common, Widespread
		Eristalis	tenax	09/04/2104	Common, Widespread
		Eumerus	funeralis	12/05/2014	Common, Widespread
		Eupeodes	corollae	12/05/2014	Common, Widespread
		Eupeodes	luniger	13/06/2014	Common, Widespread
		Helophilus	trivittatus	23/07/2014	Common, Widespread
*		Meliscaeva	auricollis	04/09/2014	Common, Widespread
		Myathropa	florea	19/08/2014	Common, Widespread
		Paragus	haemorrhous	25/05/2014	Common, Widespread
		Pipizella	viduata	30/04/2014	Common, Widespread
		Sphaerophoria	scripta	23/07/2014	Common, Widespread
		Syritta	pipiens	12/05/2014	Common, Widespread
		Xanthogramma	citrofasciatum	25/05/2014	Local, Widespread
	Conopidae	**Thick - headed Flies**			
		Physocephala	rufipes	23/07/2014	Common, Widespread
		Sicus	ferrugineus	13/06/2014	Common, Widespread
	Tephritidae	**Picture - winged Flies**			
		Myopites	inulaedyssentericae	23/07/2014	**RDB 3**
		Sphenella	marginatus	23/07/2014	Common, Widespread
	Ulidiidae	**Picture - winged Flies**			
		Herina	longistylata	13/06/2014	Common, Widespread
	Sciomyzidae	**Snail Killing Flies**			
*		Limnia	unguicornis	30/04/2014	Common, Widespread
		Pherbellia	cinerella	13/06/2014	Common, Widespread
		Trypetoptera	punctulata	13/06/2014	Common, Widespread
	Tachinidae	**Tachinid Flies**			
		Eriothrix	rufomaculatus	23/07/2014	Common, Widespread
HYMENOPTERA		**Bees, Wasps, Ants & Relatives**			
	Formicidae	**Ants**			
		Lasius	niger	09/04/2014	Common, Widespread
	Vespidae	**Social Wasps**			
		Vespula	vulgaris	23/07/2014	Common, Widespread
	Apoidea	**Bees**			
	Colletidae	**Mining & Yellow - faced Bees**			
		Hylaeus	hyalinatus	30/06/2014	Common, Widespread
	Andrenidae	**Mining Bees**			
		Andrena	dorsata	09/04/2014	Common, Widespread
		Andrena	flavipes	09/04/2014	Common, Widespread
		Andrena	minutula	23/07/2014	Common, Widespread
		Andrena	nitida	09/04/2014	Common, Widespread
		Andrena	proxima	12/05/2014	**RDB 3**
		Andrena	thoracica	30/04/2104	Common, Widespread

	Halictidae	**Mining & Cuckoo Bees**				
		Halictus	tumulorum	09/04/2014	Common, Widespread
		Lasioglossum	calceatum	19/08/2014	Common, Widespread
		Lasioglossum	malachurum	09/04/2014	**Nb**
		Lasioglossum	morio	30/04/2014	Common, Widespread
*		Lasioglossum	parvulum	12/05/2014	Common, Widespread
		Lasioglossum	puncticolle	25/05/2014	**Nb**
*		Lasioglossum	zonulus	25/05/2014	Common, Widespread
	Megachilidae	**Solitary Bees**			
		Hoplitis	claviventris	13/06/2014	Common, Widespread
		Hoplitis	spinulosa	19/08/2014	Common, Widespread
		Osmia	aurulenta	30/04/2014	Common, Widespread
		Osmia	caerulescens	30/06/2014	Common, Widespread
	Anthophoridae	**Flower & Nomad Bees**			
		Nomada	flava	30/04/2014	Common, Widespread
		Nomada	marshamella	30/04/2014	Common, Widespread
	Apidae	**Social & Cuckoo Bees**			
		Apis	mellifera	30/04/2014	Common, Widespread
		Bombus	lapidarius	30/04/2014	Common, Widespread
		Bombus	lucorum	30/04/2014	Common, Widespread
		Bombus	pascuorum	09/04/2014	Common, Widespread
		Bombus	pratorum	13/06/2014	Common, Widespread
		Bombus	terrestris	09/04/2014	Common, Widespread
	COLEOPTERA	**Beetles**			
	Cantharidae	**Soldier Beetles**			
		Rhagonycha	fulva	23/07/2014	Common, Widespread
	Chrysomelidae	**Leaf Beetles**			
*		Oulema	melanopus s.l.	23/07/2014	Local, Widespread
		Timarcha	tenebricosa	09/04/2014	Common, Wetland
	Coccinellidae	**Ladybirds**			
		Coccinella	7 - punctata	09/04/2014	Common, Widespread
		Harmonia	axyridis	12/05/2014	Common, Widespread
	Curculionidae	**Weeveils**			
		Mononychus	punctum - album	25/05/2014	**Na**
	Malachiidae	**Pollen Beetles**			
		Malachius	bipustulatus	25/05/2014	Common, Widespread
	Oedemeridae	**Oedemerid Beetles**			
		Oedemera	nobilis	12/05/2014	Common, Widespread