ENTOMOLOGICAL SURVEY AND MONITORING AT CASTLE COVE, ISLE OF WIGHT, 2012.

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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 and 2011. The Castle Cove site was again surveyed during 2012, 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 2012, commencing on 1st March and with the final visit on 6th September. All visits were made in suitable weather.

SURVEY CONSTRAINTS.

The abnormally wet conditions experienced during the Summer of 2012 have resulted in a considerable reduction in the numbers of ground nesting Hymenoptera recorded this season, not just at Castle Cove, but at all survey sites visited by the author. Summer broods of mining bees of the genera *Andrena* and *Lasioglossum* appeared to be particularly affected. Spring broods of these genera were apparently unaffected, presumably because the early Spring weather was comparatively dry.

Due to excessive rainfall, the lower slope of the eastern area of the site was frequently waterlogged, and the top footpath of the western area was regularly very muddy due to walkers trampling on the wet footpath. These factors meant that the nest holes of *Lasioglossum malachurum* were often obliterated in these areas, making accurate counting of nest hole numbers impossible. Whilst some data on nest hole numbers was recorded, there were many occasions when a count could not be undertaken.

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* sp. and Buddleja *Buddleja davidii* . The main tree species is Sycamore *Acer pseudoplatanus*.

In 2010, a number of changes were noted, both in the dominant plant species and amount of bare ground present, as follows:

Eastern Section.

The upper part of this area is now becoming very rank, with Bracken *Pteridium aquilinum* and Giant Horsetail *Equisetum telmetela* increasing significantly and becoming dominant over much of the plateau. Bramble *Rubus fruticosus* agg. scrub is also increasing near the northern boundary of the site. The top plateau still contains fair amounts of Common Bird's – foot Trefoil *Lotus corniculatus*, with some Tufted Vetch *Vicia cracca* and Ox – eye Daisy *Leucanthemum vulgare* also present. Hawkbits *Leontodon* spp. have increased considerably. Teasel *Dipsacus fullonum* and Rock Rose *Helianthemum* spp. are also increasing. Common Fleabane *Pulicaria dysenterica* is no longer present on this part of the site. The amount of bare ground available here has decreased significantly since the last survey. Bramble and Privet *Ligustrum vulgare* are increasing, particularly around the gabions. On the lower parts of this section coarse rank grass is also

increasing, although *L. corniculatus* and Yellow – wort *Blackstonia perfoliata* are still present. Bramble scrub is encroaching here and bare ground is decreasing.

Western Section.
Much of this section (almost 40%) is now dominated by rank coarse grasses, with Giant Horsetail also increasing in frequency, along with Teasel and Bramble. Good areas of *Lotus corniculatus* remain, but are now largely restricted to the eastern and central lower slopes of this section. Rock Rose is now well established in some areas, and Tufted Vetch and Hawkbits continue to increase in abundance. Ox – eye Daisy has decreased, as has Wild Carrot *Daucus carota*. Common Fleabane is no longer present in any quantity. Stinking Iris *Iris foetidissima* is well established in places. Ribwort Plantain *Plantago lanceolata* remains reasonably abundant. Bare ground is largely confined to the footpath traversing the site, which remains well used and relatively unchanged. Sparsely vegetated ground is still present on the lower slopes and central section of the site. Rock Samphire *Crithmum maritimum* is increasing at the bottom of the slope close to the gabions. The northern boundary of the site, above the top footpath, is increasingly heavily scrubbed.

In 2011, the following changes were recorded:
Eastern Section.
Giant Horsetail, Bracken, Bramble and Privet continue to encroach further into the site, as does the rank grassland element. Common Bird's – foot Trefoil is still present in some quantity on the plateau and on the lower part of the site, and Ox – eye Daisy is also present. Hawkbits continue to flourish, and Prickly Sow – thistle *Sonchus aspe*r is increasing. Black Medick *Medicago lupulina* is increasing in the short sward areas. Wood Sage *Teucrium scorodonia* is becoming well established near the gabions. Wild Carrot appears to be increasing slightly, as does Common Fleabane. Yarrow *Achillea millefolium* and Ragwort *Senecio jacobaea* are now well established. A new area of bare ground has been formed by the northern end of the gabions. This has been created by people regularly taking a short cut through the site, resulting in the formation of a new path.

Western Section.
Prickly Sow – thistle is increasing on site, as is Ragwort. Tufted Vetch and Red Clover *Trifolium pratense* are increasing on the upper slopes. Bramble and Dog Rose *Rosa canina* are encroaching further at the western end of this section. Ox – eye Daisy and Wild Carrot appear to be increasing in abundance. Good areas of Common Bird's – foot Trefoil are still present on the lower slopes. Alexanders *Smyrnium olusatrum* is established in small quantities in two areas.

During 2012, further changes in the character of vegetation on the site were noted :
Eastern Section.
Common Bird's – foot Trefoil is now in serious decline on the plateau, although plants do remain on the lower slope. On the plateau, Black Medick is increasing as the Common Bird's – foot Trefoil declines. There appears to be a small increase in the quantities of Tufted Vetch. Ox – eye Daisy is becoming less common on site, although quantities of small yellow composites remain fairly constant. Wild Carrot continues to become slightly more frequent, as does Ragwort. Overall, the site continues to become increasingly rank, and Giant Horsetail is becoming increasingly dominant on the upper part of the site. Bramble encroachment continues, both around the gabions and the edges of the lower section. The bare ground created by the short cut path through the site is heavily trampled.

Western Section.
The amount of Alexanders in the two areas where it is established continues to increase. Common Bird's – foot Trefoil is still abundant in the eastern and central areas of the compartment. Privet is becoming established in places, particularly in the North of the site. Stinking Iris is still present, but few plants appear to have successfully produced seed pods. Small yellow composites are increasing on the lower slopes, whilst Teasel continues to increase in the centre of the site. Prickly Sow – thistle continues to increase. Wild Carrot is increasing in the South – eastern part of the site. Bare ground is in decline.

INVERTEBRATE SURVEY.
A full list of all insect species recorded during the course of survey in 2011 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. 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.

Additionally, some of the species found are included in either the National or Isle of Wight Biodiversity Action Plan (BAP) species listings. Again, these are clearly marked in **Appendix 1**.

ORTHOPTERA.
Roesel's Bush Cricket *Metrioptera roeselii* **Nationally Scarce (Nb) IOW BAP.**
A single specimen was swept from rank vegetation at the base of the eastern section of the site on 19th July. This constitutes the first record for the species at Castle Cove since 2005. It is associated with rough grassland, with most records coming from southern or South - east England. A single Welsh colony is known (Marshall & Haes,1988). Formerly a great rarity with a UK distribution centred around the Thames Estuary, *M. roeselii* has responded to the warm summers in the last few decades by spreading rapidly across southern and eastern England. Locally, the first Isle of Wight records for *M. roeselii* were from the 1970's. Records for this species on the Island are increasing, particularly on rough coastal grassland sites. In view of this recent range expansion, it's conservation status requires downgrading, and the species is no longer considered to be scarce. Roesel's Bush Cricket is omnivorous but mainly vegetarian, feeding mostly on grasses.

LEPIDOPTERA.
The Wall *Lasiommata megera* **UK BAP.**
A single specimen was noted in the western section of the site on 6th August. This species has previously been recorded in the 2005, 2007 and 2011 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 Glanville Fritillary *Melitaea cinxia* **RDB 3. UK BAP.**
The Glanville Fritillary has been recorded from the site in every year of the survey. This rare butterfly whose natural breeding populations are confined to the South coast of the Island, was again present in 2012, although the count of only 3 individuals on 21st May, all in the western section was the lowest count since the surveys began. This is the third consecutive year in which a severe decline in Glanville Fritillary numbers has been noted here. Whilst this butterfly did not have a particularly good season in 2012 across the Island, this unusually low count at Castle Cove may indicate that the site is no longer in a favourable condition to support the butterfly. Ribwort Plantain is still present in some quantity on site, despite the rank grassland encroachment. Previous maxima were 23 in 2011, 42 in 2010, 96 in 2007 (an exceptional year for Glanville Fritillary), 13 in 2006, 9 in 2005, 8 in 2004 and 6 in 2003.

DIPTERA.
The Dotted Beefly *Bombylius discolor* **N. UK BAP.**
The Dotted Beefly was recorded from the western area of the site on 27th March and 11th April, with four specimens noted on the earlier date. This is the largest single count for the species at Castle Cove since surveys began. A single specimen was noted on 8th April 2011 in the Western section of the site, for the first time since 2006. *B. discolor* was also recorded at Castle Cove in 2004 and 2005, but it has never been present in significant numbers. Larvae of *B. discolor* are ectoparasitic on the larvae of the mining bee *Andrena flavipes*. Although *B. 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 *Campiglossa malaris* **RDB 1.**
Specimens were taken whilst sweeping Ragwort in the Eastern section of the site on 19th July and 6th August. The larval stage of *C. malaris* is believed to be associated with Ragwort, which is increasing at Castle Cove. The first British record of *C. malaris* was from Kent in 1974; by 2008 it had been recorded from a total of 20 10Km. squares in Britain. This rapid expansion has continued, and in 2011 *C. malaris* has proved abundant and widespread as far North as Warwickshire. During 2012, the author has recorded this species from every site he has visited where significant amounts of Ragwort are present. It is clear that the status of *C. malaris* requires downgrading. Locally, the first Island records for *C. malaris* were in 2011, when it was recorded from Castle Cove and also at a site in the centre of the Island. During 2012, the author has recorded this species from four other Isle of Wight sites, suggesting that the species is continuing to spread.

HYMENOPTERA.
A Mining bee *Andrena pilipes* **Nb. IOW BAP.**
Andrena pilipes was first recorded from Castle Cove in 2004, when a single individual was found on the eastern section of the site. In 2006, three individuals were seen visiting Bramble flowers on 7th August, and in 2007 the maximum count was of 10 individuals on 24th July. Good numbers were again found in 2010, with 7 specimens noted visiting the flowers of Bramble on 11th August. In 2011, the maximum number recorded was a rather disappointing 4 specimens on 13th July. In 2012 only two specimens were recorded, one on 27th March and one on 13th April. Both were found in the western sector of the site. This continues the downward trend noted in 2011. *A. pilipes* is double brooded, and both broods are usually recorded at Castle Cove, with the Summer brood being the more numerous. However, in 2012 no specimens of the Summer brood were found, perhaps due to the deleterious effects of the wet Summer. This species is primarily associated with coastal cliffs and rough coastal grassland, but is occasionally found inland on downland and heathland. Falk (1991) notes a considerable decline for this southern species, particularly at inland sites. Locally, the author has recorded *A. pilipes* at six other Island sites.

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. The likelihood that this species would be found on site was discussed in the 2011 report (Wright, 2011), when specimens were noted just outside the survey area boundary and *Nomada conjungens*, which is a bee cleptoparasite of *A. proxima* was recorded on site. *A. proxima* 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 *A. proxima* has undergone considerable recent decline, and cites some 20 post 1970 records. Locally, the author has previously encountered *A. proxima* at Woody Bay and at some of the chines on the South coast of the Island.

A mining bee *Lasioglossum malachurum* **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 2012, and are discussed in detail later in this report. *L. 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, *L. malachurum* has become far more frequent and is extending its British range currently (Edwards, R. & Broad, 2005). If this expansion continues, it is likely that the status of *L. malachurum* will require review. The Isle of Wight remains a national stronghold for *L. malachurum*, which is typical of the fauna of the soft rock systems on the South coast of the Island.

A nomad bee *Nomada fucata* **Na.**
For the first time, the homeless bee *Nomada fucata* was only recorded from the western compartment. This species is a cleptoparasite of the mining bee *Andrena flavipes*. In 2006 and 2007, *N. fucata* was only found in low numbers - a considerable contrast to 2004 and 2005 when it was regularly seen in double figures. In 2010 the highest count for *N. fucata* at Castle Cove was of 5 individuals, a higher count than in the previous two survey years. During 2011 numbers of *N. fucata* increased again, and a maximum count of 10 noted on 8th April. During 2012, *N. fucata* was only recorded on 21st May, when 2 individuals were noted in the western compartment. The nesting aggregation of the host bee *Andrena flavipes* found in 2011 was much smaller in 2012. Nationally, *N. fucata* is, like it's host, confined to southern England, but it is considerably scarcer than the host and absent from some areas where *A. flavipes* is well established. Locally, *A. flavipes* forms huge nesting aggregations at many landslip or soft rock cliff sites and the *Nomada* remains a relatively frequent insect. Although Falk (1991) listed this species as Nationally Scarce (Na) following a period of extreme scarcity in the 1970's, *N. fucata* populations recovered during the 1990's and Edwards & Telfer (2002) suggested that it's status should be downgraded.

A nomad bee *Nomada fulvicornis* **Rare RDB 3.**
The rare homeless bee *Nomada fulvicornis* was recorded for the first time at Castle Cove in 2007, when a single individual was found. In 2010 a maximum of 3 specimens was recorded on 1st July, all in the eastern section of the site. No specimens were found in 2011, and in 2012 a single specimen was recorded in the western section on 21st May. This bee is cleptoparasitic on *Andrena pilipes*, a species which has declined considerably at Castle Cove over the last 2 years. Else (in prep.) states that *N*. *fulvicornis* is widely distributed but rare and decreasing in southern England. On the Isle of Wight *N*. *fulvicornis* would certainly appear to be a rare species; the author has only otherwise recorded single specimens from four other Island sites.

COLEOPTERA.
A Weevil *Mononychus punctum –album* **Na.**
The Nationally Scarce (Na) weevil *Mononychus punctum - album* was first recorded at Castle Cove when a single specimen was swept from the leaves of Stinking Iris *Iris foetidissima* on the western section of the site in 2005. Larvae of this weevil develop in the seed pods of this plant. In June 2006 14 specimens were recorded. During 2007 numbers of *M. punctum - album* continued to increase, particularly at the western end of the site, with a maximum count of 37. During 2010, far fewer specimens were found, with a maximum count of only nine on 7th June. In 2011 the maximum count for this weevil had again decreased, to a mere 5 specimens. During 2012, specimens were recorded from both sections of the site, with a maximum count of twelve individuals on 26th June. However, the numbers of seedheads of Stinking Iris across the site was very low in 2012, and 11 of these 12 specimens were found on a single plant with plentiful seedheads in the North – east corner of the western section at SZ 55237700. If plants continue to fail to produce seedheads, the weevil could be put under threat at Castle Cove. *M. 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.

ARACHNIDA.
A Wasp Spider *Argiope bruennichi* **Nb. IOW BAP.**
The wasp spider *Argiope bruennichi* was recorded from Castle Cove for the first time in 2006, and again in 2007. During 2010 *A. bruennichi* was again found at Castle Cove. Two specimens were noted on the western section of the site on 3rd September. No specimens were recorded at Castle Cove in 2011, but a

single specimen was found in the western compartment on 6th September 2012. As the vegetation becomes increasingly rank, it is anticipated that the frequency with which *A. bruennichi* is found at Castle Cove will increase, although so far this prediction is unproven. This species is a comparatively recent colonist from continental Europe. it was first recorded in England in the 1920's. Nationally, *A. bruennich*i is now encountered in rank grassland in southern and central England, and has been found on several Island sites. It is included in the Isle of Wight BAP listings

NESTING AGGREGATION COUNTS.

Andrena flavipes.
A small nesting aggregation of this species was found during the 2011 survey, in the eastern sector near the gabions, and numbers of *A. flavipes* on the site appeared to have increased somewhat compared to numbers in 2010. In 2012, this nesting aggregation was much smaller with few nest holes, although this may be attributable to the unfavourable weather conditions experienced during 2012. Similarly, numbers of the cleptoparasite *Nomada fucata* have also significantly decreased in 2012.

***Lasioglossum morio*.**
Nest holes in the top path of the western sector were not found in any quantity during 2011, in contrast to 2010 when 71 nest holes for this species were recorded here. However, 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.

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.

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. Thus *L. malachurum* appears to be making a recovery from the poor results in 2005 with a 67% increase in the number of nests compared to last season. However, the 2006 count is still 27% less than in 2004.

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. The total of 72 *L. malachurum* nest holes for this section was the lowest number recorded to date, being only 23% of the 2004 count. This continues the trend for this *L. malachurum* to be nesting less successfully as succession continues and the amount of available bare ground decreases.

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. The upper slope here is now almost devoid of bare ground and the vegetation continues to become increasingly rank.

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 has 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.

Western Compartment.
In 2004, the *L. malachurum* nesting aggregations on the paths totalled 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 totalled only 40 nests, with a further 26 nests around SZ 55256 76977. This gives a 2005 total for this compartment of only 66 nests - less than 14% of the previous year's total.

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. This represents a huge increase on the previous year's total and also represents some 62% of the 2004 total.

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. This is only 35% of the 2004 count, and only 57% of the 2006 count. However, it is a significant increase on the 2005 total.

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 represents 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. Whilst this is significantly lower than the 2010 maximum, it appears that the number of *L. malachurum* nest holes on this part of the site seems to vary considerably from year to year, although the amount of bare ground provided by the footpaths has remained almost constant throughout the survey period. Very small numbers of scattered nests thought to be those of *L. malachurum* were found in areas of bare ground on the lower slopes, but these were as individual, scattered nests rather than an aggregation.

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.

DISCUSSION.

As mentioned earlier, the unusually wet Summer experienced in 2012 has had a deleterious effect on the numbers of ground nesting species, particularly Hymenoptera, and this is likely to have skewed the results of the 2012 survey. This is particularly applicable to Summer species rather than Spring broods, when weather conditions were more favourable.

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.

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.

A number of scarce species recorded during 2011 were not seen in 2012; these are discussed below :

For the first time since survey began in 2003, no specimens of the Six - belted clearwing moth *Bembecia scopigera* were recorded at Castle Cove in 2011. This species was again unrecorded in 2012, and it is likely that the Six – belted clearwing moth no longer breeds at Castle Cove. It would appear that the increase in rank vegetation may have had a deleterious effect on the population of *B. scopigera* here, although the larval foodplant Common Bird's – foot Trefoil remains abundant on the short sward areas of the site. *B. scopigera* is included in the Isle of Wight BAP listings.

The Dingy Skipper *Erynnis tages* **UK BAP.**
This species has always been spasmodic in appearance at Castle Cove, and it's apparent absence in 2012 raises no major concerns. Generally, the Dingy Skipper is believed to have had a fairly poor year on the Isle of Wight.

A Mining bee *Andrena alfkenella* **RDB 3.**
Specimens of this small bee have bee found at Castle Cove in 2004 and 2011. In the field, it is similar in appearance to several other small species of *Andrena*, including the abundant *Andrena minutula*, and is probably regularly overlooked. Thus failure to find the species in 2012 is perhaps unsurprising. *A. alfkanella* is thought to nest solitarily rather than in nesting aggregations, and is usually present on a site only in low numbers.

A Mining bee *Andrena trimmerana* **Nb.**
A. trimmerana has previously been found at Castle Cove in 2003, 2006, 2007 and 2011. Although numbers of individuals seen are normally low at this site, this species Spring brood is early in the year, and it is surprising that no specimens were found. *A. trimmerana* is a predominantly southern species, particularly associated with warm coastal grassland, although other habitats including woodland edge are also utilised. Falk (1991) notes a considerable decline at inland sites. Locally, *A. trimmerana* is recorded quite regularly both inland and on the coast.

A mining bee *Lasioglossum puncticolle* **Nb.**
This species has only been recorded breeding at Castle Cove in 2003, and as a single specimen in 2011. No specimens were recorded in 2012, suggesting that if *L. puncticolle* was attempting to re – establish at Castle Cove, this has not yet occurred. This may be at least in part due to the unfavourable weather conditions.

A cuckoo bee *Sphecodes niger* **RDB 3.**
A single specimen of this rare bee was found in the Eastern compartment in 2011. It is a cleptoparasite of the common mining bee *Lasioglossum morio* which had established a new colony in 2011 to the North of the gabions in the Eastern compartment. In 2012, this colony had a disastrous season due to weather conditions, and it is therefore unsurprising that S. niger was not recorded this season.

A nomad bee *Nomada conjungens* **RDB 2 IOW BAP.**
This cleptoparasitic species was recorded for the first time at Castle Cove in 2011. N. conjungens is a cleptoparasite of the rare (RDB 3) mining bee *Andrena proxima*, which was recorded at Castle Cove for the first time in 2012, although in previous years it has been found in close proximity to the site, and it's appearance on site had been predicted. *N. conjungens* is an extremely elusive species normally found only in very low numbers, and the lack of a record for 2012 is not considered to be an indication that the species has necessarily been lost from the site.

A nomad bee *Nomada lathburiana* **RDB 3.**
A single specimen of this bee was recorded in 2011, being the first record of *N. lathburiana* at Castle Cove since survey commenced. It is a cleptoparasite of the mining bee *Andrena cineraria*, which was recorded from the survey area for the first time in 2012. The host is clearly not yet well established at Castle Cove. It is anticipated that should *A. cineraria* become well established here, records of *N. lathburiana* from Castle Cove are likely to increase.

Other scarce species which were recorded in 2012, but are apparently in decline include the Glanville Fritillary, the mining bee *Andrena pilipes* and the nomad bee *Nomada fucata.* These species are discussed in detail within the results section of this report. It is possible that the two bee species were only recorded in

low numbers due to adverse weather conditions. The Glanville Fritillary did not fare well on the Island in 2012, but further changes in sward height and composition raise concerns for the future of this species at Castle Cove, and the species continues to decline on the site.

The rare mining bee *Andrena proxima* was recorded at Castle Cove for the first time in 2012. It is believed that the increase in Alexanders on site has encouraged the bee to visit the site for foraging purposes, and it is unclear whether it is breeding on site, although there is a well established population nearby.

Numbers of two species, the picture – winged fly *Campiglossa malaris* and the Dotted beefly *Bombylius discolor*, have increased significantly at Castle Cove in 2012.

C. malaris is currently undergoing a dramatic expansion in both range and frequency in southern England, and is becoming increasingly well established on the Isle of Wight, so a rise in numbers at Castle Cove is to be expected.

The same does not apply to the Dotted Beefly. This species is a parasite of the mining bee *Andrena flavipes*, which had a very poor season at Castle Cove in 2012. However, an increase in abundance of *A. flavipes* was noted at Castle Cove in 2011, and it is assumed that the increased numbers of Dotted Beefly noted in 2012 are as a result of successful exploitation of the increased numbers of the host in 2011. If this is true, numbers of the Dotted Beefly may well return to more normal levels, or even decline here in 2013.

CONCLUSION.

The Castle Cove habitats and associated insect communities are still changing quite rapidly, with tall ruderal plants becoming further established, and bare ground diminishing. The extremely poor Summer has affected the success of a number of species, particularly ground nesting Hymenoptera, but other species which have been previously well established also appear to be in decline.

REFERENCES.

Edwards, R. & Broad, G. (Eds.) 2005. *'Provisional atlas of the aculeate Hymenoptera of Britain and Ireland part 5."* Centre for Ecology and Hydrology, Huntingdon.

Edwards, R. and Telfer, M. (Eds.). 2002. "*Provisional atlas of the aculeate Hymenoptera of Britain and Ireland part 4* ". Biological Records Centre, Huntingdon.

Else, G. R. in prep. "*Handbook of Bees of the British Isles"*.

Falk, S. J. 1991. "*A review of the scarce and threatened bees, wasps and ants of Great Britain* ". Research & survey in Nature Conservation No. 35. Nature Conservancy Council Peterborough.

Hyman, P. S. and Parsons, M. S. 1992. " *A review of the scarce and threatened Coleoptera of Great Britain part 1*' ". JNCC, Peterborough.

Marshall, J. A. and Haes, E. C. M. 1988 (1990). "*Grasshoppers and allied insects of Great Britain and Ireland* ". Harley Books, Colchester.

Stubbs, A. E. and Drake, M. 2001. " *British Soldierflies and their allies* ". British Entomological and Natural History Society, Reading.

Wright, A. S. "*Entomological Survey and monitoring at Castle Cove, Isle of Wight, 2011*." Private report for Hampshire & Isle of Wight Wildlife Trust.

APPENDIX 1. Insect species recorded during Castle Cove survey 2012.

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

ORDER	FAMILY	SCIENTIFIC NAME		ENGLISH NAME		DATE	STATUS
ORTHOPTERA				Grasshoppers	& Crickets		
		Chorthippus	brunneus	Field	Grasshopper	06/08/2012	Common, Widespread
		Chorthippus	brunneus	Field	Grasshopper	06/09/2012	Common, Widespread
		Chorthippus	paralellus	Meadow	Grasshopper	06/08/2012	Common, Widespread
		Leptophyes	punctatissima	Speckled Bush	Cricket	08/07/2012	Common, Widespread
		Metrioptera	roeselii	Roesel's Bush	Cricket	19/07/2012	Nb IOW BAP
DERMAPTERA				Earwigs			
		Forficula	auricularia	Common Earwig		26/06/2012	Common, Widespread
		Forficula	auricularia	Common Earwig		19/07/2012	Common, Widespread
		Forficula	auricularia	Common Earwig		06/08/2012	Common, Widespread
HEMIPTERA				True bugs			
	Pentatomidae			Shield Bugs			
*		Palomena	prasina	Green Shieldbug		26/06/2012	Common, Widespread
LEPIDOPTERA				Butterflies &	moths		
		Aglais	urticae	Small tortoisehell		01/03/2012	Common, Widespread
		Anthocharis	cardamines	Orange Tip		01/05/2012	Common, Widespread
		Colias	croceus	Clouded Yellow		01/05/2012	Common, Widespread
		Inachis	io	Peacock		01/03/2012	Common, Widespread
		Inachis	io	Peacock		27/04/2012	Common, Widespread
		Inachis	io	Peacock		01/05/2012	Common, Widespread
		Ischnura	io	Peacock		06/08/2012	Common, Widespread
		Lasiommata	megera	Wall		06/08/2012	UK BAP
		Maniola	jurtina	Meadow Brown		08/07/2012	Common, Widespread
		Maniola	jurtina	Meadow Brown		26/06/2012	Common, Widespread
		Maniola	jurtina	Meadow Brown		19/07/2012	Common, Widespread
		Maniola	jurtina	Meadow Brown		06/08/2012	Common, Widespread
		Melanargia	galathea	Marbled White		08/07/2012	Common, Widespread
		Melanargia	galathea	Marbled White		19/07/2012	Common, Widespread
		Melanargia	galathea	Marbled White		06/08/2012	Common, Widespread
		Melitaea	cinxia	Glanville Fritillary		21/05/2012	RDB3 UK BAP
*		Pieris	napi	Green - veined	White	06/08/2012	Common, Widespread
		Pieris	rapae	Small White		01/05/2012	Common, Widespread
		Pieris	rapae	Small White		06/08/2012	Common, Widespread
		Polyommatus	icarus	Common Blue		21/05/2012	Common, Widespread
		Polyommatus	icarus	Common Blue		19/07/2012	Common, Widespread
		Pyronia	tithonus	Gatekeeper		06/08/2012	Common, Widespread
		Thymelicus	sylvestris	Small Skipper		06/08/2012	Common, Widespread

		Thymelicus	sylvestris	Small Skipper	19/07/2012	Common, Widespread
		Vanessa	atalanta	Red Admiral	24/04/2012	Common, Widespread
		Vanessa	atalanta	Red Admiral	08/07/2012	Common, Widespread
DIPTERA				**True Flies**		
	Bibionidae			**Fever Flies**		
		Bibio	marci		11/04/2012	Common, Widespread
		Beris	marci		27/04/2012	Common, Widespread
		Bibio	marci		24/04/2012	Common, Widespread
		Bibio	marci		01/05/2012	Common, Widespread
		Dilophus	febrilis		27/03/2012	Common, Widespread
	Stratiomyidae			**Soldier Flies**		
		Chloromyia	formosa		26/06/2012	Common, Widespread
		Chloromyia	formosa		08/07/2012	Common, Widespread
		Chloromyia	formosa		19/07/2012	Common, Widespread
		Pachygaster	atra		26/06/2012	Common, Widespread
	Bombyliidae			**Bee Flies**		
		Bombylius	discolor		11/04/2012	**N UK BAP**
		Bombylius	discolor		27/03/2012	**N UK BAP**
		Bombylius	major		11/04/2012	Common, Widespread
		Bombylius	major		27/03/2012	Common, Widespread
	Syrphidae			**Hoverflies**		
		Cheilosia	impressa		06/08/2012	Common, Widespread
		Cheilosia	pagana		06/08/2012	Common, Widespread
*		Chrysogaster	solstitialis		08/07/2012	Common, Widespread
		Dasysyrphus	albostriatus		06/09/2012	Common, Widespread
		Epistrophe	eligans		11/04/2012	Common, Widespread
		Epistrophe	eligans		24/04/2012	Common, Widespread
		Episyrphus	balteatus		01/03/2012	Common, Widespread
		Episyrphus	balteatus		08/07/2012	Common, Widespread
		Eristalis	arbustorum		06/08/2012	Common, Widespread
		Episyrphus	arbustorum		06/09/2012	Common, Widespread
		Eristalis	interruptus		06/08/2012	Common, Widespread
		Eristalis	tenax		06/08/2012	Common, Widespread
		Eristalis	tenax		24/04/2012	Common, Widespread
		Eristalis	tenax		11/04/2012	Common, Widespread
		Eristalis	tenax		15/03/2012	Common, Widespread
		Eristalis	tenax		01/03/2012	Common, Widespread
		Eristalis	tenax		26/06/2012	Common, Widespread
		Eristalis	tenax		06/09/2012	Common, Widespread
		Eupeodes	corollae		11/04/20	Common,

		12	Widespread
Eupeodes	corollae	26/06/20 12	Common, Widespread
Eupeodes	corollae	08/07/20 12	Common, Widespread
Eupeodes	luniger	08/07/20 12	Common, Widespread
Eupeodes	luniger	11/04/20 12	Common, Widespread
Eupeodes	luniger	27/03/20 12	Common, Widespread
Eupeodes	luniger	24/04/20 12	Common, Widespread
Eupeodes	luniger	01/05/20 12	Common, Widespread
Eupeodes	luniger	21/05/20 12	Common, Widespread
Helophilus	trivittatus	06/08/20 12	Common, Widespread
Helophilus	trivittatus	06/09/20 12	Common, Widespread
Melanostoma	mellinum	26/06/20 12	Common, Widespread
Melanostoma	mellinum	24/04/20 12	Common, Widespread
Melanostoma	mellinum	11/04/20 12	Common, Widespread
Melanostoma	mellinum	27/03/20 12	Common, Widespread
Melanostoma	mellinum	08/07/20 12	Common, Widespread
Melanostoma	mellinum	19/07/20 12	Common, Widespread
Melanostoma	mellinum	06/08/20 12	Common, Widespread
Melanostoma	scalare	11/04/20 12	Common, Widespread
Melanostoma	scalare	24/04/20 12	Common, Widespread
Merodon	equestris	21/05/20 12	Common, Widespread
Merodon	equestris	26/06/20 12	Common, Widespread
Myathropa	florea	24/04/20 12	Common, Widespread
Myathropa	florea	11/04/20 12	Common, Widespread
Paragus	haemorrhous	01/05/20 12	Common, Widespread
Paragus	haemorrhous	21/05/20 12	Common, Widespread
Paragus	haemorrhous	08/07/20 12	Common, Widespread
Paragus	haemorrhous	06/08/20 12	Common, Widespread
Parasyrphus	punctulatus	11/04/20 12	Local, Widespread
Pipizella	viduata	21/05/20 12	Common, Widespread
Pipizella	viduata	01/05/20 12	Common, Widespread
Pipizella	viduata	26/06/20 12	Common, Widespread
Pipizella	viduata	08/07/20 12	Common, Widespread
Pipizella	viduata	19/07/20 12	Common, Widespread
Platycheirus	albimanus	08/07/20 12	Common, Widespread
Sphaerophoria	scripta	01/05/20 12	Common, Widespread
Sphaerophoria	scripta	11/04/20 12	Common, Widespread
Sphaerophoria	scripta	27/03/20 12	Common, Widespread
Sphaerophoria	scripta	21/05/20 12	Common, Widespread

			Sphaerophoria	scripta			26/06/2012	Common, Widespread
			Sphaerophoria	scripta			08/07/2012	Common, Widespread
			Sphaerophoria	scripta			19/07/2012	Common, Widespread
			Sphaerophoria	scripta			06/08/2012	Common, Widespread
			Syrphus	ribesii			24/04/2012	Common, Widespread
			Syrphus	vitripennis			11/04/2012	Common, Widespread
*			Volucella	pelluscens			08/07/2012	Common, Widespread
*			Volucella	pelluscens			19/07/2012	Common, Widespread
	Conopidae				**Thick-headed Flies**			
*			Myopa	testacea			01/05/2012	Local, Widespread
			Sicus	ferrugineus			08/07/2012	Common, Widespread
			Sicus	ferrugineus			19/07/2012	Common, Widespread
	Tephritidae				**Picture-winged**	**Flies**		
			Campiglossa	malaris			19/07/2012	**RDB 1**
			Campiglossa	malaris			06/08/2012	**RDB 1**
*			Eulia	heraclei			11/04/2012	Common, Widespread
			Tephritis	divisa			06/08/2012	Recent colonist
			Tephritis	vespertina			21/05/2012	Common, Widespread
	Ulidiidae				**Picture - winged**	**Flies**		
			Herina	longistylata			26/06/2012	Common, Widespread
			Herina	longistylata			08/07/2012	Common, Widespread
			Herina	longistylata			19/07/2012	Common, Widespread
			Herina	longistylata			06/08/2012	Common, Widespread
	Sciomyzidae				**Snail-killing**	**Flies**		
			Pherbellia	cinerella			01/05/2012	Common, Widespread
			Pherbellia	cinerella			21/05/2012	Common, Widespread
			Pherbellia	cinerella			26/06/2012	Common, Widespread
	Tachinidae				**Tachinid Flies**			
			Eriothrix	rufomaculatus			06/08/2012	Common, Widespread
			Tachina	fera			24/04/2012	Common, Widespread
*			Tachina	lurida			01/05/2012	Common, Widespread
HYMENOPTERA					**Bees,Wasps**	**Ants & relatives**		
	Formicidae				**Ants**			
			Lasius	niger			15/03/2012	Common, Widespread
			Lasius	niger			11/04/2012	Common, Widespread
			Lasius	niger			24/04/2012	Common, Widespread
			Lasius	niger			21/05/2012	Common, Widespread
	Pompilidae				**Spider-hunting**	**Wasps**		
*			Caliadurgus	fasciatellus			19/07/2012	Common, Widespread
	Crabronidae				**Digger Wasps**			

		Cerceris	rybyensis			19/07/2012	Common, Widespread
		Trypoxylon	attenuatum			21/05/2012	Common, Widespread
	Apoidea			**Bees**			
	Colletidae			**Mining & Yellow-**	**faced Bees**		
		Hylaeus	annularis			08/07/2012	Common, Widespread
		Hylaeus	communis			08/07/2012	Common, Widespread
	Andrenidae			**Mining Bees**			
		Andrena	chrysosceles			24/04/2012	Common, Widespread
*		Andrena	cineraria			24/04/2012	Common, Widespread
		Andrena	dorsata			24/04/2012	Common, Widespread
		Andrena	dorsata			11/04/2012	Common, Widespread
		Andrena	flavipes			27/03/2012	Common, Widespread
		Andrena	flavipes			11/04/2012	Common, Widespread
		Andrena	flavipes			27/04/2012	Common, Widespread
		Andrena	flavipes			01/05/2012	Common, Widespread
		Andrena	flavipes			24/04/2012	Common, Widespread
		Andrena	flavipes			21/05/2012	Common, Widespread
		Andrena	flavipes			06/08/2012	Common, Widespread
		Andrena	minutula			08/07/2012	Common, Widespread
		Andrena	nitida			21/05/2012	Common, Widespread
		Andrena	ovatula			21/05/2012	Common, Widespread
		Andrena	pilipes			13/04/2012	**Nb IOW BAP**
		Andrena	pilipes			27/03/2012	**Nb IOW BAP**
*		Andrena	proxima			01/05/2012	**RDB3**
		Andrena	scotica			15/03/2012	Common, Widespread
		Andrena	scotica			27/03/2012	Common, Widespread
		Andrena	scotica			11/04/2012	Common, Widespread
		Andrena	scotica			24/04/2012	Common, Widespread
	Halictidae			**Mining & Cuckoo**	**Bees**		
		Halictus	tumulorum			27/04/2012	Common, Widespread
		Halictus	tumulorum			10/05/2012	Common, Widespread
		Halictus	tumulorum			21/05/2012	Common, Widespread
		Halictus	tumulorum			08/07/2012	Common, Widespread
		Halictus	tumulorum			19/07/2012	Common, Widespread
		Lasioglossum	calceatum			01/05/2012	Common, Widespread
		Lasioglossum	fulvicorne			08/07/2012	Common, Widespread
*		Lasioglossum	leucopum			19/07/2012	Common, Widespread
		Lasioglossum	leucozonium			19/07/2012	Common, Widespread
		Lasioglossum	leucozonium			08/07/2012	Common, Widespread

	Lasioglossum	malachurum			27/03/2012	**Nb**
	Lasioglossum	malachurum			11/04/2012	**Nb**
	Lasioglossum	malachurum			24/04/2012	**Nb**
	Lasioglossum	malachurum			01/05/2012	**Nb**
	Lasioglossum	malachurum			21/05/2012	**Nb**
	Lasioglossum	malachurum			19/07/2012	**Nb**
	Lasioglossum	morio			01/05/2012	Common, Widespread
	Lasioglossum	morio			21/05/2012	Common, Widespread
	Sphecodes	ephippius			08/07/2012	Common, Widespread
	Sphecodes	monilicornis			21/05/2012	Common, Widespread
Megachilidae			**Solitary Bees**			
	Hoplitis	spinulosa			19/07/2012	Common, Widespread
	Hoplitis	spinulosa			08/07/2012	Common, Widespread
*	Osmia	leaiana			19/07/2012	Common, Widespread
	Osmia	rufa			21/05/2012	Common, Widespread
	Osmia	rufa			24/04/2012	Common, Widespread
Anthophoridae			**Flower & Nomad**	**Bees**		
	Anthophora	plumipes			15/03/2012	Common, Widespread
	Anthophora	plumipes			13/04/2012	Common, Widespread
	Anthophora	plumipes			24/04/2012	Local, Widespread
	Nomada	flava			21/05/2012	Common, Widespread
	Nomada	flavoguttata			19/07/2012	Common, Widespread
	Nomada	fucata			21/05/2012	**Na**
	Nomada	fulvicornis			21/05/2012	**RDB 3**
	Nomada	goodeniana			24/04/2012	Common, Widespread
	Nomada	goodeniana			11/04/2012	Common, Widespread
	Nomada	marshamella			15/03/2012	Common, Widespread
Apidae			**Social & Cuckoo**	**Bees**		
	Apis	mellifera	Honey Bee		01/03/2012	Common, Widespread
	Apis	mellifera	Honey Bee		15/03/2012	Common, Widespread
	Apis	mellifera	Honey Bee		27/03/2012	Common, Widespread
	Apis	mellifera	Honey Bee		11/04/2012	Common, Widespread
	Apis	mellifera	Honey Bee		24/04/2012	Common, Widespread
	Apis	mellifera	Honey Bee		27/04/2012	Common, Widespread
	Apis	mellifera	Honey Bee		01/05/2012	Common, Widespread
	Apis	mellifera	Honey Bee		08/07/2012	Common, Widespread
	Apis	mellifera	Honey Bee		19/07/2012	Common, Widespread
	Apis	mellifera	Honey Bee		06/08/2012	Common, Widespread
	Bombus	hortorum	a garden	Bumblebee	19/07/2012	Common,

						12	Widespread
		Bombus	hortorum	a garden	Bumblebee	06/08/20 12	Common, Widespread
		Bombus	lapidarius	a red-tailed	Bumblebee	21/05/20 12	Recent colonist
		Bombus	lapidarius	a red-tailed	Bumblebee	01/05/20 12	Common, Widespread
		Bombus	lapidarius	a red-tailed	Bumblebee	26/06/20 12	Common, Widespread
		Bombus	lapidarius	a red-tailed	Bumblebee	08/07/20 12	Common, Widespread
		Bombus	lapidarius	a red-tailed	Bumblebee	19/07/20 12	Common, Widespread
		Bombus	lapidarius	a red-tailed	Bumblebee	06/08/20 12	Common, Widespread
		Bombus	lucorum	a white-tailed	Bumblebee	26/06/20 12	Common, Widespread
		Bombus	lucorum	a white-tailed	Bumblebee	01/03/20 12	Common, Widespread
		Bombus	lucorum	a white-tailed	Bumblebee	11/04/20 12	Common, Widespread
		Bombus	lucorum	a white-tailed	Bumblebee	21/05/20 12	Common, Widespread
		Bombus	lucorum	a white-tailed	Bumblebee	19/07/20 12	Common, Widespread
		Bombus	pascuorum	Common	Carder Bee	19/07/20 12	Common, Widespread
		Bombus	pascuorum	Common	Carder Bee	26/06/20 12	Common, Widespread
		Bombus	pascuorum	Common	Carder Bee	21/05/20 12	Common, Widespread
		Bombus	pascuorum	Common	Carder Bee	01/05/20 12	Common, Widespread
		Bombus	pascuorum	Common	Carder Bee	11/04/20 12	Common, Widespread
		Bombus	pascuorum	Common	Carder Bee	24/04/20 12	Common, Widespread
		Bombus	pascuorum	Common	Carder Bee	24/04/20 12	Common, Widespread
		Bombus	pascuorum	Common	Carder Bee	26/06/20 12	Common, Widespread
		Bombus	pascuorum	Common	Carder Bee	08/07/20 12	Common, Widespread
		Bombus	pascuorum	Common	Carder Bee	06/08/20 12	Common, Widespread
		Bombus	pascuorum	Common	Carder Bee	06/09/20 12	Common, Widespread
		Bombus	pratorum	Early	Bumblebee	15/03/20 12	Common, Widespread
		Bombus	pratorum	Early	Bumblebee	01/05/20 12	Common, Widespread
		Bombus	terrestris	a buff-tailed	Bumblebee	15/03/20 12	Common, Widespread
		Bombus	terrestris	a buff-tailed	Bumblebee	27/03/20 12	Common, Widespread
		Bombus	terrestris	a buff-tailed	Bumblebee	06/08/20 12	Common, Widespread
		Bombus	terrestris	a buff-tailed	Bumblebee	01/03/20 12	Common, Widespread
COLEOPTERA				**Beetles**			
	Cantharidae			**Soldier Beetles**			
*		Cantharis	cryptica			24/04/20 12	Common, Widespread
		Rhagonycha	fulva			06/08/20 12	Common, Widespread
	Chrysomelidae			**Leaf Beetles**			
*		Timarcha	tenebricosa	Bloody - nose	Beetle	11/04/20 12	Common, Widespread
*		Timarcha	tenebricosa	Bloody - nose	Beetle	27/03/20 12	Common, Widespread
	Coccinellidae			**Ladybirds**			
		Adalia	bipunctata	2 spot	Ladybird	01/05/20 12	Common, Widespread

		Coccinella	7 - punctata	7 spot	Ladybird	01/05/2012	Common, Widespread
		Coccinella	7 - punctata	7 spot	Ladybird	27/03/2012	Common, Widespread
		Coccinella	7 - punctata	7 spot	Ladybird	01/05/2012	Common, Widespread
		Coccinella	7 - punctata	7 spot	Ladybird	21/05/2012	Common, Widespread
		Coccinella	7 - punctata	7 spot	Ladybird	11/04/2012	Common, Widespread
		Coccinella	7 - punctata	7 spot	Ladybird	26/06/2012	Common, Widespread
		Coccinella	7 - punctata	7 spot	Ladybird	08/07/2012	Common, Widespread
		Coccinella	7 - punctata	7 spot	Ladybird	19/07/2012	Common, Widespread
		Harmonia	axyridis	Harlequin	Ladybird	19/07/2012	Common, Widespread
		Harmonia	axyridis	Harlequin	Ladybird	26/06/2012	Common, Widespread
		Harmonia	axyridis	Harlequin	Ladybird	27/04/2012	Common, Widespread
		Harmonia	axyridis	Harlequin	Ladybird	24/04/2012	Common, Widespread
		Harmonia	axyridis	Harlequin	Ladybird	11/04/2012	Common, Widespread
		Harmonia	axyridis	Harlequin	Ladybird	01/05/2012	Common, Widespread
		Harmonia	axyridis	Harlequin	Ladybird	21/05/2012	Common, Widespread
		Propylea	14 - punctata	14 spot	Ladybird	21/05/2012	Common, Widespread
	Curculionidae			**Weevils**			
		Mononychus	punctum - album			26/06/2012	**Na**
		Mononychus	punctum - album			08/07/2012	**Na**
		Mononychus	punctum - album			19/07/2012	**Na**
	Elateridae			**Click Beetles**			
*		Agriotes	acuminatus			26/06/2012	Common, Widespread
	Malachiidae			**Pollen Beetles**			
		Malachius	bipustulatus			26/06/2012	Common, Widespread
		Malachius	bipustulatus			19/07/2012	Common, Widespread
	Oedemeridae			**Oedemerid**	**Beetles**		
		Oedemera	nobilis			21/05/2012	Common, Widespread
		Oedemera	nobilis			26/06/2012	Common, Widespread
		Oedemera	nobilis			08/07/2012	Common, Widespread
		Oedemera	nobilis			19/07/2012	Common, Widespread
		Oedemera	nobilis			06/08/2012	Common, Widespread
ARACHNIDA				**Spiders**			
	Argiopidae			**Orb Web**	**Spiders**		
		Argiope	bruennichi			06/09/2012	**N IOW BAP**