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Summary

Following the inception of an Interim Planning Framework (IPF) monitoring strategy in 2007 (Liley, 2007) a number of partnership-wide monitoring initiatives are ongoing. These include a network of automated visitor counters, car park counts, incident reporting and the monitoring of the three Annex 1 breeding bird species.

This short report presents and summarises the data gathered for the 2011 – 2012 financial year and where appropriate compares and contrasts the information to that gathered from previous years. The keys findings from each chapter are summarised below.

Chapter by chapter summary

Biological recording

- Nine heathland sites were surveyed for Annex I species in 2011.
- The number of nightjar territories recorded in 2011 is consistent with previous years.
- A woodlark territory was recorded on Parley Common in 2011 after an absence in 2010.
- The number of Dartford warbler territories recorded has notably reduced. The decline is part of a national trend attributed to the harsh winters.

Structure and habitat of the site

- A total of 155 heathland incidents were logged on Dorset Explorer between 01/01/2011 – 31/12/2011. Of these 93 were heathland fire with a total annual burn area of 60ha.
- There was a severe fire on Upton Heath in June 2011 with a burn area of 56 hectares, 26% of the designated SSSI area.

Visitor behaviour and visitor numbers

- As of April 2012 there were 77 active automatic counters in situ across heathland and non-heathland sites.
- The counters recorded the highest number of passes in August and the fewest in December.
- The number of passes through the sensors was notably higher on weekend days with the most traffic through the sensors on Sundays.
- The highest number of passes were recorded by the counters between 10am and 5pm

Car park counts

- In 2011, 14 co-ordinated car park counts were undertaken. Of these 5 took place on weekdays, 7 on weekend days and 2 on bank holidays.
- The counts targeted 156 parking areas with 2276 spaces adjacent to heathland access points. The counts in total recorded 3330 vehicles, 97 of these with bike racks.
- There was a marked difference in the number of vehicles parked adjacent heathland access points on weekdays to weekends, with over twice as many vehicles recorded on weekend counts.
- Causal car park count records are being regularly submitted by the UHP wardens.

Project sites and monitoring

- This year (2011-2012) four IPF funded projects were progressing.
- Pre project monitoring has been undertaken at Stanpit recreation ground ahead of scheduled improvement works.

Discussion and recommendations

- The monitoring has progressed well with the regular collection and submission of data.
- There are opportunities to improve communication between partners regarding IPF funded project monitoring to ensure future visitor data collection is designed to be compatible with existing heathland visitor data.
- There is also scope to host a workshop/meeting day for local organisations who are currently, or planning to gather data on visits to the countryside. There would be merit in encouraging some standardised questions to allow collective analysis of cross project data.

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1. Introduction

- 1.1 This report is produced for the partners of the IPF and presents a summary of the gathered through the IPF over the past financial year (2011 – 2012). Within this document we review the data gathered, monitoring methods used and make suggestions on how to streamline elements of the data collection. A supplementary document containing analyses from the automatic visitor counters (sensors) will be produced in early 2013.
- 1.2 The IPF monitoring strategy (Liley 2007) sets out the monitoring elements necessary to coincide the with IPF. The strategy recognised that both the species present and recreational use of the heathlands must be monitored to evaluate the current rates of visitation and distribution of the vulnerable species. With a baseline established, it should be possible to test the effectiveness of measures to mitigate for, or avoid additional urban pressures on European Sites as a result of an increase in housing in south-east Dorset (Liley 2007).
- 1.3 This report provides a summary of the data gathered under the IPF for the 2011 – 2012 financial year in accordance with the four main monitoring areas identified in the monitoring strategy (Liley 2007):
- Biological recording
 - Impacts on the structure and habitat of the sites
 - Visitor Behaviour
 - Capital projects
- 1.4 While much of the strategy was focussed on strategic monitoring, it was also recognised that dedicated projects needed to include project specific monitoring. This monitoring includes the installation of automatic counters, car park counts, visitor counts and visitor interviews. The monitoring strategy identified and recommended collecting these data on both SANGs and heathland sites to build a coherent package of monitoring to show the extent at which mitigation projects have been successful.

2. Biological recording

Introduction

- 2.1 Development pressure across the South-east Dorset sub region is high and in order to ensure protection to the European protected heathland sites from development it is recognised that strategic measures are necessary to prevent adverse effects on the European Sites (Fearnley & Liley 2010).
- 2.2 Recreational activity is known to impact all three of the breeding Annex I bird species associated with the Dorset heathlands - the nightjar *Caprimulgus europaeus*, woodlark *Lullula arborea* and Dartford warbler *Sylvia undata* (Liley & Clarke 2002; Murison 2002; Woodfield & Langston 2004; Mallord 2005; Langston *et al.* 2007; Murison *et al.* 2007; Clarke, Liley, & Sharp 2008).
- 2.3 The monitoring strategy recommends that the territories of these three species are mapped across all sites every five years and a selection of core sites are monitored annually on site where visitor levels are most likely to change (Liley 2007).

Results

- 2.4 In total nine sites were surveyed for Dartford warbler, nightjar and woodlark in 2011. The sites monitored are listed in Table 2 and Table 4 to Table 6 details the number of territories recorded from IPF funded bird monitoring in 2009, 2010 and 2011.
- 2.5 Canford Heath, the largest of all the surveyed sites supported the highest number of Dartford warbler and nightjar (Table 2) but Ferndown Common supported the highest density of these birds. Avon Heath North contained the highest number and density of woodlark territories (Table 2).
- 2.6 The distribution of the Annex I birds across the Dorset heathlands are presented in Maps 2.1, 2.2 and 2.3. The maps show the recorded bird territories on the surveyed sites only. Not all the Dorset Heathland sites were surveyed (Table 1) so these maps do not represent the distribution of the Annex I birds across the heathland network, just the sites that were surveyed.
- 2.7 The number of Dartford warbler territories recorded in 2011 is notably lower than in previous years. In fact the number of recorded Dartford warbler territories on all surveyed sites has been declining since 2009. This decline appears to be part of a national trend caused by the recent harsh winters. Dartford warbler numbers in the Thames Basin Heaths and Wealden Heaths have declined from 1000 pairs in 2004 to 50 in 2010¹ and on the East Devon heathlands at Aylesbeare Common Dartford warbler territories were down from 13 in 2010 to three in 2011, a decline again attributed to the harsh winter². The majority of surveyed Dorset sites have not experienced such a marked decline (Table 4).

¹ <http://www.rspb.org.uk/news/318057-at-least-the-birds-think-british-summers-are-mediterranean>

² <http://www.wildlifeextra.com/go/news/dartford-warbler-decline.html#cr>

The numbers of nightjar territories recorded during 2011 are relatively consistent with those noted in previous years (Table 5) with a slight increase in territory numbers at some sites and a slight decrease in others. Woodlark were recorded on three survey areas; Avon Heath North, Avon Heath South and Parley Common (Table 5). The territory at Parley Common is an important record given this species was absent from the site in 2010.

Table 1: Number of Annex 1 territories per site during the 2011 bird surveys.

| Site | Number of Territories | | |
|------------------|-----------------------|-----------|----------|
| | Dartford warbler | Nightjar | Woodlark |
| Avon Heath North | 8 | 8 | 6 |
| Avon Heath South | 2 | 5 | 2 |
| Bourne Bottom | 0 | 0 | 0 |
| Canford Heath | 25 | 26 | 0 |
| Ferndown Common | 9 | 7 | 0 |
| Parley Common | 17 | 13 | 1 |
| Talbot Heath | 4 | 1 | 0 |
| Town Common | 16 | 12 | 0 |
| Upton Heath | 19 | 10 | 0 |
| Total | 100 | 82 | 9 |

Table 2: Annex 1 bird densities in 2011 across the surveyed sites

| Site | Area surveyed (ha) | Dartford warbler | Nightjar | Woodlark |
|------------------------|--------------------|------------------|----------|----------|
| Avon Heath North | 122.8 | 0.065 | 0.065 | 0.049 |
| Avon Heath South | 80.2 | 0.025 | 0.062 | 0.025 |
| Bourne Bottom (Valley) | 27.8 | 0.000 | 0.000 | 0.000 |
| Canford Heath | 382.9 | 0.065 | 0.068 | 0.000 |
| Ferndown Common | 68.1 | 0.132 | 0.103 | 0.000 |
| Parley Common | 164.1 | 0.104 | 0.079 | 0.006 |
| Talbot Heath | 34 | 0.118 | 0.029 | 0.000 |
| Town Common/SCH | 172 | 0.093 | 0.070 | 0.000 |
| Upton Heath | 197.9 | 0.096 | 0.051 | 0.000 |

Table 3: Numbers of territories recorded in each year of bird monitoring. The number in brackets () indicates the number of sites monitored.

| Year | Dartford warbler | Nightjar | Woodlark |
|------|------------------|----------------------------|----------|
| 2009 | 392 (36) | 193 (36) | 18 (36) |
| 2010 | 260 (13) | 503 (40) (SPA 2010 review) | 12 (13) |
| 2011 | 100 (9) | 82 (9) | 9 (8) |

Table 4: Numbers of Dartford warbler recorded on the Dorset Heathlands within the UHP survey areas

| Site | 2008 | 2009 | 2010 | 2011 |
|---|--------------|------|--------------|------|
| Avon Heath North | Not surveyed | 10 | 13 | 8 |
| Avon Heath South | Not surveyed | 8 | 6 | 2 |
| Bourne Bottom (Valley) | 1 | 1 | Not surveyed | 0 |
| Canford Heath | 50 | 73 | 49 | 25 |
| Ferndown Common | 23 | 23 | 18 | 9 |
| Parley Common | 21 | 37 | 24 | 17 |
| Talbot Heath | 4 | 2 | Not surveyed | 4 |
| Town Common/SCH (Sopley/Ramsdown SSSI) | 22 | 39 | 29 | 16 |
| Upton Heath | 27 | 30 | 22 | 19 |

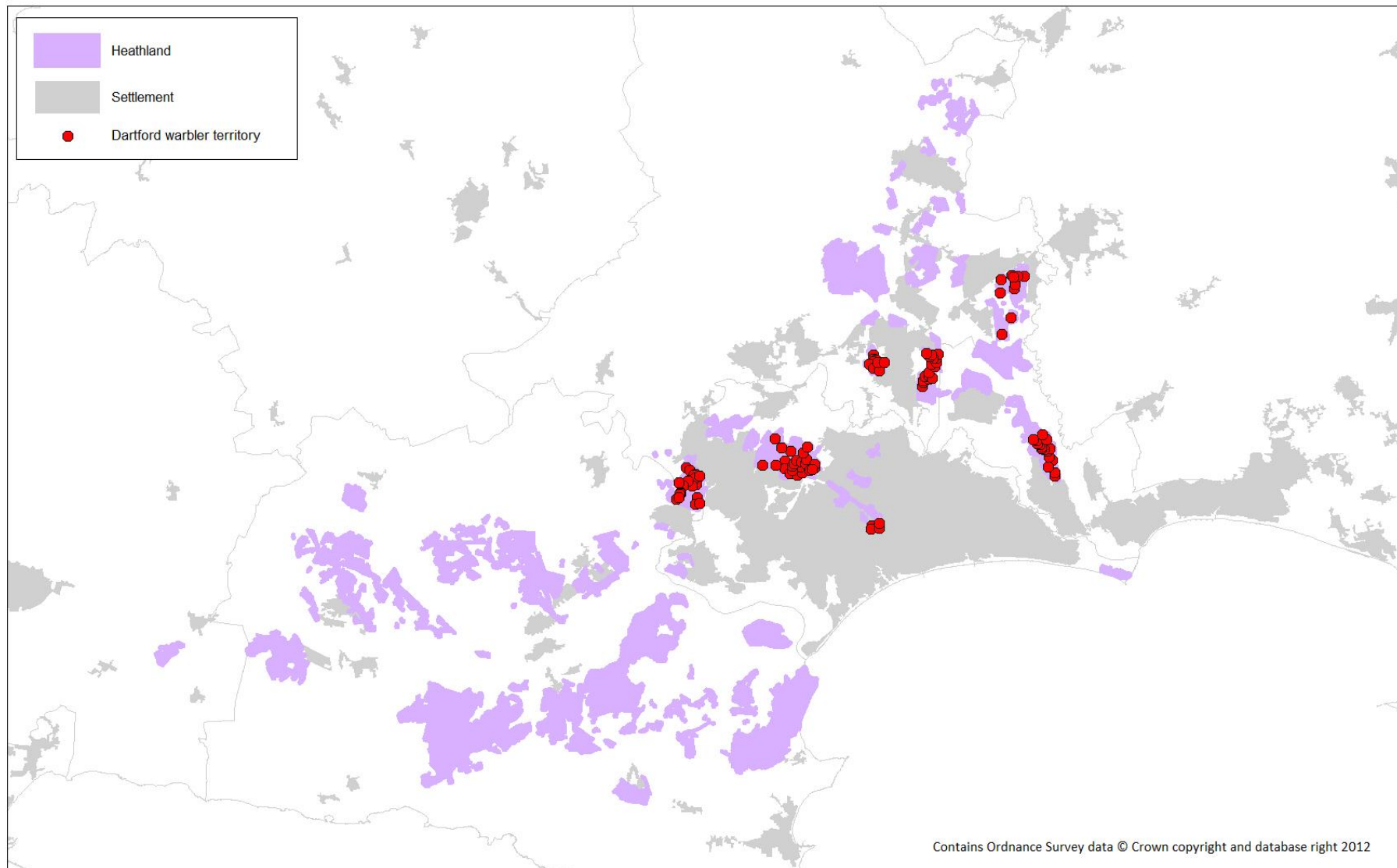
Table 5: Numbers of Woodlark recorded on the Dorset Heathlands within UHP survey areas

| Site | 2009 | 2010 | 2011 |
|---|------|--------------|--------------|
| Avon Heath North | 6 | 4 | 6 |
| Avon Heath South | 5 | 3 | 2 |
| Bourne Bottom (Valley) | 0 | Not surveyed | 0 |
| Canford Heath | 0 | 0 | 0 |
| Ferndown Common | 0 | 0 | 0 |
| Parley Common | 2 | 0 | 1 |
| Talbot Heath | 0 | Not surveyed | Not surveyed |
| Town Common/SCH (Sopley/Ramsdown SSSI) | 0 | 0 | 0 |
| Upton Heath | 0 | 0 | 0 |

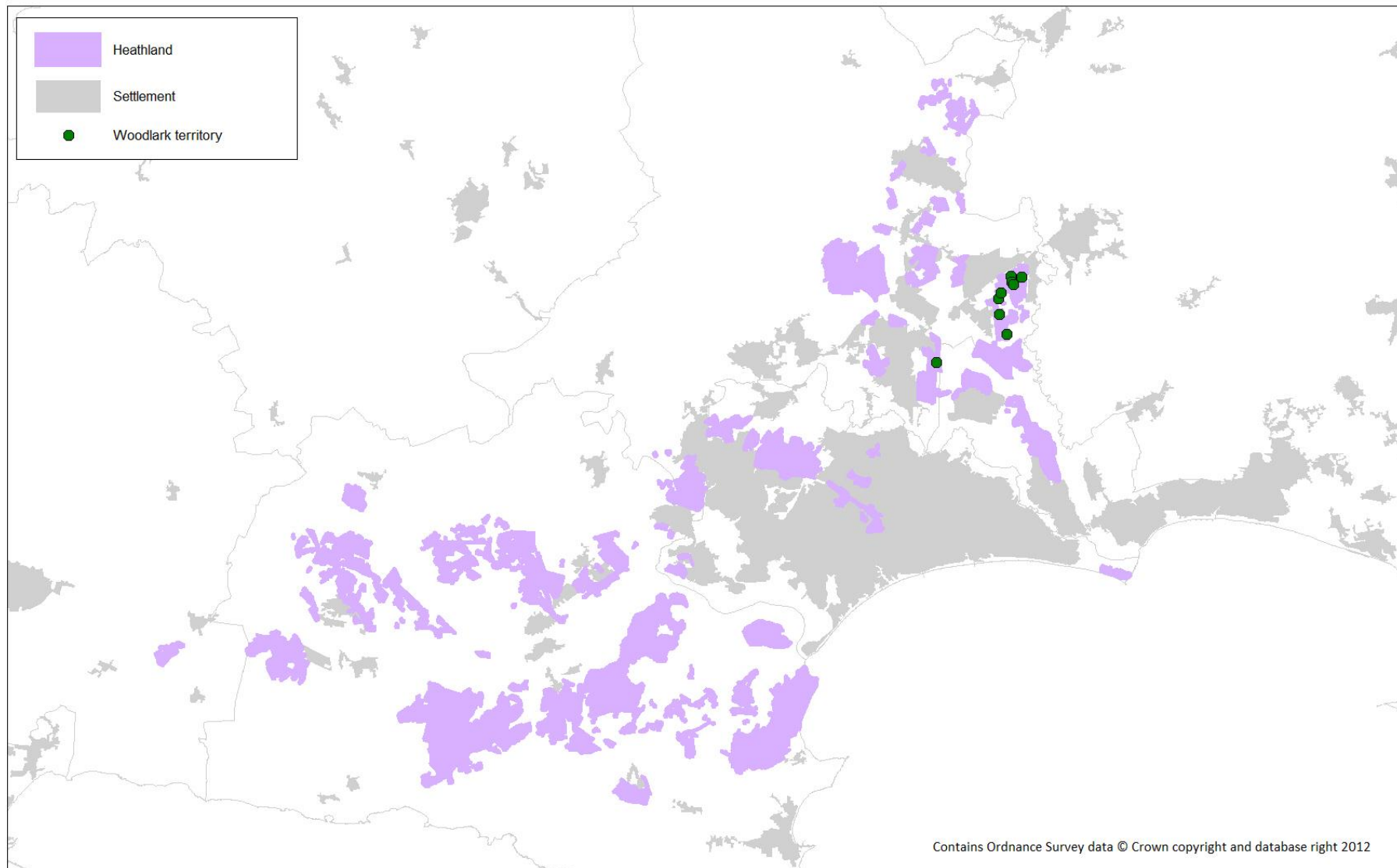
Table 6: Numbers of nightjar recorded on the Dorset Heathlands within the UHP bird survey areas. ** denotes data extracted from SPA 2010 review.

| Site | Area (ha) | 2009 | 2010** | 2011 |
|---|-----------|------|--------------|------|
| Avon Heath North | 122.8 | 12 | 7 | 8 |
| Avon Heath South | | 8 | 7 | 5 |
| Bourne Bottom (Valley) | 27.8 | 0 | Not surveyed | 0 |
| Canford Heath | 382.9 | 30 | 30 | 26 |
| Ferndown Common | 68.1 | 6 | 4 | 7 |
| Parley Common | 164.1 | 13 | 14 | 13 |
| Talbot Heath | 34 | 0 | Not surveyed | 1 |
| Town Common/SCH (Sopley/Ramsdown SSSI) | 172 | 15 | 9 | 12 |
| Upton Heath | 197.9 | 11 | 11 | 10 |

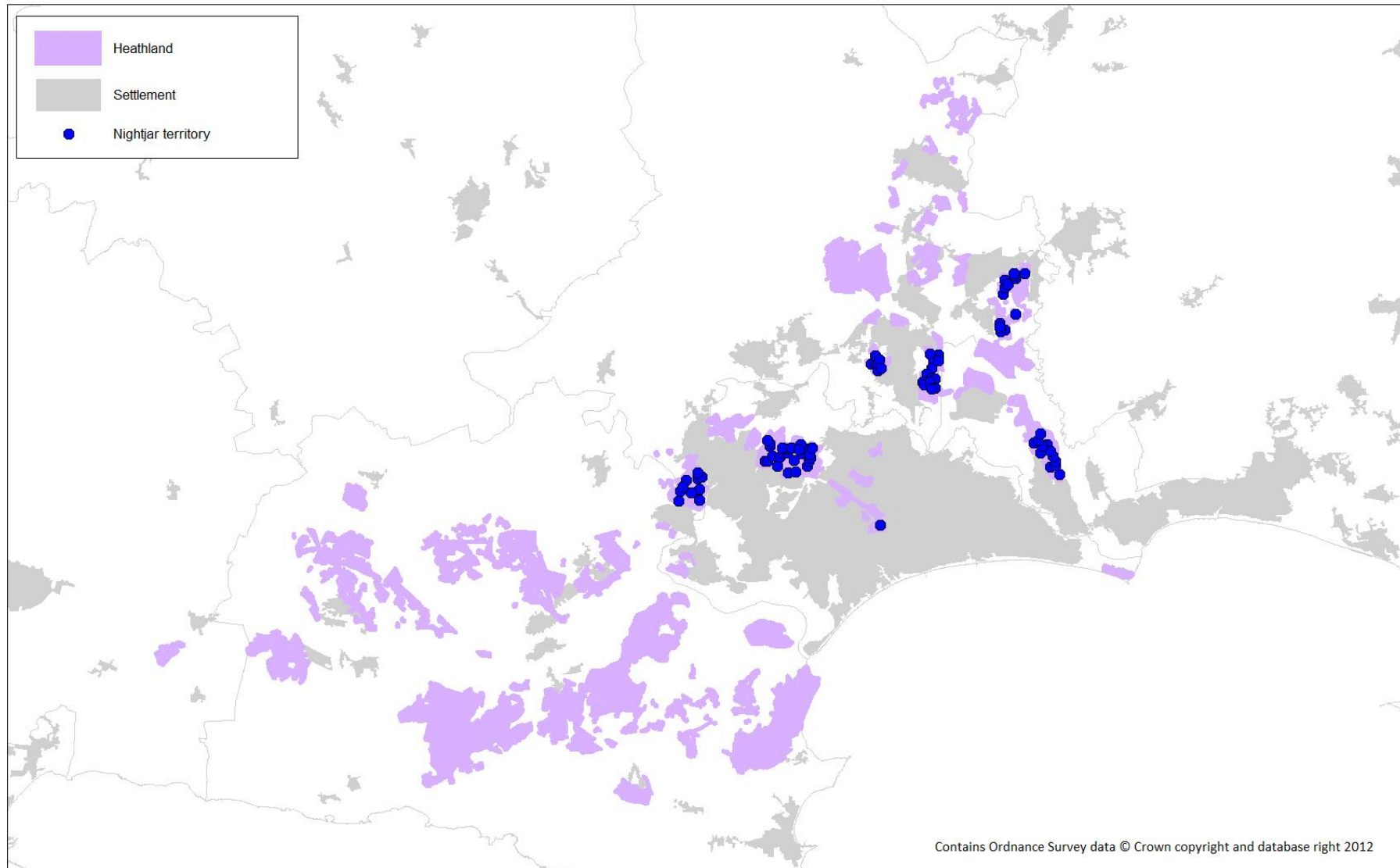
Map 2.1 The distribution of Dartford warbler territories across the Dorset Heathlands in 2011



Map 2.2 The distribution of woodlark territories across the Dorset Heathlands in 2011



Map 2.3 The distribution of nightjar territories across the Dorset Heathlands in 2011



3. Structure and habitat of the site

Introduction

3.1 There are a wide variety of impacts which may occur as a result of visitor pressure and include; fire, litter, erosion, dog fouling, creation of new desire lines, vandalism, soil compaction, introduction of alien species (Underhill-Day 2005; Liley *et al.* 2006; Liley 2007). To establish whether the instances of these impacts are increasing these events need to be monitored.

3.2 Currently all instances of fire and fly tipping are recorded and mapped on a central database using Dorset Explorer, which enables annual comparisons to be drawn. All other incidents are logged by wardens and site practitioners when observed which is often reflective of the time spent on a site.

Incident data

3.3 The incident data are reported by year from 1st January to 31st December. In 2011 there were 93 incidents of fire. The area of heathland that was burned from the fires totalled 60 hectares. In June 2011 there was a major heathland fire on Upton Heath in which approximately 56 hectares of heathland was lost, 26% of the SSSI.

3.4 Table 7 details the number of incidents which have been reported on the heathland sites using Dorset Explorer. The total number of recorded incidents in 2011 totalled 155.

Table 7: The number of incidents reported on the Dorset Heathland

| | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 |
|---------------------------|------|------|------|------|------|------|------|------|------|------|
| Number of fires | 107 | 244 | 147 | 190 | 149 | 49 | 85 | 137 | 110 | 93 |
| Fly Tipping | 34 | 38 | 9 | 24 | 9 | 35 | 15 | 9 | 5 | 33 |
| Motorcyclists | 66 | 105 | 50 | 125 | 24 | 50 | 60 | 47 | 22 | 24 |
| Cyclists | 24 | 36 | 18 | 8 | 9 | 9 | | | | 4 |
| Horse Riders | | | | | | | 1 | 1 | 2 | |
| Total number of incidents | 231 | 423 | 224 | 347 | 191 | 143 | 161 | 194 | 139 | 155 |
| Area Burned (ha) | 65 | 31 | 43 | 63 | 54 | 40 | 45 | 18 | 24 | 60 |

Taking the incident monitoring further

3.5 There are known reporting issues on Dorset Explorer with site boundaries and the categorisation of some incidents and sites as 'Other'. Currently the site boundaries and incident categories are under review and once complete, any changes should be updated within the Dorset Explorer platform.

3.6 The recording of incidents other than fire and fly tipping can often be reflective of the amount of time spent on a site. This is not a problem if the main aim of the recording is to determine change over time and if the amount of time spent on a site

is consistent between years. However, the more time that is spent on a site the greater the number of recorded incidents, potentially making comparisons of incident numbers between sites difficult. To enable comparisons of incident number of type between sites we suggest that a walk over of each heathland site is undertaken at regular intervals and all incidents are logged (similar in concept to the co-ordinated car park counts). Comparisons between incident type and number could then be drawn between the different sites. Ideally two or more 'walk' overs should be undertaken each year in the Spring and Summer.

Fixed point visual and physical monitoring

- 3.7 The monitoring strategy suggests a selection of fixed points are identified across the heathland sites and monitored capturing information on vegetation cover, bare ground exposure, evidence of erosion, soil compaction, path width and counts of dog faeces within a set radius. To date this has been undertaken but could provide an ideal volunteer opportunity once locations have been identified.

4. Visitor behaviour and visitor numbers

Introduction

- 4.1 Given that access to the countryside is increasing (TNS Research International 2011) it is important to be able to identify changes in access and visitor behaviour. These shifts in behaviours can then be used to tease out whether these shifts have been a result of the mitigation projects.
- 4.2 The monitoring strategy identified different methods to gather data on visitor behaviour and numbers which when analysed collectively will provide an insight into whether the mitigation projects are working effectively.
- Visitor behaviour – Through the use of automatic counters, casual and co-ordinated car park counts, visitor questionnaires and visitor counts.
 - Structure and habitat of sites – Through incident reporting

Automated visitor counts

Introduction

- 4.3 Automatic counters/sensors can be used to monitor visitor numbers at a site. The counters provide an extended data set and will allow the detection of gradual change should they be in situ for a number of years (Liley 2007).
- 4.4 The monitoring strategy suggested the counters could be installed at mitigation project sites prior to improvements work to establish a baseline visitor count and reinstalled (or left in situ) post works to determine how access levels to the area may change. The strategy also recommended the installation of visitor counters on key heathland sites to provide a long term data set from which possible trends can be investigated.

Locations

- 4.5 Currently there are 77³ (Table 8) automatic counters in place across Dorset at heathland and SANG access points. The sensors are installed on sites managed by eight different organisations. Borough of Poole has the highest number of counters on their sites (Table 9).
- 4.6 This year 7 sensors were removed and 3 of these were repositioned or replaced. An additional 2 sensors are due to be installed at Stanpit recreation ground (Christchurch Borough Council) later this year ahead of proposed improvement works to the site. The locations of the sensors and their status are presented in Map 2.1.

³ Data correct as of March 2012

- 4.7 At present there 8 of the sensors are not recording accurate data and are still in the ground awaiting repair. Over the past year there have been data issues with an additional 10 sensors.

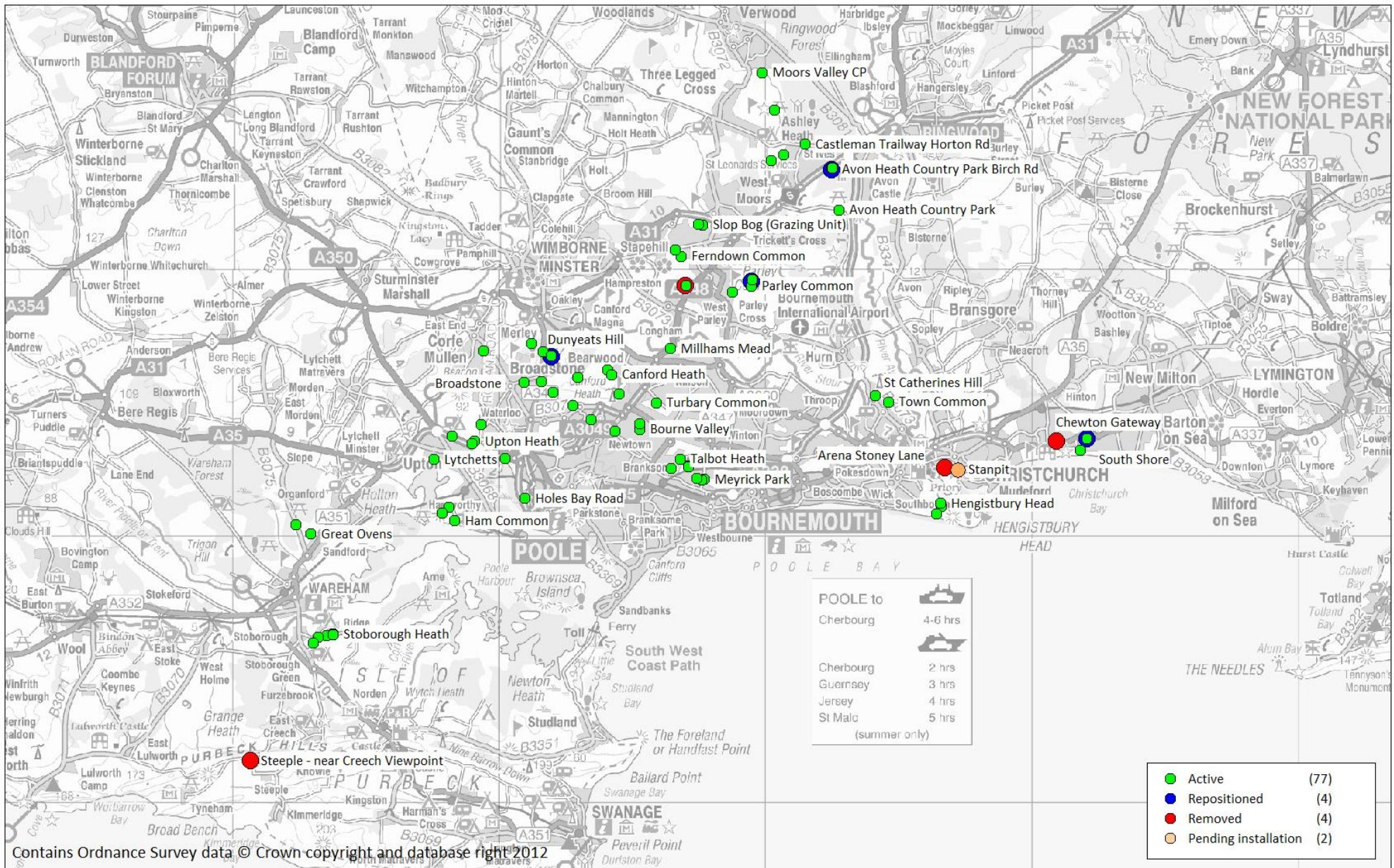
Table 8: Number and type of automatic counter currently in situ across Dorset heathlands and SANG access points

| Type of sensor | Number |
|---------------------------|-----------|
| Inductive loop (magnetic) | 1 |
| Large slab | 5 |
| Long range pyro | 11 |
| Pyro | 20 |
| Slab | 40 |
| Total | 77 |

Table 9: Number of automatic counters in place by site management organisation

| Land owner | Number of counters |
|------------------------------------|--------------------|
| Borough of Poole | 30 |
| Dorset County Council | 14 |
| Amphibian and reptile conservation | 13 |
| Bournemouth Borough Council | 8 |
| Natural England | 6 |
| Christchurch Borough Council | 3 |
| East Dorset District Council | 2 |
| Dorset Wildlife Trust | 1 |
| Total | 77 |

Map 4.1. Location of the automatic counters and their status



General patterns from automatic sensors

- 4.8 Sensor data were extracted from the 37 sensors which had continuous data from 1st September 2010 until the 30th September 2011.
- 4.9 There is a definite seasonal pattern with a higher number of passes in the milder and lighter months of the year (Figure 1). In total between 1st September 2010 and 30th September 2011 2,075,437 passes were recorded through all the automatic counters (Table 17, Appendix).
- 4.10 The highest monthly average of 6066 passes through the sensors was recorded in August 2011 when on average there are 16 hours of daylight⁴ (Figure 1 and Table 17 in Appendix) The fewest number of passes 2552 passes were recorded in December when on average there are 8 daylight hours⁵.

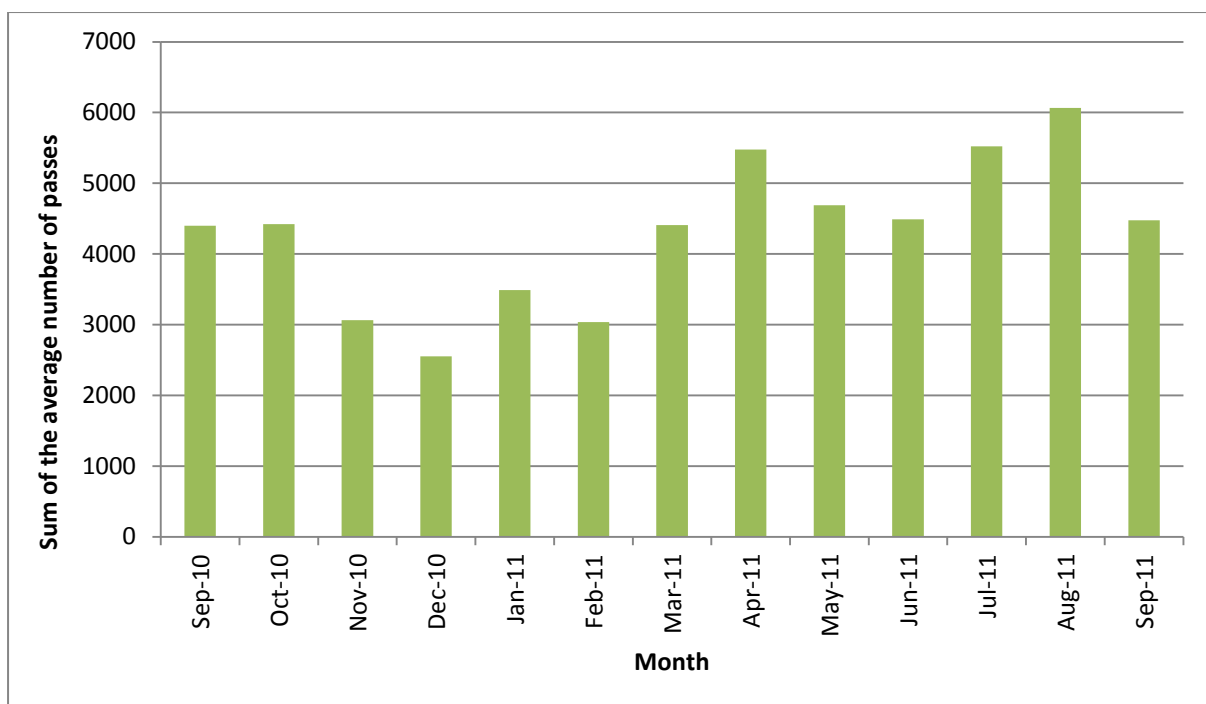


Figure 1: The sum of the average number of counts across 37 sensors between 01.09.10 – 30.09.11.

- 4.11 There is a clear difference between the number of passes recorded by the sensors on weekdays and weekends. Sundays were the busiest days with on average 11,267 passes and Tuesday were the quietest with 6838 passes (Figure 2).

⁴ <http://www.projectbritain.com/weather/sunshine.htm>

⁵ <http://www.projectbritain.com/weather/sunshine.htm>

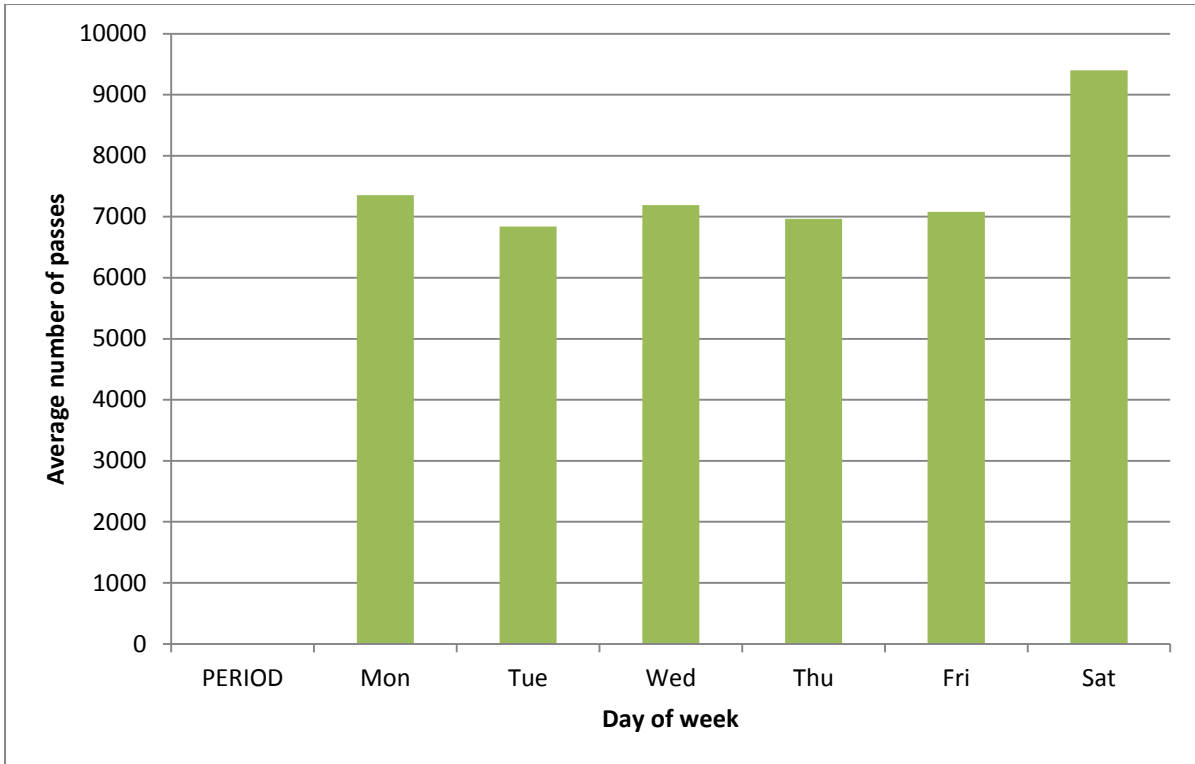


Figure 2: The sum of the average number of passes per sensor by day of week across 37 sensors between 01.09.10 and 30.09.11

4.12 There is a distinct diurnal pattern in activity with the highest number of passes recorded between 3pm-4pm with 5637 passes and the quietest hour with an average 24 passes was between 3am-4am (Figure 3). It is apparent that people do visit the heaths and greenspaces throughout the day and night.

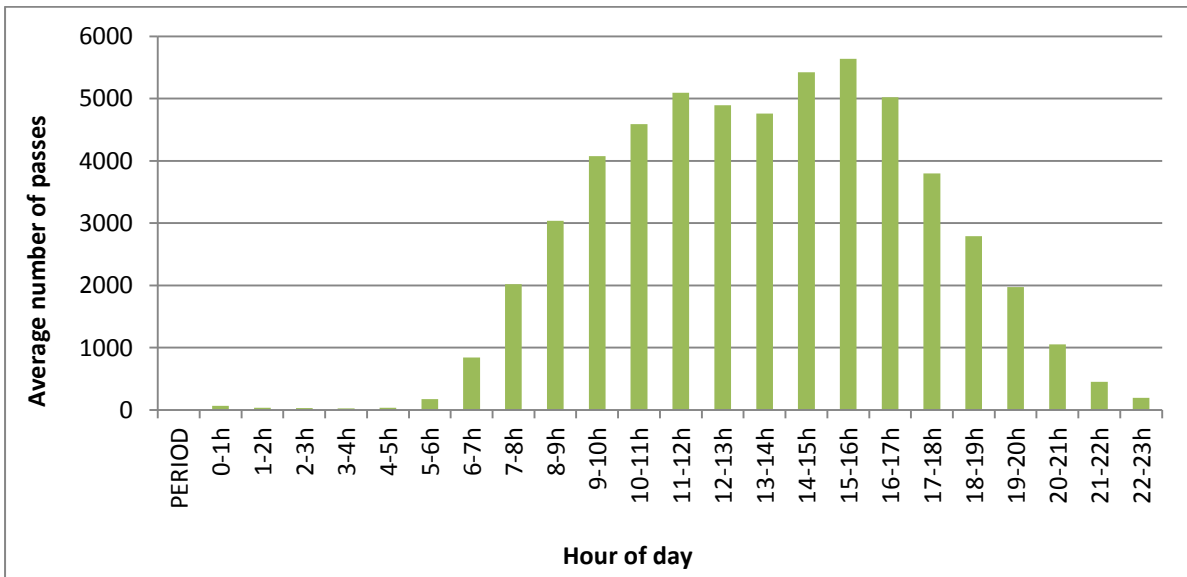


Figure 3: The sum of the average number of passes through 37 sensors by hour of day between 01.09.10 and 30.09.11.

Patterns between automatic counters on heathland and non heathland

- 4.13 Of the 37 sensors with continuous data 28 of these were at locations on or adjacent to heathland and 9 on or adjacent to non heathland areas. We considered whether there were any obvious differences in seasonal count patterns from the sensors location on the heathland and non heathland sites. Direct comparisons of the heathland and non heathland count data should be avoided but patterns within the general trends of the count data can be visually compared.
- 4.14 The count data from the heathland and the non heathland sensors follow seasonal trends with counts peaking in August and with high count readings in April and July (Figure 4 and Figure 5). Sensor counts are at their lowest on the heathland and non heathland sites in December and February (Figure 4 and Figure 5).
- 4.15 The diurnal count pattern between the heathland and non heathland sensors differ in the mornings. For the heathland sites activity start to increase from 5 am reaching a morning peak between 11am and 12pm when most visitors are either recorded entering or leaving the site (Figure 6). The morning counts from the non heathland sensors peak between 8am-9am (the time when most visitors are either entering or leaving these areas) and remain relatively constant until 1pm – 2pm when they start to increase (Figure 7). This indicates that visitor flow is relatively constant in the mornings on the non heathland sites with a steady and similar number of visitors entering and leaving the sites. The count patterns on the heathland sites suggest something slightly different in that the number of visitors entering and leaving the heathlands steadily increases throughout the morning peaking between 11am and 12pm, this corresponds to the findings in the original Dorset heaths visitor report where the activity tended to peak mid morning (between 10am-12pm) (Clarke *et al.* 2006) The highest number of counts through the sensors on both heathland and the non heathland occurred on Saturdays and Sundays (Figure 8 and Figure 9). The lowest counts on the heathland sensors occurred on Tuesdays and the non heathland sensors on Fridays.

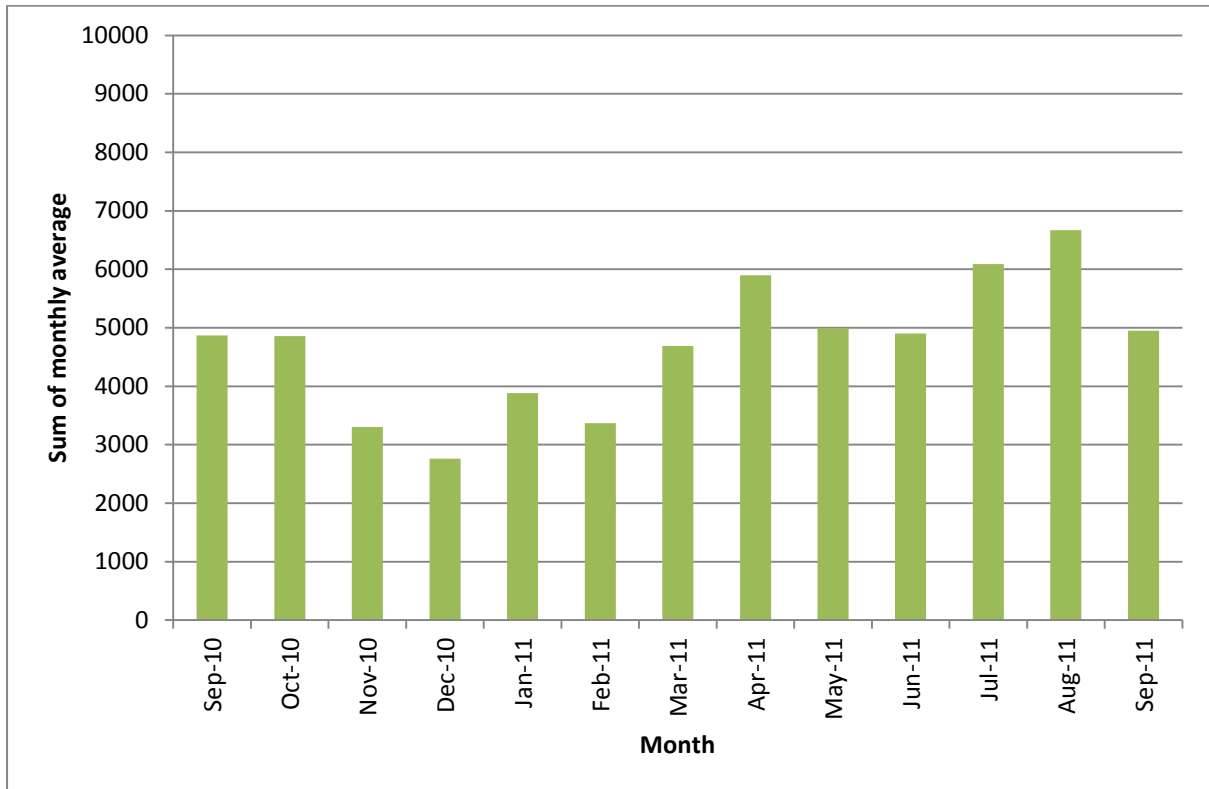


Figure 4: The sum of the average number of passes per sensor per month for 'heathland' sensors.

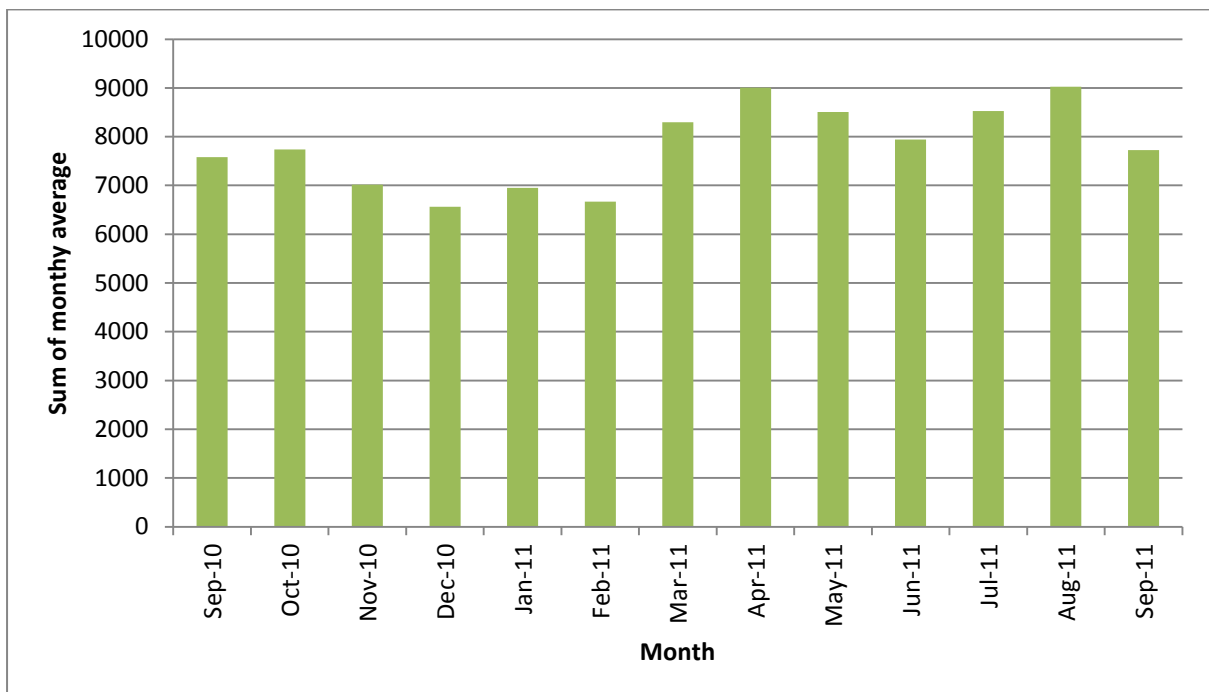


Figure 5: The sum of the average number of passes per sensor per month for 'non heathland' sensors

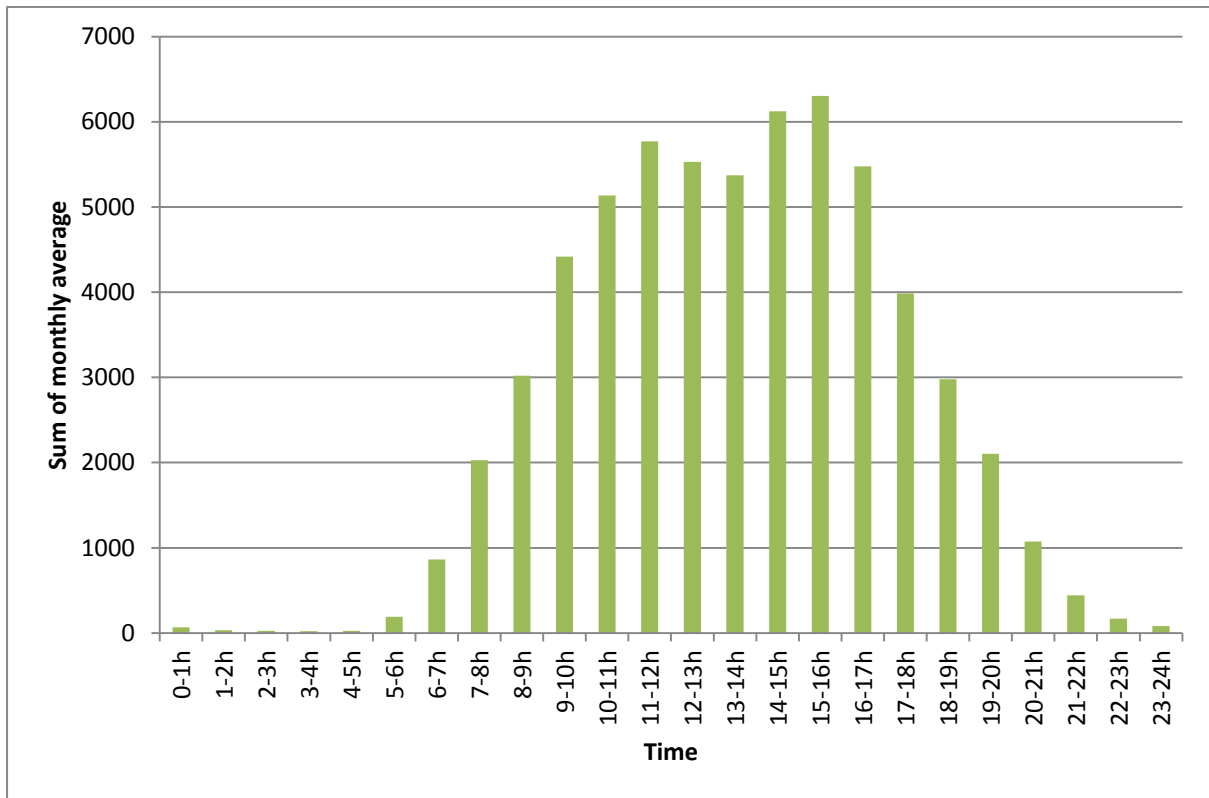


Figure 6: Sum of the average number of sensor passes per hour for heathland sensors

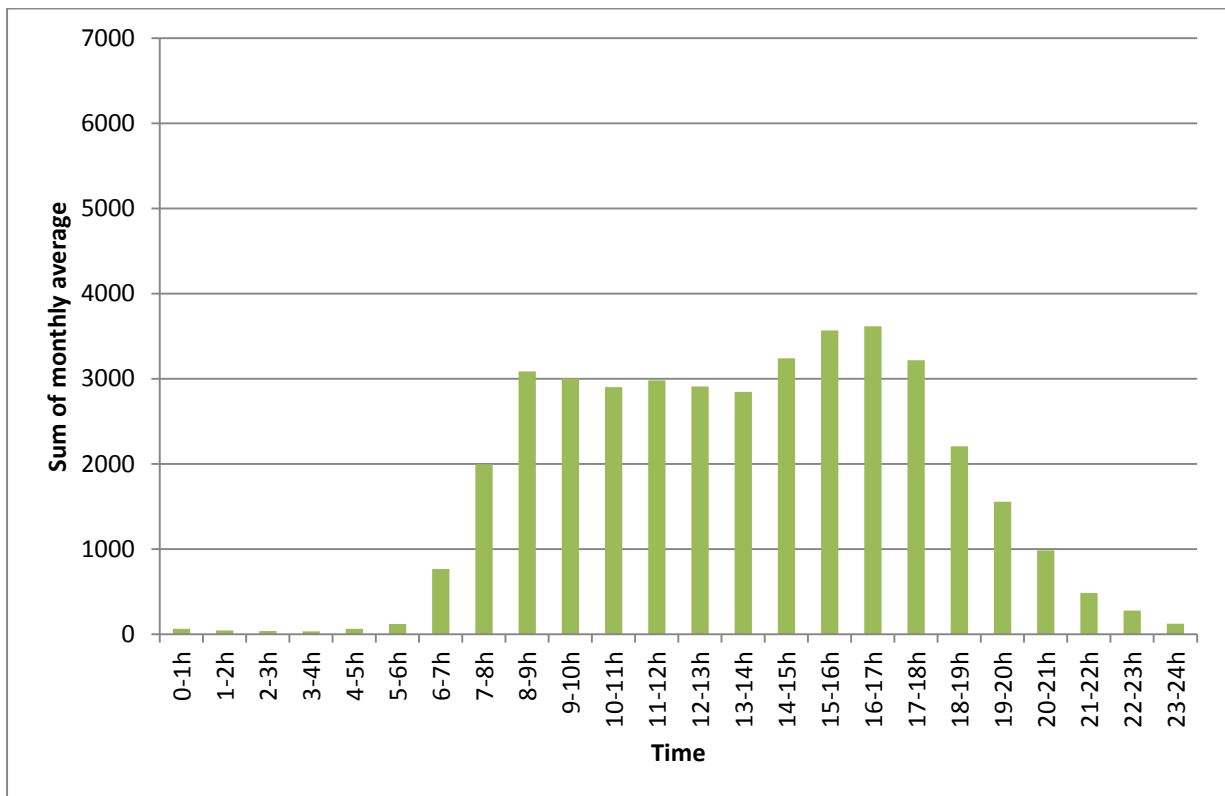


Figure 7: Sum of the hourly average number of passes through the non heathland sensors

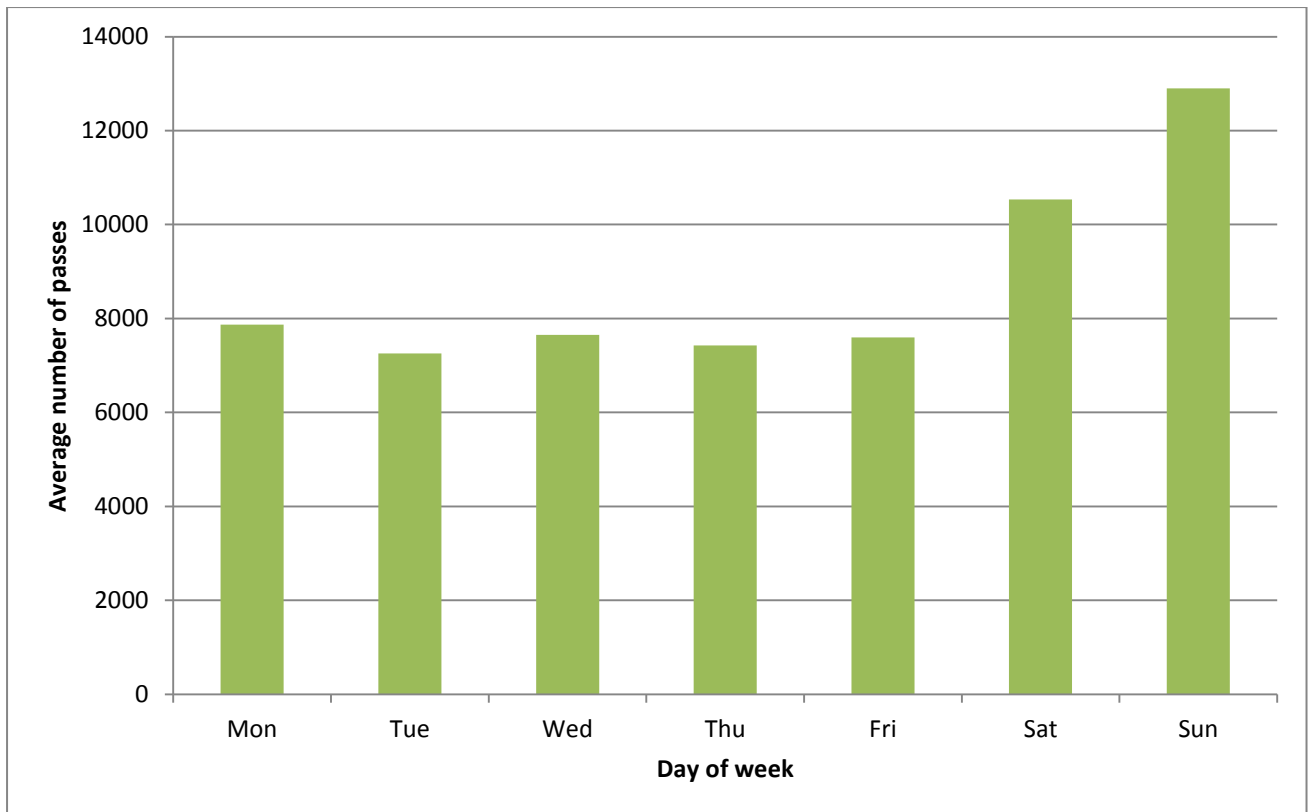


Figure 8: Average number of passes through the heathland sensors over a year by day of week

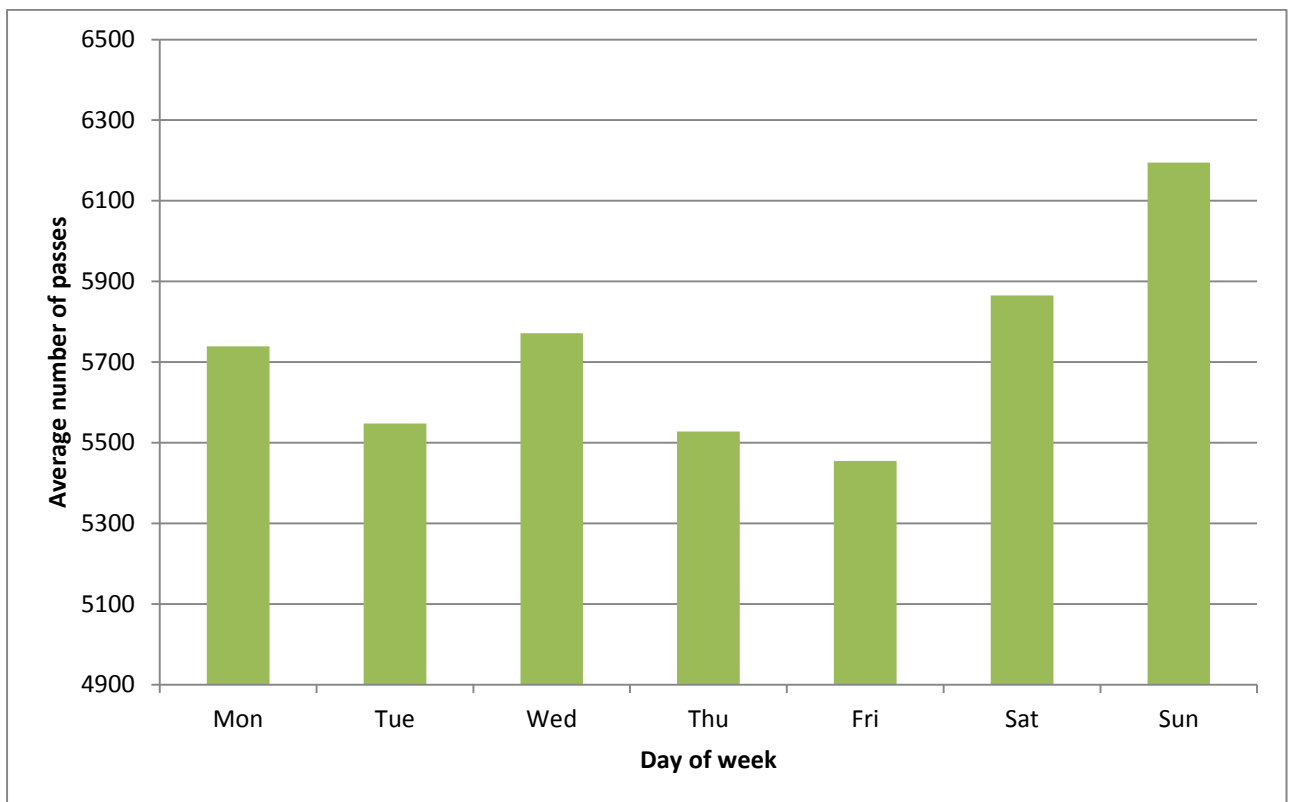


Figure 9: Average number of passes through the non heathland sensors over a year by day of week

Taking the sensor data further

- 4.16 As with every large scale monitoring project there are inevitable difficulties. The large network of sensors requires considerable staff time to check, download and maintain. It is a considerable achievement that the network is so large and that so much data has been collected. The main challenge is the regular download of sensor data which has been constrained by resource levels. More staff time needs to be dedicated to the management and regular change over of the data cubes and maintenance of the sensors⁶.
- 4.17 There is now a need to contextualise the sensor data and to gather visitor routes and counts from sites which have in situ counters. This is to establish the volume of ingoing and outgoing visitor traffic through each sensor as some access points will be used by the majority of visitors to enter and exit the site while others may just include counts of visitors passing through on a circular route. This will add value to the interpretation of the analysed sensor data. Currently the sensor data indicates a traffic of over 2 million passes over the year. Some locations will record people entering and leaving sites (i.e. same people twice), and some sensors are relatively close such that some visitors may 'trigger' more than one sensor during their visit. The challenge is therefore to use the sensor data (potentially with other data such as the car-park counts) to calculate how many people actually visit each site each year.
- 4.18 It would be desirable to extend and expand the network of sensors to include data from rural heathland sites and areas which have the potential to accommodate future development, but this needs careful planning to ensure the maintenance and data downloads of new or reposition counters is achievable with current staffing levels.

⁶ A dedicated part time role to manage cube changes and monitoring data was created in FY 2012-2013.

5. Car park counts

Introduction

- 5.1 A large proportion of visitors to the Dorset Heaths arrive by car (Clarke *et al.* 2006) and so the number of cars parked around access points to the heaths can be used as a measure of visitor numbers.
- 5.2 Car park counts can be undertaken quickly and the UHP undertakes regular casual car park counts and more complex co-ordinated car park counts. The co-ordinated car park counts record the number of vehicles parked in car parking areas adjacent to heathland access points within a 2 hour window. These counts provide a snapshot of visit numbers to the entire network of heaths.

Co-ordinated Counts

- 5.3 The number of car parks included on the co-ordinated counts was revised in March 2011 and slimmed down from 212 car parks to 156 (Map 5.1). A total of 57 car parks were removed from the surveys as they either were not located adjacent to a heathland access point or they were known to be regularly used by people who lived in adjacent houses to park their vehicles rather than used by visitors to the heathland.
- 5.4 In total we estimate there to be 2776 parking spaces at heathland access points from the 156 car parking area at access points (Table 10).

Table 10: Number and capacity of the car park on the co-ordinated counts

| Nature of Car park | Number of car park spaces | Total number of car parks |
|--------------------|---------------------------|---------------------------|
| Total | 2276 | 156 |

- 5.5 In 2011, 14 co-ordinated car park counts were undertaken, 5 on weekdays, 7 over weekends and 2 on bank holidays (Table 11). Over three times as many vehicles were recorded on the weekend counts in comparison to the weekday counts but this may be because more counts were undertaken on weekends in comparison to weekdays (Table 10, Table 11, Table 12 and Map 5.2).
- 5.6 To consider whether there is a notable difference in the number of vehicles recorded over weekend days in comparison to weekdays we looked at the average number of vehicles recorded on each count for weekends and weekdays (Table 13). A far higher number of parked vehicles were recorded on weekend counts in comparison to weekday counts. On average the total of number of parked vehicles recorded on weekdays in 2011 was 259 vehicles compared to a weekend average total of 609 (Table 13). This is over twice the number of vehicles on weekends and hence these data indicate that visitor numbers to the heathlands over the weekends in 2011 may have been over double that of weekday visitor numbers (Table 13).

5.7 The vehicle counts from the co-ordinated surveys on bank holidays are also far higher than the weekday counts indicating again that visitation to the heaths over the bank holiday periods (2nd May 2011 and 29th August 2011) is much higher than on weekdays (Table 12 and Table 13).

Table 11: The number and timings of the co-ordinated car park counts

| Year | Weekday | Weekend | Bank Holiday Monday | Total number of co-ordinated counts |
|--------------|-----------|-----------|---------------------|-------------------------------------|
| 2008 | | | 1 | 1 |
| 2009 | 4 | 5 | | 9 |
| 2010 | 3 | 4 | 1 | 8 |
| 2011 | 5 | 7 | 2 | 14 |
| 2012 | 2 | | | 2 |
| Total | 14 | 16 | 4 | 34 |

Table 12: The number of vehicles recorded from the co-ordinated counts. Only data on revised car park count list (from 156 car parks) is presented

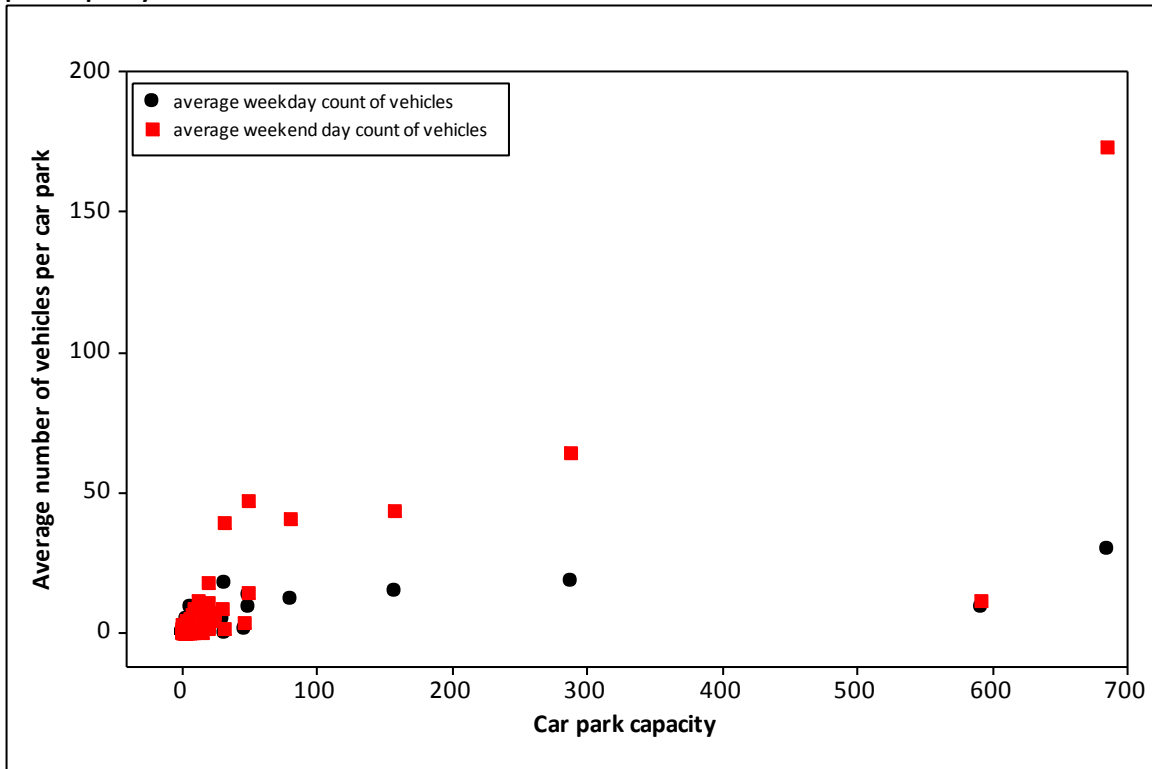
| Year | Number of car parks counted | Vehicles recorded on weekdays | Vehicles recording on weekend days | Vehicles recorded on bank holidays | Total vehicles |
|--------------|-----------------------------|-------------------------------|------------------------------------|------------------------------------|----------------|
| 2008 | 143 | | | 1,125 | 1,125 |
| 2009 | 1,205 | 679 | 2,035 | 662 | 2,714 |
| 2010 | 1,300 | 545 | 2,680 | 1,188 | 4,413 |
| 2011 | 2,089 | 1,294 | 4,263 | 1,162 | 6,719 |
| 2012 | 306 | 559 | | | 559 |
| Total | 5,043 | 3,077 | 8,978 | 3,475 | 15,530 |

Table 13: The average number of parked vehicles per co-ordinated count by day of week

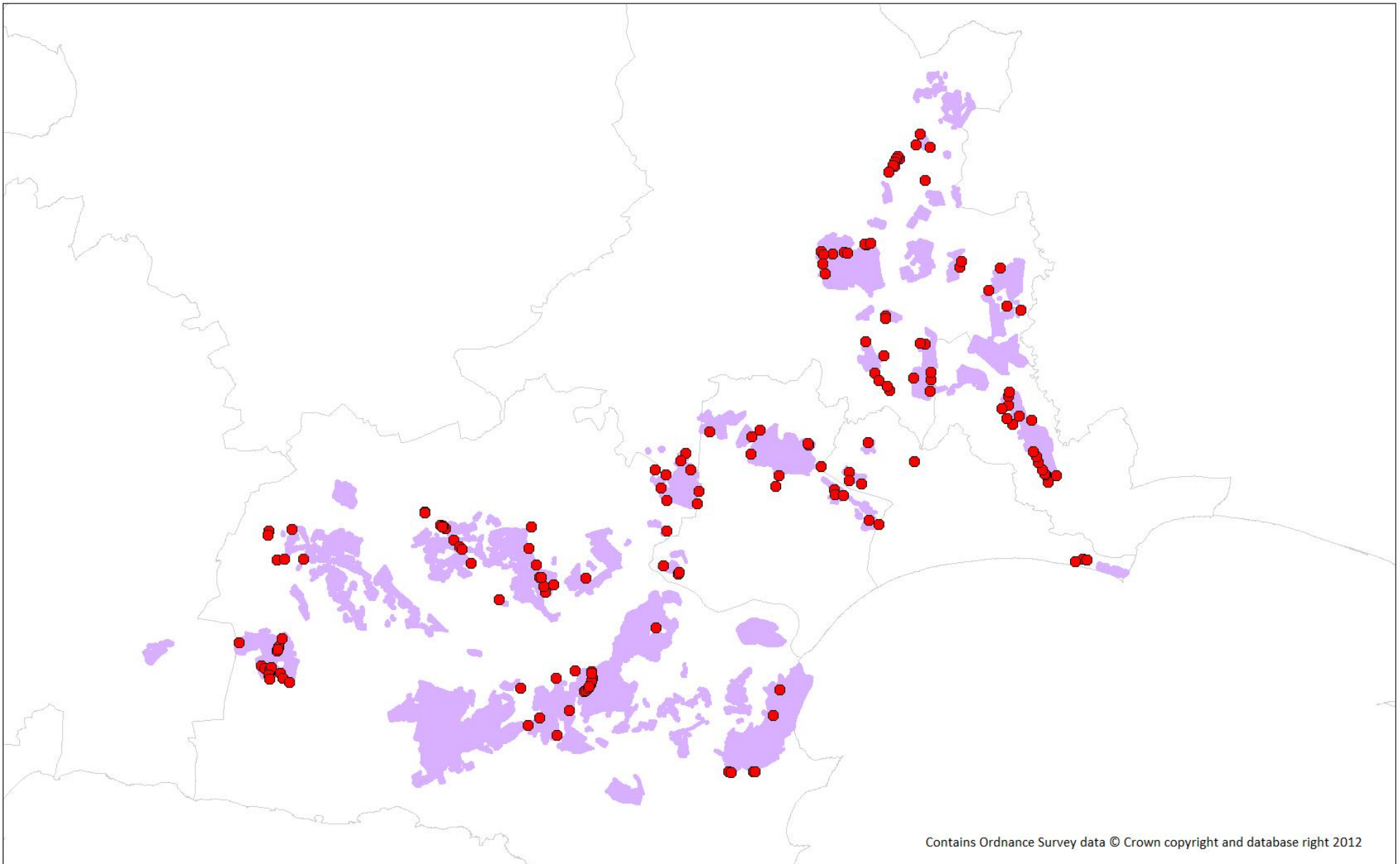
| Year | Weekday | Weekend | Bank Holiday Monday | Average number of vehicles per count by year |
|--|------------|------------|---------------------|--|
| 2008 | n/a | n/a | 1125 | 1125 |
| 2009 | 170 | 407 | n/a | 302 |
| 2010 | 182 | 670 | 1188 | 552 |
| 2011 | 259 | 609 | 581 | 480 |
| 2012 | 280 | n/a | n/a | 280 |
| Average number of vehicles per count by day of week | 220 | 561 | 869 | 457 |

5.8 Map 5.3 shows the total number of vehicles recorded in each car park over 2011 and when they were recorded (weekday, weekend or bank holiday). The car parks with the greatest numbers of cars are the areas with the highest car parking capacities (Figure 10). Map 5.3 and Figure 10 also shows more of vehicles were recorded over the weekends and the bank holidays.

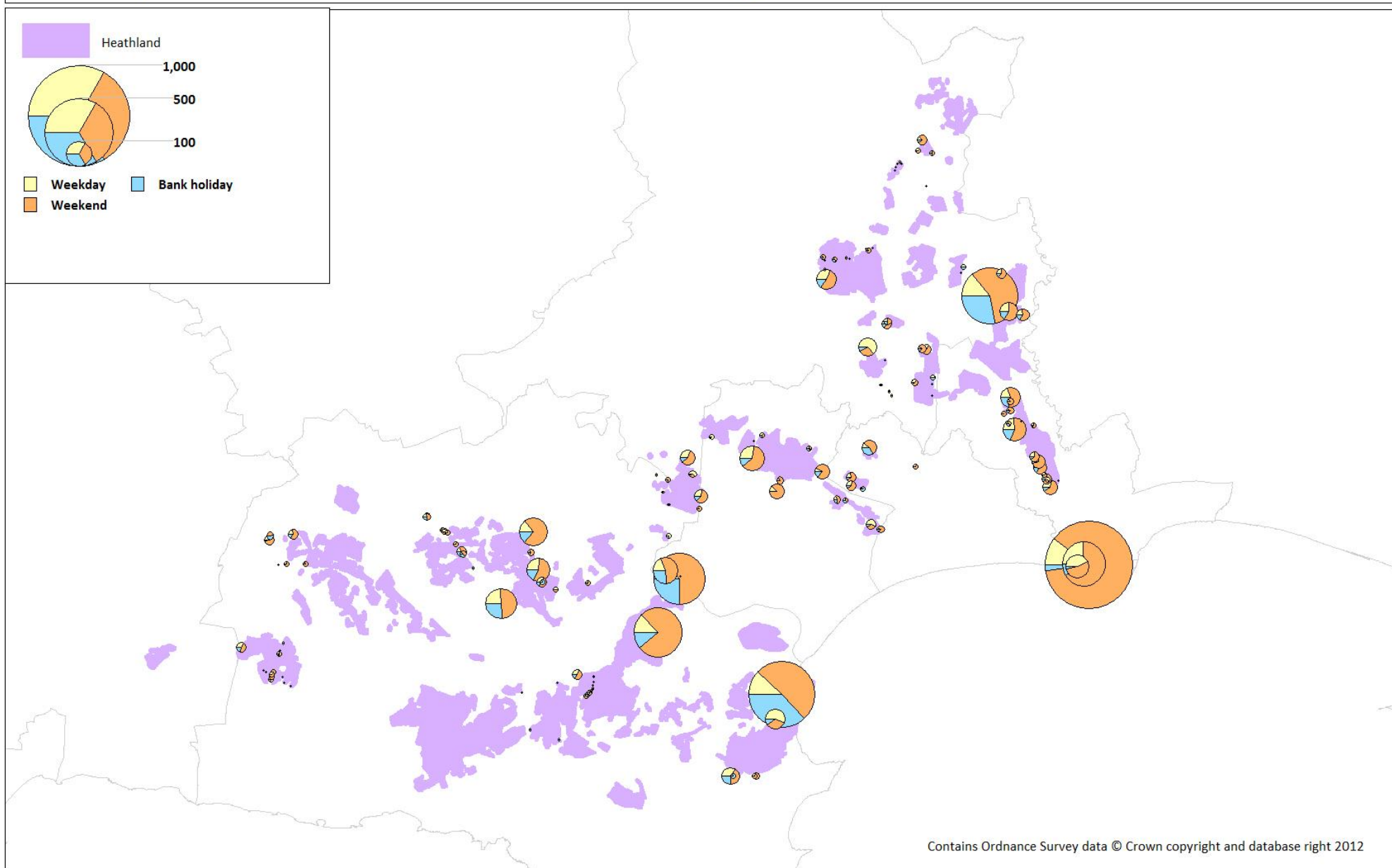
Figure 10: The average number of parked vehicles on weekday and weekend coordinated counts against car park capacity undertaken in 2011.



Map 5.1. Car parks surveyed during the simultaneous counts



Map 5.2 Comparison of vehicles recorded on week, weekend and bank holidays on the co-ordinated counts during 2011



Casual

5.9 The casual car park counts are recorded in an ad hoc manner and as such only provide an indication of the number of visitors by car to a specific location at a single point in time.

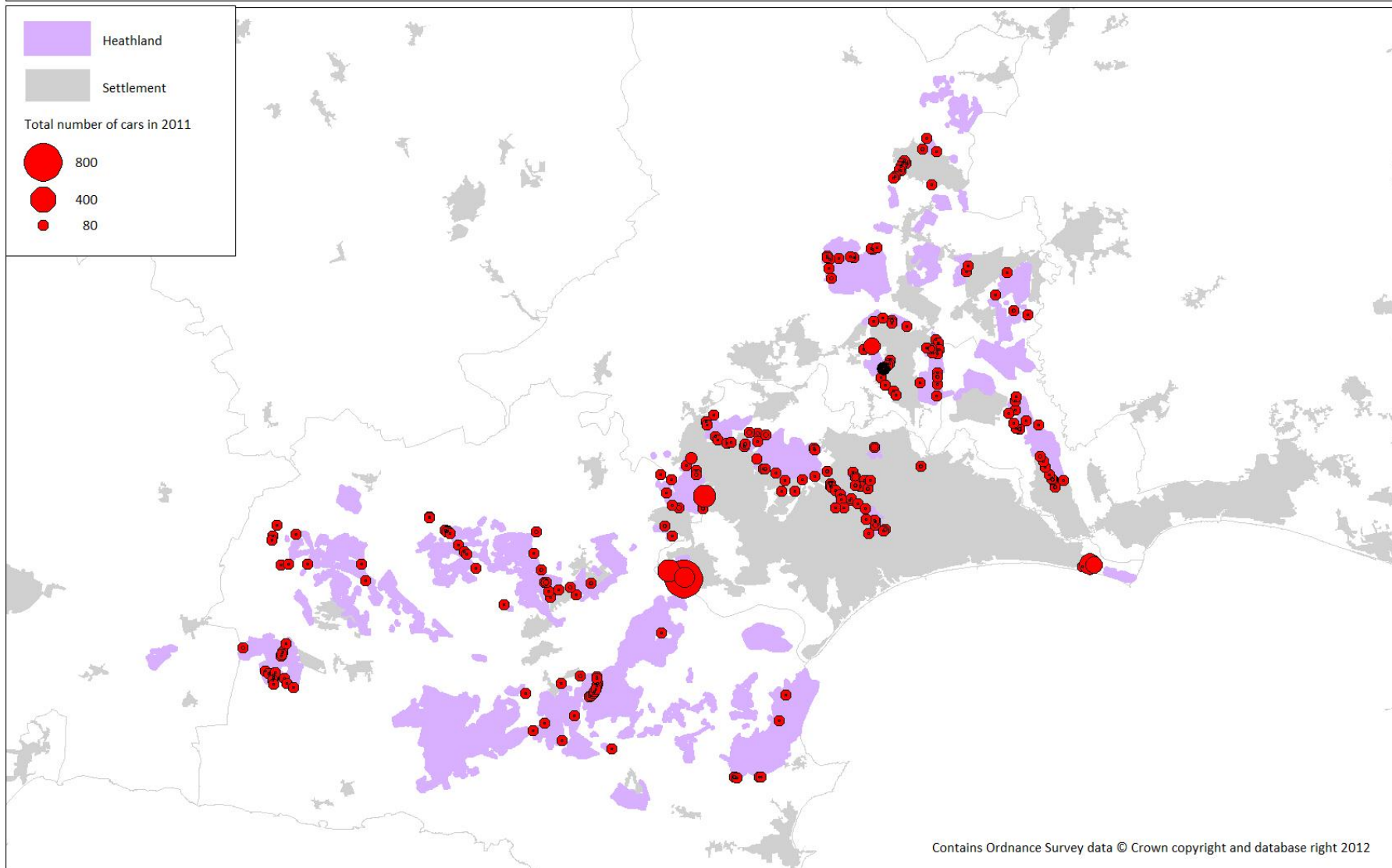
5.10 These counts are useful when considering access at a site level. In 2011 the UHP submitted 1,196 casual car park counts which recorded 3,330 vehicles and 97 bike racks (Table 14). A lower number of casual count records were submitted this year as there was no central warden for a large part of the year.

Table 14: Number of casual car park counts undertaken by the UHP each year with vehicle data

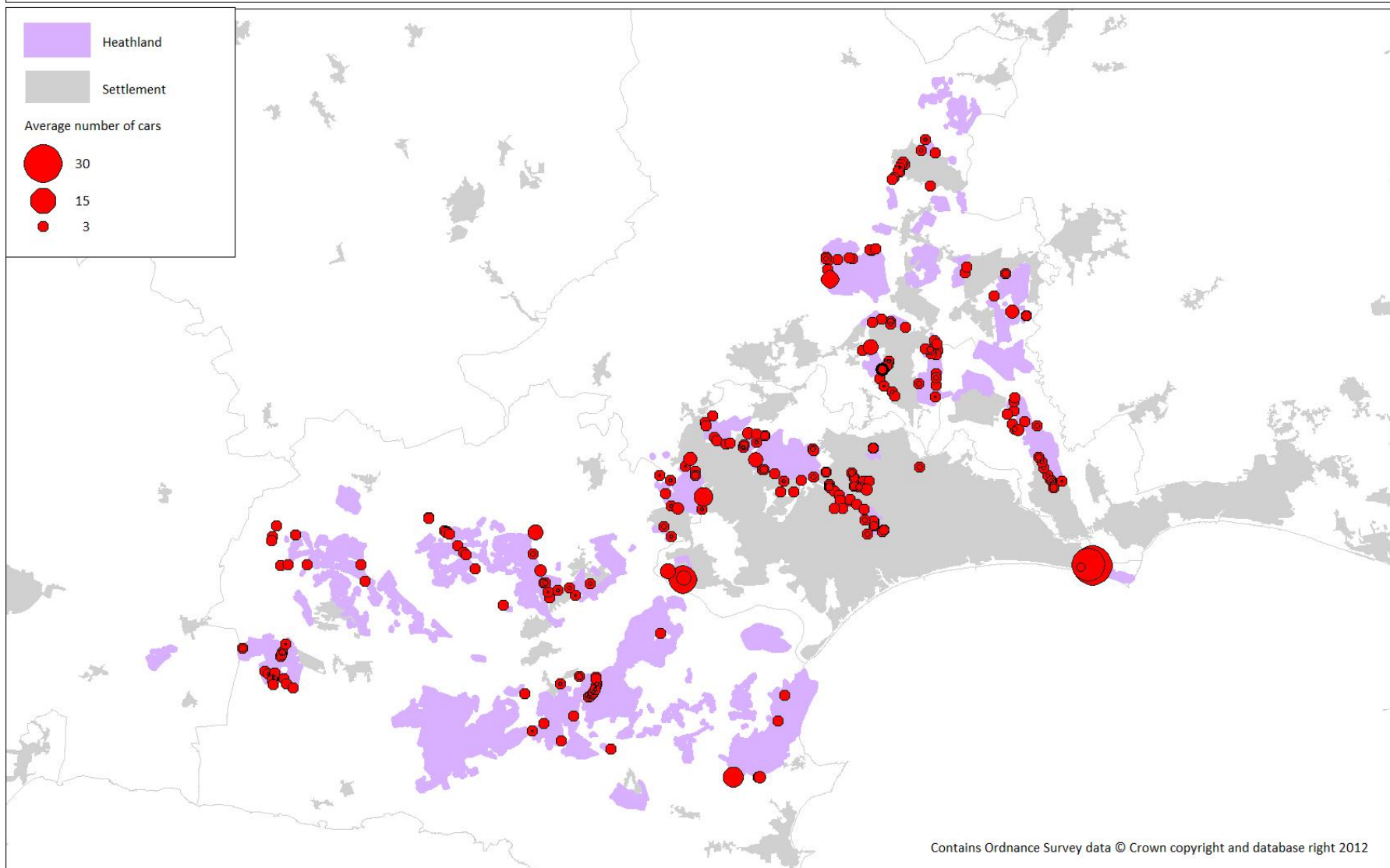
| Year | Number of counts | Number of vehicles | Number of bike racks |
|---------------|------------------|--------------------|----------------------|
| 2008 | 939 | 3371 | Not recorded |
| 2009 | 1581 | 5819 | Not recorded |
| 2010 | 1998 | 3140 | 1 |
| 2011 | 1196 | 3330 | 97 |
| Totals | 5714 | 15660 | 98 |

5.11 Map 5.3 shows the total number of cars recorded from the casual counts where it is easy to identify the honey pot sites with large car parks such as Hengistbury Head, Ham Common, Ferndown Common and Upton. Map 5.4 shows the average number of cars per car park with Hengistbury Head, Holt Heath, Ham Common, Upton Heath and Godlingston as those with the highest average number of vehicles.

Map 5.3 Total number of cars recorded in each car park from the casual counts in 2011.



Map 5.4 Average number of cars recorded in each car park from the casual counts in 2011.



Taking the car park data further

- 5.12 The co-ordinated counts provide a powerful data set from which we can clearly see emerging patterns (busier car parks over weekend days and bank holidays, higher number of cars in larger car parks). It would be valuable to expand the analyses to consider whether the rural or urban heaths are subject to the same level visitor access (by those who arrive by car) on weekdays in comparison to weekends.
- 5.13 Give the co-ordinated counts are now working well it may be worth considering expanded the counts to include some of the dedicated SANG car parks. It would also be worthwhile the UHP wardens recording the number of vehicles parked in the SANG car parking areas as part of their casual car park counts.

6. Projects sites and monitoring

IPF funded projects

- 6.1 Four projects were funded this year and details of these are provided in Table 15. Two of the projects were to improve access and visitor experience at non heathland locations in Christchurch, another was for land purchase for a potential SANG in East Dorset and the final was to improve access for emergency fire fighting vehicles at the heathland site near Poole (Table 15).
- 6.2 At the start of the financial year partners were encouraged to engage with Footprint Ecology to identify suitable monitoring methods for each project. This has mostly been successful and advice has been offered to Christchurch Borough Council, Dorset Wildlife Trust, East Dorset District Council and Dorset County Council.
- 6.3 A summary of the pre project monitoring for improvement works at Stanpit Recreation Ground provided by Christchurch Borough Council can be found in the appendix

Table 15: Projects that were funded by the IPF budget for the 2011-2012 financial year.

| Project | Description | Status | IPF contribution | Lead partner and date approved |
|--------------------------------------|--|--|------------------|---|
| Stanpit Recreation Ground | Improvements to landscaping and access routes to increase attractiveness as alternative destination to heaths | Public Consultation due to start in Summer 2012. Minor entrance ground works complete enabling monitoring. Pressure pads to be re-installed in April. 7% complete | £126,435 | Christchurch Borough Council 22.09.11 |
| Chewton Bunny South Shore | Improvements to increase attractiveness to families and young people. Includes the installation of a wild ride style mountain biking course to attract users to this area as an alternative to St Catherine's Hill | Pressure pad in place. Public Consultation complete. Planning Application on hold until land ownership is resolved. 5% complete | £19571 | Christchurch Borough Council 22.09.11 |
| Woolslope Farm Stage One | Purchase of 13ha for creation of SANG | Final negotiations and legal proceedings with the land owner over the land purchase | £300,000 | East Dorset District Council 15.12.11 |
| Upton Heath Fire Access Improvements | Improvements to entrance from Longmeadow Lane and track surfaces to facilitate fire fighting | Work started 5/3/12 40% complete | £12,640 | Dorset Wildlife Trust /Borough of Poole 15.12.11 |

7. Discussion and recommendations

- 7.1 The monitoring has progressed well over the past financial year despite resource constraints and with a new part time funded access and monitoring post will continue to do so. The volume of data provide a unique resource and the south-east Dorset authorities are ahead of other authorities (such as those around the Thames Basin Heaths) in gathering data relating to trends in access patterns.
- 7.2 The collection, collation and input of the data are working well and the project is building a substantial and comprehensive data set on visitor access and patterns to both heathland and non heathland sites. Investment needs to be maintained to allow the monitoring to continue in the longer term. It is the longevity of the data collection that will prove valuable and enable us to look at longer term levels of visitor access and use of the heathland and non heathland sites. This report simply summarises the data that are available rather than presenting detailed analysis that interlink the ecological and visitor data.
- 7.3 A large area (60ha) of heathland was lost to fire during 2011 this high value reflects the severe fire which occurred on Upton Heath in June 2011 where 56ha (93% of all burned heathland in 2011) of heathland was lost.
- 7.4 Across Dorset there are a number of projects which are also starting to or will be gathering visitor data in relation to visitor patterns to the countryside. Given the experience and skills that have been acquired from undertaking the monitoring as part of the IPF it would seem sensible to hold a workshop or event day to invite local partners or organisations to share their experience of visitor work and perhaps use the opportunity to share the methodologies used so that where possible cross project data and be shared and collectively analysed.
- 7.5 One aspect of the monitoring which needs to be improved is data storage and sharing. We suggest that audited data are sent to DERC for storage and all future data requests are managed by DERC.
- 7.6 Communication within the partnership has improved over the past financial year with representative from most partner organisation attending at least one steering group meeting a year. We would strongly encourage all partner organisations to contact Footprint Ecology when considering how best to monitor IPF funded capital projects to ensure data collected across these projects can be collective analysed with existing visitor information and the surveys and methods proposed are appropriate for the intended analyses.
- 7.7 To summarise, the monitoring strategy, compiled in 2007 (Liley, 2007), made a number of suggestions as to the nature and scale of monitoring required under the IPF. Table 16 shows these elements with a summarised update of their progress. Table 16 Adapted from the monitoring strategy (Liley, 2007), with additional information on monitoring within the IPF to date

| | Title | Description | Progress |
|----|--|---|---|
| 1 | Bird distribution across sites | Nightjar, Dartford warbler and woodlark territories mapped across all sites every 5 years and across a selection of sites annually | Nightjar, woodlark and Dartford warbler surveys undertaken at 8 locations |
| 2 | Nightjar breeding success | Nest monitoring on a small sample of sites, including use of cameras to record extent to which birds are flushed. | Not commenced. |
| 3 | Review of existing bird data | Collation of counts for sites 1991-2007, with the aim of producing trends for key species over time | Not commenced. |
| 4 | Fire recording | All fire incidences recorded and mapped across all sites. Fires above a certain threshold mapped as polygons to give exact distribution of burns. | Continual recording of fire and other observed incidents on Dorset Explorer |
| 5 | Fixed point monitoring of paths | Photographs, measurements of path width, compaction and counts of dog faeces at fixed points along paths. Locations stratified to include locations near access points and away from access points | Not commenced. |
| 6 | Direct observation of visitor behaviour and counts of visitors | Questionnaires and counts. Conducted using a set methodology (set time periods etc.) and following a standard protocol. At a sample of access points and within the heaths themselves and at alternative sites. | Questionnaires and counts of visitors undertaken at Stanpit ahead of proposed improvement works to this SANG site |
| 7 | Household survey | Sample of residents across s-e Dorset interviewed to determine which sites (heath and non-heath) they visit / have visited in a particular time period. | Completed in 2008 |
| 8 | Visitor counts on heaths and alternative sites | Visitor monitoring established through automated counters across sites, including non-heathland sites. Counters set up with the intention of delivering data on visitor numbers over an extended time period. | 77 sensors installed and active ⁷ |
| 9 | Simultaneous car-park counts | Simultaneous counts of cars in a selection of car-parks conducted at set times / dates to facilitate comparison between sites and between years. | 14 counts completed. 5 on weekdays, 7 on weekend days and 2 on Bank Holidays |
| 10 | Perceptions survey | Part repeat of Atlantic Consultants surveys. This is a low priority compared to the other recommendations. | Not commenced. |
| 11 | Database of new housing | All new housing recorded in a systematic fashion. | Existing databases are currently under review. |
| 12 | Database of management work within projects | Database set up to record all project work conducted within the IPF, showing locations, timing and detailing actual works | Not commenced. |
| 13 | Data collation | One organisation or consultant to take overall responsibility for collating data, training project staff, checking and filling in any gaps and reporting annually. | Data management maintained by Footprint Ecology and sent to DERC for storage. Training completed by UHP. |
| 14 | Steering group | Steering group to meet approximately | More than one steering group meeting |

⁷ Correct as of April 2012

| | | | |
|----|--|---|--|
| | | annually to ensure monitoring is taking place to appropriate standards and is appropriately covering the projects and project sites. | in 2011-2012. |
| 15 | Short write-ups | Monitoring data from individual projects documented in short standalone documents, potentially in a form that can be directly published as conservation evidence case studies | Not commenced. |
| 16 | Detailed analysis in peer reviewed journals and internal reports | Monitoring data from different projects and different areas combined to produce clear, accurate and well publicised results. | Not commenced. |
| 17 | Regular conferences, workshops / events | Results of monitoring and on-going monitoring presented to local and national audiences, with the aim of maintaining enthusiasm within project staff, highlighting importance of the work and sharing results | Monitoring workshop planned for Spring 2013. |

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Appendix

Table 17: Summary of the monthly counts from 37 sensors between September 2010 and September 2011.

| Sensor code | Sep-10 | Oct-10 | Nov-10 | Dec-10 | Jan-11 | Feb-11 | Mar-11 | Apr-11 | May-11 | Jun-11 | Jul-11 | Aug-11 | Sep-11 | Total |
|-------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|---------|
| BHH1 | 8,519 | 7,987 | 4,748 | 2,882 | 5,779 | 5,220 | 7,878 | 10,299 | 9,415 | 8,602 | 10,230 | 11,315 | 8,362 | 101,236 |
| BHH2 | 34,302 | 31,971 | 17,261 | 15,043 | 25,545 | 21,735 | 30,856 | 48,327 | 35,608 | 35,742 | 50,071 | 57,175 | 33,001 | 436,637 |
| BHH3 | 25,827 | 25,893 | 15,620 | 14,366 | 21,714 | 16,794 | 25,129 | 35,741 | 24,153 | 24,955 | 30,743 | 34,645 | 24,210 | 319,790 |
| BMM2 | 1,095 | 1,077 | 417 | 232 | 397 | 295 | 724 | 680 | 855 | 803 | 994 | 950 | 703 | 9,222 |
| BMP1 | 450 | 376 | 269 | 174 | 256 | 369 | 422 | 520 | 615 | 512 | 588 | 529 | 632 | 5,712 |
| CABMX2 | 1,817 | 3,661 | 3,535 | 3,357 | 2,977 | 2,921 | 3,761 | 4,566 | 4,522 | 3,894 | 4,395 | 4,818 | 3,714 | 47,938 |
| CSCH1 | 3,511 | 5,431 | 4,298 | 4,261 | 4,947 | 4,517 | 5,075 | 6,319 | 5,810 | 4,996 | 6,027 | 5,824 | 5,398 | 66,414 |
| DAH2 | 1,507 | 1,586 | 1,430 | 875 | 1,392 | 1,228 | 1,424 | 1,319 | 1,309 | 1,213 | 1,452 | 1,716 | 1,508 | 17,959 |
| DAH4 | 5,759 | 6,466 | 5,388 | 5,375 | 5,756 | 5,103 | 5,953 | 5,608 | 5,573 | 5,238 | 6,311 | 6,639 | 6,103 | 75,272 |
| DCTWHRX3 | 186 | 226 | 218 | 175 | 189 | 241 | 304 | 382 | 228 | 182 | 225 | 251 | 162 | 2,969 |
| DCTWLHX2 | 4,704 | 3,941 | 2,526 | 1,868 | 2,664 | 2,269 | 4,466 | 6,182 | 5,685 | 4,610 | 5,679 | 6,532 | 4,321 | 55,447 |
| DLH1CTW | 1,580 | 1,613 | 1,396 | 1,738 | 1,435 | 1,146 | 1,595 | 1,609 | 1,794 | 1,769 | 1,918 | 1,974 | 1,663 | 21,230 |
| DSB2 | 2,350 | 2,339 | 2,118 | 1,594 | 2,085 | 1,885 | 2,275 | 2,047 | 2,578 | 2,512 | 2,370 | 2,446 | 2,382 | 28,981 |
| DUH1 | 4,083 | 3,291 | 2,450 | 2,455 | 2,319 | 2,148 | 3,398 | - | - | 2,110 | 3,796 | 3,980 | 3,362 | 33,392 |
| HDH1A | 140 | 94 | 65 | 23 | 40 | 38 | 58 | 51 | 72 | 89 | 60 | 25 | 47 | 802 |
| HFC3 | 157 | 108 | 127 | 218 | 239 | 347 | 326 | 164 | 153 | 100 | 103 | 219 | 163 | 2,424 |
| HFC4 | 5,048 | 4,730 | 3,752 | 3,656 | 3,998 | 3,495 | 5,199 | 5,600 | 6,149 | 5,137 | 5,737 | 5,775 | 5,386 | 63,662 |
| HGO1 | 889 | 902 | 605 | 637 | 579 | 720 | 707 | 683 | 682 | 753 | 884 | 1,296 | 1,255 | 10,592 |
| HGO2 | 1,519 | 1,932 | 2,047 | 1,129 | 1,649 | 1,601 | 2,237 | 2,170 | 2,007 | 1,768 | 2,066 | 1,980 | 1,798 | 23,903 |
| HL1 | 1,420 | 1,695 | 1,349 | 1,627 | 1,675 | 1,700 | 2,196 | 1,949 | 1,959 | 1,868 | 2,076 | 1,925 | 1,899 | 23,338 |
| HPC3 | 238 | 212 | 188 | 55 | 116 | 153 | 176 | 345 | 343 | 293 | 420 | 348 | 271 | 3,158 |
| HTC1 | 2,778 | 3,552 | 3,312 | 2,501 | 3,863 | 3,529 | 3,686 | 3,558 | 3,108 | 3,029 | 3,165 | 3,960 | 4,132 | 44,173 |
| NSH1 | 1,783 | 1,403 | 936 | 634 | 621 | 472 | 630 | 1,188 | 1,597 | 1,769 | 2,072 | 2,097 | 1,671 | 16,873 |
| NSH2 | 1,992 | 2,353 | 1,698 | 1,720 | 1,786 | 1,408 | 1,715 | 2,164 | 2,488 | 2,637 | 2,998 | 3,127 | 1,096 | 27,182 |
| NSH3 | 1,911 | 1,530 | 1,066 | 1,067 | 1,138 | 910 | 1,283 | 2,294 | 2,467 | 1,891 | 2,006 | 2,551 | 691 | 20,805 |
| NSH4 | 2,683 | 2,406 | 2,040 | 2,002 | 1,497 | 1,174 | 1,889 | 2,669 | 3,103 | 2,899 | 3,088 | 2,861 | 2,265 | 30,576 |
| PBV2 | 3,562 | 3,144 | 1,857 | 972 | 2,003 | 1,999 | 3,201 | 3,390 | 3,365 | 3,714 | 4,428 | 4,140 | 3,980 | 39,755 |
| PCA1 | 5,692 | 6,774 | 5,815 | 6,201 | 5,944 | 5,105 | 6,714 | 6,668 | 6,671 | 5,350 | 6,241 | 6,294 | 5,813 | 79,282 |
| PCA4 | 4,850 | 5,184 | 3,792 | 1,854 | 3,240 | 2,749 | 4,187 | 4,883 | 5,610 | 5,405 | 6,384 | 6,669 | 5,535 | 60,342 |
| PCA6A | 1,502 | 1,473 | 823 | 671 | 867 | 788 | 840 | 1,228 | 1,368 | 1,143 | 1,333 | 1,245 | 1,325 | 14,606 |
| PHC1 | 6,020 | 5,630 | 3,212 | 1,534 | 3,781 | 3,385 | 5,145 | 6,689 | 5,332 | 5,416 | 6,906 | 8,079 | 5,645 | 66,774 |
| PHC5 | 2,729 | 2,424 | 1,136 | 814 | 1,161 | 1,026 | 1,796 | 3,477 | 2,963 | 2,384 | 3,252 | 4,075 | 2,418 | 29,655 |
| PHO1 | 12,668 | 12,826 | 9,872 | 6,748 | 9,561 | 8,519 | 17,441 | 19,075 | 14,997 | 12,589 | 15,011 | 17,025 | 14,077 | 170,409 |
| PTH3 | 2,924 | 2,933 | 2,114 | 1,550 | 2,176 | 1,878 | 2,844 | 3,092 | 3,311 | 3,094 | 3,022 | 3,706 | 2,736 | 35,380 |

I P F M o n i t o r i n g – 2 0 1 1 / 2 0 1 2 A n n u a l R e p o r t

| Sensor code | Sep-10 | Oct-10 | Nov-10 | Dec-10 | Jan-11 | Feb-11 | Mar-11 | Apr-11 | May-11 | Jun-11 | Jul-11 | Aug-11 | Sep-11 | Total |
|--------------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|------------------|
| PTH4 | 2,420 | 1,982 | 1,626 | 1,586 | 1,523 | 1,256 | 1,976 | 2,547 | 2,840 | 2,391 | 2,699 | 2,532 | 2,298 | 27,676 |
| PTH6 | 1,955 | 2,029 | 1,624 | 1,694 | 1,558 | 1,465 | 2,141 | 2,304 | 2,176 | 1,841 | 2,192 | 2,110 | 1,859 | 24,948 |
| WUH1 | 2,168 | 2,398 | 2,723 | 1,130 | 2,723 | 2,806 | 3,398 | 2,836 | 2,620 | 3,369 | 3,369 | 3,598 | 3,785 | 36,923 |
| Average per month | 3,085 | 3,139 | 2,392 | 1,806 | 2,373 | 2,132 | 3,210 | 3,660 | 3,450 | 3,180 | 3,681 | 3,981 | 3,227 | 2,075,437 |

Figure11: Dates and times of the simultaneous car park counts undertaken by the UHP in 2011 and 2012

| Day of week | Date | Time |
|-------------|------------|-----------|
| Monday | 07/02/2011 | 10am–12pm |
| Monday | 07/03/2011 | 2pm–4pm |
| Sunday | 27/03/2011 | 2pm–4pm |
| Sunday | 17/04/2011 | 10am–12pm |
| Monday | 02/05/2011 | 2pm–4pm |
| Sunday | 05/06/2011 | 10am–12pm |
| Monday | 27/06/2011 | 7am–9am |
| Sunday | 21/08/2011 | 2pm–4pm |
| Monday | 29/08/2011 | 2pm–4pm |
| Monday | 05/09/2011 | 2pm–4pm |
| Sunday | 25/09/2011 | 10am–12pm |
| Monday | 14/11/2011 | 10am–12pm |
| Sunday | 20/11/2011 | 10am–12pm |
| Sunday | 18/12/2011 | 10am–12pm |
| Monday | 06/02/2012 | 10am–12pm |
| Monday | 05/03/2012 | 2pm–4pm |
| Sunday | 05/03/2012 | 2pm–4pm |

Pre project monitoring summary ahead of improvement works at Stanpit recreational ground, Christchurch

- The monitoring task ran through the summer from 23 May to 6 September
- The task took place at three locations: Chewton Bunny (post-project monitoring), Stanpit Recreation Ground (pre-project monitoring) and St Catherine's Hill (local heathland)
- Nine volunteers took part in the task
- A total of 43.5 volunteer hours were spent on the monitoring task

- In total 168 surveys were carried out
- One volunteer has not yet returned the forms for a 2 hour session
- 115 surveys (26 volunteer hours) were carried out at Stanpit Recreation Ground
- 33 surveys (12 volunteer hours) were carried out at Chewton Bunny
- 20 surveys (5.5 volunteer hours) were carried out at St Catherine's Hill (plus a few not yet returned)

- The monitoring task was advertised using posters on each of the sites, email and online using Dorset For You
- Advertising in this way worked well and attracted locals who use the sites often.
- Using local volunteers was beneficial, as their local knowledge allowed for useful insight and tips on how to run the task
- Each volunteer received a risk assessment, the CBC child protection policy as a precaution for incidental contact, a letter of identification, an ID badge and an induction sheet

- Volunteers surveyed only in dry weather and the wet summer limited the hours spent on the task
- More volunteers are willing to participate in the summer than the winter
- Some volunteers were particularly interested in participating during the school summer holidays as they could bring their children along for work experience
- Repeating the monitoring task during the summer period (resource dependant) will enable trends or changes in visitor patterns to be recognised

- In addition, car park counts and spot counts are undertaken regularly at Stanpit Recreation Ground
- Counts have been taking place since November 2011 on an ad hoc basis
- 28 counts have been undertaken to date and each lasts 15 minutes