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Urban Heaths Partnership Annual Monitoring Report 2017-18

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Footprint Contract Reference: 449
Date: 4th July 2018
Version: Final
Recommended Citation: Panter, C. (2018). Urban Heaths Partnership: Monitoring Report for 2017-18. Unpublished report by Footprint Ecology for the Urban Heaths Partnership

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Acknowledgements

This report was commissioned by the Urban Heaths Partnership (UHP) and is part of a series of annual reports summarising the monitoring data collected by the partnership. Our thanks go to Paul Attwell (UHP, Team Manager), Rachel Pearce and Chloe Lewis (UHP, Access Projects and Monitoring Officers) for overseeing the work.

Most of the work collecting the data is down to Rachel Pearce, Chloe Lewis (UHP) and Amy Gallagher (Purbeck and West Dorset Warden), but also wider UHP staff and individual local authority wardens, and our thanks go to all for the data collection.
Bird data are collected by the RSPB for UHP and their own monitoring, and our thanks to Chris Dieck for supplying the bird data to us. Thanks also to Jon Corkill (Dorset Environmental Records Centre) for supplying the incident data.

Summary

This report presents a summary of the data collated by the Urban Heaths Partnership (UHP) over the 2017-2018 financial year. These data provide long-term monitoring of the urban heaths and the levels of use by the public on both the heaths and alternative greenspaces. The purpose of these data is to provide the monitoring element of the long-term strategic mitigation and monitoring strategy for urban pressures on the Dorset Urban Heaths.

This 2017-2018 report largely follows the format of the previous year, with figures and tables updated. This aims to provide consistent graphs and tables which can be viewed year on year. Detailed analysis of long term trends is beyond the scope of this report, but reference to previous years is made for context. However, caution is necessary making direct comparison as there are some variations in approach, weather, survey effort etc. that would need to be considered carefully in any more detailed analysis of trends. As well as consistent duplicate graphs and tables from the previous years reports, we include occasional novel results to show new ways of examining the data, especially as more data becomes available.

Key points from this year's data are:

SPA bird monitoring:

- Bird surveys were conducted in spring 2017 at 29 sites, recording a total of 450 Dartford Warbler (territories), 46 Woodlark (territories) and 411 Nightjar (males).
- The largest change from 2016 results has been a 25% increase in Nightjar numbers – but this may have been a result of difficulties surveying in 2016, resulting in apparent low numbers.
- Numbers for the two other species, Dartford Warbler and Woodlark were fairly comparable to the previous year.

Coordinated vehicle counts:

- 160 parking locations were surveyed on each of the standard 14 surveys dates throughout 2017-18 financial year.
- 11,847 vehicles were counted in total, with the busiest single day being the 2017 August bank holiday, on which 2,582 vehicles recorded. This count was the highest single count recorded to date in any transect.
- The late Feb/early March weekday had the fewest number of cars recorded, just 211 cars.
- Parking locations are categorised by the type of site they cover e.g. Heath, Heath and visitor facilities, SANG, visitor attractions etc.,
- Accurate long term analysis was not conducted, but most types are at or above their previous year's level, while visitor attraction type sites showed much lower levels of use – this may be due to the more variable number of visitors these sites receive, as opposed to consistent local use at other types of site.
- A novel analysis for this year examined SANG sites and showed the four sites are generally showing year on year increases in the average number of vehicles.

- An ongoing audit of parking locations is currently being undertaken to map parking areas, record capacities, quality of parking, presence of facilities and charging.

Incident data:

- In the 2017-18 financial year 64 incidents of fire were recorded and the total area burnt amounted to approximately 34.3 ha of heathland - higher than the average area burnt in previous years.
- The highest number of recorded fires was in April and June 2017. The largest area burnt in a single event was in March 2018 at Stoborough & Creech Heaths, (11.7 ha).
- The total area burnt in each month was usually at or above the average recorded to date for previous years.
- Arne features in the incident dataset for the first time since data recording began in 2002; an incident of accidental fire
- A total of 67 non-fire incidents were recorded; with motorbiking and fly-tipping most commonly recorded.
- The highest numbers of non-fire incidents were in June and April 2017 (however, warden effort is not consistent over the years and between sites).

Sensor data:

- Over the 2017-18 financial year, 68 sensors have been collecting data.
- 10 sensors were installed (or reinstalled) this year and 16 removed (with only a few being replaced) – resulting in a net reduction on the previous year, in line with the monitoring strategy.
- Raw data is briefly cleaned to remove obvious errors and resulted in 50 sensors working for more than 50% of the year (including those removed or re/installed).
- Sensors were working for a total of 16,965 cleaned days of data.
- Initial results suggest the pooled heathland sites are the only group which are busier on weekdays than weekends and these show a wider use across the day compared to other pooled site types.
- Recent calibrations (physical observation of people at sensor points) provide an interesting snapshot of visitor use and are used to relate sensor “pass” values to actual numbers of people. However further calibration is required at some locations.

Other data collected:

- UHP staff conducted visitor surveys at the following SANG sites; BytheWay, Upton Country Park Phase 2 and French’s Farm.

Ongoing actions for the next financial year are:

- Continued SPA bird surveys;
- Continued coordinated vehicle counts;
- Auditing and mapping of the of parking locations;
- Continued recording of fires and other incidents;
- Continued collation and maintenance of sensor locations;
- Finalise calibration counts for sensors;
- Visitor surveys at SANG sites.

1. Introduction

1.1 This report is produced for the Urban Heaths Partnership (UHP) and presents a summary of monitoring data gathered over the 2017-2018 financial year (01/04/2017-31/03/2018). This report serves as a summary of the data for the year, following previous annual reports. Most recently this included the annual report for 2016-17(Panter 2017) and a more significant report two years previously which detailed methodological revisions and more detailed data analysis (Panter & Liley 2015). Furthermore, an update on the whole monitoring framework was conducted last year, see Panter &Liley (2017).

1.2 Dorset holds some 7,500 ha of heathland (see Rose et al. 2000), and much of this is designated as being of European importance. The designated sites are the Dorset Heathlands Special Protection Area (SPA), the Dorset Heathlands Special Area of Conservation (SAC) and the Dorset Heaths (Purbeck & Wareham) and Studland Dunes SAC. The sites are also underpinned by national level wildlife designations, as Sites of Special Scientific Interest (SSSI). The designations at the international and national levels reflect the conservation importance of the sites, which hold internationally important bird species (breeding Nightjar, Woodlark and Dartford Warbler, and wintering raptors such as merlin and hen harrier), all six species of native British reptiles and the southern damselfly. The various rare plants include the Dorset heath, for which the heaths around Poole Harbour are the British stronghold. Furthermore, there are notable rare and regionally distinct invertebrates such as the Purbeck mason wasp, ladybird spider, heath tiger beetle and heath bee-fly.

1.3 The heaths are fragmented (Webb 1989, 1990) and many fragments lie within or adjacent to the conurbations of Poole and Bournemouth. Within south-east Dorset there is continual, increasing pressure for more growth and new housing. Increased development can have a range of impacts on heathland and these are well documented (for reviews see Haskins 2000; Underhill-Day 2005; Liley et al. 2006). Such impacts include:

- Increased numbers of pet cats and increased predation of ground-nesting birds and other wildlife
- Increased fire risk
- Increased levels of recreation, with the potential for disturbance impacts to ground-nesting birds; trampling and damage to the SAC interest; increased numbers of dogs on sites resulting in eutrophication from dog fouling
- Anti-social behaviour and contamination through vandalism, fly tipping, littering and the introduction of alien plants and animals.

1.4 Within south-east Dorset, such impacts mean that relevant local authorities, as competent authorities, are unable to rule out adverse effects on integrity for the

relevant European heathland sites as a result of the in-combination effects of new development. However, avoidance or mitigation measures are possible, and these have been established strategically across the relevant local authorities since 2006 and enshrined in relevant strategic planning policy. Measures include additional infrastructure, both off-site and on-site, and a range of mitigation focused projects.

1.5 The ongoing updates to the monitoring strategy (see Liley 2007; and revisions by Fearnley & Liley 2014; Panter & Liley 2015, 2017) set out the monitoring elements necessary to coincide with the mitigation. The strategy recognised that both the species present and recreational use of the heathlands must be monitored to evaluate the levels of recreational use and distribution of the vulnerable species. With a baseline established, it should be possible to check the effectiveness of measures to mitigate for or avoid additional urban pressures on European Sites. Monitoring acts as an early warning and allows mitigation measures to be adjusted as necessary to reflect changes in access patterns, types of use and changes in the distribution and abundance of key species. It is important to note that strategies include monitoring of mitigation sites (e.g. non-heathland), as well as heathland.

1.6 This report provides a summary of the data gathered in the period 2017-2018 in accordance with the monitoring areas identified in the monitoring strategy (Liley 2007) and follows on from last year's monitoring report (Panter 2017), and all other previous reports (see Sharp & Liley 2008, 2009; Fearnley & Liley 2010; Fearnley 2012, 2014a; Panter & Liley 2015, 2016)

Winfrith and Tadnoll monitoring

1.7 The report also covers monitoring for West Dorset, at the single site of Winfrith and Tadnoll Heath, a heathland site managed by the Dorset Wildlife Trust and part of the Dorset Heaths SPA. The monitoring work on this site is also undertaken by UHP, funded by West Dorset District Council, as part of mitigation work linked to new development in West Dorset.

1.8 In each section of the monitoring elements in this report, we include a subsection to examine in more detail this element solely at Winfrith and Tadnoll. This was previously produced as separate annual reports (see the first three years reports; Fearnley 2014b; Panter 2015, 2016), but as this year's results are shorter, these have been absorbed into this main annual report. These results feed into the annual West Dorset reporting by UHP.

2. Bird monitoring

Introduction

2.1 Three breeding bird species are interest features of the Dorset Heathlands SPA; Nightjar *Caprimulgus europaeus*, Woodlark *Lullula arborea* and Dartford Warbler *Sylvia undata.* Changes in the distribution and relative abundance of these species are good indicators of the biological status of the heaths and the three species are vulnerable to impacts from recreation and fire.

2.2 The ongoing recording of the numbers and distribution of these three species across sites is an important part of monitoring. Surveying has been undertaken by the RSPB, commissioned through the UHP and focussed primarily on the urban heaths. A summary and review of trends in the three species in Dorset since the early 1990s is provided in in Liley & Fearnley (2014). It is important to note the counts indicate territories, but that these are determined with different survey methodologies as appropriate for the different species (e.g. night-time surveys of churring males for Nightjar).

2017 surveying

2.3 Since 2015, the surveys have been conducted using a new approach based on 1km OS grid squares, as detailed within the previous UHP annual report (Panter & Liley 2015). This methodology means the data is very similar to that collected previously on the basis of sites, but allows a sampling protocol, e.g. for large areas such as Wareham Forest and ensures results are comparable. A select number of core squares are surveyed by professional surveyors, while additional squares which have been highlighted as important, can be undertaken if extra capacity arises or volunteers are available.

2.4 Results for this 2017-18 financial year report cover just the surveys conducted in the spring of 2017. Results for 2017 from the core squares focuses on 29 sites surveyed for the species (Table 2).

2017 Data

2.5 In summary, these data show that a total of 450 Dartford Warbler (territories), 46 Woodlark (territories) and 411 Nightjar (males) were recorded (see Table 1). The mapped distribution of the territory centres for the three species is shown in Map 1.

Table 1: Summary of numbers of Dartford Warbler, Nightjar and Woodlark recorded in 2017 from sites (or the 1km squares which represent a subset of sites).

Site	Dartford Warbler	Nightjar	Woodlark
Arne Heaths	55	46	2
Avon Heath North	9	10	2
Avon Heath South	5	7	3
Barnsfield Heath	24	24	11
Blacknoll	5	0	0
Bourne Bottom (Valley)	1	1	0
Canford Heath	66	43	0
Dunyeats Hill	4	7	0
Ferndown Common	13	9	0
Grange Heath	10	10	2
Great Ovens	14	11	1
Ham Common	5	1	0
Holt Heath& Whitesheet	45	39	2
Holton Lee	4	3	1
Hurn	4	8	5
Hurn Forest	5	9	0
Hyde's Heath	5	7	5
Lions Hill	6	3	1
Parley Common	22	16	1
Sandford Heath	4	3	1
Slepe Heath/ Hartland moor squares	27	22	2
Stephens Castle	2	2	0
Stoborough RSPB	18	17	3
Studland/ Godlingston Heath squares	19	16	0
Tadnoll& Winfrith heath	14	19	0
Talbot Heath	7	0	0
Town Common/SCH	19	23	1
Turbary Common	0	2	0
Upton Heath	28	23	0
Verwood Forest/ Cranborne Common square	2	20	1
Wareham Forest/ Morden Bog squares	8	10	2

2.6 In comparison to the previous year's totals, as shown in Table 2, there has been very little change in Dartford Warblers (0.2% increase), but notable increases in Nightjar (28%) Woodlark numbers (15%). These simple calculations have not accounted for the differences in sites surveyed, which provided data from two new secondary sites. However, these form a relatively small contribution (9 Dartford Warblers, 10 Nightjars

and 6 Woodlarks), and numbers would have still been relatively stable, with revised percentage change values of Dartfords: -2%, Nightjar: 25%, and Woodlark: 0%.

2.7 The possible changes in numbers may be in part due to low recorded numbers for Woodlark and Nightjar, due to poor weather for the 2016 surveying, rather than an actual trend in populations.

Table 2: Number of birds recorded by species in 2017, with a value of the mean birds per site for 2016 shown for comparison.

Bird	Number of counts 2017	Total number of birds 2017	Mean birds per site 2017	Number of counts 2016	Total number of birds 2016	Mean birds per site 2016
Dartford	31	450	14.5	29	449	15.5
Nightjar	31	411	13.3	29	320	11.0
Woodlark	31	46	1.5	29	40	1.4

Longer term trends

2.8 Detailed analysis of trends and differences between sites is beyond the scope of this annual report and has also been discussed in greater detail in Liley & Fearnley (2014). However, as with last year's annual report, we have presented simple graphs to show the raw numbers of birds from the recent monitoring data in Figure 1. These graphs consider a subset of sites, which represent those with the most data for each species. It should be noted that for all three species some data gaps still occur, and trend lines connect data points either side of these gaps. In this 17-18 report we present new graphics to show clearer data for individual sites by each species; see Figure 2, Figure 3 and Figure 4.

2.9 The data presented in all figures here is only the raw data, and would require more detailed examination for conclusions with confidence to be reported (e.g. exact surveying effort). Key points for this year are:

2.10 Dartford Warbler:

- Generally, numbers in 2017 appeared stable, similar to numbers in 2016, and in line with the long-term trend for a general slow increase from the 2011 population crash.
- Arne has shown one of the largest reductions from 2016 numbers, but the 2017 numbers were at a level similar those recorded in 2015.
- Canford Heath appears to show the clearest year on year increase in the last 3 years.

2.11 Nightjar:

- Overall most sites are showing an increase on the previous year and following a general upwards trend in recent years (e.g. last five years).

- One of the largest increases from the previous year (around 10 birds) had been at Holt Heath/Whitesheet and Town Common/SCH.
- Only Avon Heath showed a notable decrease from 2016 to 2017.

2.12 Woodlark:

- Woodlark are the most variable due to their small populations with some sites showing stable numbers, and others increases or decreases.
- The biggest increase was at the best site for Woodlarks, Barnsfield Heath, while decreases were notable at Arne and Avon Heath North.
- RSPB Stoborough has recovered from zero in 2016, back to the previous three territories recorded in 2015 and again in 2017 (although this is may be due to difficulties surveying in 2016, rather than a population change).

2.13 At the time of writing, the recording of bird species during 2018 is ongoing, and as such is not presented in this report.

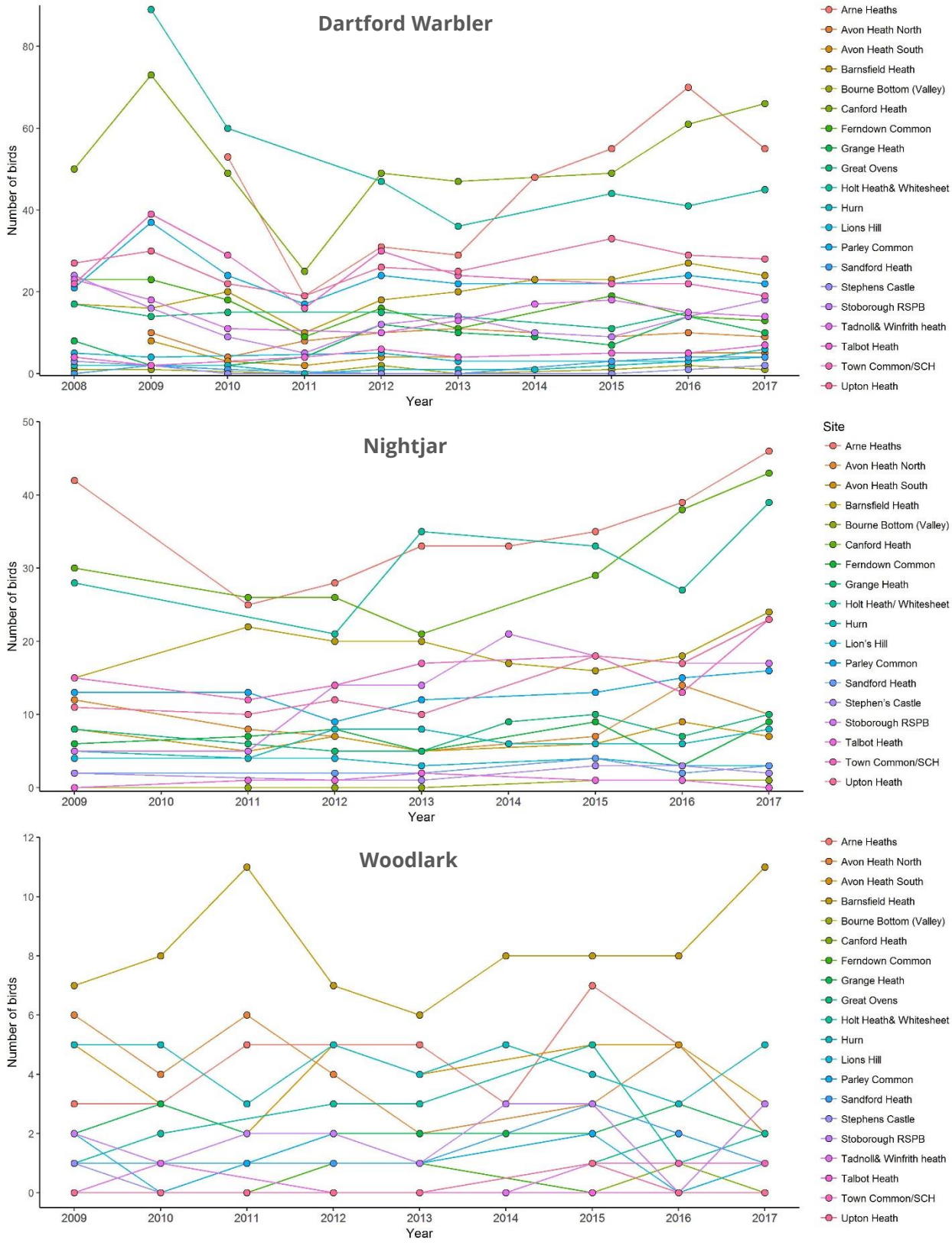


Figure 1: Number of birds recorded (by the differing standard survey methodologies) at each site (or 1km squares which represent a subset of sites). Note that the number of sites presented differs for each species due to different filters applied in order to select sites with the most data (Dartford>=8 years, Nightjar>=6, Woodlark>=7). Data gaps between years are present for all species.

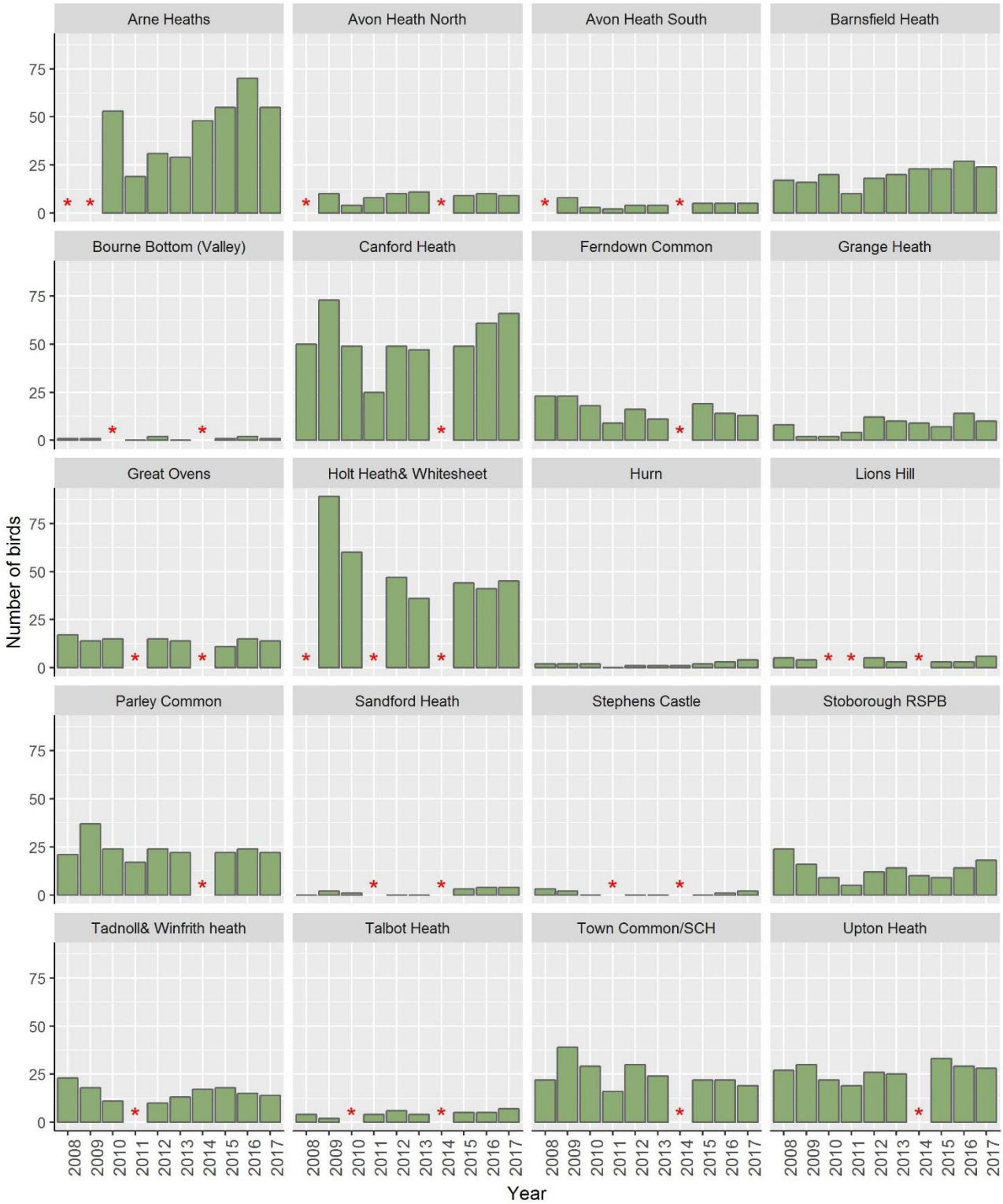


Figure 2: The number of Dartford Warbler recorded at each site (or the 1km squares which represent a subset of sites) from the annual monitoring data. Sites shown are those with =>7 years of count data.

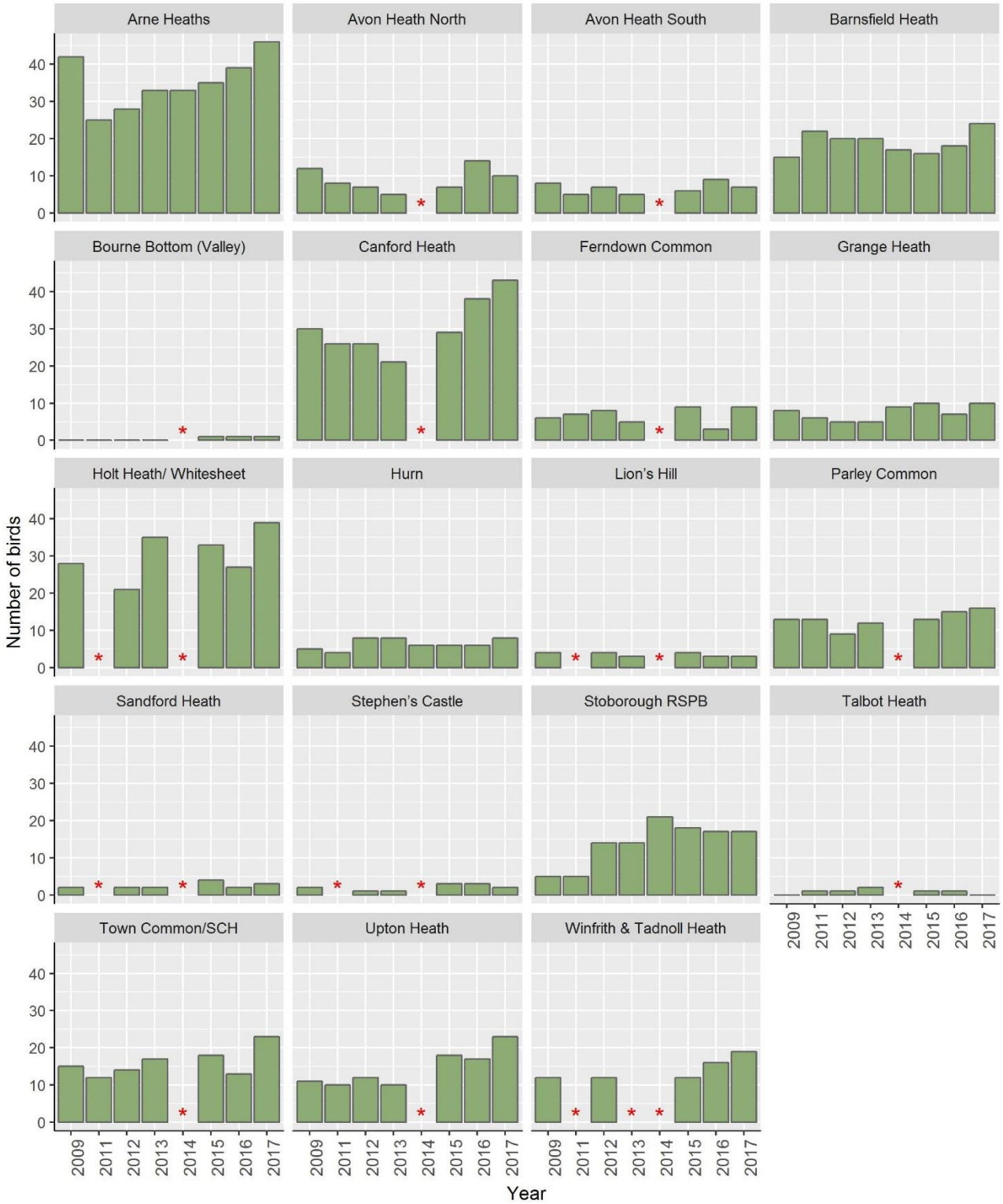


Figure 3: The number of Nightjar recorded at each site (or the 1km squares which represent a subset of sites) from the annual monitoring data. Sites shown are those with =>5 years of count data. Note missing values for 2010 across all sites.

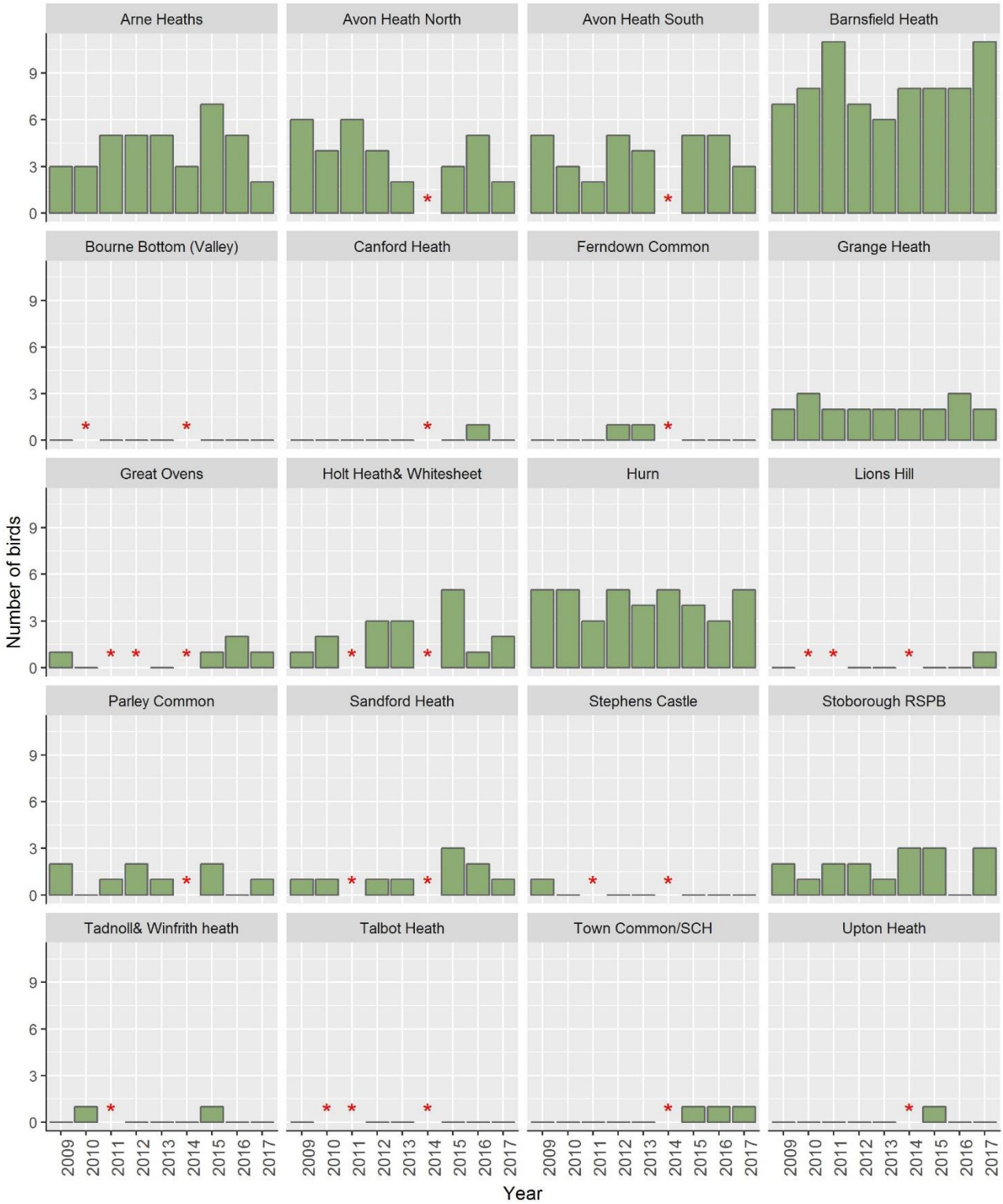
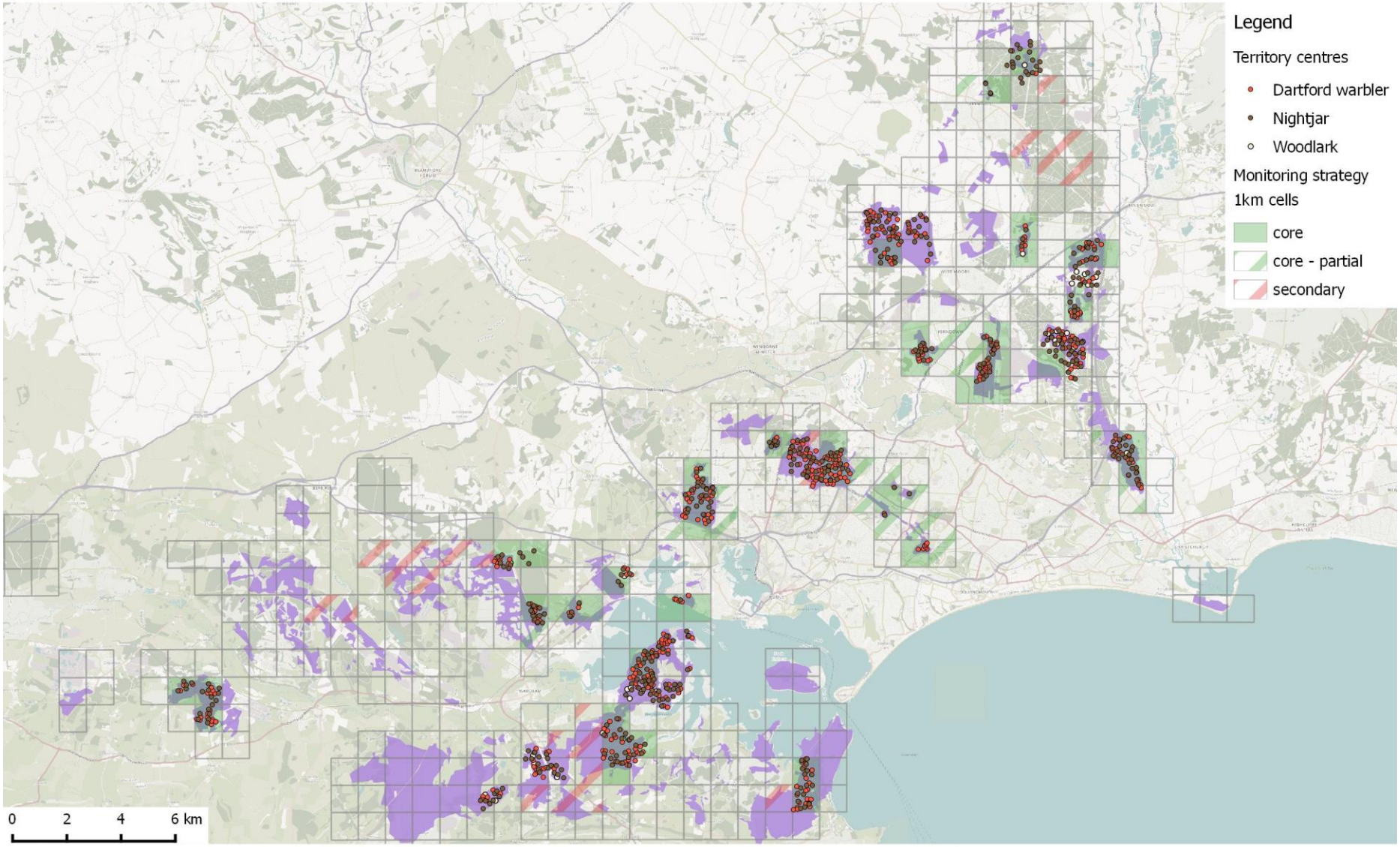


Figure 4: The number of Woodlark recorded at each site (or the 1km squares which represent a subset of sites) from the annual monitoring data. Sites shown are those with =>7 years of count data.

Map 1: Individual territory centres from 2017 monitoring.



Winfrith and Tadnoll

2.14 Winfrith and Tadnoll is also surveyed for the three bird species. In total, the 2017 survey recorded 14 Dartford Warbler pairs and 19 male Nightjars. Woodlarks were not recorded this year or the previous year but occur infrequently at the site anyway. Only one pair of Woodlarks has been recorded in the last five years and the species generally occurs at low numbers across the Dorset Heaths, especially further west.

2.15 Numbers of Dartford Warbler and Nightjar at Winfrith and Tadnoll for this year appeared to fall within the typical bounds of those expected based on the previous four years, see Table 3. Compared to mean values for the previous four years; Dartford Warbler numbers are similar to the average (15.8 pairs), while Nightjar numbers were slightly higher (17 males).

2.16 Nightjar and Dartford Warbler appear evenly spread across the suitable parts of the site. Five Nightjars were recorded on Tadnoll, and 14 on Winfrith, while for Dartford Warbler three occurred on Tadnoll and 11 on Winfrith. For Dartford Warblers, five individuals recorded just outside the bounds of the site, on the other side of Gatemore Road (e.g. on Blacknoll Hill)

Table 3: Summary of annual numbers of Nightjar (churring males), Dartford Warblers and Woodlarks (pairs) recorded at Winfrith & Tadnoll.

Winfrith & Tadnoll survey year	Nightjar	Dartford	Woodlark
2013	18	13	0
2014	22	17	0
2015	12	18	1
2016	16	15	0
2017	19	14	0

3. Coordinated vehicle counts

Introduction

3.1 The provision of car parking spaces at, or adjacent to, the heaths is an important factor determining the number of visitors interacting with sites. In the Dorset Heaths, visitors arriving by car make up a considerable proportion of the total visits (Clarke et al. 2006). Counts of the number of cars parked at access points to the heath can be conducted quickly to provide a good indication of the number of visitors at a site. Meaningful counts require a co-ordinated approach, using a set methodology and surveying period.

Categorisation of data

3.2 Monitoring increasingly encompasses a wide range of types of sites, such as Suitable Alternative Natural Greenspaces (SANGs), Heathland Infrastructure Projects (HIPs), key visitor centres and visitor attractions.

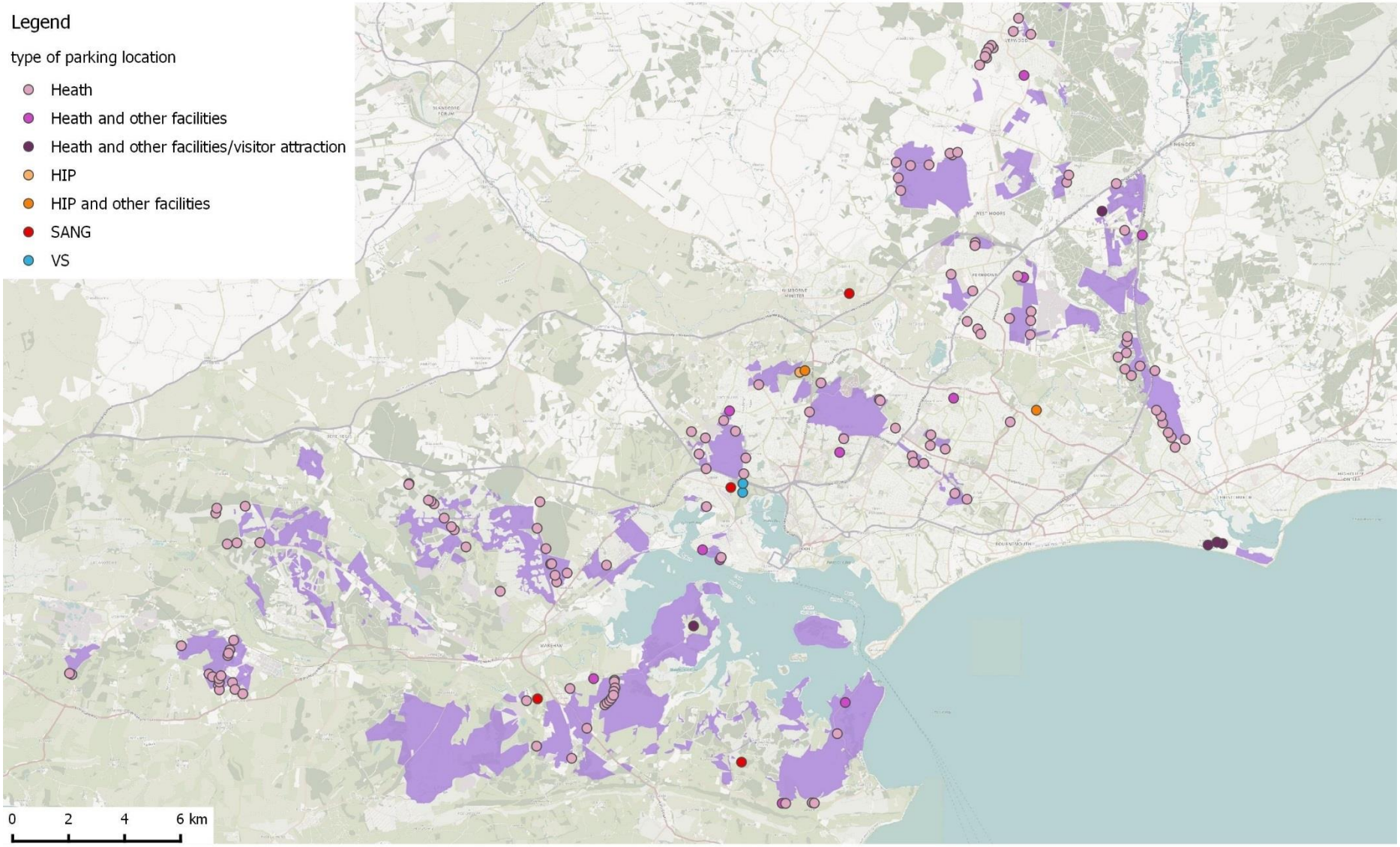
3.3 The varying different types of location were categorised in more detail last year, as opposed to a simple heathland and non-heathland division. We have approached this categorisation on the basis of how these locations may change over time, the type of site and the degree to which these values are likely to vary. For example, at the most simple level by categorising sites as heaths or SANG we can determine whether changes are different on the two types of site. Sites where the car park includes access to other facilities (e.g. football pitches, cafés or habitats), rather than just a heath or SANG, are likely to be more variable (e.g. due to events) and changes in access can relate to changes in these facilities and are therefore less concerning. Table 4 details a summary of the different types of categories used.

3.4 In this 2017-18 report no changes have been made to the number of locations surveyed from the previous year. The distribution of the car parks surveyed is shown location types in Map 2.

Table 4: Summary of the different types of car parking locations. Note numbers of car parks surveyed in this 17-18 report remain unchanged from the 16-17 report.

Type of parking location	Number of car parks	Example locations
Heath (car park is only used by those visiting heaths)	135	All car parks around Canford Heath, Dewlands Common, Great Ovens
Heath & other facilities (car park provides access to heaths, but also facilities; e.g. visitor centres/cafes, football pitches, or habitats e.g. coast, support land, viewpoints)	11	Stoborough Heath car park at Sunnyside (providing access onto the grassland as well as the heath), Ham Common car park which is also used by those accessing Poole Harbour, Avon Heath viewpoint car park, Studland Ferry Road
Heath & other facilities/Visitor attractions (locations which provide a clear visitor, particularly summer, tourist attraction)	5	RSPB Arne car park, Avon Heath visitor centre, Hengistbury Head
HIP (car park is only used by those visiting HIP)	1	Delph Woods 1
HIP & other facilities (car park provides access to heaths, but also facilities; e.g. cricket pitches, support land)	2	Delph Woods 2, Granby Road Barn
SANG (car park is only used by those visiting SANG)	4	Upton Country Park SANG, Stoborough SANG (Bog Lane), Burnbake, BytheWay Field
Visitor Attractions	2	Upton Country Park (main car park and small car park)
Total	**160**	

Map 2 : Distribution of all parking locations counted in 2017-18.



2017-18 surveying

3.5 The dates for surveying in the 2017-18 financial year were determined by examining "target dates" from the previous years. Target dates were determined from an average date based on the previous surveys. This attempts to ensure dates continue to fall roughly within the same named transect window (e.g. early-mid April), while also remaining on the set type of day (i.e. weekday/weekday) and do not subtly shift year on year. The dates selected for transects are shown in Table 5.

Table 5: The list of surveying dates for the 2017-18 financial year. Dates for each of the 14 transects are calculated to be around a similar date, based on the average of previous surveys; except for bank holidays which are fixed. Note rows are coloured by three types of date; weekday, weekend and bank holiday.

Annual transect number	Transect name (approximate time of year, and set type of day to survey)	Target date (Average of previous surveys, to be aimed for)	Actual date selected (choosing nearest Monday/Sunday to target date)
4	early-mid April weekend	15/04/2017	16/04/2017
5	early May bank holiday*	-*	01/05/2017*
6	late May/early June weekend	03/06/2017	04/06/2017
7	late June weekday	22/06/2017	19/06/2017
8	mid-late Aug weekend	20/08/2017	20/08/2017
9	early Sep/late Aug weekday	02/09/2017	04/09/2017
10	late Aug bank holiday*	-*	28/08/2017*
11	late Sept weekend	23/09/2017	24/09/2017
12	early-mid Nov weekday	12/11/2017	13/11/2017
13	late Nov weekend	23/11/2017	26/11/2017
14	mid Dec weekend	16/12/2017	17/12/2017
1	early Feb weekday	05/02/2018	05/02/2018
2	late Feb/early March weekday	05/03/2018	05/03/2018
3	late March weekend	25/03/2018	25/03/2018

* bank holidays are fixed surveying dates and therefore no target date calculated based on the previous years.

3.6 The 2017-18 car park counts achieved good coverage with only a few car parks missed due to staffing issues/availability. One omission is data on the number of cars at Arne in more recent months, which hopefully will be provided in due course.

3.7 In addition to parking locations which were simply not counted, a small number of car parks were unable to be counted, due to being closed or inaccessible; as shown in in Table 6.

Table 6: Details of the car park dates, surveying windows, the number of car parks missed and the actual number counted on each date (accounting for road/car park closures).

Set Tranche (Tranche sequence)	Date	Survey time window	Car parks missed (not recorded or closed/ inaccessable)	Actual number counted
4	09/04/2017	10-12	1	158
5	01/05/2017	2-4	2	157
6	04/06/2017	10-12	2	157
7	19/06/2017	7-9	2	157
8	20/08/2017	2-4		160
9	04/09/2017	2-4		159
10	28/08/2017	2-4		160
11	24/09/2017	10-12	1	158
12	13/11/2017	10-12	2	158
13	26/11/2017	10-12	2	158
14	17/12/2017	10-12		160
1	05/02/2018	10-12	1	158
2	05/03/2018	2-4	1	158
3	25/03/2018	2-4	1	159

2017-18 data

3.8 In total 11,847 cars were counted across the 2017-18 financial year, as shown in Table 7. This shows that the number of cars recorded varies greatly across the year, between the different times of year and between types of day. It is important to note that these values are the raw data and have not been adjusted to account for the missed car parking locations, which can have a significant effect.

3.9 As usual the late August bank holiday (28/08/2017) was the busiest (in terms of total number of cars), with 2,582 cars recorded, and is often one of the peak observed dates (2,025 cars in the previous year). However, the average fullness (number of cars divided by the number of spaces) was not greatest on this day but was instead highest on the early-mid April weekend (average fullness 24.6%, compared to 17.6% on August bank holiday). The late Feb/early March weekday had the fewest number of cars recorded, just 211 cars and the lowest mean percent fullness of car parks (6.8%).

3.10 Table 7 shows the mean number of cars per car park in a basic attempt to adjust for the car park locations not surveyed. However, car parks vary in size and the omission of just a small number large car parks can radically reduce the overall total and the mean cars per car park does not reflect this. Other attempts to account for this have

been made in Table 7, such as the number of cars per spaces and the mean percent fullness of car parks (based on the estimated capacity of individual parking locations).

Table 7: Summary of the number of cars counted, the mean number of cars per car park and mean percent fullness of car parks on the 14 survey dates.

Set Tranch	Transect Name	Actual number counted	Total number of cars	Mean cars per car park	Cars per spaces	Mean percent fullness of car parks
4	early-mid April weekend	158	1073	6.8	0.31	24.6
5	early May bank holiday	157	959	6.1	0.29	22.0
6	late May/early June weekend	161	1001	6.2	0.29	18.5
7	late June weekday	160	308	1.9	0.09	10.0
8	mid-late Aug weekend	161	571	3.5	0.17	14.8
9	late Aug/early Sep weekday	161	728	4.5	0.21	16.9
10	late Aug bank holiday	160	2582	16.1	0.75	17.6
11	late Sept weekend	158	864	5.5	0.25	20.9
12	early-mid Nov weekday	159	510	3.2	0.15	18.2
13	late Nov weekend	159	920	5.8	0.27	21.2
14	mid Dec weekend	161	599	3.7	0.17	17.9
1	early Feb weekday	158	409	2.6	0.12	15.2
2	late Feb/early March weekday	159	211	1.3	0.06	6.8
3	late March weekend	160	1112	7.0	0.33	22.1

3.11 The combination of the type of day and season are two of the key factors in determining the number of visitors. Therefore, the total number of cars in car parks across the year is visualised in Figure 5, labelled by type of day and seasons highlighted in the background (note the variability in the number of car parks counted influences these values). Winter values are often the dates with the fewest total cars counted and the clear peak of the August bank holiday can be seen. The lowest value is the late Feb/early March weekday (second from last data bar).

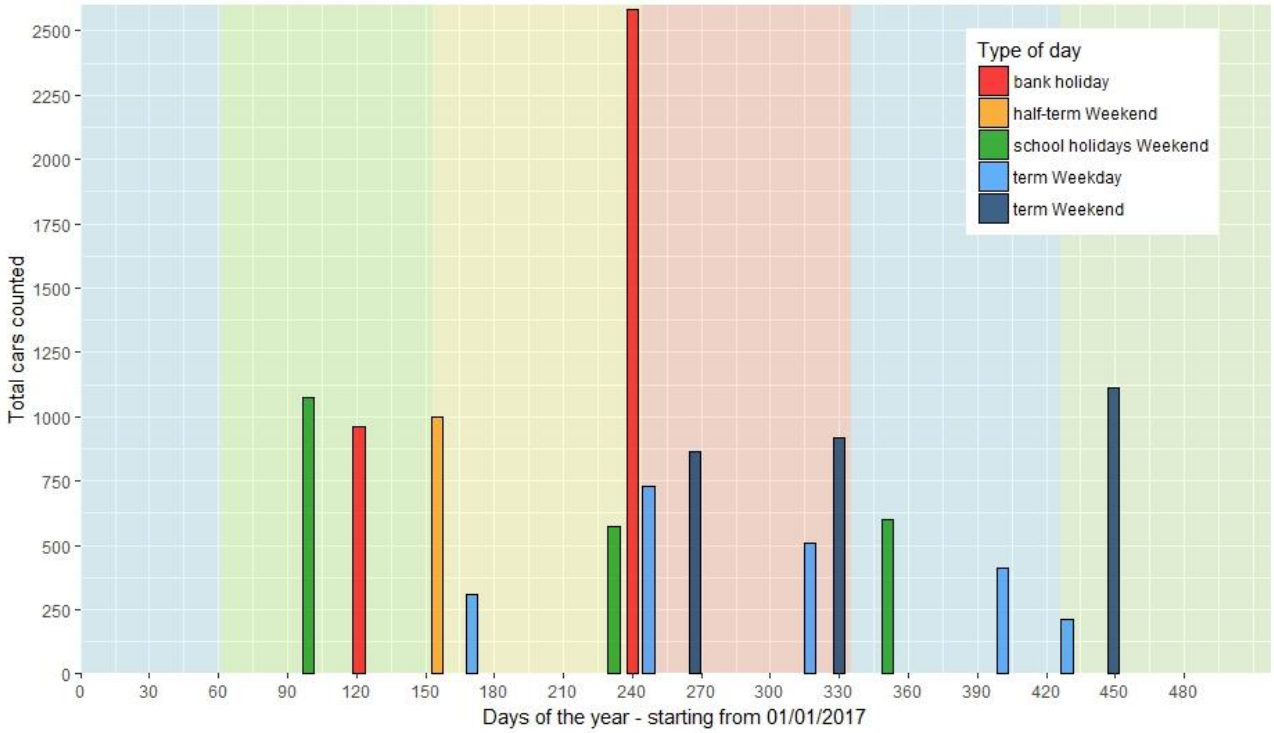


Figure 5: The number of total cars recorded in each car park count transect over the 2016-17 financial year. Bars to show total cars are coloured by the type of day and background plot area is shaded by season. (Note: number of car parks counted varies between dates; x axis shows days from 01/01/17 but only data from the 2017/18 financial year are included)

3.12 Table 8 shows the totals counted for comparison against the typical number recorded in previous years. This comparison does not account for differences in the number and arguably, more importantly, the capacity of different car parks. Furthermore, this also includes all the different types of car parks, such as heaths, visitor centres and SANGs.

3.13 This financial year includes the highest count ever recorded; 2,582 on the 2017 August bank holiday – the previous highest count was 2,026 from the mid-late Aug weekend in 2012, followed by 2,025 in the 2016 late Aug bank holiday. Data in Table 8 shows the typical peak date from all previous years is usually the mid-late August weekday and late Aug bank holiday. Overall, the ranking of the types of day were largely similar, but show the inherent annual variations.

Table 8: Comparison of 2017-18 car park count data to average (mean) values from all previous years data from car parks on the 14 survey dates.

Set Tranch	Transect Name	2017-18 actual number counted	2017-18 total number of cars	All previous years counts		
				Average total number of cars	number of previous counts averaged	average number of car parks included
4	early-mid April weekend	158	1073	676	6	160
5	early May bank holiday	157	959	878	6	166
6	late May/early June weekend	161	1001	648	6	165
7	late June weekday	160	308	151	7	169
8	mid-late Aug weekend	161	571	1175	8	175
9	early Sep/late Aug weekday	161	728	574	8	174
10	late Aug bank holiday	160	2582	1061	7	171
11	late Sept weekend	158	864	544	8	174
12	early-mid Nov weekday	159	510	295	8	176
13	late Nov weekend	159	920	477	8	173
14	mid Dec weekend	161	599	508	7	169
1	early Feb weekday	158	409	319	7	165
2	late Feb/early March weekday	159	211	404	7	165
3	late March weekend	160	1112	785	7	164

Differences between parking location types

3.14 In recent years, the car park counts have encompassed more parking locations away from traditional heathland sites. The nature of these car parking locations is becoming more diverse as more SANG or HIP sites are created. These separate categories of car park should be considered separately, as the nature of these locations are very different and while increases at some site locations are a cause for concern (e.g. heathlands), increases at other sites would be viewed positively (e.g. SANG sites). For analysis of trends these should always be examined separately.

3.15 As yet, we have little data for the different car parks to warrant a separation of all results (see Table 4) and detailed analysis is largely beyond the scope of this annual reporting.

3.16 The average percent fullness of car parks across the whole year for each type of location is shown in Figure 6 to illustrate the typical level of use expected at different location types. As discussed previously, due to the different nature of locations, there is clearly a differing baseline to be expected on sites. Heath parking locations are usually the least full, around 15% full, and there is generally steady increase in the typical fullness of parking locations for the different types.

3.17 Interestingly, the largest values would be expected at the "visitor attraction" type locations (Upton Country Park locations), and this was the case last year - see the same graph repeated from the previous year in Figure 7. However this year the average fullness of these car parks is lower, around 35% (median value), whereas the last year these were just under 50% full (median value). This may indicate the variable nature of these locations which are more tourist influenced, rather than local use.

3.18 The heaths also appear to show the least variation in fullness across the year, compared all other location types – a result in line with the previous year. This is explored in more detail in Figure 8 which shows the average percent fullness for these parking types for each date across the financial year. This shows the variation across the year, but also how this changes for each of the individual location types. However, it should again be noted that these values are the raw data and these have not been adjusted to account for variation in survey effort.

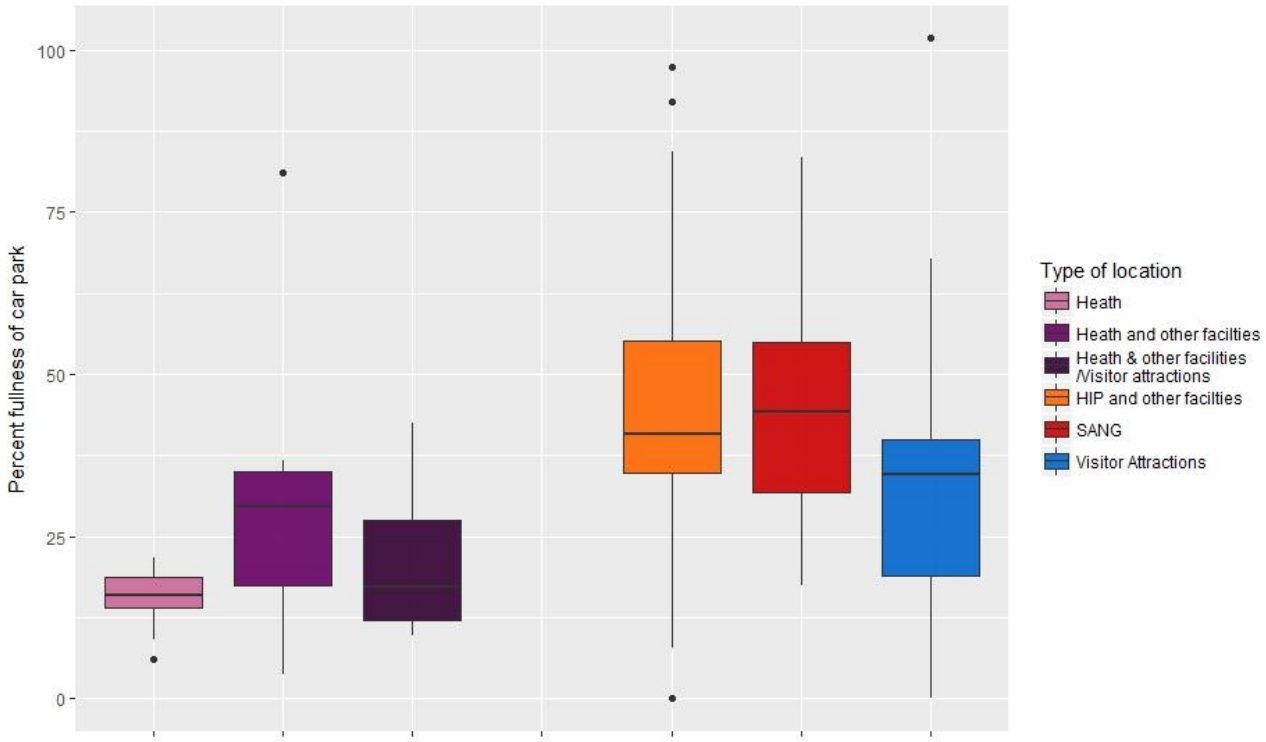


Figure 6: Summary of the individual car park percent fullness for all transects, across the whole 17-18 financial year for the different types of car parking locations. (Heathland sites [n=135], heathland & other sites [n=11] heathland & other sites/visitor attractions [n=5], HIP & other facilities [n=2], SANG [n=4], and Visitor attractions [n=2]. Values for HIP only sites are not shown as only one site of this type).

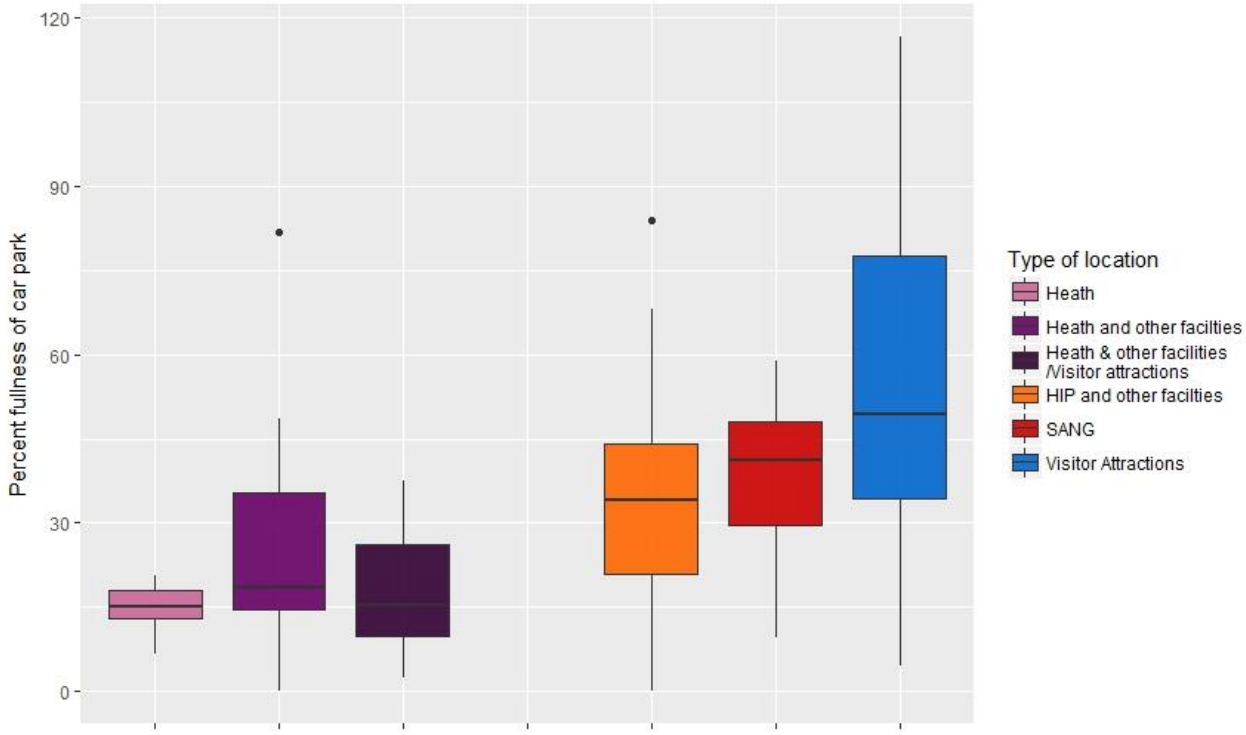


Figure 7: Summary of the individual car park percent fullness for all transects, across the 2016-17 financial year for the different types of car parking locations.

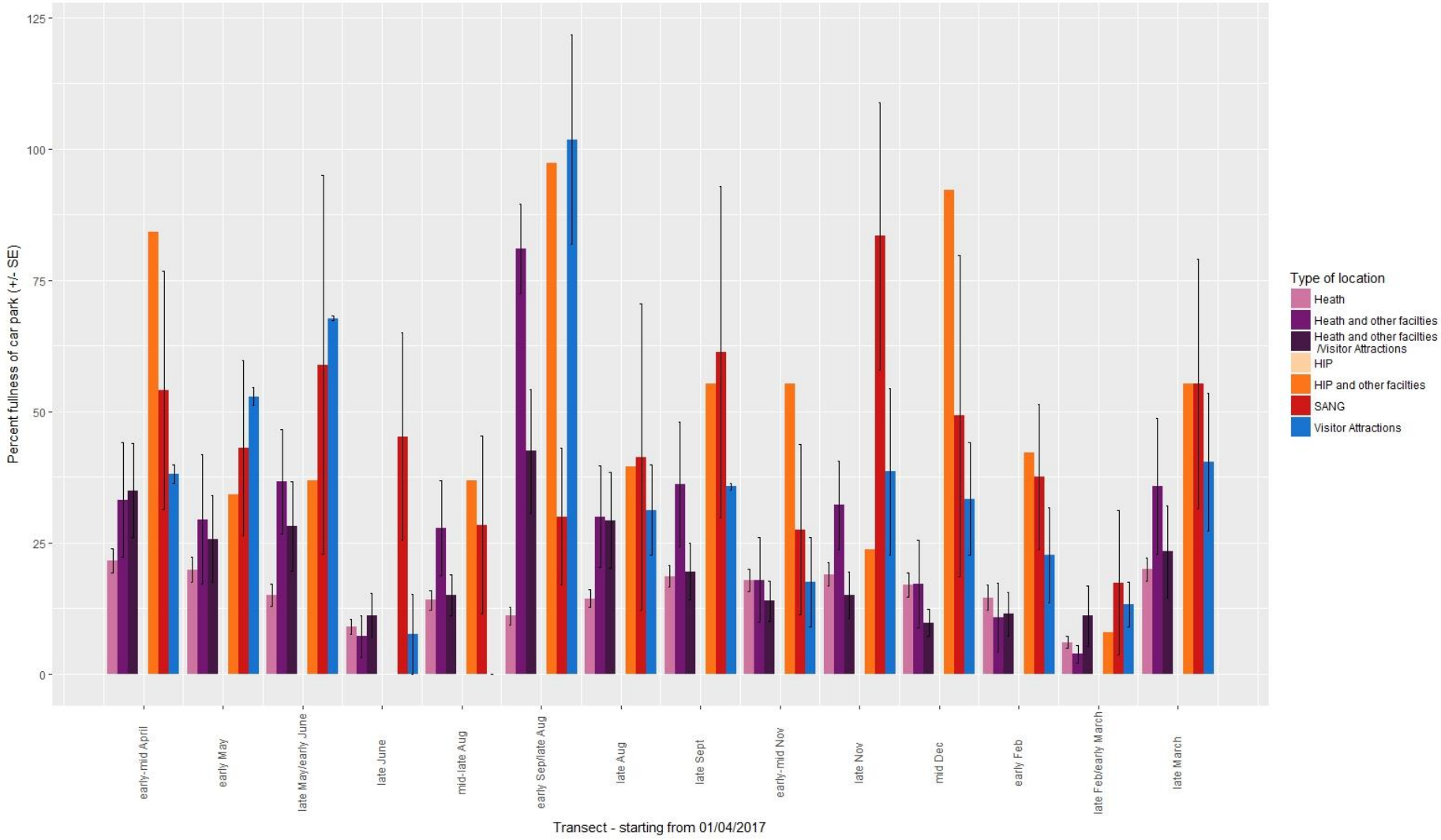


Figure 8: The mean percent fullness of car parks (and SE) during each transect, shown separately for the different types of locations. (values for HIPs not shown as only one site). (Heathland sites [n=135], heathland & other sites [n=11] heathland & other sites/visitor attractions [n=5], HIP & other facilities [n=2], SANG [n=4], and Visitor attractions [n=2]. Values for HIPs not shown as only one site.).

3.19 In an attempt to account for car parks which were missed on some transects, the number of vehicles was divided by the number of transects for which the car park was surveyed to provide the average number of vehicles per car park. These have been summarised by the different types of car parking locations in Table 9 and shown in for each parking location in Map 3.

3.20 Overall values at heath sites were quite small, an average of 1.6 vehicles per car park in an average transect. At heath locations which include other facilities (e.g. sports grounds, viewpoints, beaches or other habitats), the number of vehicles was slightly higher with on average 13.7 vehicles, although the highest average recorded was quite high; 81.1 vehicles at Studland along Ferry Road (see Table 9). For those locations which were categorised as "heath with other facilities and visitor attractions" the average was much greater (71 per car park) and the greatest maximum average (158 vehicles on average at Hengistbury Head). It should be noted that for these locations there appeared to be a small drop from the previous financial year – values are also given in Table 9.

Table 9: The average number of vehicles per transect for each car park was calculated to account for car parks missed during some transects. The values recorded are summarised by the type of location which the car park provided access to. Bold values indicate the year with the highest value.

Type of location	Number of car parks surveyed	Number of vehicles per car park averaged across transects, and averaged for type		Range in vehicles per car park averaged across transects	
	2016-17	2016-17	2017-18	2016-17	2017-18
Heath	135	1.5	**1.6**	**0 – 17.9**	0 - 15.1
Heath & other facilities	11	12.7	**13.7**	1.4 - 72.4	**0.6 - 81.1**
Heath & other facilities/ visitor attractions	5	**74.9**	70.5	**24.3 - 205.4**	31.8 - 158.9
HIP*	1	-	-		-
HIP & other facilities	2	6	**12.4**	1.4 - 10.6	**5.6 - 19.3**
SANG	4	5.5	**7.0**	0.4 - 12.2	**0.1 - 17.6**
Visitor Attractions	2	**71.3**	48.2	**10.6 - 131.9**	6.4 - 90.1
Total	160	**5.6**	5.4	**0 - 205.4**	0 - 158.9

* Only one HIP car park was surveyed.

3.21 HIP and SANG sites had a similar number of average vehicles, and similar ranges to each other. The numbers at SANGs could be considered slightly low given the maximum average number recorded was just 17.6 at Upton Country Park, while the

number of spaces at Upton and at BytheWay Field is 24. Visitor attraction locations, the two other Upton Country Park car parks, had the highest overall average value, of 90 cars per location on an average transect (although this was lower than the previous year).

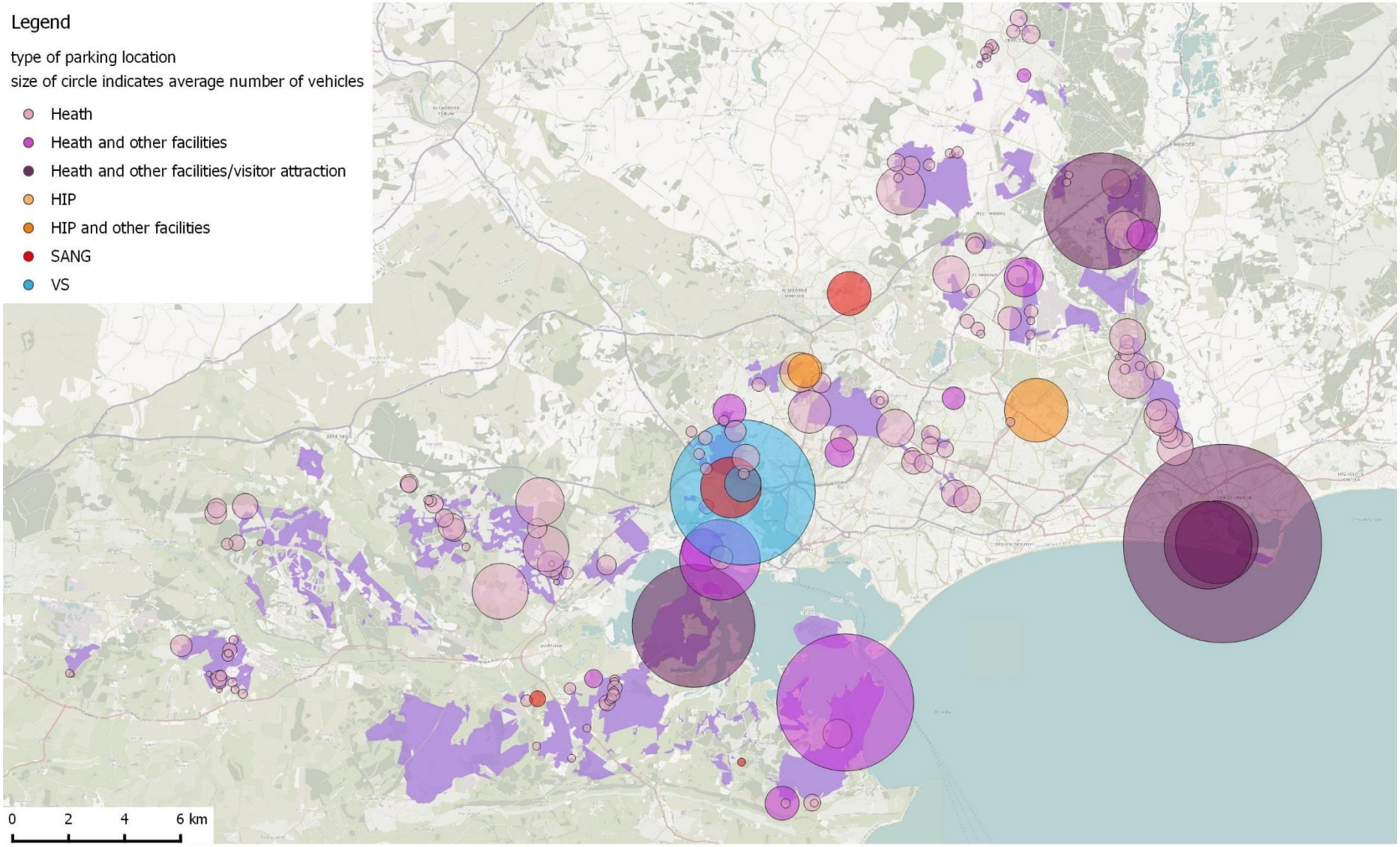
3.22 Data from these car park surveys is increasing in its value over time and therefore it is important to maintain the accuracy.

3.23 As already noted, long term trends are beyond the scope of this report. Based on the previous year (as shown in Table 9) changes were; Heaths show a similar level to the previous year, Heath and other facilities and SANG sites a slight increase, HIP and other facilities a large increase and visitor attraction sites a decrease. An indication of longer term trends is hinted at from this data for interest in Table 10 which shows the change in SANG use over time at the four locations surveyed. This shows most sites are still increasing year on year in the number of vehicles at each SANG. The exception to this is Burnbake, however this SANG is more tourist focused and therefore expected to be more variable in this regard.

Table 10: Average number of vehicles recorded on a transect in each financial year for the four SANG sites. Number of spaces at each SANG parking location are shown in brackets.

Financial Year	Burnbake SANG 1 [4]	Bytheway Field 1 [24]	Stoborough SANG 1 [8]	Upton Country Park SANG 1 [24]
14-15	-	7	0.5	-
15-16	0.3	6.2	0.4	8.8
16-17	0.6	8.9	0.4	12.2
17-18	0.1	9.3	0.9	17.6

Map 3 : Distribution of all parking locations counted in 2017-18 sized by average number of vehicles recorded on a typical transect.



Winfrith and Tadnoll

3.24 There are 15 car parking locations around Winfrith and Tadnoll (locations are shown in Map 4), with an estimated 77 spaces in total across these separate parking locations.

3.25 In total, 75 vehicles were counted across these 15 parking locations, and a mean of 5 vehicles recorded per transect – an identical average to the previous financial year. There were no transects in which no cars were recorded, but the lowest total count in a transect was just one car in all 15 locations (5th March 2018).

3.26 The maximum number of vehicles recorded in a transect was in the 2017 early May bank holiday survey, where a total of 11 cars were recorded across all parking locations. As has been noted before at Winfrith and Tadnoll in last years report; the August bank holiday is one of the quietest dates at this site - as opposed to the pattern observed in the full dataset (see comparison with Figure 5).

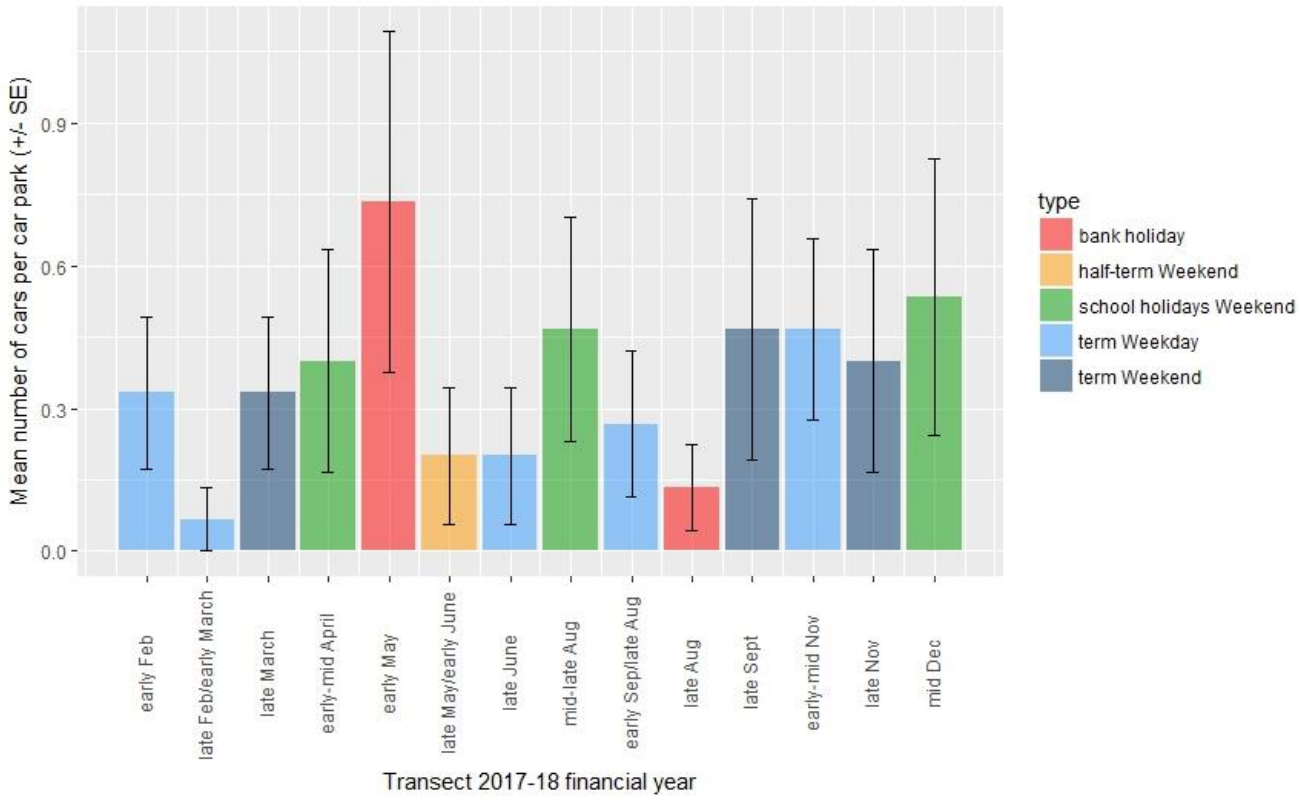
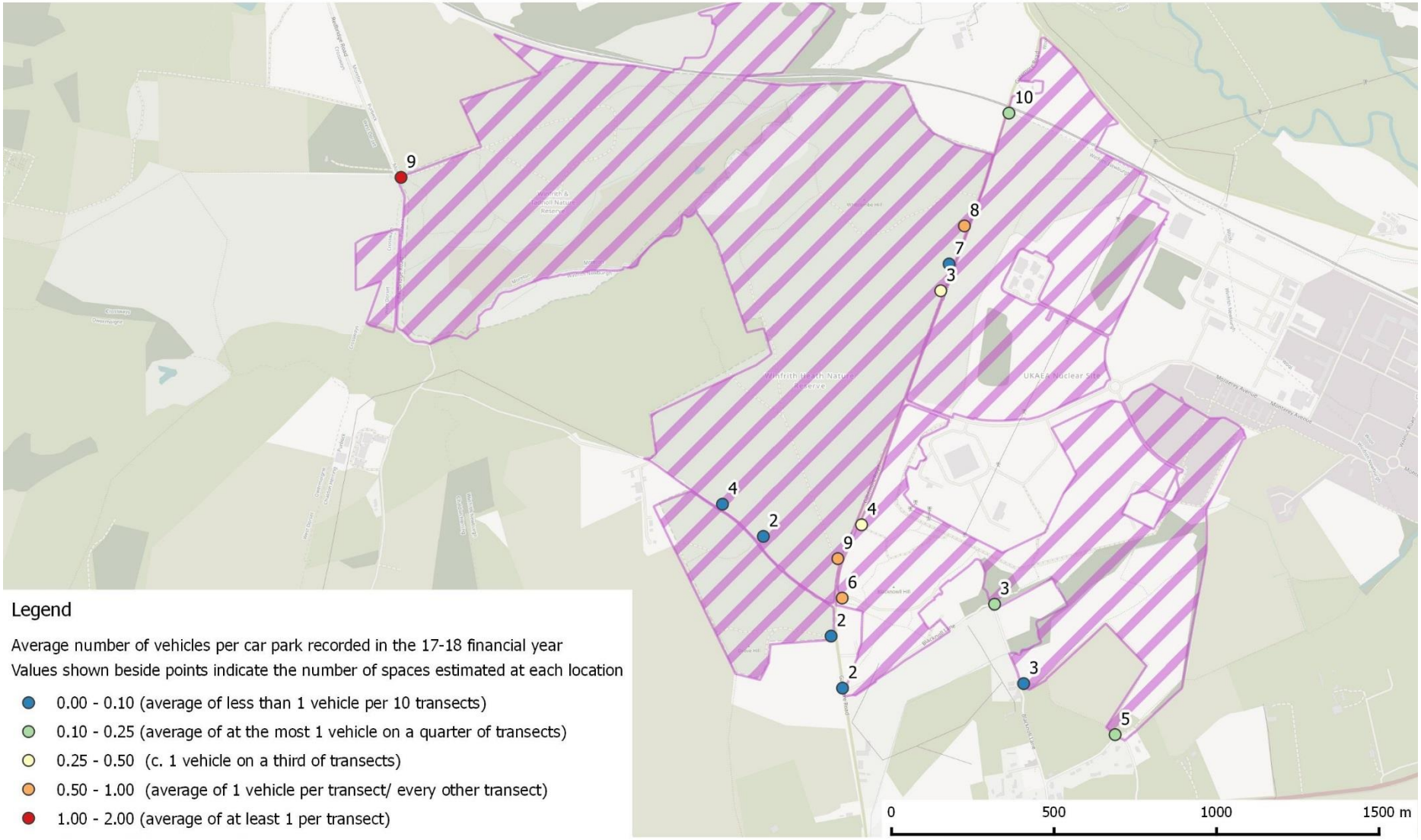


Figure 9: Summary of the average number of vehicles recorded across the 15 car parking locations around Winfrith and Tadnoll on each date in the 2017-18 financial year. Standard error bars around each average value are shown.

Map 4 : Typical levels of use around Winfrith and Tadnoll parking locations.



Legend

Average number of vehicles per car park recorded in the 17-18 financial year
Values shown beside points indicate the number of spaces estimated at each location

- 0.00 - 0.10 (average of less than 1 vehicle per 10 transects)
- 0.10 - 0.25 (average of at the most 1 vehicle on a quarter of transects)
- 0.25 - 0.50 (c. 1 vehicle on a third of transects)
- 0.50 - 1.00 (average of 1 vehicle per transect/ every other transect)
- 1.00 - 2.00 (average of at least 1 per transect)

Audit of parking locations

3.27 This year more accurate information on the parking locations surveyed in the coordinated counts is being collated by UHP staff so that potential future analysis can examine how access differs at different types of parking locations in more detail. This will provide a record of size, infrastructure, quality of parking and presence of charging. All these factors are likely to affect numbers of visitors. For example, hypothetically we may assume more visitors at locations with more facilities, greater ease of access, better quality of surfacing, no parking charges etc. The extent to which this is true and degree to which these have an effect could be investigated to consider which factors have the biggest effects. This could have implications for pushing/pulling visitors from heaths or attracting them to new sites.

3.28 The bounds of car parks are also to be mapped such that current recording is more accurate and consistent as to when vehicles are counted (particularly an issue for roadside parking locations, where the bounds of a "parking area" are not clear). This will also help clarify recording areas for any future changes which may be needed as parking areas change and ensure long term robustness of data collected.

3.29 A copy of the form used is provided below.

CAR PARK DETAILS FORM

Date		**Location Code**	
Surveyor		**Location Name**	

PARKING

Were there any signposts along the road en-route to indicate the parking area *(Y/N)*					
Owner/ manager, if indicated from signage *(e.g. Wildlife Trust, local council)*					
Estimated number of parking spaces (*approximately and refer to previous estimate*):					
What are the parking fees (✓ one of the following *and write in any charges*)?					
None/Free		Voluntary		Charges apply: (give c. 1hr cost)	£ .
Full details of charges or time restrictions if no charging:					
Which best describes the parking type (✓ one of the following)*:* *These can be hard to define, please indicate as best you can, following suggested guidance.*					
A gateway (providing access to site)		Grass/ Dirt verge (no indication from road markings that this should be a layby)		Layby (often hard surfaced, dashed road marking to indicate a pull in)	
Roadside/ in front of housing		Informal parking area (e.g. dead end of housing)		Formal parking area	
Which best describes the parking surface (✓ one of the following) :					
Grass/ Dirt surface:		Gravel/Stone surface:		Concrete/Tarmac surface:	
How would you rate the surfacing *(*✓ one of the following, *irrespective of the type of surfacing*):					
Poor (e.g. dirt surface: muddy and rutted. tarmac surface: broken up and potholes)		Moderate		Good (e.g. dirt surface: compacted and flat. tarmac surface: flat with little wear)	
How would you rate the access in/out of the car park from the road? (✓ one of the following)					
Poor (unsafe or poor access e.g. blind corner or rutted from road)		Moderate		Good (e.g. flat and clear sight lines)	
Would you have any concerns regarding personal safety? (✓ one of the following)	Unsafe (e.g. signs of drugs, other activities etc)		Moderate		Feels Safe

FACILITIES Are there any of the follow visible from the car park…. *(code all as Y/N)* :

Any information signs (including footpath signs)					
Interpretation board detailing nature/wildlife interest					
Any formal restrictions or clearly stated "do nots" with reference to activities or dogs					
Visitor Centre		**Toilets**		**Site poster board**	
Map/ marked walks		**Café**		**Play area/children's activities**	
Picnic Tables		**Dog bins**		**Slipway/ boat launching**	
Is the car park closed overnight?		**Marked parking bays**		**Height restriction bar on car park**	
Obvious litter and rubbish?		**Use box below to record any other facilities and notes:**			
:					

4. Incident Data

Introduction

4.1 The Urban Heaths Partnership coordinates the reporting and recording of any illegal, antisocial or potentially destructive activities which will impact on the heaths. These 'incidents' are recorded by the individual local authority mitigation officers (formerly UHP wardens) or other individuals from the partnership organisations on the Dorset County Council's 'Dorset Explorer' system. Incidents cover a range of activities including: fires, motorcycles / off-roading, fly tipping (including green waste), cyclists (off designated paths), horse-riders (off bridleways etc.), vandalism, abandoned vehicles, antisocial behaviours and a wide range of other incidents (e.g. harassment, wildlife crime, firearms, catapults, dens/camping).

4.2 Incidents relating to fires on the heath are considered the most robust of all the incident data. The importance of such events means these are much more reliably recorded. The recording of fires is based upon the logged call outs by Dorset and Wiltshire Fire and Rescue, with additional reporting by wardens, which covers any other burnt areas, or small campfires, which are otherwised missed in formal Fire and Rescue call out data.

2017-2018 data

Fires

4.3 In total 64 incidents of fire were recorded and the total area burnt amounted to approximately 34.3 ha of heathland. This was much higher than the average area burnt in previous years, both in terms of mean and median value (Table 11). Mean values in Table 11 are greater than the medians as these are more heavily influenced by infrequent, extremely large fires, that results in overall high monthly average.

4.4 The highest number of recorded fires was in April and June 2017, but the largest area burnt in a single event was recorded on the 24th March 2018 at Stoborough & Creech Heaths, with 11.7 ha burnt – believed to be started by an ember from the steam train. This fire was closely followed in size by, 9.7 ha burnt at Povington & Grange Heaths caused by military firing on the 25th April 2017.

4.5 The total area burnt in each month was usually at or above the average recorded to date for previous years when examining each month compared to previous years (see Table 11) – in contrast to the 2016-17 financial year when this was consistently at or below the average.

Table 11: Summary of the total number and area of fires recorded in 2016-2017 financial year, compared with averages (mean and median) for previous years (2002-2016).

Year	Month	Total number of fires 2017-18	Median number of fires in previous years	Mean number of fires in previous years	Area burnt (ha) 2017-18	Median area burnt (ha) in previous years	Mean area burnt (ha) in previous years
2017	4	17	1	3.3	0	0.00	0.01
	5	6	3.5	5.3	3.18	0.05	0.29
	6	17	9.5	12.6	11.72	2.06	11.39
	7	7	18	18.0	11.83	3.57	9.05
	8	4	17	18.7	0.04	2.74	3.65
	9	4	16	16.5	4.46	0.23	4.26
	10	2	12	13.5	2.85	0.28	0.83
	11	0	12	14.1	0.26	0.44	0.71
	12	0	8	9.8	0.02	0.12	0.35
2018	1	0	4	4.0	0	0.01	0.2
	2	4	2	2.6	0	0	0.01
	3	3	2	2.4	0	0	0.01
Total		**64**	**116**	**113.8**	**34.35**	**17.35**	**29.95**

4.6 The number of individual fires was much lower than typically recorded in previous years, but this can be an artefact of recording effort. One limitation with the number of fires is that this uses both formally logged fires and warden observations of small campsite fires etc. Therefore, these numbers can be slightly influenced to the level of wardening effort, which can be variable between years. As such, the area of burn is considered a more reliable measure. Fires less than 10m² accounted for 37(57%) of the fire incidents , and only 7 (10%), were more than 1ha.

4.7 The distribution of fires is shown in Map 5 (and presented for individual sites, later in Table 12). The largest number of fires was recorded at Ham Common, with 12 separate fires, however these were usually small in nature (e.g. campfires), with the total area burnt only amounting to c. 11m². There were also high numbers at Town Common (5 incidents), again mostly campfires, all less than 2m² and Turbary Common (also 5 incidents); none thought to be campfires, but all deliberate (average size 533m²).

4.8 Arne features in the incident dataset for the first time since data recording began in 2002; an incident of accidental fire.

Other Incidents

4.9 With regards to the other non-fire incidents a total of 67 were recorded, and therefore a total of 131 recorded incidents of all types recorded across the whole financial year (as shown in Map 6). The number of these incidents are shown by month in Figure 10.

4.10 Aside from incidents of fire, motorbiking and fly-tipping were most commonly recorded (17 and 6 incidents respectively). Map 7 shows the distribution of each of these types of incidents.

4.11 Incidents seem to be most common in March 2017, followed by May 2016 (see Figure 10), in part due to more incidents of fire. In the winter months, there are fewer incidents of fire, but greater incidents of other types, particularly fly tipping. However, caution should be taken when examining Figure 10, as the reporting of non-fire incidents is heavily dependent on the time wardens spend on sites, which is variable across years, seasons and areas, and this is not accounted for in the reporting.

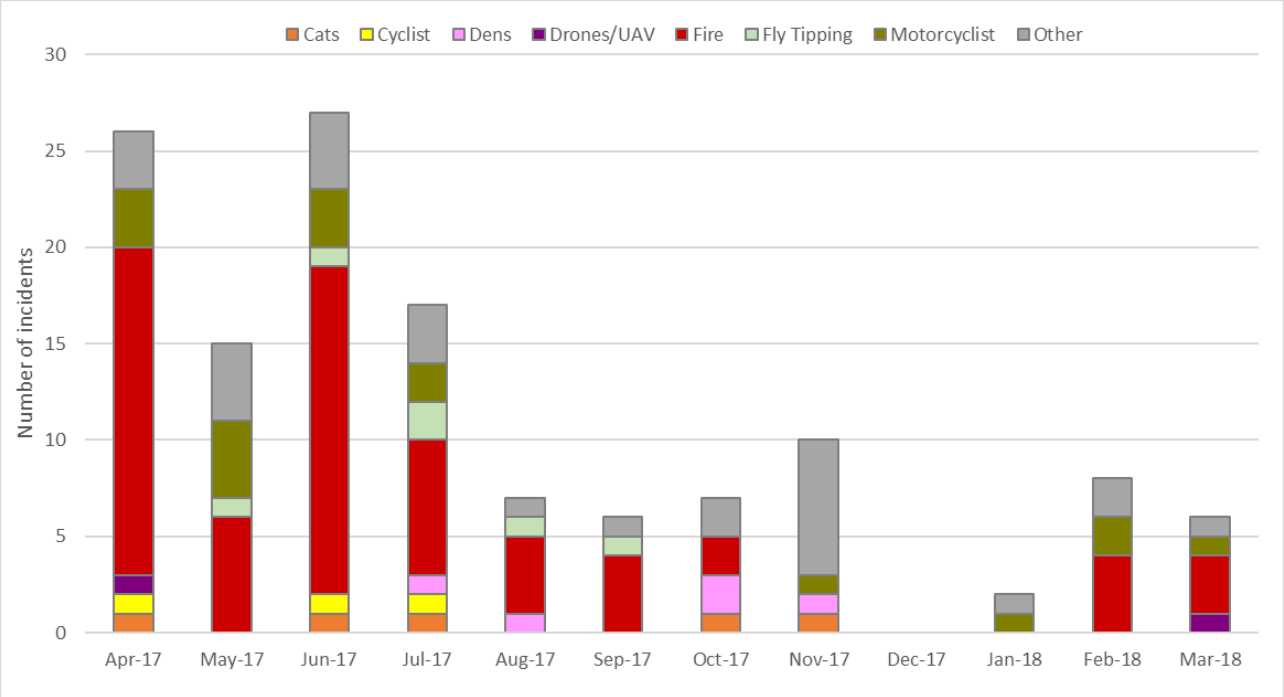


Figure 10: The monthly total number of incidents recorded, separated by the different types of incidents.

4.12 Incidents categorised as "other" include incidents of potential fire, resulting in (virtually) no burnt area (e.g. campfires, fireworks, Chinese lanterns), poaching and drug activities. The incidents on Ham Common all related to fireworks, sparklers, Chinese lanterns etc, apart for one incident of den building.

4.13 The number of incidents at individual sites is shown in Table 12, with sites ranked by the total number of incidents. This shows that by far the greatest number of incidents were recorded at Canford Heath; just over double the number at any other individual

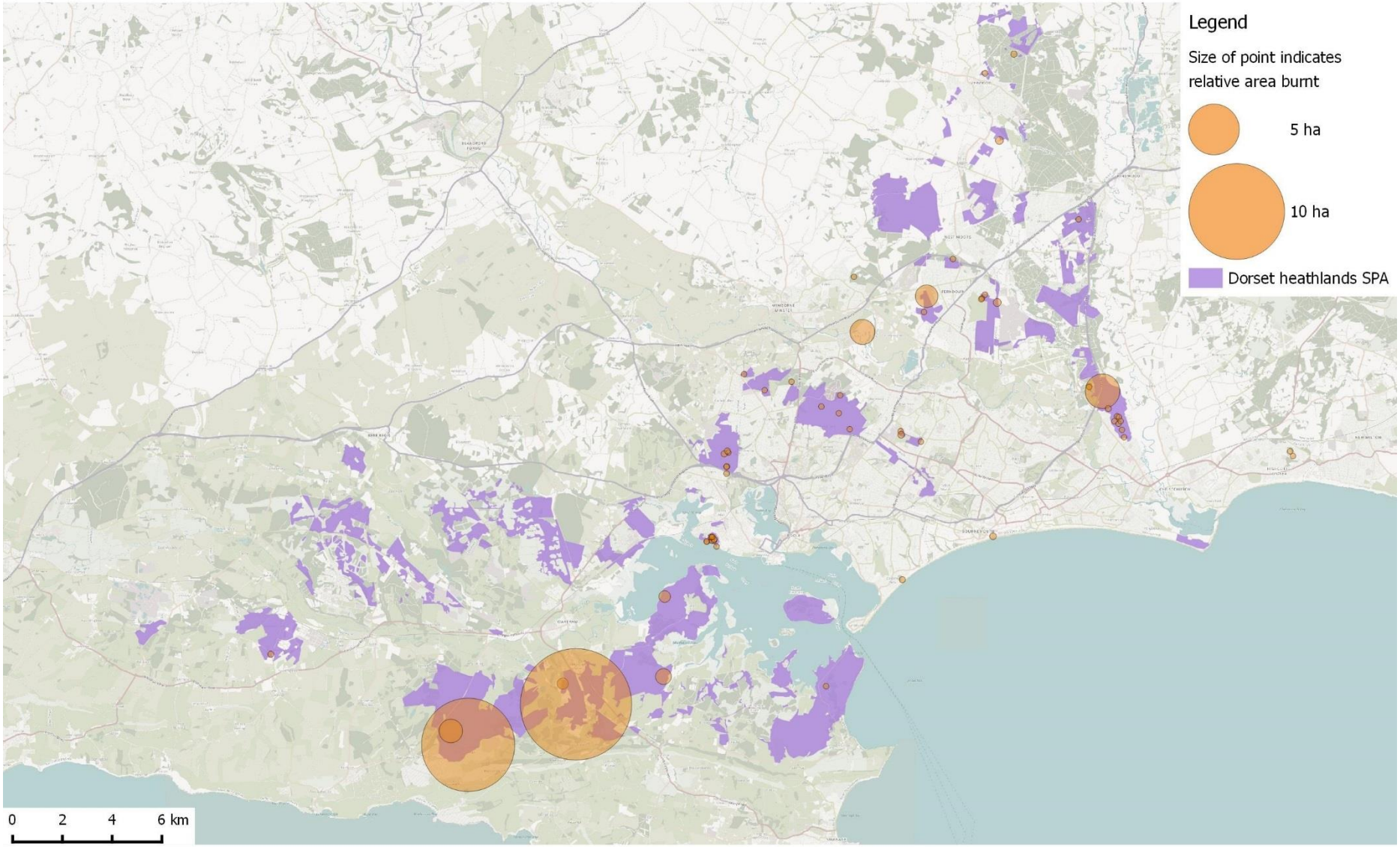
site. This year the incidents were almost all non-fire related and seemed particularly related to motorcyclists on site.

4.14 Overall, non-fire incidents were greatest at Canford Heath (22), Ham Common (9), Bourne Valley (8), Upton Heath (7) and Talbot Heath (5), in that order. This ranking differs slightly the from top five sites ranked for non-fire incidents in the database so far: unnamed sites (792), Canford Heath (542), Bourne Bottom (437), Upton Heath (397), Town Common (360).

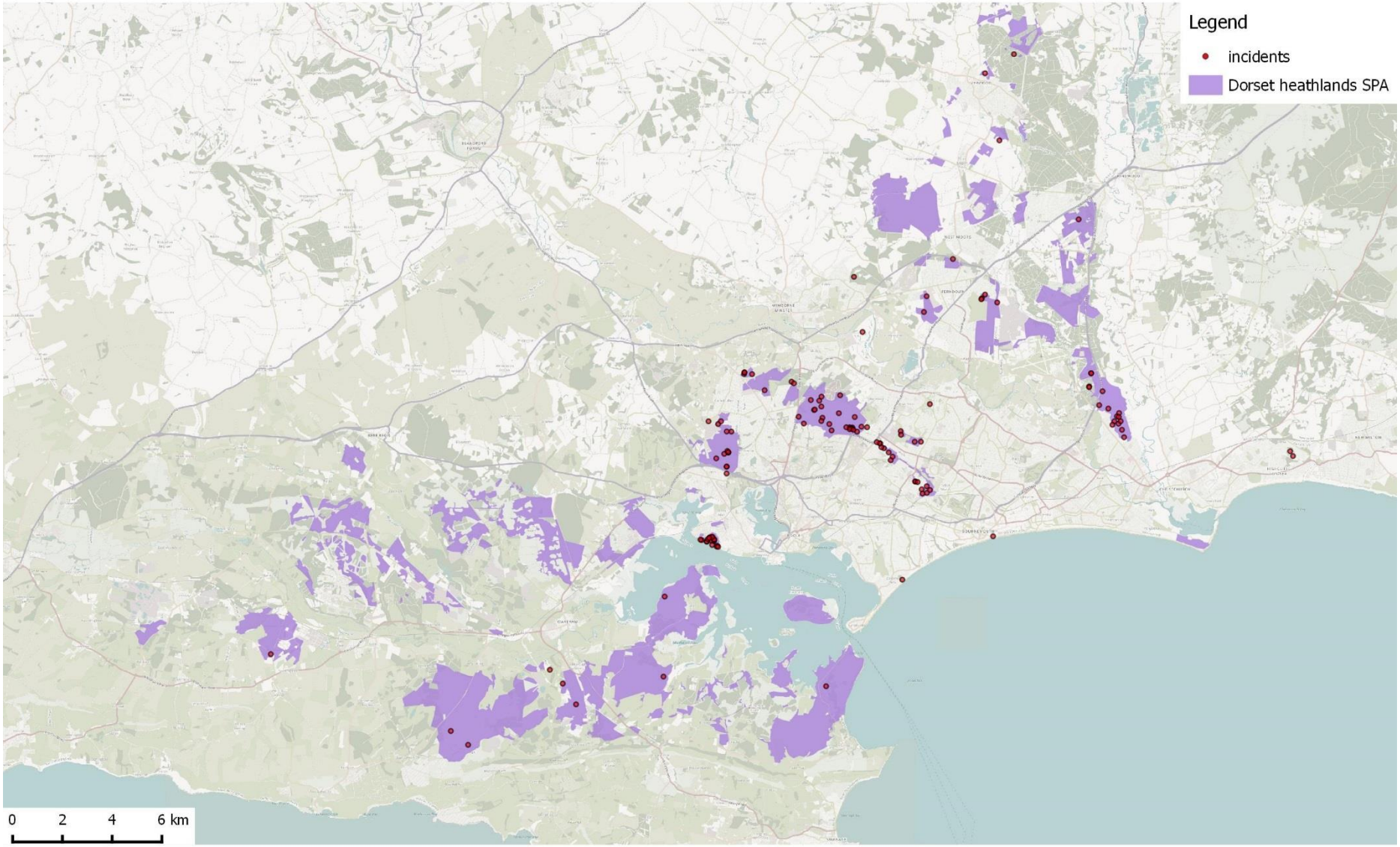
Table 12: Summary of the number of fires and other incidents recorded on each named site in 2017-2018 financial year. The final column gives the rank of each site by the total number of incidents which have been recorded since 2002. Sites with the top five highest values for each column are in bold.

Named Site	Number of fires in 2017-18	Number of other incidents in 2017-18	Total number of incidents in 2017-18	Rank of site by all incidents since 2002 (number of incidents)
Canford Heath	**4**	**22**	**26**	**2 (542)**
Ham Common	**12**	**9**	**21**	8 (274)
Bourne Valley	0	**8**	**8**	26 (16)
Upton Heath	**5**	**7**	**12**	**4 (397)**
Talbot Heath	0	**5**	5	10 (122)
Barrow Hill	1	3	4	20.5 (27)
Alder Hills	0	3	3	12 (63)
Town Common	**9**	3	**12**	**5 (360)**
Ramsdown	2	2	4	43 (4)
Other (unnamed sites)	**8**	2	**10**	**1 (792)**
Dunyeat's Hill	0	1	1	35.5 (7)
Turbary Common	3	1	4	7 (283)
Kinson Common	0	1	1	6 (293)
Arne	1	0	1	66.5 (1)
Studland & Godlingston Heaths	1	0	1	66.5 (1)
Hartland Moor	1	0	1	55 (2)
Stoborough & Creech Heaths	2	0	2	55 (2)
Uddens Plantation	1	0	1	55 (2)
Povington & Grange Heaths	2	0	2	46.5 (3)
Ringwood Forest	1	0	1	46.5 (3)
Avon Heath	1	0	1	40.5 (5)
Winfrith Heath	1	0	1	40.5 (5)
Slop Bog	1	0	1	27 (15)
Corfe Hill	1	0	1	15 (44)
Stephens Castle	1	0	1	13 (58)
Ferndown Common	2	0	2	11 (96)
Parley Common	**4**	0	4	9 (202)
Total	**64**	**67**	**131**	-

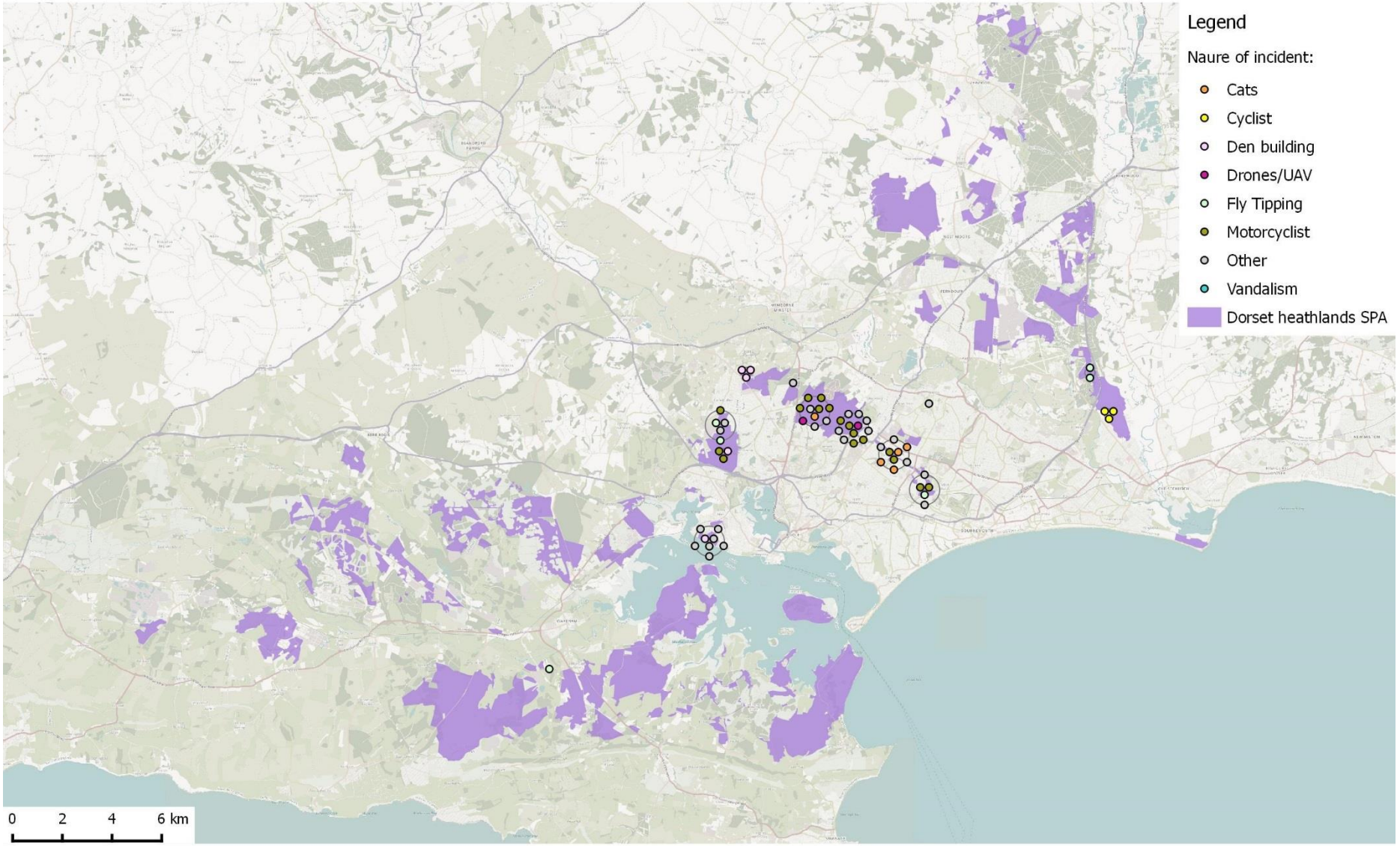
Map 5 : Distribution of fires recorded in the 2017-18 financial year. Size of point indicates size of area burnt.



Map 6 : Distribution all incidents recorded in 2017-18.



Map 7 : Distribution of non-fire incidents recorded in 2017-18.



Winfrith and Tadnoll

4.15 For Winfrith and Tadnoll, a single incident of fire was recorded on Winfrith Heath on the 4th June 2017. This fire was relatively speaking small, just 580 m² (0.06 hectares), but believed to have been started deliberately.

4.16 Fires on Winfrith and Tadnoll are very unusual events, and only four fires have now been recorded at Winfrith and Tadnoll in the entire incident database (dating back to 2002). The last fire was another deliberate fire close to the road in 2016, and two other previous fires were in 2014, related to a single deliberate fire and subsequent reignition the following day.

4.17 Regarding other incidents, there were none reported in the 2017-18 financial year. This is the only financial year in the last seven that no incidents have been reported. This is in contrast to the previous financial year which saw the highest number of incidents recorded. Incidents are likely to be variable in their nature, but again, trends with regards to these incidents are influenced by wardens time on site, which can be variable.

Table 13: Summary of the number of incidents reported in Dorset explorer on Winfrith and Tadnoll.

Nature of Incident	Financial year							
	2009 - 2010	2010 - 2011	2011 - 2012	2012 - 2013	2013 - 2014	2014 - 2015	2016 - 2017	2017-2018
Fire						2	1	1
Fly Tipping	2	2	1	1				0
Vandalism					2		2	0
Other							1	0
Total	2	2	1	1	2	2	4	1

5. Sensor data

Introduction

5.1 Automated counters represent an effective way to gather large, long-term datasets. They can be used to remotely monitor access patterns at a range of sites, including increasing use at SANG or HIP sites. The counters are usually in the form of buried pressure slabs or invisible beams located on the access points to sites. The resulting count data provides a good approximation of the number of people passing and directly accessing sites.

5.2 Such long-term monitoring data collected by sensors is key to detecting gradual changes in visitor pressures. The monitoring strategy recommended that on heathland sites, sensors need to be in place for consistent long term data, while on mitigation project sites (e.g. SANGs, HIPs) sensors should be installed to establish a baseline in visitor counts prior to any site improvements. Over time these can be left in situ or removed but reinstalled at a later date again or removed and supplemented with infrequent on-site visitor counts to determine any changes in access patterns.

5.3 Sensors require a proportion of UHP time for regular upkeep. This includes regular checks, any repairs or replacement (due to vandalism and theft), and regular (approximately every four/five months) downloading of the data from the sensor.

Categorisation of data

5.4 As already stated for the car parking data, the nature of the different locations will greatly affect visitor use and whether changes in access are viewed as a cause for concern or not. Last year the same categorisation of locations, as applied for car park count data, has been applied to the sensor data.

5.5 The number of sensors for each location type are given in Table 14 and shown in Map 9.

2017-18 data

5.6 Over the 2017-18-17 financial year, 68 sensors have been collecting data at some point, which is a reduction from 73 in the previous year, as the number of sensor locations is being reduced in line with the monitoring strategy. This year 10 sensors were installed (or reinstalled) and 16 removed (with only a few to be replaced at a later date). The locations of these 68 sensors are given in Map 8. Table 14 shows the sensors broken down by type of location, and Table 15 shows the management organisations.

5.7 Sensors which were installed this year were:

- Bog Lane PBL1
- Upton Country Park SANG 6 sensors: PUS3, PUS4, PUS5, PUS6, PUS7, PUS8
- Parley HPC1a (re-siting of HPC1).
- Ham Common HFC5 (reinstall)
- Bourne Valley PBV2 (reinstall)

5.8 Sensors which ceased, intentionally or not, this year are:

- CCB1A Chewton Bunny (battery died and not replaced)
- DAH3A Avon Heath (scheduled removal)
- DCTWHRX2 Castlemans Trailway Lions Hill Farm (scheduled removal)
- EMVPPA Moors Valley (sensor damaged, needs replacing)
- HFC2a Ferndown (battery died and not replaced)
- HFC3 Ferndown (scheduled removal)
- HFC4 Ferndown (battery died and not replaced)
- HGO2 Great Ovens (data errors - possibly from new gate works - removed, needs replacing)
- HPC1 Parley (data errors – desire line changed - removed, needs replacing)
- HPC3a Parley (scheduled removal)
- NSH5 Stoborough Heath (data errors – mouse damage - removed, needs replacing)
- PBV3 Bourne Valley (stolen)
- PCA6a Canford Heath (sensor died and needs replacing)
- PHC1 Ham Common (removed, needs replacing)
- WWH2 Winfrith Heath (data error, removed, needs replacing)

Table 14: The number of sensors collecting data in the 2017-18 financial year [total number =68].

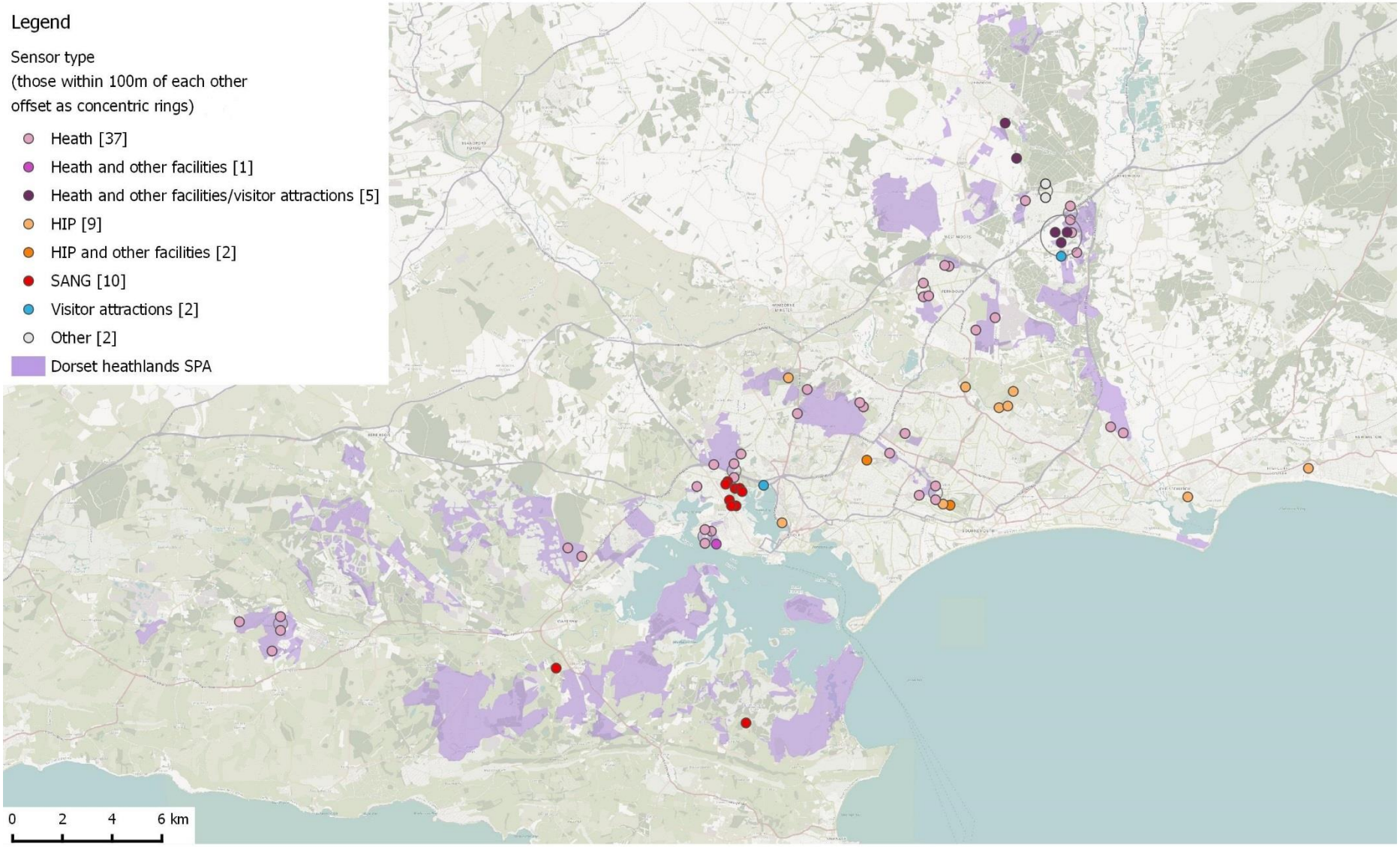
Type of site	Number of Sensors
Heath (only used by those visiting heaths)	37
Heath & other locations (provides access to heaths, but also other habitats e.g. woodlands and some other facilities)	1
Heath & other / visitor attractions (provides access to heath habitats, but other habitats or visitor attraction facilities; e.g. Moors Valley Country Park, Hengistbury Head)	5
HIP (only used by those visiting HIP)	9
HIP & other facilities (provides access to heaths, but also facilities; e.g. cricket pitches, support land)	1
HIP & heathland HIP projects which are adjacent to heathland sites (e.g. Stoborough Heath)	1
Other access types (Castleman Trailway)	2
SANG (only used by those visiting SANG)	10

Visitor Attractions (e.g. Upton Country Park, Avon Country Park main car park)	2

Table 15: The management organisations responsible for the land each of the sensors is installed on.

Management organisation	Number of sensors
Amphibian and Reptile Conservation (ARC)	10
Bournemouth Borough Council (BBC)	7
Borough of Poole (BoP)	25
Christchurch Borough Council (CBC)	3
Dorset County Council (DCC)	15
Dorset Wildlife Trust (DWT)	4
East Dorset District Council (EDDC)	2
Purbeck District Council (PDC)	2

Map 8 : Distribution all sensors working at some point in the 2017-18 financial year.



5.9 The sensor data is complex, and there are a large number of factors to be accounted for, primarily: the number of sensors in use as sensors are installed/removed, and the patchiness of data as sensors malfunction. In the data presented here, we have conducted preliminary cleaning to remove data which is clearly incorrect. This removes extremely large values, but is not a complete examination of values, as this would require significantly more time than is set aside for annual reporting. It is envisaged robust cleaning would examine the whole dataset to conduct automated checking to remove anomalies which are outside usual ranges or patterns.

5.10 Furthermore, values between sensor types are not directly compared. The raw averages shown depend on the number and composition of different types of locations, and types of sensor. All values would require stricter data cleaning and in addition calibration before values can be compared in this way with confidence.

5.11 This year, the separation of sensors into much smaller groups means the effect of the addition and removal of sensors is magnified. As such presenting certain results using solely cleaned data for the year is often not meaningful due to data gaps. This was particularly notable in the examination of monthly sensor values, which show large variations. Robust examination would require greater data cleaning, and averaging or interpolation based on using the previous year's data.

2017 – 2018 data

5.12 In this year's data the simple cleaning process provides a total of 16,965 cleaned days of data. The sensor data, of all datasets presented in this report, are the most difficult to present simply and accurately. The data require more detailed processing (for example incorporating calibration results to give number of people rather than raw passes) before robust results are produced, but a simple overview of average daily number of raw passes is presented by each location Map 9.

5.13 Monthly variation is shown in Figure 11 and presents a different picture to last year and may reflect the issues of using the limited single year of data in this way. Last year sensors appeared much more stable and consistent across the year, particularly on the heaths. This year SANG sensors have been in place for a full year and therefore results may now be more representative of true trends (in the previous year's report the SANG data was much more limited).

5.14 Overall it is felt that the current monthly patterns while interesting can provide a misleading picture and should be viewed with some caution, due to the low sample sizes considered for the single year, patchiness of data, and addition/removal of sensors to the database (see n values in figure legends for sample sizes). A more detailed analysis to look at long term changes could certainly examine monthly variation and present a more accurate picture of how use varies across the year.

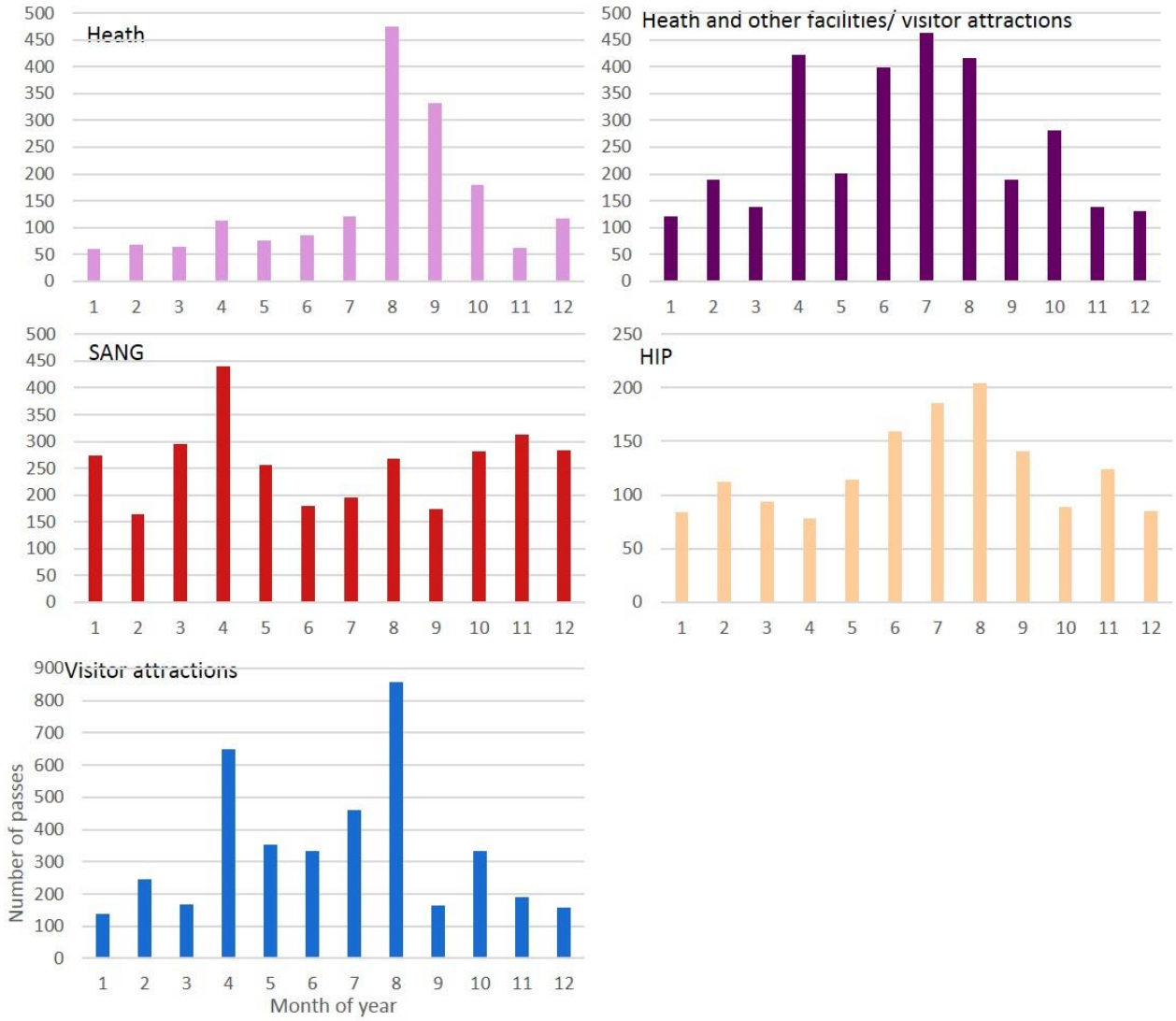


Figure 11: The monthly number of passes recorded on average at sensors, shown heathland sites [n=37], heathland & other sites [n=1] heathland & other sites/visitor attractions [n=5], HIP sites [n=9], SANG [3], and Visitor attractions [n=2] (HIP & other sites and HIP & heathland sites only one site for each therefore not shown

5.15 The raw values have also been used to compare the ratio of weekday to weekend day values at each of the different sensor location types in Table 16. While sample sizes for some sensor types are still low, the examination of multiple weekday / weekend day types resolves much of these issues, providing us with greater confidence in the data. The weekday and weekend day ratio was normally at a similar level to each other across the different types of locations, and generally to that calculated in the previous year (which can be based on different individual sensors and data gaps). Some exceptions to this are the sites which are heathland, which this year has suggested visits on weekdays can be greater than on weekends, and visitor attraction type sites

(e.g. Upton Country Park), which show the largest difference between weekday and weekend.

Table 16: Comparison of raw values of passes per day, calculated as an average for the two types of day; weekday and weekend day. These values are used to compare weekday to weekend day ratios. (HIP & other sites and HIP & heathland sites only one site for each therefore not shown).

	Heathland	HIP	Heathland & Other/Visitor attractions	SANG	Visitor attractions
Number of sensors in 17-18	37	4	2	3	2
Raw average daily values (passes per day)					
Weekday in 17-18	92	48	182	104	183
Weekend in 17-18	106	66	238	151	269
Weekday: Weekend Ratio					
Ratio 17-18	47:53	42:58	43:57	41:59	41:59
Ratio 16-17	52:48	41:59	44:56	42:58	39:61

5.16 Finally, we have also used the sensor data to examine differences in patterns of use over the day. The limitations with this will be accounting for differences when sensors which were added / removed, or malfunction in a particular season as used and the length of daylight hours differed across the seasons.

5.17 Nevertheless, the results in Figure 12 shows most sites have the same double bell-shaped curve of access patterns across the day (a bimodal distribution). Peaks are usually at 9:00-10:00 and again around 15:00-16:00, however this does differ slightly across the different types of locations. The heathland sites show some of the most distinct peaks, and the peaks are also further apart than many of the other types of locations. Heath and other facilities/visitor attractions are the least bimodal distribution and more a single peak distribution; this may be the result of different sites and which have different activities with different peaks masking any other distributions.

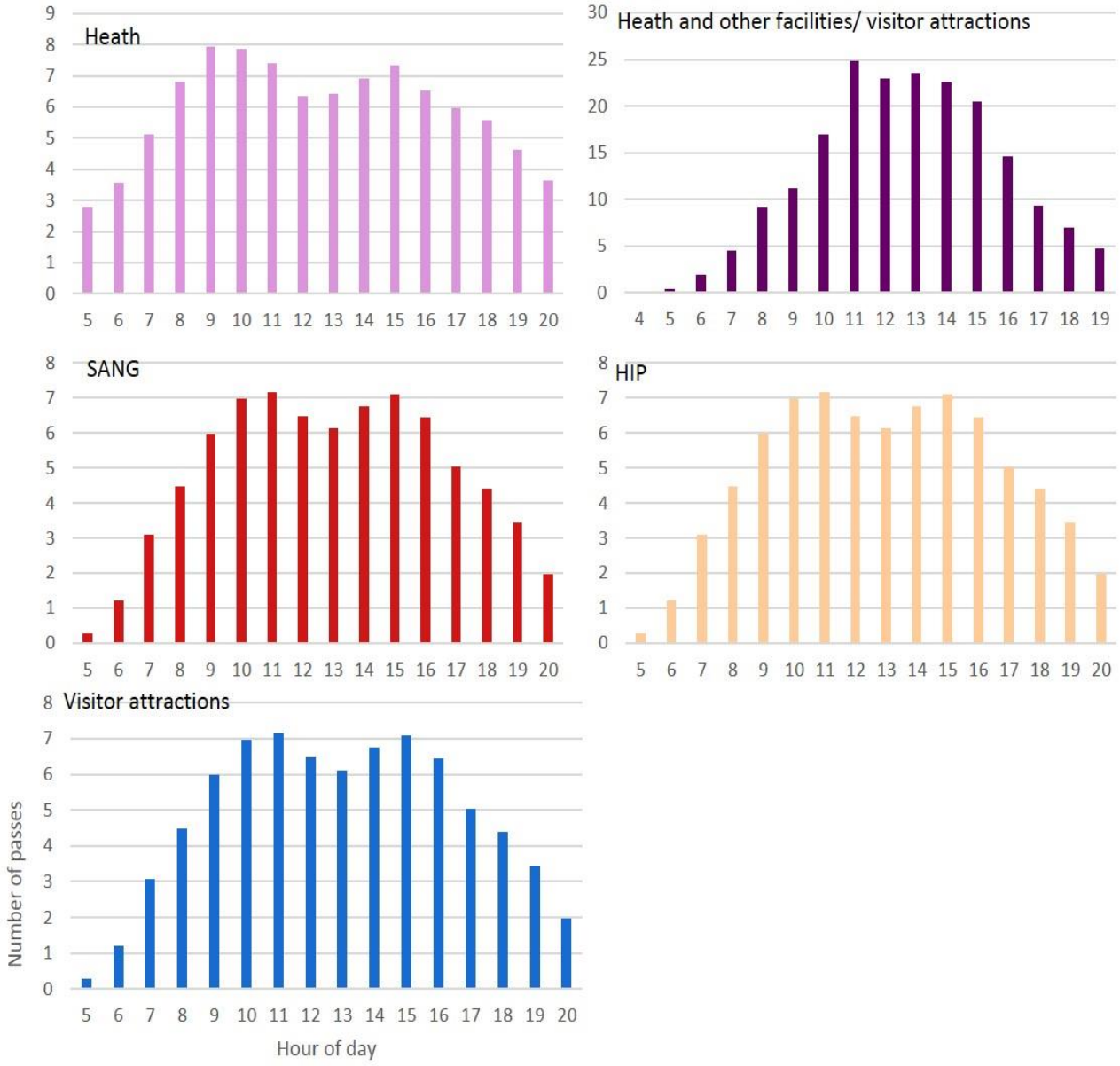
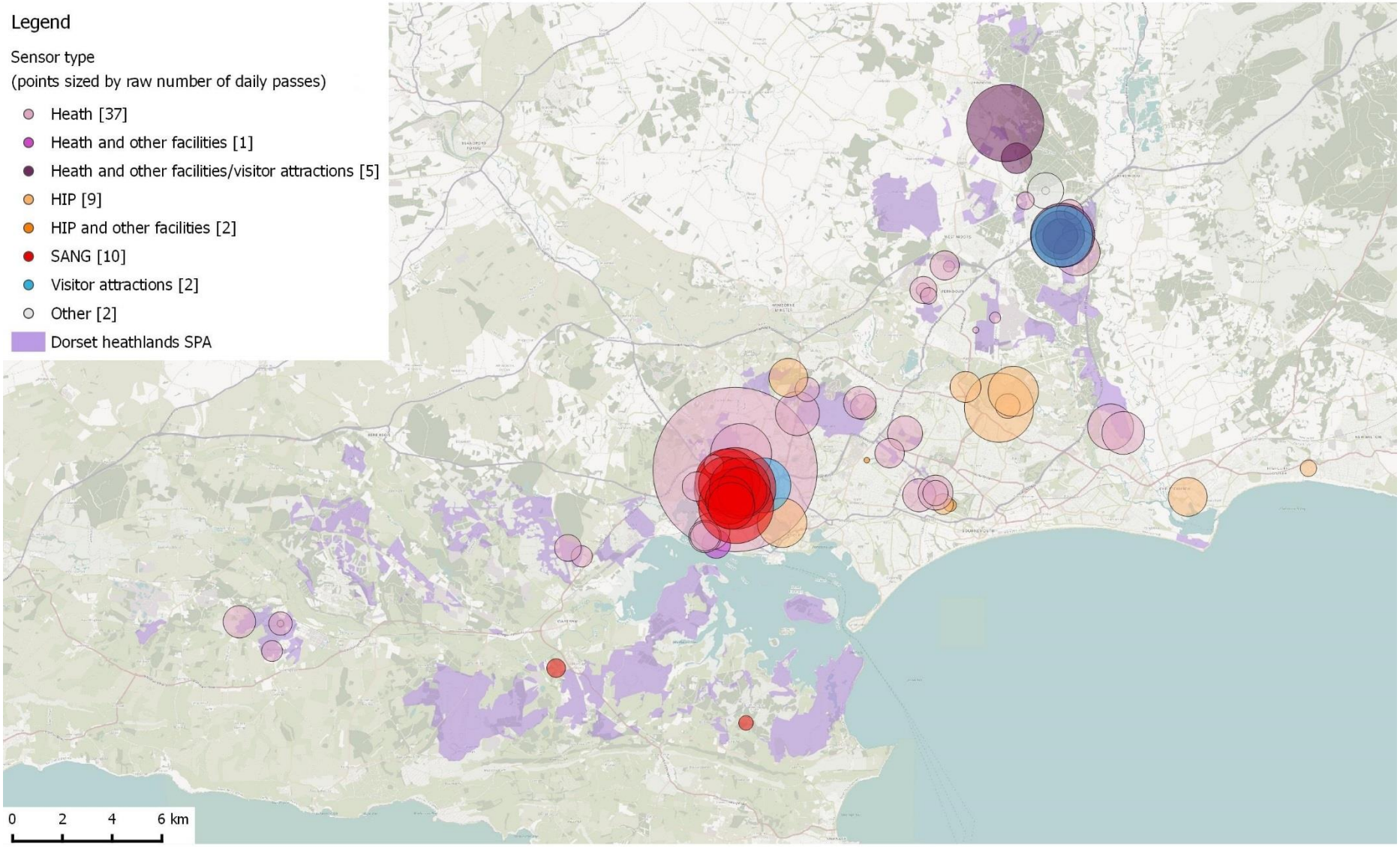


Figure 12: Average number of passes recorded across the day for each sensor location shown for heathland sites [n=37], heathland & other sites [n=1] heathland & other sites/visitor attractions [n=5], HIP sites [n=9], SANG [3], and Visitor attractions [n=2] (HIP & other sites and HIP & heathland sites only one site for each therefore not shown).

Map 9 : Distribution all sensors working at some point in the 2017-18 financial year. Points are sized by raw number of passes per day.



Winfrith and Tadnoll

5.18 At Winfrith and Tadnoll there are three sensors which cover the main access points onto the site. These have generally been working well the last financial year, but with no data for one sensor (WWH2) in the last month of data. This sensor would not start working again after a data download and so will be replaced in due course.

5.19 Sensor values were filtered by removing whole days on download dates and whole days for any obvious errors (of which there were none). It should again be noted that raw values of the numbers of passes are being presented and that these will not necessarily be equal to the number of people due to how the individual sensors record people. Sensor values (hourly) number of passes were summed for each day and an average daily value calculated.

5.20 Average daily values are shown for each sensor in the last financial year in Figure 13. Peaks of use varied across the season and differently at each different sensor location. Sensor WTH1 in the 2016-17 financial year peaks in June, while WWH1 peaks in August. Both are different peaks to the previous year, 2016-17 financial year, and again in comparison to the trend from all previous years data (pooled 2014-15 and 2015-16). Numbers of passes recorded at WWH2 is consistently much lower than the other two sensors.

5.21 Figure 13 indicates use in the 2017-18 financial year has generally been increasing on the previous financial year and pooled previous two years (2014-15 and 2015-16). As such the annual totals were extracted and presented as averaged daily values in Table 17. Table 17 shows the number of passes in the 2017-18 financial year has been increasingly steadily at sensor WTH1. WWH1 had shown a steady increase in recent years but appears to be heading back to a similar level to 2014-15 / 2015-16 numbers. There have been fewer and fewer passes recorded at WWH2 year on year since the sensor has been installed to an extremely low level currently.

5.22 It should be noted that these are raw data on passes only and it remains unclear exactly how passes relate to people and the exact details of how each sensor is recording (e.g. whether the sensor is recording dogs, if every pass is equal to one person, if people are usually returning back therefore recorded as a pass on entering the site and again on leaving).

Table 17: Averaged daily number of passes recorded for the three financial years which sensors have been in place for the full year.

Financial year	WTH1	WWH1	WWH2
2014-15	77.3	35.4	11.2
2015-16	73.4	36.3	11.1
2016-17	84.0	40.1	9.7
2017-18	97.7	36.6	0.4

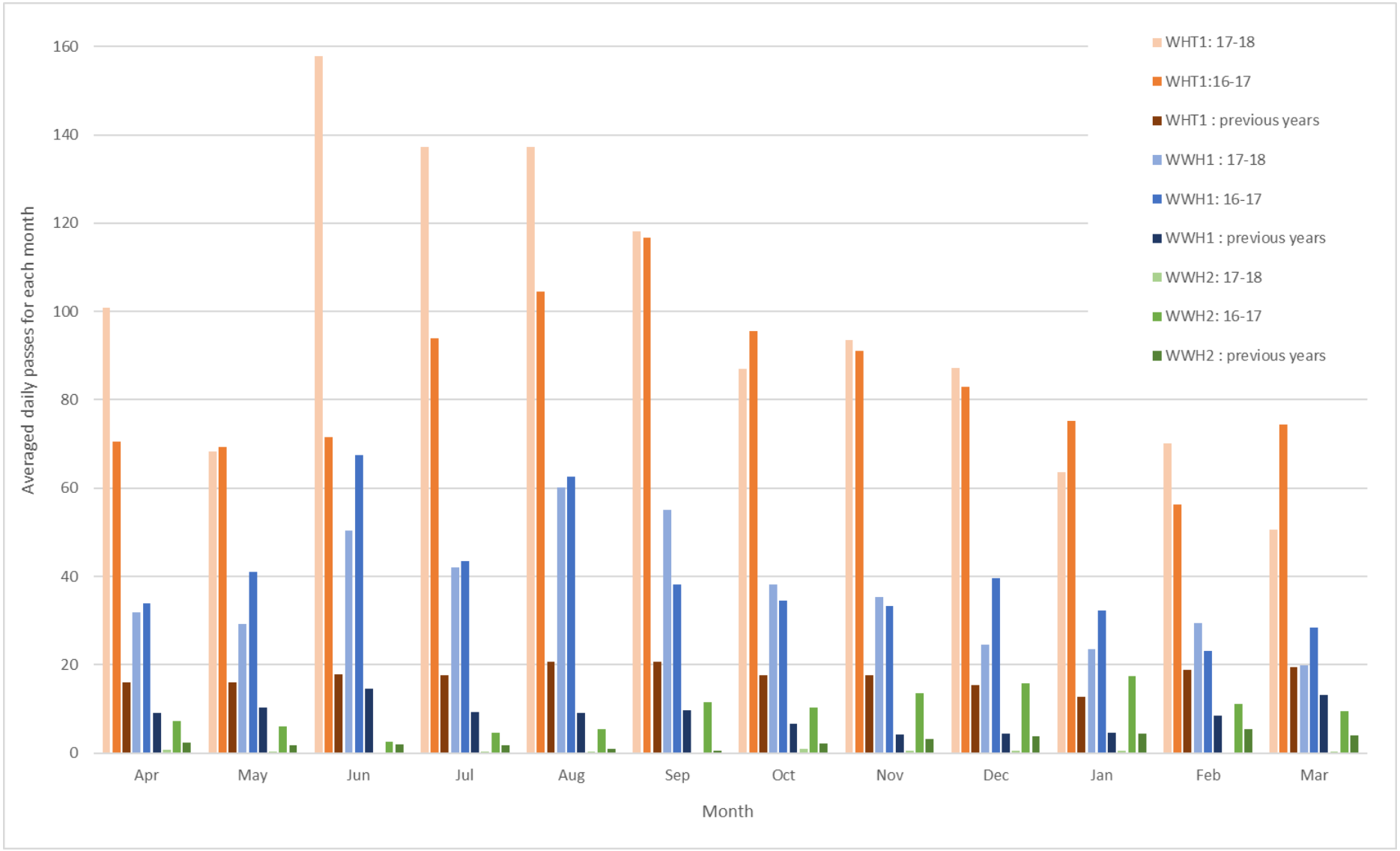


Figure 13: Averaged daily number of passes shown for each month, separated by sensor locations and comparing the 2016-2017 financial year values to the previous three financial years data pooled.

Calibration of sensors

5.23 Accuracy of the sensor data collected will be important to ensure long term data is valid for any trend analysis. One of the key issues with sensors is ensuring the number of passes recorded relates to the number of visitors entering site.

5.24 Since 2015, calibration at 64 sensors has been undertaken and in summer 2017 a comparison of physical counts to the sensor data was undertaken. There were 365 counts with at least one event and 4,262 observations recorded.

Raw calibration data

5.25 Table 18 summarises the results from the calibration, in terms of observed numbers of people, groups and dogs passing at each sensor location. The data is informative of access patterns by visitors in its own right and while detailed analysis is not undertaken here, this could be worth formally investigating. Data are also briefly visualised in Maps 10 to 12.

5.26 Sites with the highest number of people passing on average were; (top five, starting with highest) Moors Valley (EMVPPA), Upton Country Park SANG (PUS1, PUS2) and Holes Bay (PHO1). While sites with the highest number of dogs passing on average were; Upton Country Park SANG (PUS1, PUS2), Avon Heath (DAH4), Moors Valley (EMVPPA) and Parley (HPC1). The sites with the highest ratio of dogs per people were Ferndown (HFC3), Meryrick Park (BMP1), Avon Heath (DAH1), Ferndown again (HFC5) and Slop Bog (DSB1A) – but numbers of people and dogs were usually both low.

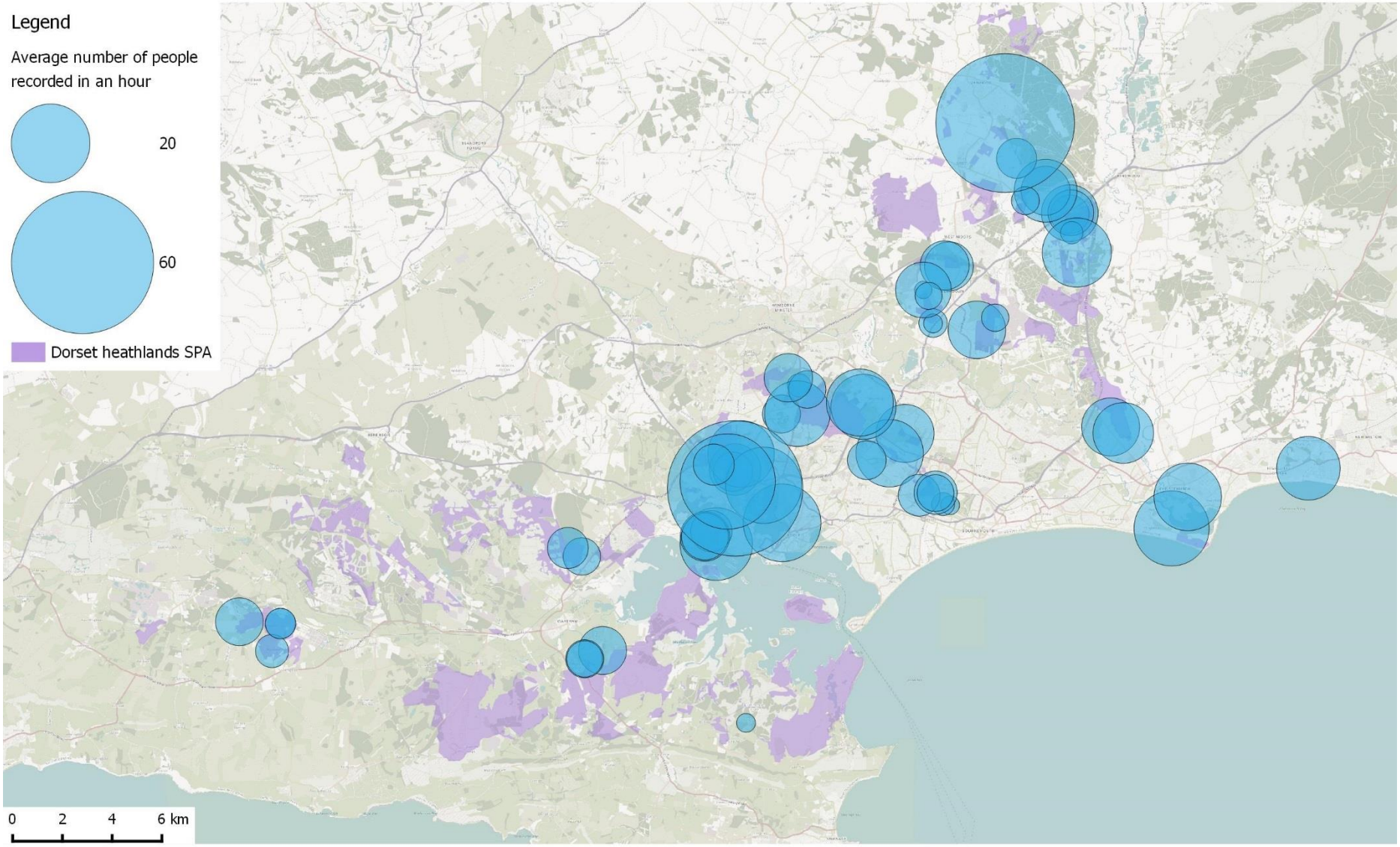
Table 18: Summary by sensor of the number of calibrations undertaken, and details of numbers of physical people ("real visitors") as groups, people and dogs recorded at each.

Sensor	Number of calibrations	Group size (persons per group) (real visitors)	Average groups (real visitors) recorded	Average people (real visitors) recorded	Average dogs (real visitors) recorded
ADH1	5	1.67	11.17	3	2.5
BHH1	6	1.64	1.67	18.33	6.33
BMP1	6	0.6	1.6	1	2
BPH1	6	1	7.33	1.6	1.6
BTC1	6	1.52	10	11.17	4.83
CCB1a	6	1.33	7.17	13.33	6.33
CSCH1	6	1.56	7	11.17	8.5
CSP1	3	2.14	5.33	15	4
DAH1	3	1	4.33	5	7.33
DAH1a	3	2	1.5	10.67	7.67
DAH2	6	1.62	10.5	7	6.33

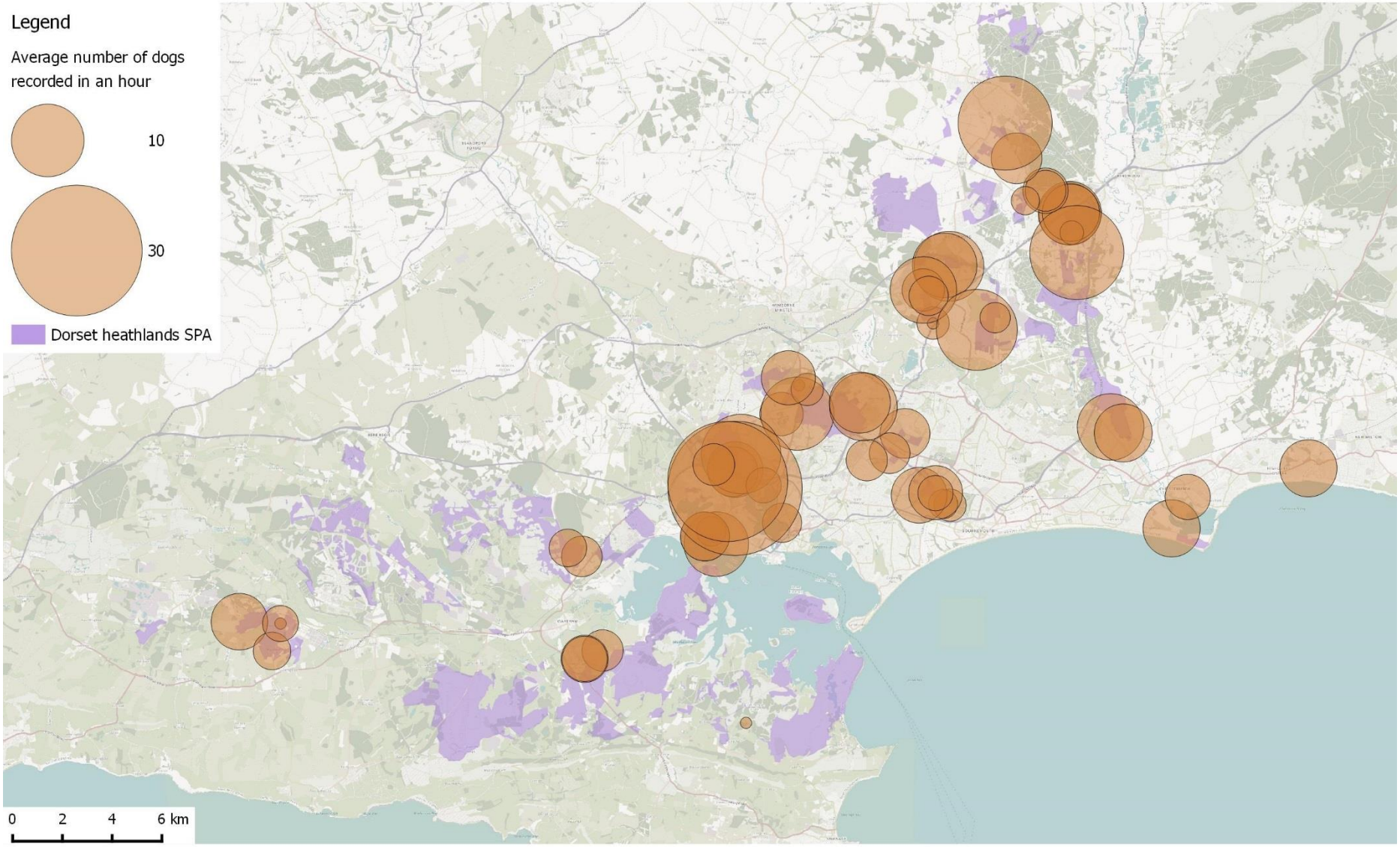
DAH3a	6	1	4	1.5	1
DAH4	6	1.49	7.33	15.67	16.33
DCTWHRX1	6	2	1	8	4
DCTWHRX2	6	1.77	6.33	13	3.25
DLHCTW1	3	2.5	6	2.5	1.5
DSB1a	3	1.26	6	8	9.33
DSB2	3	1.33	4.67	8	8
DUH1	7	1.47	4	8.83	6
DUH2	6	1.11	29.33	5.17	4.83
EMVBR13	6	1.33	1.67	5.33	5
EMVPPa	6	1.95	1	57.33	16.33
HDH1a	6	1	1.6	1.67	-
HFC2a	3	1	8.83	1	-
HFC3	6	0.5	2.67	0.8	3.5
HFC4	6	1.17	3.67	10.33	8.5
HFC5	3	0.88	4	2.33	3
HGO1	6	1.27	7.83	4.67	3.2
HGO2	6	1.4	1.4	5.6	2.75
HL1A	6	1.18	6.83	2.6	2
HPC1	6	1.4	6	11	12.33
HPC3a	6	1.71	3.5	2.4	1.75
HTC1	6	1.78	3	12.17	6.5
NSH1	3	1.28	3.67	7.67	3.33
NSH4	6	1.38	10.11	4.83	4.33
NSH5	6	1.44	4	4.33	4
PBH1	6	1.32	8.33	4.83	3.67
PBV2	9	1.47	10.11	14.89	3.22
PBV3	6	1.25	8.27	5	3.33
PCA1	6	1.7	3.5	14.17	10.17
PCA4	9	1.37	6.17	13.89	8.78
PCA5	12	1.78	10	14.73	7.18
PCA6a	6	1.33	3.5	4.67	2
PDW1	6	1.27	4.83	7.83	5.67
PHC1	6	1.72	4.67	17.17	8
PHC3	6	1.62	16.67	5.67	1.67
PHC4	6	1.69	10.67	8.17	4.67
PHC5	6	1.57	4.67	7.33	4.67
PHO1	6	1.17	5.08	19.5	3
PLW1	9	1.36	15.33	14.56	11.89
PTH3	6	1.3	35.33	5.83	6
PTH5	13	1.31	21.5	6.23	5.64
PTH6	13	1.46	1	4.5	2.4
PUP1	6	1.23	6.2	18.83	2.4

PUS1	6	1.55	5.2	54.83	31.5
PUS2	6	1.33	2.2	28.67	25.67
RB1	6	1	2	1	-
WTH1	6	1.23	1.8	7.6	6.2
WUH1	6	1.08	5	5.6	3.4
WWH1	6	1.64	2.2	3.6	2.75
WWH2	6	1.5	3.08	3	-

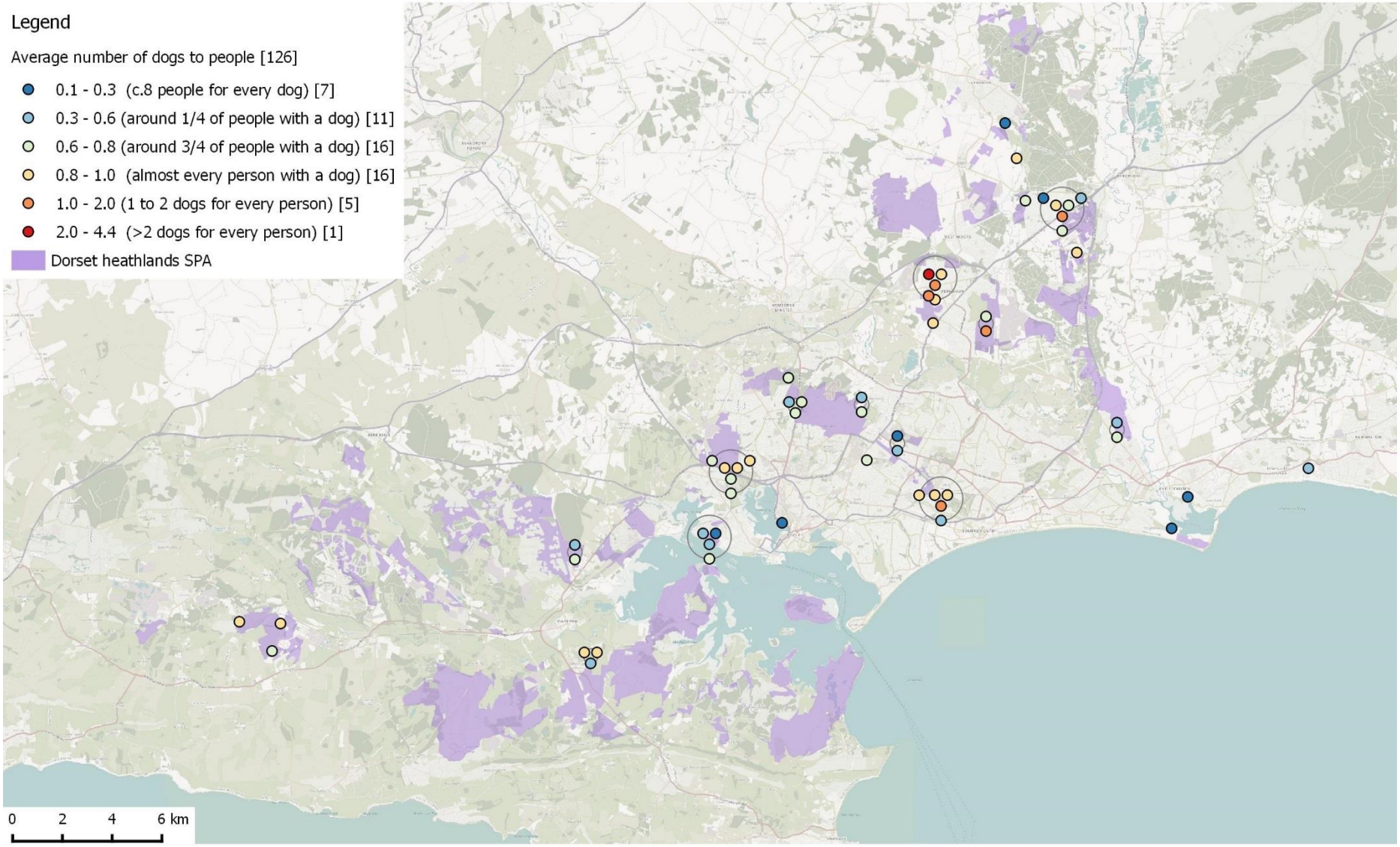
Map 10: Calibration locations with points sized by the average number of people recorded passing in an hour.



Map 11: Calibration locations with points sized by the average number of dogs recorded passing in an hour.



Map 12: Calibration locations categorised by the average number of dogs per people.



Relationship between sensor values and calibration counts

5.27 The relationship between sensor values and calibration counts was examined for each sensor to see how well these fit. We examined the relationship between sensor values to calibration count of the number of events first and then to the calibration count of the number of people.

5.28 We would expect the relationship for the number of passes and the number of people during each calibration count to be somewhere near linear. The level of fit for each relationship formed from the multiple calibration counts was correlated and visualised as a scatterplot for each sensor. Figure 14 to Figure 16 show individual scatterplots for every sensor, with a dot for the value of each calibration, plotting the observed number of pass "events" for each calibration count against total number of passes for the sensor in each hour of calibration. The fit for these values was then calculated and plotted in the Figures.

5.29 Figure 17 to Figure 19 similarly present the relationships for all sensors, but this time using the actual number of people observed in each calibration count against the sensor value. This relationship between the actual number of observed people and the sensor pass values will be key to creating a calibration value applied to each sensor.

5.30 The relationships between sensor passes and calibration events or people are graphed in the six figures (Figure 14 to Figure 19), and coefficient of each relationship and strength of this fit (R^2 value) using the two types of calibration values is presented in Table 19.

5.31 Table 19 has been used to examine which sensors we are feel have a sufficient data to create a suitable relationship and then which have a confident goodness of fit to these relationships. Those values which are of concern have been highlighted to work out which sensors need more calibration data,

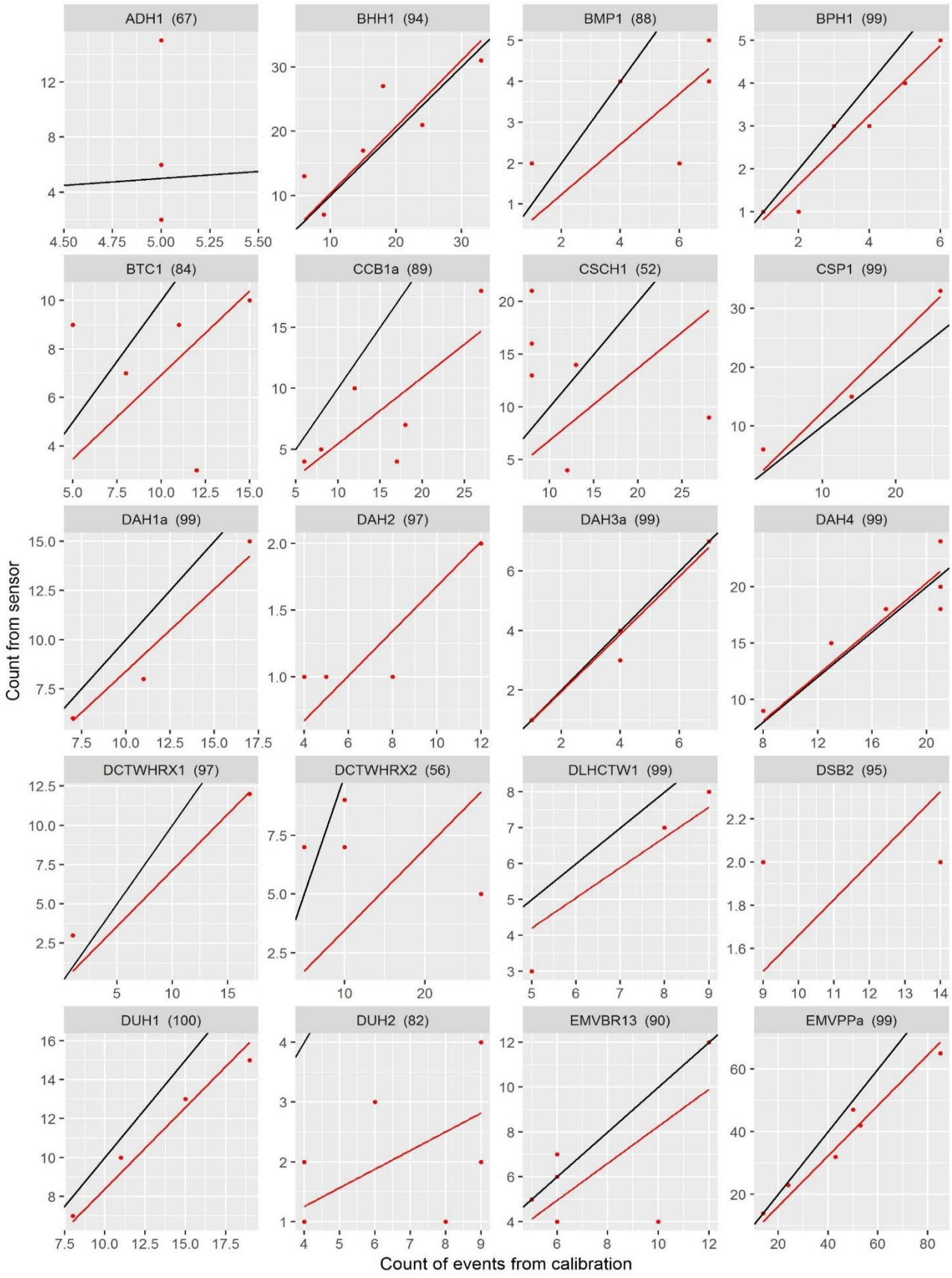


Figure 14: Linear regressions between counts from the sensor and the number of 'events' observed during calibrations. Each red dot indicates the result from a single calibration, fitted with a red line indicating the linear regression (with intercept set to zero). The black line indicates a line of 1:1 (line of equality).

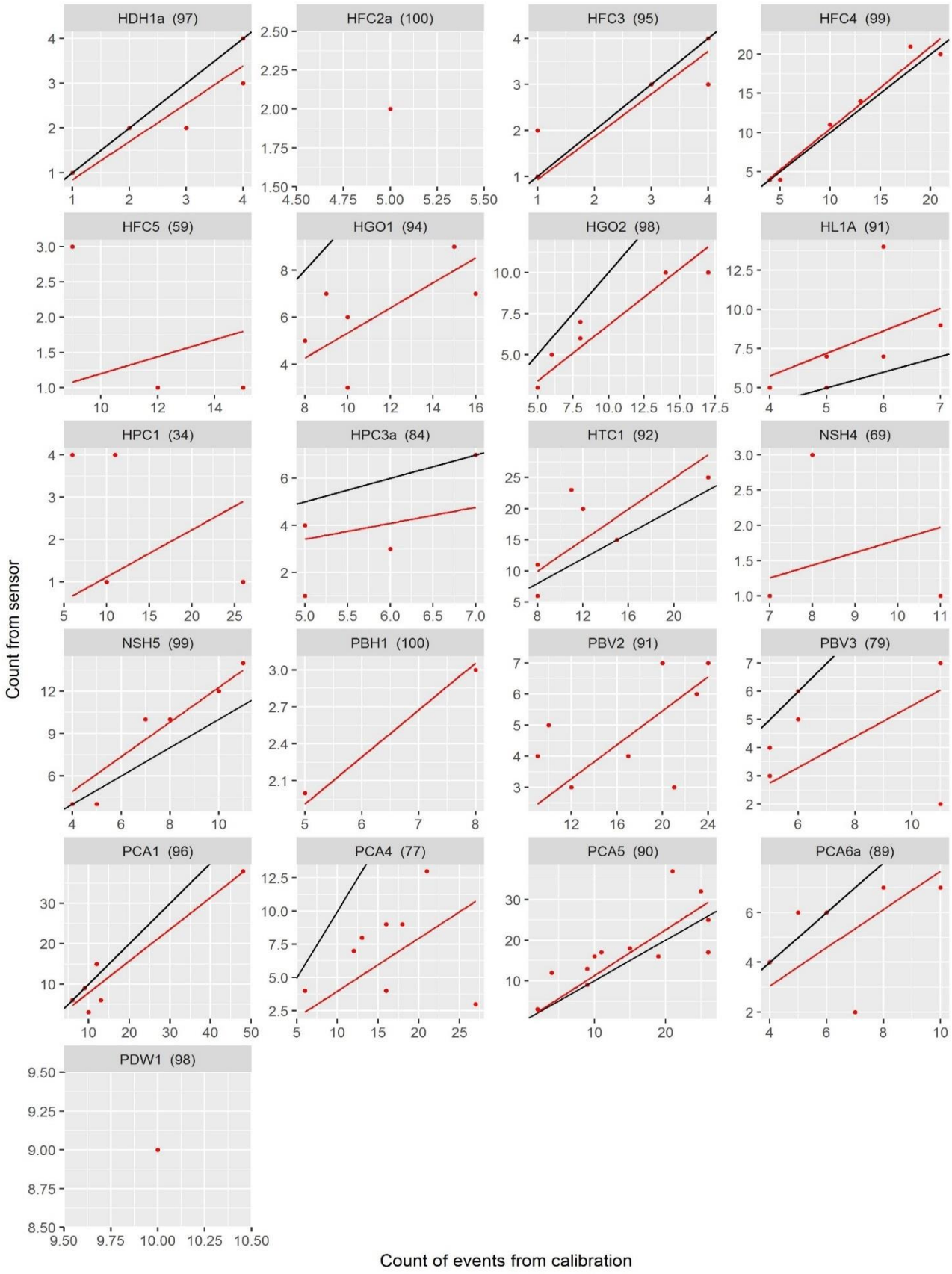


Figure 15: Linear regressions between counts from the sensor and the number of 'events' observed during calibrations. Each red dot indicates the result from a single calibration, fitted with a red line indicating the linear regression (with intercept set to zero). The black line indicates a line of 1:1 (line of equality).

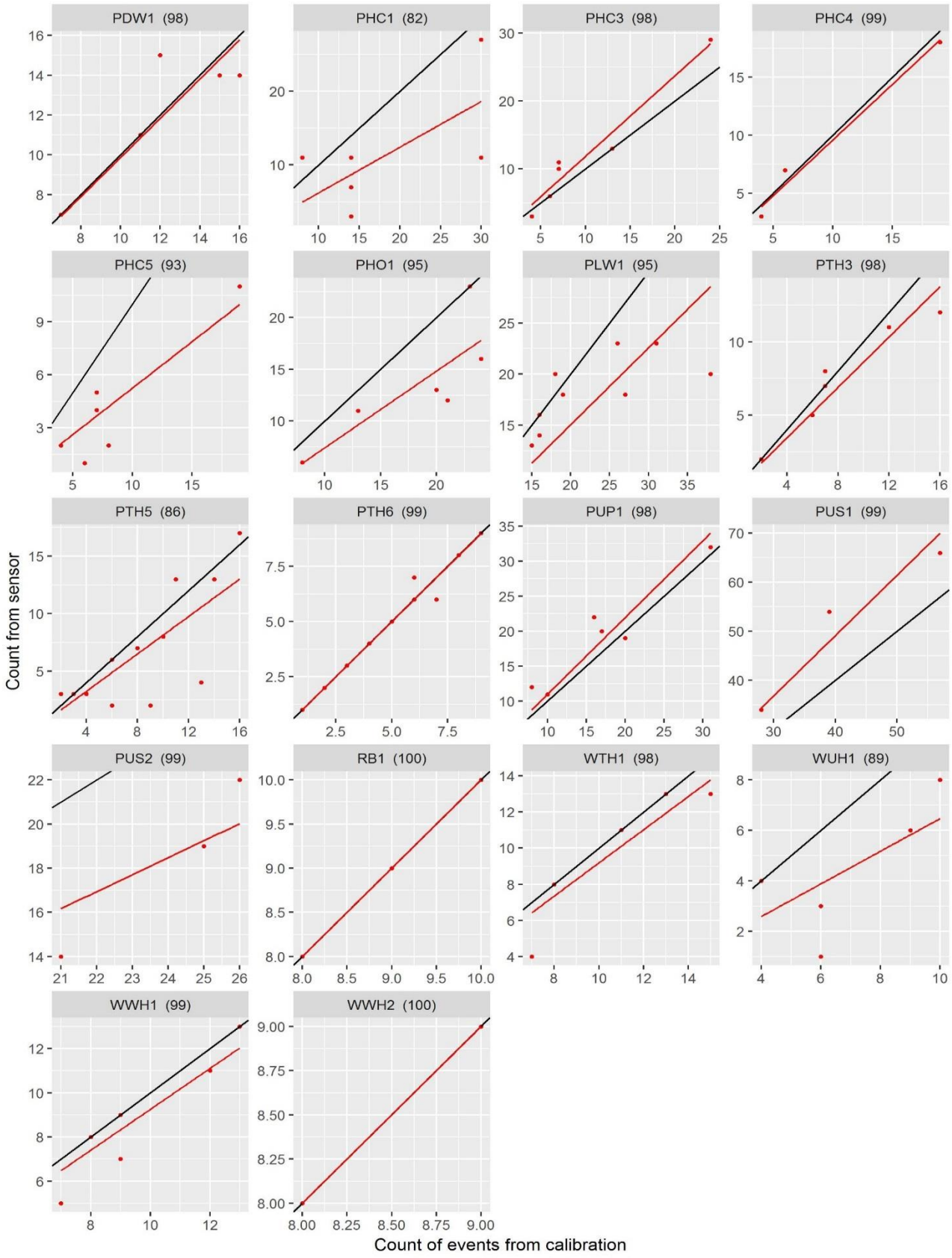


Figure 16: Linear regressions between counts from the sensor and the number of 'events' observed during calibrations. Each red dot indicates the result from a single calibration, fitted with a red line indicating the linear regression (with intercept set to zero). The black line indicates a line of 1:1 (line of equality).

Table 19: Full details of calibration counts; number undertaken and number of counts useable (red text indicates values of concern), along with pearson's correlation coefficients (direction of relationship) and R^2 values (strength of fit) between sensor counts and observed number of events or people. The final column details the number of repeat calibrations advised as a result of these data.

Sensor	Number of calibrations	Number (and %) of calibrations when sensor was not working	Final number of counts used (excluding zero counts of obvious errors)	Sensor passes to events		Sensor passes to number of people		Number of calibration repeats advised
				Coeff	R^2	Coeff	R^2	
ADH1	5	2 (40)	3	0.43	0.67	0.52	0.67	3
BHH1	6	0 (0)	6	0.91	0.94	1.00	0.99	
BMP1	6	1 (16.7)	5	1.43	0.88	0.51	0.62	3
BPH1	6	0 (0)	6	1.21	0.99	1.08	0.98	
BTC1	6	0 (0)	6	1.21	0.84	1.48	0.84	
CCB1a	6	0 (0)	6	1.63	0.89	1.42	0.82	
CSCH1	6	0 (0)	6	0.76	0.52	0.89	0.50	3
CSP1	3	0 (0)	3	0.80	0.99	0.87	0.99	3
DAH1	3	3 (100)	0	-	-	-	-	6
DAH1a	3	0 (0)	3	1.18	0.99	1.21	1.00	3
DAH2	6	1 (16.7)	5	5.75	0.97	5.50	0.74	3
DAH3a	6	0 (0)	6	1.02	0.99	1.02	0.99	
DAH4	6	0 (0)	6	0.97	0.99	0.98	0.99	
DCTWHRX1	6	4 (66.7)	2	1.35	0.97	1.35	0.97	4
DCTWHRX2	6	2 (33.3)	4	1.62	0.56	2.53	0.75	
DLHCTW1	3	0 (0)	3	1.17	0.99	0.72	0.93	3
DSB1a	3	3 (100)	0	-	-	-	-	6
DSB2	3	1 (33.3)	2	5.75	0.95	4.75	0.88	3
DUH1	7	2 (28.6)	4	1.19	1.00	1.05	0.92	
DUH2	6	0 (0)	6	2.63	0.82	2.37	0.85	
EMVBR13	6	0 (0)	6	1.09	0.90	0.94	0.86	
EMVPPa	6	0 (0)	6	1.23	0.99	1.66	0.98	
HDH1a	6	1 (16.7)	5	1.15	0.97	1.15	0.97	
HFC2a	3	1 (33.3)	2	2.50	1.00	2.50	1.00	4
HFC3	6	1 (16.7)	5	1.03	0.95	0.72	0.84	
HFC4	6	0 (0)	6	0.95	0.99	0.91	0.99	
HFC5	3	0 (0)	3	4.91	0.59	3.00	0.80	3
HGO1	6	0 (0)	6	1.77	0.94	1.52	0.90	
HGO2	6	0 (0)	6	1.44	0.98	1.45	0.98	
HL1A	6	0 (0)	6	0.63	0.91	0.63	0.91	
HPC1	6	2 (33.3)	4	3.06	0.34	3.26	0.32	3

Sensor	Number of calibrations	Number (and %) of calibrations when sensor was not working	Final number of counts used (excluding zero counts of obvious errors)	Sensor passes to events		Sensor passes to number of people		Number of calibration repeats advised
				Coeff	R^2	Coeff	R^2	
HPC3a	6	2 (33.3)	4	1.23	0.84	1.23	0.84	
HTC1	6	0 (0)	6	0.74	0.92	0.82	0.87	
NSH1	3	3 (100)	0	-	-	-	-	6
NSH4	6	3 (50)	3	3.82	0.69	3.09	0.78	3
NSH5	6	0 (0)	6	0.8	0.99	0.73	0.97	
PBH1	6	4 (66.7)	2	2.62	1.00	1.92	0.96	4
PBV2	9	1 (11.1)	8	3.34	0.91	3.44	0.91	
PBV3	6	0 (0)	6	1.44	0.79	1.40	0.76	3
PCA1	6	0 (0)	6	1.22	0.96	1.25	0.99	
PCA4	9	1 (11.1)	8	1.93	0.77	1.96	0.82	
PCA5	12	0 (0)	12	0.79	0.90	0.96	0.94	
PCA6a	6	0 (0)	6	1.17	0.89	1.25	0.89	
PDW1	6	0 (0)	6	1.01	0.98	0.79	0.87	
PHC1	6	0 (0)	6	1.32	0.82	1.50	0.89	
PHC3	6	0 (0)	6	0.83	0.98	0.88	0.97	
PHC4	6	0 (0)	3	1.04	0.99	1.08	0.99	3
PHC5	6	0 (0)	6	1.77	0.93	1.74	0.88	
PHO1	6	0 (0)	6	1.29	0.95	1.39	0.94	
PLW1	9	0 (0)	9	1.26	0.95	0.96	0.92	
PTH3	6	0 (0)	6	1.14	0.98	1.01	0.91	
PTH5	13	0 (0)	13	1.06	0.86	0.91	0.84	
PTH6	13	0 (0)	13	1.00	0.99	0.99	0.98	
PUP1	6	0 (0)	6	0.90	0.98	0.98	0.98	
PUS1	6	2 (33.3)	3	0.81	0.99	1.02	1.00	3
PUS2	6	0 (0)	3	1.29	0.99	1.40	1.00	3
RB1	6	1 (16.7)	5	1.00	1.00	1.00	1.00	
WTH1	6	1 (16.7)	5	1.07	0.98	1.09	0.99	
WUH1	6	1 (16.7)	5	1.38	0.89	1.25	0.95	
WWH1	6	0 (0)	6	1.07	0.99	1.10	0.99	
WWH2	6	0 (0)	6	1.00	1.00	1.00	1.00	

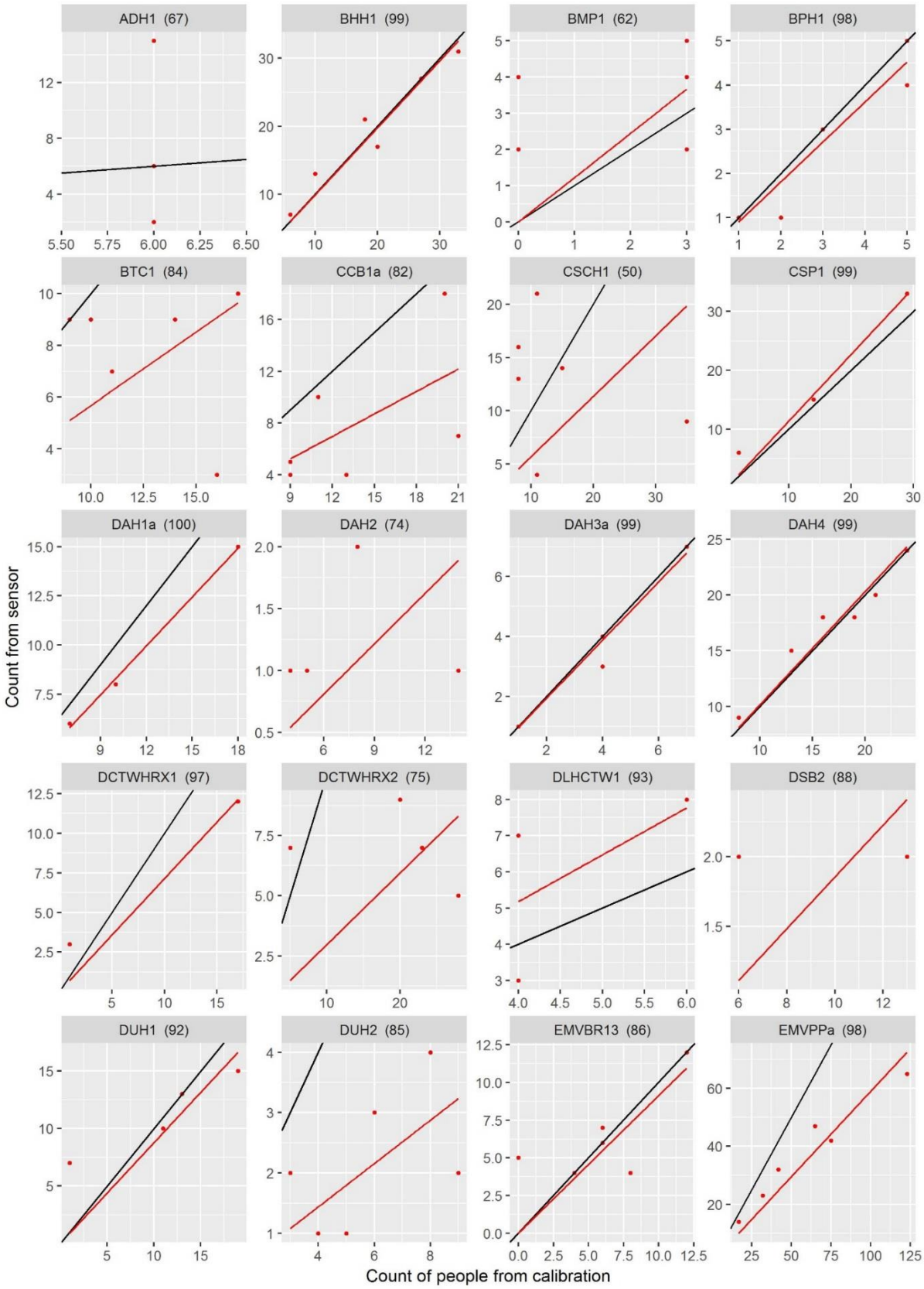


Figure 17: Linear regressions between counts from the sensor and the actual number of people observed during calibrations. Each red dot indicates the result from a single calibration, fitted with a red line indicating the linear regression (with intercept set to zero). The black line indicates a line of 1:1 (line of equality).

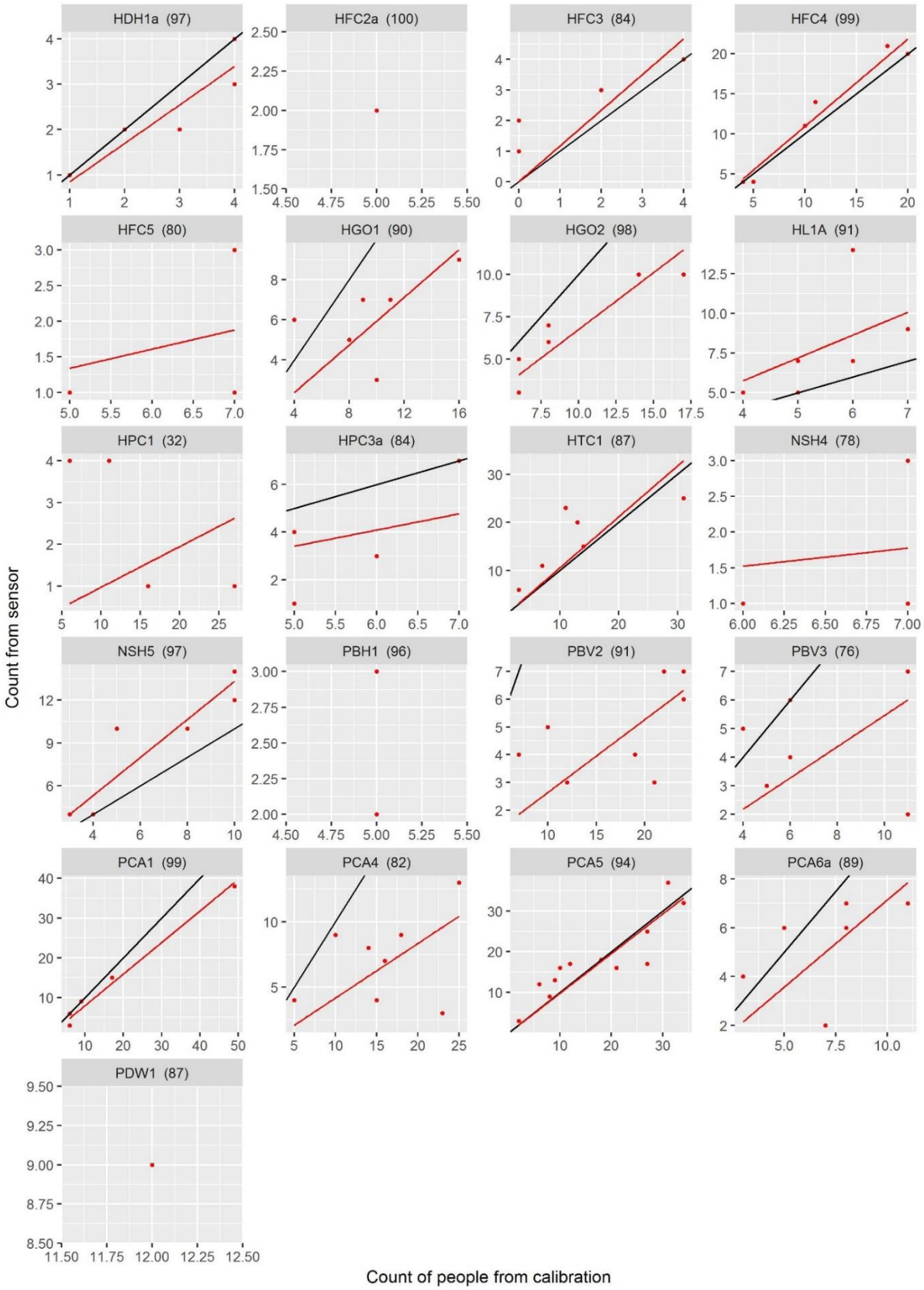


Figure 18: Linear regressions between counts from the sensor and the actual number of people observed during calibrations. Each red dot indicates the result from a single calibration, fitted with a red line indicating the linear regression (with intercept set to zero). The black line indicates a line of 1:1 (line of equality).

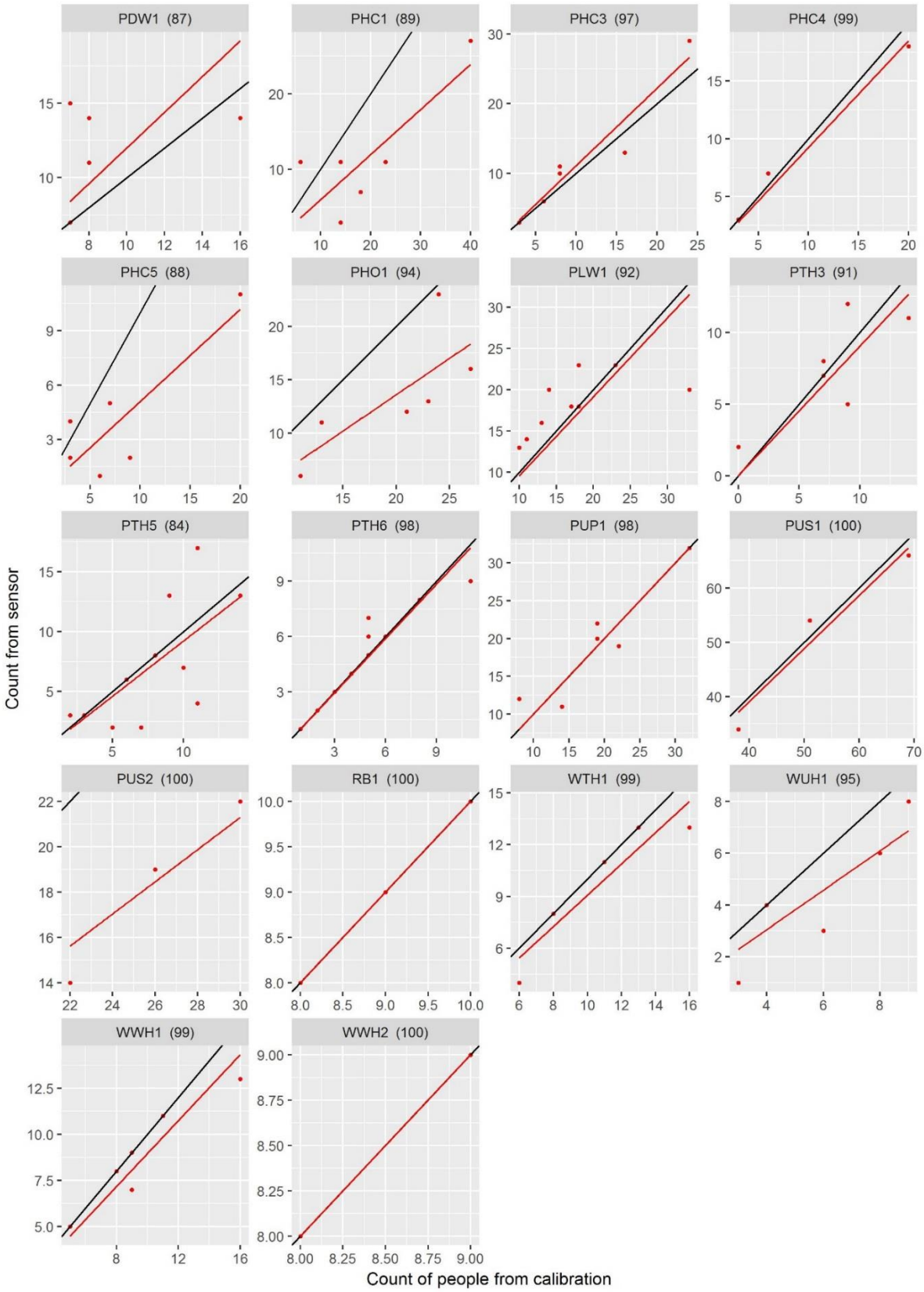


Figure 19: Linear regressions between counts from the sensor and the actual number of people observed during calibrations. Each red dot indicates the result from a single calibration, fitted with a red line indicating the linear regression (with intercept set to zero). The black line indicates a line of 1:1 (line of equality).

5.32 Some sensors, which were very quiet, were calibrated through "self-calibrations" (i.e. the surveyor walking back and forth past the sensor to ensure calibration was possible (although this was not always done when no people were counted and this is the reason some calibrations sessions are not useable). Sensors where "self-calibration" was undertaken usually result in a perfect fit (see WHH2 and RB1). However, these are often based on a very similar number of passes, always around eight. A better way to have more confidence would be to increase the range of self-calibration passes done (e.g. between 8 and 15).

5.33 Table 19 shows that there is a need to repeat calibrations for those sensors which have few calibrations currently or poor current data (values of concern highlighted in bold red text) or where the level of fit between sensor values and events or people is particularly poor (red/ pink highlighted cells). The subset of sensors which need repeating are given in Table 20 below.

5.34 It is advised that calibrations at quiet sites include a number "self-calibrations", conducted by the surveyor walking past the sensor a number of times. It is important that these are stated as passes by the surveyor on the recording sheet, so these can be eliminated from any 'real' visitor data. It is suggested that a random number of passes be conducted; somewhere between 8-15 would be ideal. "Self-calibrations" must always be noted as such, as not to mix this up with the true visitor data.

Table 20: Summary of calibration results from sensors which need further calibrations. The final column gives the suggested number of repeats to be conducted

Sensor	Number of calibrations	Number (and %) of calibrations when sensor was not working	Final number of counts used (excluding zero counts of obvious errors)	Sensor passes to events		Sensor passes to number of people		Number of calibration repeats advised
				Coeff	R^2	Coeff	R^2	
ADH1	5	2 (40)	**3**	0.43	0.67	0.52	0.67	**3**
BMP1	6	1 (16.7)	5	1.43	0.88	0.51	0.62	**3**
CSCH1	6	0 (0)	6	0.76	0.52	0.89	0.50	**3**
CSP1	**3**	0 (0)	**3**	0.80	0.99	0.87	0.99	**3**
DAH1	**3**	**3 (100)**	**0**	-	-	-	-	**6**
DAH1a	**3**	0 (0)	**3**	1.18	0.99	1.21	1.00	**3**
DAH2	6	1 (16.7)	5	5.75	0.97	5.50	0.74	**3**
DCTWHRX1	6	**4 (66.7)**	**2**	1.35	0.97	1.35	0.97	**4**
DLHCTW1	**3**	0 (0)	**3**	1.17	0.99	0.72	0.93	**3**
DSB1a	**3**	3 (100)	**0**	-	-	-	-	**6**
DSB2	**3**	1 (33.3)	**2**	5.75	0.95	4.75	0.88	**3**

HFC2a	**3**	1 (33.3)	**2**	2.50	1.00	2.50	1.00	**4**
HFC5	**3**	0 (0)	**3**	4.91	0.59	3.00	0.80	**3**
HPC1	6	2 (33.3)	4	3.06	0.34	3.26	0.32	**3**
NSH1	**3**	**3 (100)**	**0**	-	-	-	-	**6**
NSH4	6	**3 (50)**	**3**	3.82	0.69	3.09	0.78	**3**
PBH1	6	**4 (66.7)**	**2**	2.62	1.00	1.92	0.96	**4**
PBV3	6	0 (0)	6	1.44	0.79	1.40	0.76	**3**
PHC4	6	0 (0)	**3**	1.04	0.99	1.08	0.99	**3**
PUS1	6	2 (33.3)	**3**	0.81	0.99	1.02	1.00	**3**
PUS2	6	0 (0)	**3**	1.29	0.99	1.40	1.00	**3**

6. Other data

Calendar data

6.1 A continuing record of relevant information which may be important for factors affecting visitor behaviour is recorded and maintained by Footprint Ecology. This data is maintained as a complete calendar, such that it can easily be related to daily information, such as sensors, or for a chosen date such as car park or visitor surveys.

6.2 The current information recorded is weather data and school term times. Weather data is obtained from a weather recording station at Bournemouth airport (EGHH[1]), with available data from 2008. For school term times, these are sourced from Dorset County Council website and are used to detail on every day of the year the term time, half term and school holidays. The calendar is also used to record weekend, weekday and bank holidays so these can be analysed separately.

Visitor data

6.3 Visitors surveys are conducted occasionally in UHP monitoring, as a way of recording both visitor numbers and visitor behaviours, attitudes and thoughts on sites. Current visitor surveys focus on SANGs, which are usually required to have visitor monitoring. The current timetable for surveying is set out in Table 21, although it should be noted these are not rigid dates and can shift depending on availability of resources, works at sites, or new sites/developments in the wider area.

- In the 2017/2018 financial year face to face interviews by UHP staff were conducted at BytheWay SANG (Wimborne) in late 2017, Upton Country Park Phase 2 and French's Farm SANG in early 2018.

6.4 Visitor surveys in the 2018-19 financial year will aim to include:

- Woolslope SANG, third round
- Stanpit Recreation Ground, second round
- Upton Country Park Phase 1 second round (could also be the following financial year)
- Depending on the latest timescales for Upton Country Park Phase 3/4 it may be surveys here fall into the 2018-19 financial year

6.5 It is important to state that these are targets and will be depending on UHP staffing, and other priorities. There is no formally required visitor surveying at HIP sites, and

these are only conducted for interest, and timings are therefore considered more flexible.

Table 21: Details of completed and future planned surveys at existing or soon to be completed SANGs and HIPs which have required visitor survey monitoring.

	Year from opening	Potterne (HIP)	Woolslope (SANG)	Bythe Way (SANG)	Stanpit Recreation Ground (HIP)	Upton Country Park P1 (SANG)	Upton Country Park P2 (SANG)	Bog Lane (SANG)	Frenchs Farm (SANG)
Pre-works (if existing access)	-1	**2010**	**2012/13**		**2015**				
On opening (post works)	0	**2011**	**2013/14**	**2012/13**	**2016**	**Aug 2015**	**2018**	**2017**	**2018**
Second Round	2-3	**2012**	***2015-17***	*2015/16*	2018/19	Aug 2018	2020/21	2019/20	2020/21
Third Round	5	*2015*	2018/19	2017/18	2021	2020	2023	2022	2023

*completed surveys are shown in bold. Those which are completed but did not fit with suggested timings are highlighted in italics.

7. Recommendations

7.1 There are no recommendations for this year, but there are several ongoing recommendations from the previous year's report (see Panter 2017) and some outstanding long-term advice from the latest monitoring protocol (see Panter & Liley 2017).

7.2 The following are ongoing action points, which have been highlighted again from the data presented in this report:

1. It is important to ensure all car parks are surveyed. Missing data were much less prevalent than in the 2016-17 report which is encouraging. However, any data gaps greatly reduce the usefulness of the data, not only for that day, but across the whole year, and all other car parks. Locations which are missed need to be explicated stated, so these are not taken as zero counts.
2. Car parking locations are currently being audited and boundaries explicitly mapped. This should be a relatively infrequent exercise, but it is important that in the long-term changes in spaces, facilities, charging and long term data are clear and robustly recorded.
3. Following initial examination of calibration data collected for sensors, further calibrations are required at locations where sensors were not working, counts recorded no people or the relationship between sensor recorded passes and actual people is still not clear.
4. Calibration data should include more "self calibrations" (passing by the surveyor), at locations which have few visitors. These should be conducted a random number of times to give more spread to assist with a data fit and be explicitly recorded as self calibrations, so as not mix this with true visitor data.

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9. Appendix

Table 22: List of all 160 car park locations recorded in car park counts by the location type.

Car Park Name	Type
Arne 1	Heath & other facilities/ visitor attractions
Avon Heath 1	Heath
Avon Heath 2	Heath & other facilities/ visitor attractions
Avon Heath 3	Heath
Avon Heath 4	Heath & other facilities
Bourne Bottom 5	Heath
Bourne Bottom 6	Heath
Bourne Bottom 8	Heath
Bryantspuddle 1	Heath
Bryantspuddle 2	Heath
Bryantspuddle 3	Heath
Bryantspuddle 4	Heath
Bryantspuddle 6	Heath
Burnbake SANG 1	SANG
Bytheway Field 1	SANG
Canford Heath 1	Heath
Canford Heath 2	Heath
Canford Heath 3	Heath
Canford Heath 3a	Heath
Canford Heath 4	Heath
Canford Heath 6	Heath
Corfe Hills 4	Heath
Creech Heath 2	Heath
Creech Heath 3	Heath
Delph Woods 1	HIP
Delph Woods 2	HIP & other facilities
Dewlands Common 1	Heath
Dewlands Common 2	Heath
Dewlands Common 3	Heath
Dewlands Common 4	Heath
Dewlands Common 5	Heath
Dewlands Common 6	Heath
Dunyeat's 2	Heath
East Holme 1	Heath
Ferndown Common 2	Heath
Ferndown Common 3	Heath
Godlingston 1	Heath & other facilities
Godlingston 2	Heath

Car Park Name	Type
Godlingston 3	Heath
Godlingston 4	Heath
Granby Road Barn 1	HIP & other facilities
Great Ovens 1	Heath
Great Ovens 2	Heath
Great Ovens 3	Heath
Great Ovens 4	Heath
Great Ovens 5	Heath
Ham Common 1	Heath & other facilities
Ham Common 2	Heath & other facilities
Ham Common 3	Heath
Haymoor Bottom 2a	Heath & other facilities
Hengistbury Head 1	Heath & other facilities/ visitor attractions
Hengistbury Head 1a	Heath & other facilities/ visitor attractions
Hengistbury Head 2	Heath & other facilities/ visitor attractions
Holt Heath 1	Heath
Holt Heath 10	Heath
Holt Heath 2	Heath
Holt Heath 3	Heath
Holt Heath 4	Heath
Holt Heath 5	Heath
Holt Heath 6	Heath
Holt Heath 9	Heath
Kinson Common 1	Heath & other facilities
Lions Hill 1	Heath
Lions Hill 2	Heath
Lytchett East 1	Heath
Parley Common 10	Heath
Parley Common 11	Heath
Parley Common 6	Heath & other facilities
Parley Common 6a	Heath
Parley Common 8	Heath
Parley Common 9	Heath
Poor Common 1	Heath
Poor Common 2	Heath
Poor Common 3	Heath
Potterne Hill 1	Heath & other facilities
Ramsdown/SopleyCommon/Troublefield 1	Heath
Ramsdown/SopleyCommon/Troublefield 3	Heath
Ramsdown/SopleyCommon/Troublefield 4	Heath
Ramsdown/SopleyCommon/Troublefield 5	Heath

Car Park Name	Type
Ramsdown/SopleyCommon/Troublefield 6	Heath
Ramsdown/SopleyCommon/Troublefield 7	Heath
Ramsdown/SopleyCommon/Troublefield 8	Heath
Redhill Common 1	Heath
Sandford Heath 3	Heath
Slop Bog 2	Heath
Slop Bog 3	Heath
Stephens Castle 1	Heath
Stephens Castle 2	Heath
Stephens Castle 3	Heath
Stoborough Heath 1	Heath & other facilities
Stoborough Heath 10	Heath
Stoborough Heath 11	Heath
Stoborough Heath 12	Heath
Stoborough Heath 2	Heath
Stoborough Heath 3	Heath
Stoborough Heath 4	Heath
Stoborough Heath 5	Heath
Stoborough Heath 6	Heath
Stoborough Heath 7	Heath
Stoborough Heath 8	Heath
Stoborough Heath 9	Heath
Stoborough SANG 1	SANG
Studland 1	Heath
Studland 2	Heath & other facilities
Talbot Heath 1	Heath
Talbot Heath 4	Heath
Town Common & St Catherine's Hill 1	Heath
Town Common & St Catherine's Hill 2	Heath
Town Common & St Catherine's Hill 4	Heath
Town Common & St Catherine's Hill 5	Heath
Town Common & St Catherine's Hill 6	Heath
Town Common & St Catherine's Hill 7	Heath
Town Common & St Catherine's Hill 8	Heath
Town Common & St Catherine's Hill 9	Heath
Turbary Common 2	Heath
Turbary Common 5	Heath
Turbary Common 6	Heath
Turnerspuddle Heath 1	Heath
Upton Country Park main 2	Visitor attractions
Upton Country Park SANG 1	SANG

Car Park Name	Type
Upton Country Park small 1	Visitor attractions
Upton Heath 1	Heath & other facilities
Upton Heath 10	Heath
Upton Heath 11	Heath
Upton Heath 2	Heath
Upton Heath 4	Heath
Upton Heath 5	Heath
Upton Heath 6	Heath
Upton Heath 8	Heath
Upton Heath 9	Heath
Wareham East 1	Heath
Wareham East 2	Heath
Wareham East 3	Heath
Wareham West 1	Heath
Wareham West 10	Heath
Wareham West 11	Heath
Wareham West 2	Heath
Wareham West 3	Heath
Wareham West 4	Heath
Wareham West 5	Heath
Wareham West 6	Heath
Wareham West 8	Heath
Wareham West 9	Heath
Warmwell 1	Heath
Warmwell 2	Heath
Winfrith and Tadnoll Heaths 1	Heath
Winfrith and Tadnoll Heaths 10	Heath
Winfrith and Tadnoll Heaths 11	Heath
Winfrith and Tadnoll Heaths 12	Heath
Winfrith and Tadnoll Heaths 13	Heath
Winfrith and Tadnoll Heaths 14	Heath
Winfrith and Tadnoll Heaths 15	Heath
Winfrith and Tadnoll Heaths 2	Heath
Winfrith and Tadnoll Heaths 3	Heath
Winfrith and Tadnoll Heaths 4	Heath
Winfrith and Tadnoll Heaths 5	Heath
Winfrith and Tadnoll Heaths 6	Heath
Winfrith and Tadnoll Heaths 7	Heath
Winfrith and Tadnoll Heaths 8	Heath
Winfrith and Tadnoll Heaths 9	Heath

Table 23: List of the current 68 sensors, shown by site and location type

Sensor	Site	Location type	% of year cleaned data used in report
ADH1	Dunyeats	Heathland	98.9
BMP1	Meyrick Park	HIP& Other	88.2
BPH1	Pugs Hole	HIP	88.2
BSV1	Stour Valley	HIP	14
BSV2	Stour Valley	HIP	6.8
BSV3	Stour Valley	HIP	47.1
BSV4	Stour Valley	HIP	80.8
BTC1	Turbary Common	Heathland	99.2
CCB1A	Chewton Bunny	HIP	4.1
CSCH1	St Catherines Hill	Heathland	99.2
CSP1	Stanpit	HIP	89
DAH1A	Avon Heath Country Park Birch Rd	Heathland	53.4
DAH2	Avon Heath Country Park	Heathland	53.2
DAH3A	Avon Heath Country Park Boundary Lane	Heathland	47.4
DAH4	Avon Heath Country Park	Heathland	35.1
DAH5	Avon Heath CP	Heathland	45.8
DAH6	Avon Heath CP block	Heathland& Other/Visitor attractions	99.2
DAH7	Avon Heath CP car	Heathland& Other/Visitor attractions	99.2
DAH8	Avon heath CP - playpark	Visitor attractions	71.8
DAH9	Avon heath CP - visitor centre	Heathland& Other/Visitor attractions	88.5
DCTWHRX1	Castleman Trailway Horton Rd	Other	49
DCTWHRX2	Castleman Trailway Horton Rd	Other	84.6
DLH1CTW	Castleman Trailway/Lions Hill (central)	Heathland	86.8
DSB1A	Slop Bog (Grazing Unit)	Heathland	86.8
DSB2	Slop Bog (Redwood Drive)	Heathland	92
DUH1	Upton Heath	Heathland	89.6
DUH2	Upton Heath	Heathland	99.2
EMVBR13	Moors Valley CP	Heathland& Other/Visitor attractions	62.2
EMVPPA	Moors Valley CP	Heathland& Other/Visitor attractions	61.4
HFC3	Ferndown Common	Heathland	2.2
HFC4	Ferndown Common	Heathland	35.6
HFC5	Ferndown Common	Heathland	99.2
HGO1	Great Ovens	Heathland	19.7

Sensor	Site	Location type	% of year cleaned data used in report
HGO2	Great Ovens	Heathland	99.2
HL1A	Lytchett	Heathland	86.8
HPC1A	Parley	Heathland	55.9
HPC3A	Parley Common	Heathland	99.2
HTC1	Town Common	Heathland	76.7
PBL1	Bog Lane	SANG	21.4
PBV2	Bourne Valley	Heathland	56.2
PBV3	Bourne Valley	HIP (& heathland)	98.9
PCA1	Canford Heath	Heathland	99.2
PCA4	Canford Heath	Heathland	99.2
PCA5	Canford Heath	Heathland	52.3
PCA6A	Canford Heath	Heathland	59.2
PDW1	Delph Woods	HIP	89
PHC1	Ham Common	Heathland& Other	55.3
PHC3	Ham Common	Heathland	90.1
PHC4	Ham Common	Heathland	90.4
PHC5	Ham Common	Heathland	89.9
PHO1	Holes Bay	HIP	99.2
PLW1	Upton Heath Longmeadow Lane	Heathland	99.2
PTH3	Talbot Heath	Heathland	42.7
PTH5	Talbot Heath	Heathland	99.2
PTH6	Talbot Heath	Heathland	64.7
PUP1	Upton Country Park	Visitor Attractions	99.2
PUS1	UCP SANG (woods)	SANG	99.2
PUS2	UCP SANG (pony d)	SANG	10.1
PUS3	UCP SANG (walled garden)	SANG	10.1
PUS4	UCP SANG (shoreline entrance)	SANG	9
PUS5	UCP SANG (Symes Road)	SANG	9
PUS6	UCP SANG (Old Kiln Road)	SANG	9
PUS7	UCP SANG (Allens Road)	SANG	9
PUS8	UCP SANG (Blandford Road)	SANG	99.5
RB1	Burnbake Campsite SANG	SANG	99.5
WTH1	Tadnoll Heath	Heathland	98.9
WUH1	Upton Heath	Heathland	99.2
WWH1	Winfrith Heath	Heathland	94.8
WWH2	Winfrith Heath	Heathland	98.9

Table 24: Full data report of all 125 sensors which have been deployed in monitoring history.

Site code	First-data	Last-data	Data coverage (years)	Months since last data
ADH1	23/06/2016	16/04/2018	1.8	1.9
BHH1	16/06/2008	10/05/2016	7.9	25.4
BHH2	07/08/2009	02/01/2014	4.4	54.1
BHH3	07/08/2009	09/09/2015	6.1	33.6
BKC1	28/10/2008	20/10/2009	1	105.2
BMM1	10/02/2010	17/02/2010	0	101.2
BMM2	10/02/2010	25/09/2012	2.6	69.5
BMP1	12/02/2009	20/04/2018	9.2	1.8
BMP2	14/08/2009	19/05/2011	1.8	86
BPH1	12/02/2009	09/05/2018	9.2	1.1
BSV1	26/01/2015	03/04/2018	3.2	2.3
BSV2	26/01/2015	16/06/2017	2.4	12
BSV3	26/01/2015	20/04/2018	3.2	1.8
BSV4	27/01/2015	20/04/2018	3.2	1.8
BTC1	27/10/2008	13/04/2018	9.5	2
CABMX1	18/12/2007	16/02/2009	1.2	113.4
CABMX2	18/12/2007	14/10/2011	3.8	81.1
CBCCG1	13/11/2009	23/06/2011	1.6	84.9
CCB1	15/03/2009	23/06/2011	2.3	84.9
CCB1A	26/01/2011	16/04/2017	6.2	14.1
CSCH1	01/04/2008	19/04/2018	10.1	1.8
CSCH2	04/06/2008	17/01/2011	2.6	90.1
CSP1	21/05/2012	19/04/2018	5.9	1.8
CSS1	19/10/2011	30/10/2012	1	68.4
DAH1	24/06/2008	01/04/2011	2.8	87.6
DAH1A	03/02/2011	17/04/2018	7.2	1.9
DAH2	31/03/2009	17/04/2018	9.1	1.9
DAH3	17/09/2008	10/08/2010	1.9	95.4
DAH3A	08/11/2010	14/11/2017	7	7
DAH4	28/05/2009	17/04/2018	8.9	1.9
DAH5	30/04/2012	06/04/2013	0.9	63.1
DAH6	04/02/2015	17/04/2018	3.2	1.9
DAH7	04/02/2015	17/04/2018	3.2	1.9
DAH8	22/12/2016	17/04/2018	1.3	1.9
DAH9	22/12/2016	09/05/2018	1.4	1.1
DCTW1SH	21/10/2008	23/06/2009	0.7	109.2
DCTWHRX1	24/10/2008	25/05/2017	8.6	12.8
DCTWHRX2	04/06/2012	20/11/2017	5.5	6.8
DCTWHRX3	31/03/2009	18/03/2012	3	75.9

Site code	First-data	Last-data	Data coverage (years)	Months since last data
DCTWLHX1	24/10/2008	03/02/2011	2.3	89.5
DCTWLHX2	31/03/2009	26/04/2014	5.1	50.3
DCTWLHX3	31/03/2009	26/04/2014	5.1	50.3
DCV1	04/11/2010	29/06/2011	0.6	84.7
DLH1CTW	25/06/2008	17/04/2018	9.8	1.9
DS1	13/02/2009	18/05/2009	0.3	110.4
DSB1	31/03/2009	22/06/2009	0.2	109.2
DSB1A	25/08/2010	19/04/2018	7.7	1.8
DSB2	31/03/2009	19/04/2018	9.1	1.8
DTWHRX2A	23/11/2010	17/04/2013	2.4	62.7
DUH1	12/03/2009	13/04/2018	9.1	2
DUH2	06/04/2009	09/05/2018	9.1	1.1
EMVBR13	11/08/2010	17/04/2018	7.7	1.9
EMVPP	11/08/2010	01/09/2011	1.1	82.5
EMVPPA	14/12/2013	15/09/2017	3.8	9
HDH1	22/08/2007	21/10/2007	0.2	129.6
HDH1A	29/07/2009	14/04/2016	6.7	26.3
HFC1	12/03/2008	09/04/2011	3.1	87.4
HFC2	12/03/2008	12/11/2009	1.7	104.5
HFC2A	30/01/2011	20/03/2017	6.1	15
HFC3	07/03/2008	20/11/2017	9.7	6.8
HFC4	12/03/2008	09/04/2017	9.1	14.3
HFC5	12/03/2008	19/04/2018	10.1	1.8
HGO1	16/03/2008	05/04/2018	10.1	2.3
HGO2	22/07/2008	16/09/2017	9.2	9
HL1	06/03/2008	26/06/2015	7.3	36.1
HL1A	26/07/2016	05/04/2018	1.7	2.3
HPC1	07/03/2008	15/05/2017	9.2	13.1
HPC1A	23/11/2017	14/04/2018	0.4	2
HPC2	12/03/2008	06/11/2010	2.7	92.5
HPC2A	21/11/2010	24/10/2013	2.9	56.4
HPC3	07/03/2008	07/10/2011	3.6	81.3
HPC3A	06/01/2012	19/11/2017	5.9	6.8
HPC4	07/03/2008	05/07/2011	3.3	84.5
HTC1	14/03/2008	19/04/2018	10.1	1.8
HTC2	14/03/2008	04/11/2008	0.6	116.9
NSH1	08/09/2009	29/01/2016	6.4	28.8
NSH2	08/09/2009	06/11/2013	4.2	56
NSH3	08/09/2009	25/02/2015	5.5	40.1
NSH4	08/09/2009	16/12/2015	6.3	30.3

Site code	First-data	Last-data	Data coverage (years)	Months since last data
NSH5	08/09/2009	29/04/2017	7.6	13.6
NSH6	08/10/2009	14/10/2014	5	44.6
PBH1	12/10/2011	05/01/2016	4.2	29.6
PBL1	22/06/2017	05/04/2018	0.8	2.3
PBV1	22/07/2009	11/07/2012	3	72.1
PBV2	19/08/2009	13/04/2018	8.7	2
PBV3	12/04/2011	26/03/2017	6	14.8
PCA1	28/01/2008	16/04/2018	10.2	1.9
PCA2	25/09/2008	03/01/2013	4.3	66.2
PCA3	04/02/2008	06/02/2013	5	65.1
PCA4	09/09/2009	16/04/2018	8.6	1.9
PCA5	02/09/2009	09/03/2018	8.5	3.2
PCA6	29/09/2008	15/12/2008	0.2	115.5
PCA6A	29/07/2009	10/10/2017	8.2	8.2
PCA7	13/05/2008	11/02/2010	1.8	101.4
PCA7A	23/01/2011	31/07/2014	3.5	47.1
PCH1	14/03/2008	06/03/2011	3	88.5
PDW1	04/11/2010	16/04/2018	7.5	1.9
PHB1	02/06/2009	27/09/2012	3.3	69.5
PHC1	13/08/2009	19/08/2017	8	9.9
PHC3	18/05/2009	03/04/2017	7.9	14.5
PHC4	14/10/2008	06/04/2018	9.5	2.2
PHC5	15/10/2008	06/04/2018	9.5	2.2
PHO1	08/04/2009	09/05/2018	9.1	1.1
PLW1	12/03/2009	13/04/2018	9.1	2
PTH1	25/09/2008	13/05/2014	5.6	49.7
PTH2	01/07/2009	16/07/2015	6	35.4
PTH3	01/07/2009	13/04/2018	8.8	2
PTH4	12/03/2009	10/01/2013	3.8	66
PTH5	12/03/2009	06/03/2018	9	3.3
PTH6	12/03/2009	20/04/2018	9.1	1.8
PUP1	08/04/2009	06/04/2018	9	2.2
PUP2	04/08/2008	01/08/2014	6	47
PUP3	04/08/2008	20/10/2015	7.2	32.2
PUS1	05/08/2015	06/04/2018	2.7	2.2
PUS2	05/08/2015	06/04/2018	2.7	2.2
PUS3	22/02/2018	06/04/2018	0.1	2.2
PUS4	22/02/2018	06/04/2018	0.1	2.2
PUS5	26/02/2018	06/04/2018	0.1	2.2
PUS6	26/02/2018	06/04/2018	0.1	2.2

Site code	First-data	Last-data	Data coverage (years)	Months since last data
PUS7	26/02/2018	06/04/2018	0.1	2.2
RB1	01/06/2015	04/04/2018	2.8	2.3
WTH1	21/01/2014	16/04/2018	4.2	1.9
WUH1	10/12/2007	05/04/2018	10.3	2.3
WWH1	21/01/2014	24/04/2018	4.3	1.6
WWH2	21/01/2014	14/03/2018	4.1	3