Report

footprint ECOLOGY

Ashdown Forest Visitor Survey 2016



Durwyn Liley, Chris Panter & Deborah Blake

Forest Office
Cold Harbour
Wareham
Dorset BH20 7PA
Tel/Fax: 01929 552444
info@footprint-ecology.co.uk

connecting wildlife and people

www.footprint-ecology.co.uk



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Summary

This report has been commissioned jointly by six local authorities (Wealden, Mid Sussex, Lewes, Tunbridge Wells, Tandridge and Sevenoaks) and presents an analysis of the results of visitor survey work at Ashdown Forest conducted in late spring/early summer 2016, providing up-to-date data on recreation use of the Ashdown Forest.

The survey work included counts of visitors and interviews with a random sample of interviewees at twenty access points, selected to represent a range of access points in terms of parking capacity and geographical spread across the Forest. In addition, automated counters were used at a small number of additional locations to count visitors and fifteen driving transects – counting all parked cars across all car-parks – were undertaken.

Key findings from the visitor survey work included:

- 452 interviews were completed.
- Many (50% interviewees) were visiting on their own (i.e. no other people with them) and the majority of interviewees (71%) were accompanied by one or more dogs. Some parties had particularly large numbers of dogs (two groups had more than ten dogs with them).
- Gills Lap, King's Standing and Crowborough were the busiest survey points; together these locations accounted for nearly a third (32%) of all interviews.
- The majority of interviewees were on a short trip and visiting directly from home (98% interviewees). Holiday-makers accounted for a small proportion of interviews (1% of interviewees) and were excluded from the analyses in the report, ensuring that the results directly link to local residents.
- The majority of interviewees (69%) gave dog walking as their main activity. Walking was the next most common activity (18% interviewees). Dog walking was the most common activity at all survey points apart from Reserve (here dog walkers accounted for 19% of the interviews). Other notable differences between survey points were the relatively high number of interviewees who were on a family outing/picnic at Lintons and the Forest Centre.
- Around half (48% interviewees) stated they had been visiting Ashdown Forest for more than 10 years. By contrast, just 5% of interviewees were on their first visit.
- Visits were typically short, with over half (59% interviewees) visiting for less than an hour.
- Most interviewees were regular visitors to the location where interviewed, with 285 interviewees (63%) visiting at least weekly. The most regular visitors appear to be dog walkers and joggers (note that only three joggers were interviewed), with both groups having a relatively high proportion of interviewees that were daily visitors.
- Nearly a third of interviewees (29% interviewees) did not tend to visit at a particular time of day. For those that did tend to visit at a particular time of day, the mornings appeared to be the preferred time.
- There was little evidence that the interviewed visitors tended to visit more at particular times of year and most (81% interviewees) tended to visit equally all year round for their chosen activity.
- Most interviewees (81%) had arrived at the survey point by car. Nearly a fifth had arrived on foot (18%).
- Scenery/variety of views was the most common response (48% interviewees) as to why the interviewee chose to visit Ashdown Forest that day, rather than another location. Other common reasons were close to home (46%), and good for the dog/dog enjoys it (28%).

- 53% of interviewees indicated that they would not have gone to an alternative site, or were unsure which alternative site they would have visited could they not have gone to Ashdown Forest. Of named alternative sites given by interviewees, the South Downs (named by 8% interviewees) was by far the most commonly named location. Rotherfield, Sheffield Park and Seven Sisters/Cuckmere Haven were the next most commonly named sites. Taking into account the frequency with which interviewees stated they visited the named alternative site, Rotherfield was the most commonly visited single alternative site, with South Downs ranked second.
- Routes were plotted for 446 interviewees visiting from home or staying with friends and family. Route lengths ranged from 31m to 7,361m, with a typical route length (from all routes) being 2,616m (the median). There were significant differences between survey locations, with interviewees typically walking further at King's Standing, Long and Box and undertaking shorter routes at Crowborough, Nutley, Forest Row and Poundgate.
- Most dog walkers (87% of dog walking interviewees) and a relatively high proportion of other visitors were aware of guidance relating to dog walking at Ashdown Forest. Of those dog walkers that were aware of guidance, 39% were able to specifically mention the dog walking code of conduct ('4Cs') currently promoted.
- The majority (88% interviewees) were aware that there was a visitor centre at Wych Cross.
- Home locations (primarily postcode data) were collected for 98% of interviewees and enabled visitor origins to be mapped. The maps showed a wide scatter of visitors across Sussex and largely ranged from London to the south coast. The average straight-line distance between the home location and the survey point was 8,402m (median 4,870m). A quarter (25%) of interviewees lived within 1,459m of the survey point and three quarters (75%) lived within 9,643m.
- 72% of all those on a short visit from home and whose postcodes were mapped were from Wealden District, with a further 12% from Mid Sussex and 5% from Tunbridge Wells. There was a clear pattern whereby those who visited Ashdown Forest more regularly tended to live closer to the SPA.

Key findings from the visitor count data included:

- In total, 2,794 people (adults and minors) were counted by surveyors during 320 hours of survey at the 20 access points (i.e. while interviews were conducted).
- Considering only those observed entering the site, this amounted to 1,506, an average of 4.7 people per hour. A typical visiting group would consist of two adults and one dog, and half of all groups included a minor.
- There were highly significant differences between visitor numbers at different locations. The four busiest locations observed from the tally data were King's Standing, Long, Forest Centre and Gills Lap. In addition the composition of groups differed greatly between locations, particularly in the number of adults and minors at different locations.
- Driving transects (which covered all parking locations) recorded an average of 159 vehicles per transect. Vehicle counts showed typically more vehicles at weekends than weekdays and a peak at midday, followed closely by morning, however these differences were not statistically significant.

From the survey findings we estimate around 4,541 visits per day to Ashdown Forest. The average number at an individual access point was 32.7, and the maximum was 340.2 (Kings Standing). A model showing the spatial distribution of visitors across the site is generated which shows how access is spread across the site. The model shows access as particularly concentrated around the

eastern side of the site (e.g. King's Standing) and also to the north (Wych Cross Forest Centre, Lintons etc.) and the south/central part (around Box).

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There was a very short turn-around between the work being commissioned and fieldwork commencing. We extend our thanks to the Ashdown Forest Conservators for allowing the survey work to take place and for providing initial input into the survey design (despite the limited time available).

Survey work was undertaken by Deborah Blake, Sharon Lowen, Chris Sadler and Graham Sadler. Data entry (route digitising) was undertaken by Deborah Blake.

We also extend our thanks to all those who gave up their time to be interviewed as part of the survey.

1. Introduction

Overview

1.1 This report has been commissioned by Wealden District Council on behalf of six local authorities (Wealden, Mid Sussex, Lewes, Tunbridge Wells, Tandridge and Sevenoaks) and presents a comprehensive analysis of the results of visitor survey work at Ashdown Forest conducted in late spring/early summer 2016, providing up-to-date data on recreation use of the Ashdown Forest. In this section of the report we set out the background and context to the work.

Ashdown Forest

1.2 Ashdown Forest is an extensive block of common land between East Grinstead and Crowborough in East Sussex and forms one of the largest areas of continuous heathland in south-east England. It is internationally important for nature conservation, reflected in its designation as a Special Protection Area (SPA) due to the presence of breeding Nightjars and Dartford Warblers and as a Special Area of Conservation (SAC), primarily due to the heathland habitats present. The European designations cover around 3,000ha (the SPA is slightly larger than the SAC), as shown in Map 1.

Legislative context

1.3 The designation, protection and restoration of European wildlife sites is embedded in the Conservation of Habitats and Species Regulations 2010, as amended, which are commonly referred to as the 'Habitats Regulations.' The Habitats Regulations are in place to transpose European legislation set out within the Habitats Directive (Council Directive 92/43/EEC) and the Birds Directive (Council Directive 2009/147/EC). These key pieces of legislation seek to protect, conserve and restore habitats and species that are of utmost conservation importance and concern across Europe. European sites include Special Protection Areas (SPAs) and Special Areas of Conservation (SACs), and can be either marine or terrestrial.

1.4 The overarching objective of the European legislation is to maintain sites and their interest features in an ecologically robust and viable state, able to sustain and thrive into the long term, with adequate resilience against natural influences. Where sites are not achieving their potential, the focus should be on restoration.

1.5 European sites have the benefit of the highest level of legislative protection for biodiversity and there are also specific requirements for European sites set out within national planning policy in the National Planning Policy Framework (NPPF). There are specific duties in terms of avoiding deterioration of habitats and species for which sites are designated or classified. All public bodies, known as 'competent authorities', need to adhere to a range of requirements that contribute to securing the long term maintenance and restoration of European sites. These include, for example, stringent tests that have to be met before plans and projects can be permitted. Local Planning Authorities cannot approve development applications until they are satisfied that adverse effects on European sites have been ruled out. In meeting these tests, a

precautionary approach is embedded in the legislation, i.e. it is necessary to demonstrate that impacts will not occur, rather than they will.

1.6 When assessing the impacts of plans or projects, the competent authority proceeds through a series of steps, known as the 'Habitats Regulations Assessment' (HRA). Ordinarily, after completing an assessment of impacts a competent authority should only approve a plan or project where it can be ascertained that there will not be an adverse effect on the integrity of the European site(s) in question, either alone or in combination with other plans or projects.

Impacts and importance of access

1.7 There is now a strong body of evidence showing how increasing levels of development, even when some distance away, can have negative impacts on protected wildlife sites. The issues are summarised in general reviews (e.g. Saunders *et al.* 2000; Underhill-Day 2005; Lowen *et al.* 2008; Liley *et al.* 2010). A number of studies have provided compelling indications of the links between housing, development and nature conservation impacts, for example with impacts from recreation for Nightjar (Murison 2002; Liley & Clarke 2003; Liley *et al.* 2006) and for Dartford Warblers (Murison *et al.* 2007).

1.8 However, competent authorities also need to take into account that there is an increasing understanding and acceptance in the conservation sector of the multiple roles played by nature reserves and designated sites, and an increased willingness to take into account the desires and needs of different user groups. More recently national government policy has been to increase access provision, for example to the coast. The Countryside and Rights of Way Act (2000) introduced legislation for a right of open access to a range of habitats including heathland. There is a growing recognition that people need nature for their physical, mental and spiritual wellbeing (Tansley 1945; Snyder 1990; Hammond 1998; English Nature 2002; Miller & Hobbs 2002; Alessa, Bennett & Kliskey 2003; Morris 2003; Pretty et al. 2005; Saunders 2005; Robinson 2006). Furthermore, visiting a nature reserve can play a positive role in engendering support and awareness of nature conservation; and there is evidence to suggest that an emotional affinity with nature plays a role in individuals' motivation to protect nature (Kals, Schumacher & Montada 1999). As such there is a challenge in balancing recreation needs with the potential impacts that might be associated with increasing demands for recreation.

1.9 Ashdown Forest lies relatively close to a number of settlements such as Crawley, East Grinstead, Royal Tunbridge Wells and Haywards Heath, as well as a number of smaller towns such as Crowborough and Uckfield. Simply looking within a 10km radius of the SPA indicates a total of some 74,334 residential properties, which equates to around 175,000 residents[1]. The attractive, extensive open nature of Ashdown Forest and the right of access across much of the site means it will inevitably draw people for recreation. Growth in the surrounding area, as set out in local development plans, is

[1] Assuming an average occupancy of 2.35 people per house, in line with the 2011 census data.

likely to result in increased pressure on the site bringing risks of disturbance to the SPA bird interest and damage to the heathland habitat. In order to ensure no adverse effects on the European sites measures are necessary to resolve impacts associated with increased access.

Previous visitor survey work

1.10 In 2007 Natural England advised Mid Sussex and Wealden District Councils to gain information to facilitate their HRA process to identify whether an increase in development was likely to result in a significant impact on the protected bird species at Ashdown Forest SPA. A visitor survey (UE Associates 2009) was carried out at Ashdown Forest in September 2008 to provide information on visitor access patterns and where visitors who used Ashdown Forest lived. The survey involved interviews with 639 visitors of which 343 interviewees provided full valid postcodes (i.e. providing accurate information on where they had travelled from). Further work (Clarke, Sharp & Liley 2010) was then commissioned by Natural England in 2010 to determine the extent to which visitor levels affected the distribution of the Annex I bird species present at the site. That study found no evidence that the density of Annex I bird species was lower in areas with high levels of access. The report gave examples of the predicted number of additional visits arising from development in different locations around the SPA. The analysis highlighted that the number of Annex I birds at Ashdown Forest appeared comparatively low, given the size of the site and that the density of visitors was also comparatively low. Detailed monitoring was recommended and impacts from future development could not be ruled out.

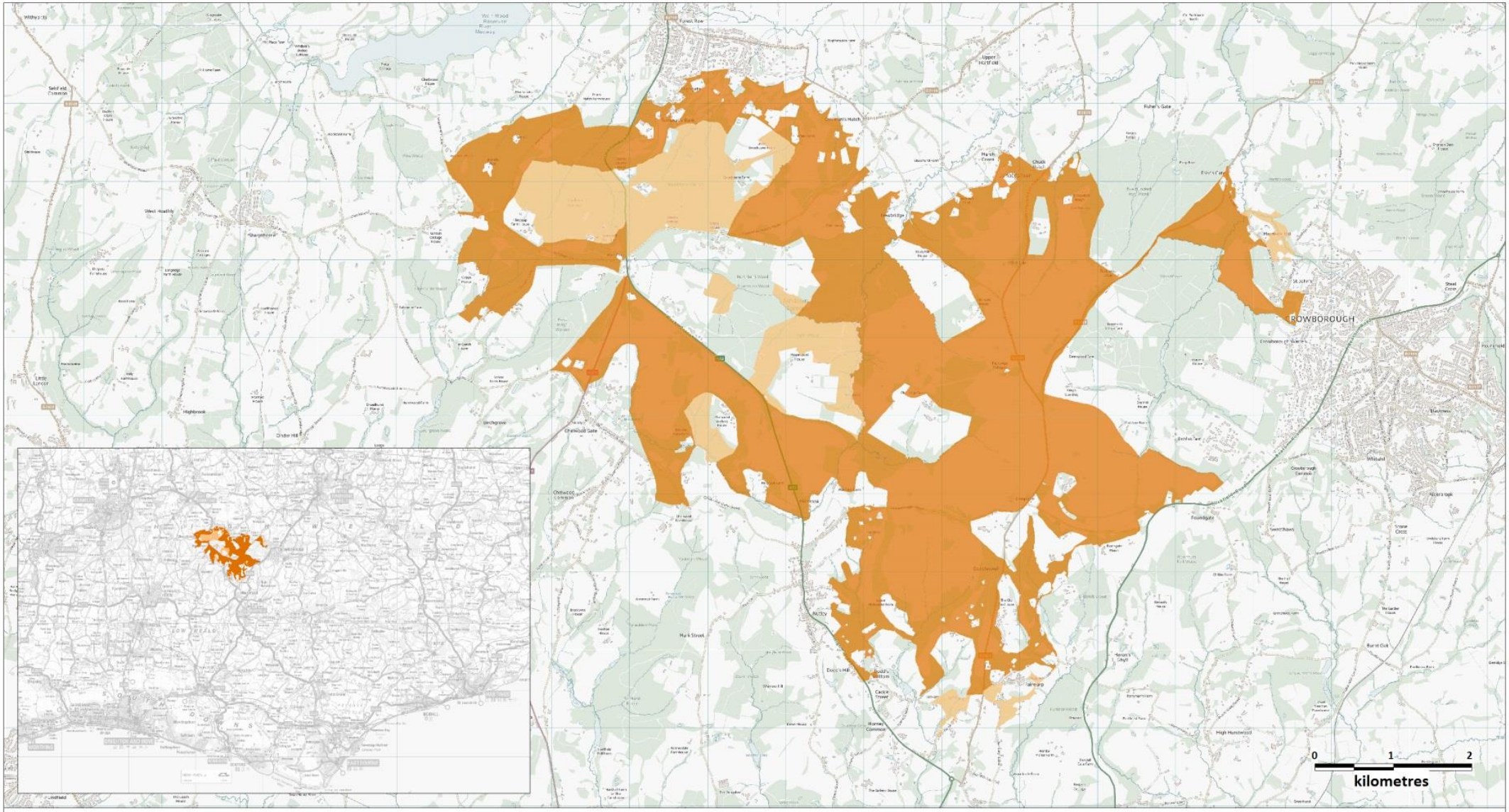
The need for this work

1.11 Following the previous visitor work, Local Authorities (Wealden, Mid Sussex, Lewes, Tunbridge Wells, Tandridge and Sevenoaks) who are likely to deliver residential development near to Ashdown Forest SPA have agreed to coordinate a strategic approach to collect developer contributions to deliver access management and monitoring measures. Such a strategic approach ensures development can be delivered and ensures potential issues with recreation are resolved. With a strategic framework in place, each individual planning decision that provides a contribution to the framework does not need to go through all stages of Habitats Regulations Assessment (i.e. potentially no need to go to appropriate assessment). Conformity with the strategic approach means the decision maker can give permission with confidence that the legislation has been adhered to. All assessment work has effectively been undertaken 'upfront' and furthermore the necessary mitigation has been carefully secured through plan policy and designed to absorb the cumulative, in-combination effects of development. Similar approaches have been established around other heathland sites in England such as the Dorset Heaths, the Thames Basin Heaths, the East Devon Pebblebed Heaths and Cannock Chase.

1.12 It is essential that a strategic approach is based on up to date visitor data, and as such this work has been commissioned to:

- Provide up-to-date baseline data to inform the implementation of access management measures ;
- Inform the direction of strategic access management and monitoring;
- Inform the design and ongoing management of Suitable Alternative Natural Greenspace (SANGs) to ensure they are an effective alternative visitor destination; and
- Assist local authorities in undertaking their planning functions as relevant to the Habitats Regulations.

Map 1: Overview



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2. Methods

2.1 In this section we provide detail on the approach taken to collect visitor data. These cover the initial GIS work; fieldwork involving face-face interviews; counts of visitors; and driving transects to count parked vehicles. The approach broadly follows the previous visitor survey[2] and follows the methods used widely by Footprint Ecology, including a range of other heathland sites.

Initial GIS Data Collation

2.2 The SPA boundary was used as an initial boundary for the study area, and a GIS layer of access points was created. To create this layer we took the formal car-parks shown on the Ashdown Forest Conservators website[3], and available to download. We then added additional informal parking locations (lay-bys etc.) based on those identified on a site visit undertaken on the 8th June 2016 and also from reference to parking locations initially used in the 2010 study. Foot-only access points were drawn from the 2010 study and additional ones were added where public rights of way intersected the SPA boundary. For all parking locations the number of spaces were recorded – drawing from the 2010 data and – where gaps – updates based on the site visit or checks with satellite imagery.

2.3 We also created a GIS layer of the access routes within the project boundary. This layer was derived from a range of different sources, primarily the network of routes used in previous work (Clarke, Sharp & Liley 2010), which sourced data from the Ashdown Conservators and the OS 1:10k raster data. This previous route network was checked against the East Sussex PRoW and updated with the latest path data available from OpenStreetMap[4], which includes many user submitted paths and therefore includes path data from site users themselves, to ensure this was based on the latest data. An additional check against the OS 1:25K vector data ensured minor roads (defined as all roads not classed as A or B roads) were included in the network. These were important to ensure access in proximity to villages and alongside quiet roads. Final manual checks were made to the network to ensure access points were joined to the network and that any paths visible on aerial images were included.

2.4 The aim was to map all possible paths that could provide access routes within the SPA, including informal paths, desire lines etc. As much of the area is dedicated open access land, access is likely to extend well beyond just the public rights of way network. The path network provided the base maps for use in the visitor interviews and modelling of access at later stages in the project.

[2] One particular difference is that the previous survey did not involve counts of parked vehicles
[3] http://www.ashdownforest.org/enjoy/walking/googleWalks.php
[4] http://www.openstreetmap.org/about

Visitor Survey Fieldwork

Selection of Survey Locations

2.5 Using the map layers described above, visitor survey points were selected for visitor survey work. The GIS layers provided the basis to ensure the survey points selected gave a good geographical spread across the Ashdown Forest, covered a range of sizes and types of access point and would ensure a wide range of people were interviewed.

2.6 Overall there are 1,343 parking spaces within 47 formal car-parks and 38 parking spaces across 14 informal parking locations (i.e. lay-bys etc.). There is relatively little variation in car-park size: 23 of the formal car-parks have under 20 spaces and 3 have less than 10 spaces. Ten locations have 50 or more spaces (largest being Gill's Lap with 105 spaces).

2.7 We identified 77 foot only access points (i.e. points where it is possible to enter onto the SPA on foot but not locations where parking was available), some of which are well away from housing and likely to be used only infrequently.

2.8 Based on the above, survey points were selected as follows:

- Fourteen car-parking locations, chosen based on stratification by the number of parking spaces (i.e. ranking locations by the number of spaces and selecting survey locations at regular intervals down the list, starting from the top) and where car-parks tied in their ranking (i.e. same number spaces) they were ordered by latitude. With 47 potential car-parks to choose from and a need to select 14, we chose every fourth car-park in our ranked list.
- Four foot only access points, stratified according to the amount of housing within 500m (but only selecting locations with at least 50 houses within 500m to ensure locations were likely to have some use). Locations were then checked to ensure they worked well to intercept visitors and as necessary equivalent adjacent points were chosen.
- The visitor centre car-park was selected as a survey point as it has particular attributes that make it different from the other points in terms of its draw. The visitor centre car-park will draw visitors wishing to find out more about the area and is a clear destination point/focal centre.
- The overall spatial distribution was then reviewed to ensure reasonable geographic range and types of access point. At this point we swapped 'Shadows' for 'King's Standing' as King's Standing was previously surveyed in 2008 and is known to be a particularly popular car-park on Ashdown Forest. It is very close to Shadows and of a similar size. We then added three car-parks to the western side of Ashdown Forest as the geographical spread was largely focussed on the eastern side, these additional car-parks were relatively evenly spaced down the western side and were: Long, Vachery and Millbrook West.

2.9 This gave 20 survey points in total. Of these, eight of the car-parks were also ones included in the previous visitor survey in 2008 (UE Associates 2009), allowing some

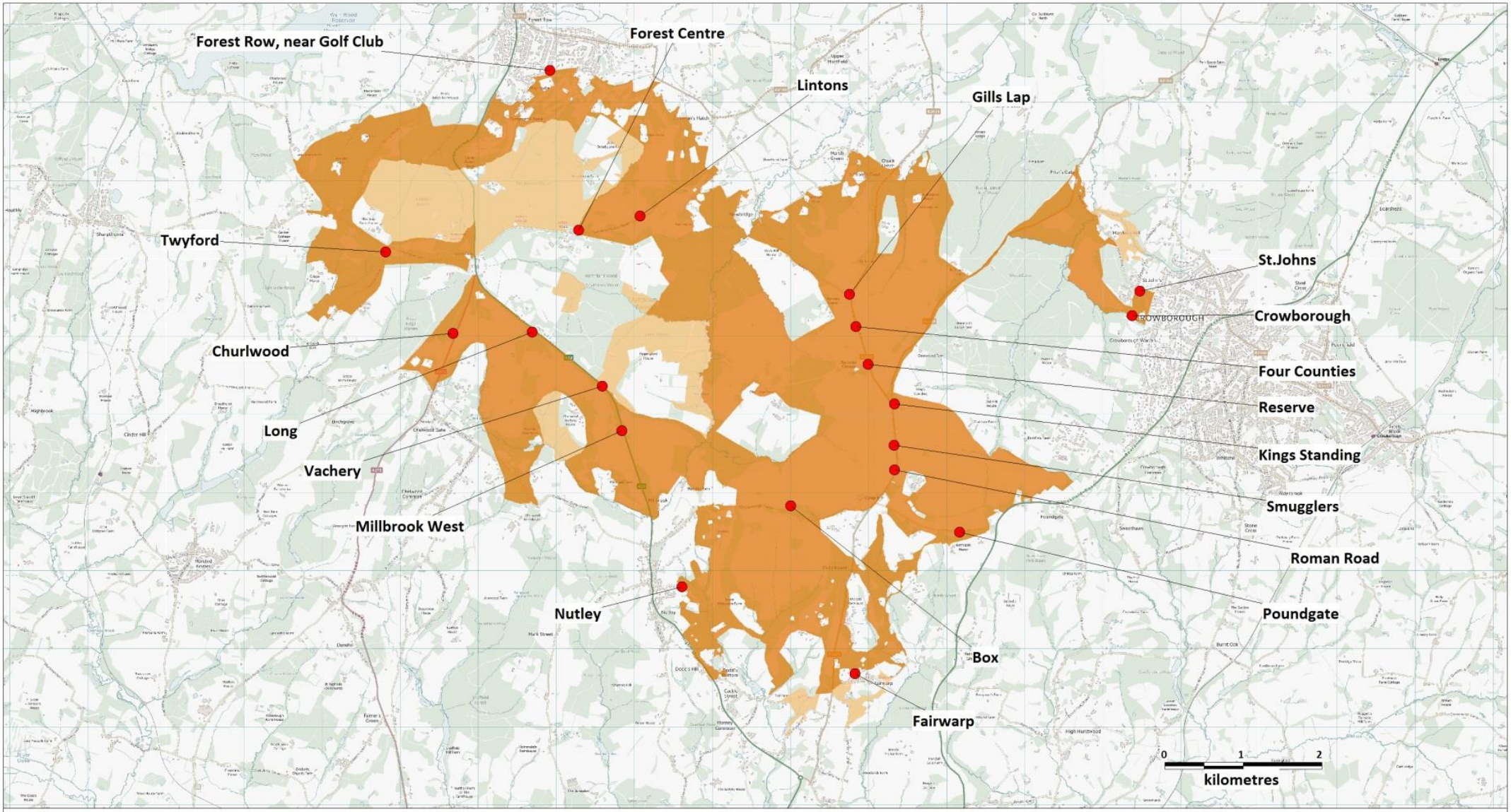
scope for comparison[5]. Following site visits and checks of the survey locations prior to survey work commencing one survey point (Crowborough) was moved slightly to ensure the surveyor could maximise the number of people intercepted, with the surveyor standing at a path junction just inside the SPA rather than at an access point onto the SPA. At Millbrook west the surveyor undertook some interviews at Millbrook east – on the other side of the road – again to maximise the data collected. The surveyor crossed the road only when there were no cars present on the west side of the road but potential to cross safely and interview visitors on the east side. Survey points are shown in Map 2 and summarised in Table 1.

Table 1: Survey Points.

Type	Name	Car-park size	Surveyed in 2008	Grid Reference
Pedestrian	Crowborough	0		TQ50373126
Pedestrian	Forest Row, near Golf Club	0		TQ42913443
Pedestrian	Nutley	0		TQ44602778
Pedestrian	Fairwarp	0		TQ46812667
Formal car-park	Roman Road	8		TQ47322929
Formal car-park	Poundgate	10	✓	TQ48152849
Formal car-park	Reserve	12		TQ46983064
Formal car-park	Vachery	12		TQ43583036
Formal car-park	Twyford	14		TQ40803208
Formal car-park	Smugglers	15		TQ47322960
Formal car-park	Forest Centre	19		TQ43283236
Formal car-park	Churlwood	19	✓	TQ41673104
Formal car-park	Lintons	23	✓	TQ44063254
Formal car-park	St.Johns	30	✓	TQ50463158
Formal car-park	Millbrook West	30	✓	TQ43832979
Formal car-park	Long	37	✓	TQ42683105
Formal car-park	Box	40		TQ46002883
Formal car-park	Four Counties	50		TQ46823112
Formal car-park	King's Standing	50	✓	TQ47323013
Formal car-park	Gills Lap	105	✓	TQ46753154

[5] Scope for comparison was not a primary reason for selection of survey points. The previous survey was undertaken in September and therefore at a different time of year.

Map 2: Survey Points



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Survey Effort and Timing of Surveys

2.10 Each of the 20 survey points was surveyed for a total of 16 hours, with survey effort split equally over a weekday and a weekend day. Survey work was undertaken in two hour time slots (0700-0900; 1000-1200; 1300-1500; 1700-1900) to ensure coverage across the day, and all survey slots covered on a weekday and weekend day to give the sixteen hours.

2.11 Surveys were undertaken in June/July 2016, ensuring coverage during the bird breeding season and a focus outside the main school holiday periods[6]. No surveys were undertaken during weekends with major sporting events (Wimbledon finals and the European Cup final) and as far as possible surveys avoided particularly inclement weather. Survey effort was spread across different weekends and dates to ensure any effects of weather or local events affecting access were minimised. Where multiple surveyors were present on a particular date, survey effort was distributed across the SPA to minimise the risk of interviews with the same group on the same day.

2.12 Dates and weather conditions by survey point are summarised in Appendix 1.

Interviews

2.13 A random sample of people was interviewed, with the random sample achieved through surveyors approaching the next person seen (if not already interviewing). At busy locations/sessions surveyors focused only on those leaving the site (for example returning to their car) in order to ensure accurate information about the person's visit (i.e. what the interviewee did rather than what they intended to do). At quiet locations/survey sessions anyone entering or leaving was included. Interviews were conducted only during the survey windows. The questionnaire (appendix 2) was conducted using tablet computers and gathered information that included activity undertaken, frequency of visit, mode of transport, route taken, factors influencing the route taken, reasons for selecting Ashdown Forest, other sites visited, views on management etc. Questions relating to management were designed to probe awareness of currently promoted guidance for dog walkers ('4Cs'). Route data within the site were plotted in the field as part of the questionnaire process, using paper maps. Additional information recorded alongside each survey included direct observation as to the number of people (and dogs) in the party and whether or not dogs were off lead.

2.14 No unaccompanied minors were approached or interviewed and only one interview was conducted per party or group.

Counts of visitors ('tallies')

2.15 Surveyors counted all visitors entering/leaving during each survey period. This tally data provided basic information on visitor flows (number of people, groups, dogs and numbers) passing each point.

[6] The school holidays for most schools in the area started on 25th July and six hours of survey (out of 300 hours in total) took place in the first two days of the holiday period.

Car-park counts ("Driving Transects")

2.16 In order to gain an accurate estimate of overall visitor numbers count data for all car-parks and the number of vehicles present in each was collected. These vehicle counts can then be used to estimate total number of visitors that arrive by car. Counts were conducted by a single surveyor driving a set transect covering all car-parks within a short time window (between 1½ to 2½ hours, depending on traffic) and counting all vehicles. Counts included informal and formal parking locations. Routes (starting point and direction) were varied between transects.

2.17 In total 15 counts were undertaken. Counts were scheduled to ensure coverage across different times of day and types of day (weekends and weekdays) through June and July, and some transects also included dates within the main school holiday period (40% of counts in school holiday). The temporal spread was achieved through surveys taking place in set time windows as summarised in Table 2. Date and times for the driving transects are given in Appendix 3.

Table 2: Summary of temporal stratification of driving transects

Time window (transect completed within given window)	Weekday (outside main school holiday period)	Weekend (outside main school holiday period)y	Weekday (main school holiday period)	Weekend (main school holiday period)
Morning (0700-1100)	2	1	1	1
Midday (1100-1300)	2	1	1	1
Afternoon (1300-1700)	2	1	1	1
Total	6	3	3	3

Automated Counters

2.18 In order to get estimates of visitor flows for a greater number of locations, especially those which were very quiet, a number of automated counters were used. Automated counters record less useful data than deploying a surveyor and are not as reliable, but can record over a long period, be left for several days, record any overnight passes and have much cheaper ongoing costs. Four automated counters were deployed between the 13/07/2016 and 05/08/2016. Automated counters used were infra-red sensors and recorded any 'passes' across the unit (as such no personal information is taken). These can be susceptible to recording erroneous passes e.g. of animals or vegetation moving in high winds. The sensors were located beside access routes to record footfall at more remote locations. These locations were chosen as ones where we thought there could be some foot access, but there was limited parking and levels of use were likely to be low. The counters were intended to give an indication/check of how busy the locations were. The details of the locations are given in Table 3.

2.19 Each sensor was left for just over 10 days, such that a range of days (weekends and weekdays) were covered. From the data recovered, the first and last day of data was always eliminated, as this includes the set up and retrieval of the sensor (i.e. triggering of the sensor when setting up/removing). This processing step is included in the days of useable calculation, presented in Table 3. From the table it is noted that a single unit (unit 33, access point 42, Wealden Way) recorded no useable data due to a

malfunction. The likely causes of this were due to interference by cars, vegetation, or the unit being tampered with. As such no data was used from the unit. All other units appear to have worked well; with no large numbers of repeated passes (e.g. suggesting oversensitivity) or high numbers of overnight passes (e.g. inaccuracies/oversensitivity or recording of wildlife/livestock).

2.20 Data retrieved from sensors was simplified to remove possible duplicate passes, whereby a single person may have been recorded several times, due to a person pausing in front of the sensor (especially if investigating unit) or the angle of their approach. This was achieved based on the assumption that passes within a single minute were from the same event. Where multiple registrations were recorded within a single minute these were counted as just a single pass. This approach is likely to ensure more accurate recording of the number of passes on quiet sites. However, at busier sites there is the possibility that multiple groups of people could pass a sensor within a single minute and therefore the calculation is a conservative estimate.

Table 3: The location details of the four sensors deployed.

AP ID	Date deployed - date retrieved	Days of useable data	Description
24	13/07/2016 - 25/07/2016	11	Nutley, down Nursery Lane, located at the point where the track narrows to just the footpath (but note it opens out again at some more houses further on). Located on a telegraph pole on right-hand side of path (in a dip/hollow and quite dark/shady).
42	13/07/2016 - 25/07/2016	0	Poundgate area, just off the Uckfield Road, close to the Crow and Gate pub, on the path (Wealden Way) which heads north into Ashdown Forest. Located on the PROW finger post near old bell house, slightly tucked in nettles, right by pavement.
18	13/07/2016 - 25/07/2016	5	Fairwarp, on footpath on west side of B2026, directly opposite the church gate. Small chain link gap for access onto Ashdown and counter on right hand side, on fence post
30	25/07/2016 - 05/08/2016	10	Nutley, down School Lane. Located at point where track to houses ends and becomes just the footpath. Attached to the PROW finger post.

Analysis and spatial model of visitor numbers

2.21 We used the large amount of data collated from interviews, tally counts, driving transects and sensor data to inform an overall estimate of the total number of daily visitors to Ashdown Forest and created from individual estimates for visitors at each of the individual access points. These estimates provide information on the overall visitor use of the site and the models of visitor distribution allow us to gain an overview of access and use across the whole SPA.

Access point visitor estimates

2.22 Key to the visitor model is estimates of the number of daily visitors at each of the 139 access points to Ashdown Forest. Sixty-two access points had some car parking spaces

and all were included in the driving transect counts, ensuring the transects provided complete coverage of the SPA.

2.23 Driving transects were conducted at a range of times of day, types of day and conditions, therefore averaging these provides a good indication of the typical number of cars to be expected. Assuming that most visits last one hour, as observed from our interviews, we can multiple the average number of cars recorded by twelve to cover the main daylight period of visitation we surveyed (07:00-19:00). These values were then multiplied by the average number of people per car (again drawn from the survey results – 2.216 people per car).

2.24 For the remaining access points without parking we estimated the number of daily visitors as a function of the number of residential properties in close proximity to each access point. The relationship between the number of non-car visitors (predominantly those on foot, but includes a very small number of cyclists and motorised mobility scooters/wheelchairs) and number of houses was determined from tally counts. From our tally counts we had counts of the number of visitors recorded entering during the eight hours of survey. This could be adjusted to estimate the daily total, accounting for people missed outside of the surveying window (i.e. outside surveys and between survey gaps; 9:00-10:00, 12:00-13:00, 15:00-17:00). The tallies are estimated to account for approximately 75% of visitors, based on expected distribution curves of visitor patterns across a day. This is based on our extensive previous experience from other visitor surveys and from sensor data to show hourly patterns at this site. From our interviews at this site we could calculate the proportion of visitors arriving not by car at each access point, and apply this to the number of daily visitors to estimate the numbers arriving by foot or other pedestrian access (non-car).

2.25 This estimated number of daily non-car visitors could then be examined in relation to the number of residential properties in close proximity. Around each access point the number of residential properties was calculated in GIS from geospatial postcode point data[7]. The number of residential properties was extracted at a range of distance buffers; from 0-1,500 m, at 100 metre intervals. Correlations were then conducted between the estimated number of non-car visitors at access points and the number of residential properties in each distance buffer. The strongest relationship was observed when using the 500 metre distance buffer, with a zero intercept fitted correlation (Pearson's correlation coefficient =0.1114, SE=0.032, p=0.013, R^2=0.389). The correlation coefficient of 0.1114 is used in the visitor number estimates. Individual fits for different distances are discussed in more detail in the results.

2.26 The estimate for non-car visitor based on the number of houses within 500m was applied to all access points, including those with car parks in addition to the estimated number of car visitors already calculated for these locations. The resulting estimation for daily visitors for each access point was therefore calculated with the following expression:

[7] postcode point data based on Royal Mail/Ordnance Survey PostZon data (dated February 2016)

((*Average number of cars from driving transects**12)*2.216) +
(*Number of houses within 500m**0.1114)

Spatial visitor estimates

2.27 Using our predicted number of daily visitors for individual access points we can then examine how we would predict these visitors would spread across the area. The area defined for modelling covered the SPA area, but included a 300 m buffer (total area 5,675 ha). The use of the 300 m buffer ensured access points which were located outside the SPA boundary, but still provide access to Ashdown Forest, were included in the path network. This entire area was converted to regularised raster grid within the GIS to create an overlay of 15m grid cells (totalling 254,942 cells).

2.28 The access layer used for our model is based on the path network as discussed in the GIS collation methods. For the purpose of modelling, a small number of changes were made to give greater path simplification (and potentially a more accurate model). These changes involved removing a small number of short dead ends (those less than 200 m long) and any very short diversions and duplicate paths, as these create extra unnecessary splits and model calculations.

2.29 Grid cells which were part of path network amounted to 20,381 cells. All cells located in the raster path network were assigned a value of one. From this we examined each access point in turn and computed a cumulative count through the raster cells moving away from an access point for every 15 m raster cell. This provides a value which was an approximation of network distance for each cell along the network from the access point. This was repeated for all access points to provide a distance matrix for all cells and for all access points (20,381 cells x 139 access points). All calculated values were later multiplied by fifteen, to provide an approximated distance in metres (as raster cells are 15 x 15 m). The maximum recorded network distance for a cell was approximately 15.5 km.

2.30 All distance values were rounded to the nearest hundred and related to visitor distance curves to estimate the proportion of visitors which would be recorded at each distance. Visitor distance curves were determined using the route lengths recorded as part of the visitor interviews. The total length of each visitor's route was halved to account for returning back to the access point and assessed for all interviews. The visitor distance curves are created from the cumulative number of interviews reaching different distances (presented and discussed in the model results). These curves show how the percentage of interviewees decreases with increasing distance from the survey point.

2.31 Using this distance curve, we can calculate the expected number of visitors at set distances from the access points along the path network. These curves were created separately for visitors arriving by car (including vans etc.) and by non-car (predominantly those on foot). Those who didn't arrive by car were likely to have shorter routes on the site as they are likely to have already been travelling some distance to the access point as part of their visit. At distances greater than 4,000m from an access point, the predicted number of visitors was assigned to zero (i.e. virtually no

interviewees were recorded at these distances, and it was therefore the point at which the proportion of visitors expected reach a negligible value).

2.32 As well as distance from access point, a separate version of the path network raster considers the number of splits in the network. Path junctions, or nodes, were identified and for each node the number of splits calculated. A total of 1,929 nodes were identified and assigned a split value. Those cells which were not a node were assigned a value of zero. Therefore, by conducting another cost distance calculation for each access point we can calculate the cumulative number of splits in the path network moving away from an access point. This was again conducted for all access points and provides another distance matrix for all cells and for all access points (20,381 cells x 139 access points) by the number of path splits.

2.33 Finally, considering each access point in turn, the estimated number of daily visitors at each access point was related to the distance raster for that access point to calculate the proportion of visitors expected to reach a cell. This value for each cell was then divided by the number of cumulative splits from the splits raster for that access point. This was then conducted for all access points and the number of visitors per cell summed across all access point calculations to provide the overall estimated number of visitors in every cell.

2.34 Our models are therefore derived from the visitor survey data and allow us to predict visitor distribution and show the intensity of recreation use across Ashdown Forest. Certain parts of the site would be more appealing to visitors than others, for example known walks and views will pull visitors to certain paths or areas. This has not been considered in the model, which assumes all paths and directions are equal in the network. More robust calculations would require surveyors or automated counters at every path junction or along every path section to account for this. Given the scale of Ashdown Forest, such an approach would be an enormous undertaking and unlikely to yield much more than the approach considered here. The approach we have taken is similar to that which was used in the previous study for Ashdown Forest (Clarke, Sharp & Liley 2010), but with considerable improvements through the use of car park counts and greater resolution in the modelling. We have used a similar approach on other European heathland sites such as the Dorset Heaths (Liley *et al.* 2006), Thames Basin Heaths (Liley *et al.* 2006), New Forest (Sharp, Lowen & Liley 2008) and in the Pebblebeds (Liley, Panter & Underhill-Day 2016). There are other modelling approaches which can be used for this; see Becco and Brown (2013) for a general discussion on this. A particularly useful approach can be agent-based models (Pouwels, Opdam & Jochem 2011), however such approaches involve very large datasets and a much greater level of model complexity, well beyond the scope of this project.

2.35 The GIS software used in the creation of the model was QuantumGIS (version 2.16) and MapInfo (version 10) was also used for some of the maps. More complex data presentation and analysis were undertaken using Minitab (version 14). Errors when given are standard errors.

3. Results: Face-face interviews

Overview

3.1 A total of 452 interviews were completed. This provides a robust sample of visitors to use for analysis. A slightly higher proportion of interviewees (250 interviewees, 55%) were women. Group size (the total number of people in the interviewed party) ranged from 1 to 55 (the later involving a group on a 'health walk'). Half of all interviewees were however visiting on their own (224 interviewees, 50%) and a further 160 interviewees (35%) were in a group of two. Accounting for group size the interviews describe the visiting patterns of 933 people.

3.2 The majority of interviewees (71%) were accompanied by one or more dogs. Some parties had particularly large numbers of dogs, notably two groups had more than 10 dogs with them: one group (Greyhound Rescue) involved 27 people accompanied by 30 dogs and another group (the Bassett Hound Society on their annual midsummer walk and picnic) involved 23 people walking with 22 dogs.

3.3 The number of interviews per survey point are summarised in Table 4. Gills Lap, King's Standing and Crowborough (pedestrian access) were the busiest survey points; together these locations accounted for nearly a third (32%) of all interviews. There were two locations (Vachery and Four Counties) where less than five interviews were conducted. No surveys were conducted or individuals recorded in tallies at Vachery.

3.4 The majority of interviewees were on a short trip and visiting directly from home (444 interviewees, 98%). Five interviewees (1%) were staying away from home with friends and family, these were interviewed at Box (two interviews), Poundgate, Smugglers and Forest Row. A further three interviewees (1%) were on holiday and staying in holiday accommodation. The holiday makers were interviewed at Gills Lap (2 interviewees) and Reserve. The three holiday makers are excluded from the rest of the tables and analyses in the report, ensuring that the results directly link to local residents. The total number of interviews used in later analyses is therefore 449.

Table 4: Number (%) of interviews per survey point

Survey Point	Type	Interviews
Gills Lap	Formal car-park	52 (12)
King's Standing	Formal car-park	46 (10)
Crowborough	Pedestrian	43 (10)
Box	Formal car-park	38 (8)
Long	Formal car-park	37 (8)
Forest Row, near Golf Club	Pedestrian	33 (7)
St.Johns	Formal car-park	33 (7)
Forest Centre	Formal car-park	28 (6)
Reserve	Formal car-park	27 (6)
Smugglers	Formal car-park	22 (5)
Nutley	Pedestrian	20 (4)
Lintons	Formal car-park	18 (4)
Poundgate	Formal car-park	11 (2)
Roman Road	Formal car-park	10 (2)
Churlwood	Formal car-park	9 (2)
Fairwarp	Pedestrian	8 (2)
Millbrook West	Formal car-park	8 (2)
Twyford	Formal car-park	5 (1)
Four Counties	Formal car-park	4 (1)
Vachery	Formal car-park	0 (0)
Total		**452(100)**

Activities (Q2)

3.5 The majority of interviewees (311 interviewees, 69%) gave dog walking as their main activity. Walking was the next most common activity (82 interviewees, 18%). All other activities recorded were undertaken by relatively few interviewees, with no other activity involving more than 5% of interviewees. Activities and percentages (pooled data across all survey points and interviews) are summarised in Figure 1.

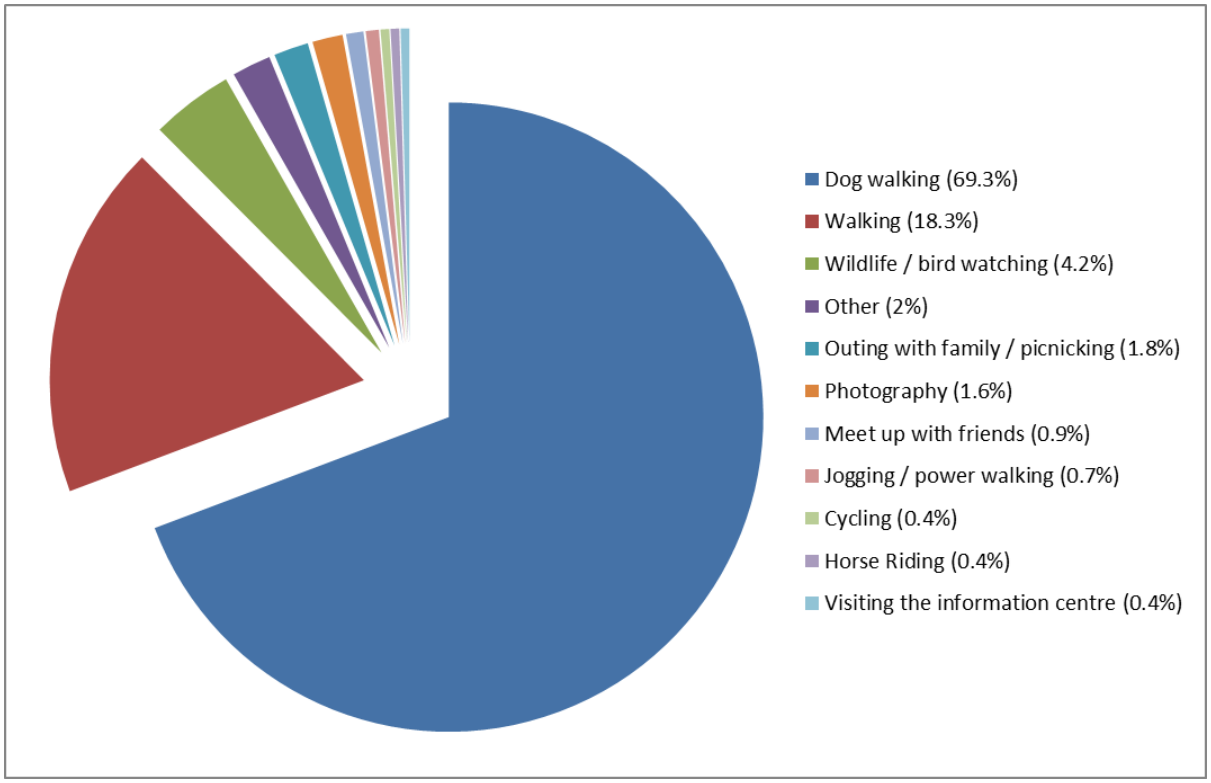
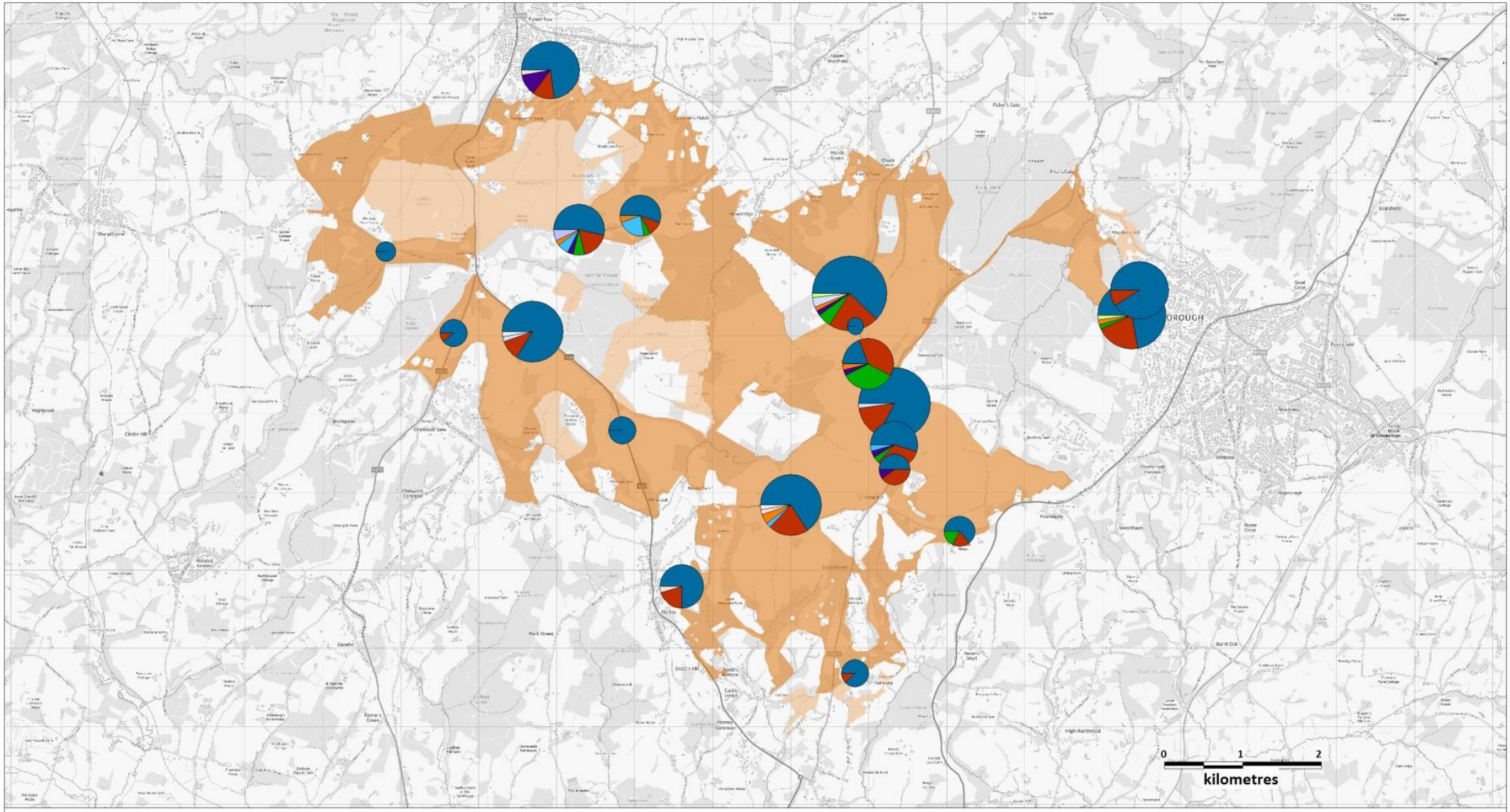


Figure 1: Activities undertaken by interviewees (449 interviewees) across all survey points (from Q2).

3.6 The 'other' category includes visitors whose activity was unusual or didn't neatly categorise, for example one interviewee was geocaching, one interviewee was involved in the Duke of Edinburgh scheme, one involved a teacher collecting material for teaching and three of the interviewees at the Forest Row pedestrian survey point were – at least in part – accessing the tennis courts or golf club.

3.7 In Map 3 we show the breakdown by survey point. It can be seen that Reserve was the only survey point where dog walking was not the most common activity and here dog walkers accounted for just 19% of the interviews. By comparison, at Reserve, walking (38% interviewees) and wildlife/bird watching (35%) were more common. Other notable differences between survey points are the relatively high number of interviewees who were on a family outing/picnic at Lintons and the Forest Centre.

Map 3: Number of interviews by activity



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Length of time visiting location (Q3)

3.8 Around half (216 interviewees, 48%) stated they had been visiting Ashdown Forest for more than 10 years. By contrast, just 21 interviewees (5%) were on their first visit. Data are summarised by activity in Figure 2 and it can be seen that for dog walkers it would appear relatively few were on their first visit and just over half (51%) had been visiting for more than 10 years.

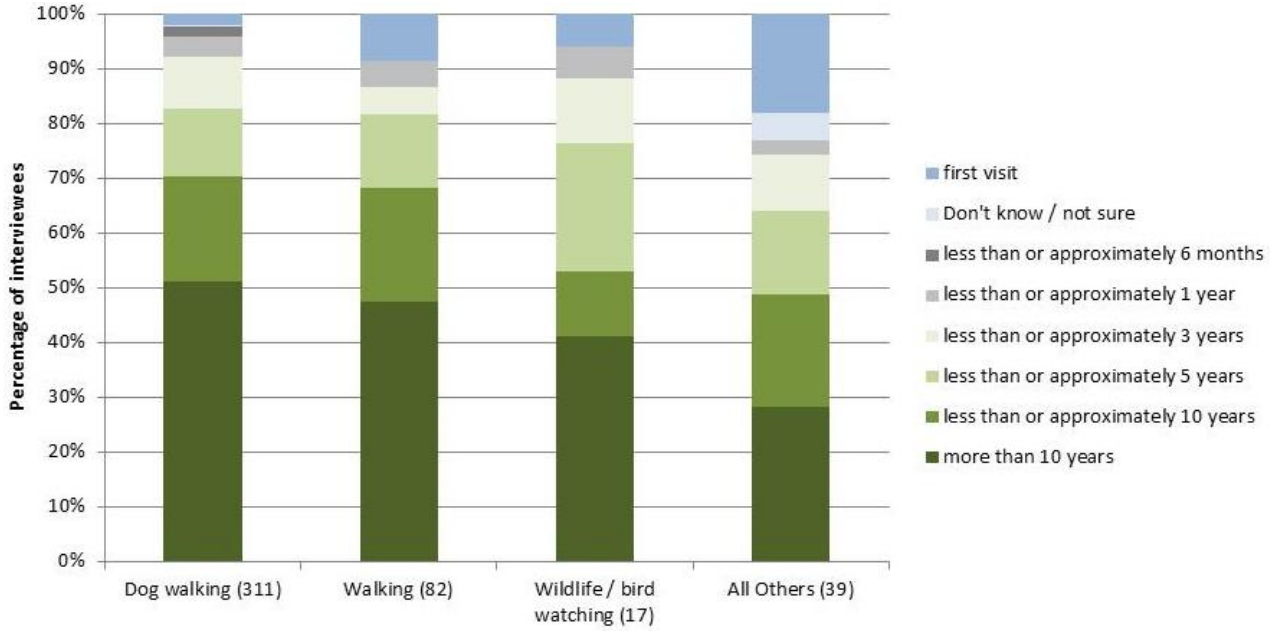


Figure 2: Percentage of interviewees and length of time visiting Ashdown Forest (From Q3), by activity (only activities with at least ten interviewees included).

Temporal visiting patterns

Visit duration (Q4)

3.9 The length of time people spent (or were intending to spend, if interviewed at the start of their walk) is summarised by survey location in Table 5. Over half (265 interviewees, 59%) were visiting for less than an hour. Dog walkers tended to make shorter visits, for example for dog walkers the most common visit length was between 30 minutes and an hour (58% of dog walkers). This was also the most common visit duration for walkers, with 40% falling into the 30 minutes to 1 hour category. For all other activities besides visiting the information centre, visits above one hour were the most common single visit duration.

Table 5: Numbers (%) of interviewees by activity and visit duration (from Q4). Pale grey shading reflects the highest value in each row

Activity	less than 30 mins	between 30 mins and 1hr	1-2 hrs	2-3 hrs	3+ hrs	Don't know / not sure	Total
Dog walking	30 (10)	181 (58)	89 (29)	8 (3)	2 (1)	1 (0)	**311 (100)**
Walking	7 (9)	33 (40)	29 (35)	12 (15)	1 (1)	0 (0)	**82 (100)**
Wildlife / bird watching	0 (0)	2 (12)	7 (41)	5 (29)	3 (18)	0 (0)	**17 (100)**
Other	0 (0)	2 (18)	4 (36)	1 (9)	3 (27)	1 (9)	**11 (100)**
Outing with family / picnicking	2 (25)	0 (0)	3 (38)	3 (38)	0 (0)	0 (0)	**8 (100)**
Photography	0 (0)	2 (29)	1 (14)	3 (43)	0 (0)	1 (14)	**7 (100)**
Meet up with friends	0 (0)	0 (0)	0 (0)	3 (75)	0 (0)	1 (25)	**4 (100)**
Jogging/power walking	0 (0)	3 (100)	0 (0)	0 (0)	0 (0)	0 (0)	**3 (100)**
Cycling	0 (0)	0 (0)	1 (50)	1 (50)	0 (0)	0 (0)	**2 (100)**
Horse Riding	0 (0)	1 (50)	0 (0)	1 (50)	0 (0)	0 (0)	**2 (100)**
Visiting the information centre	2 (100)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	**2 (100)**
Total	**41 (9)**	**224 (50)**	**134 (30)**	**37 (8)**	**9 (2)**	**3 (1)**	**449 (100)**

Visit Frequency (Q5)

3.10 Most interviewees were regular visitors to the location where interviewed, with 285 interviewees (63%) visiting at least weekly. The most regular visitors appear to be dog walkers and joggers (note that only three joggers were interviewed), with both groups having a relatively high proportion of interviewees that were daily visitors. Overall around a quarter (22%) of all interviewees were daily visitors.

Table 6: Numbers (%) of interviewees by activity and visit frequency (from Q5). Pale grey shading reflects the highest value in each row

Activity	Daily	Most days	1 to 3 times a week	2 to 3 times per month	Once a month	Less than once a month	Don't know	First visit	Other	Total
Dog walking	93 (30)	55 (18)	97 (31)	22 (7)	21 (7)	14 (5)	0 (0)	8 (3)	1 (0)	**311 (100)**
Walking	5 (6)	5 (6)	17 (21)	13 (16)	18 (22)	13 (16)	1 (1)	8 (10)	2 (2)	**82 (100)**
Wildlife / bird watching	1 (5)	1 (5)	2 (11)	3 (16)	5 (26)	4 (21)	0 (0)	3 (16)	0 (0)	**19 (100)**
Other	0 (0)	0 (0)	4 (44)	1 (11)	0 (0)	1 (11)	0 (0)	3 (33)	0 (0)	**9 (100)**
Outing with family / picnicking	0 (0)	0 (0)	0 (0)	0 (0)	2 (25)	5 (63)	0 (0)	1 (13)	0 (0)	**8 (100)**
Photography	0 (0)	0 (0)	1 (14)	1 (14)	2 (29)	0 (0)	1 (14)	2 (29)	0 (0)	**7 (100)**
Meet up with friends	0 (0)	0 (0)	1 (25)	1 (25)	1 (25)	0 (0)	1 (25)	0 (0)	0 (0)	**4 (100)**
Jogging / power walking	1 (33)	0 (0)	1 (33)	0 (0)	0 (0)	1 (33)	0 (0)	0 (0)	0 (0)	**3 (100)**
Cycling	0 (0)	0 (0)	0 (0)	1 (50)	0 (0)	1 (50)	0 (0)	0 (0)	0 (0)	**2 (100)**
Horse Riding	0 (0)	1 (50)	0 (0)	1 (50)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	**2 (100)**
Visiting the information centre	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	2 (100)	0 (0)	**2 (100)**
Total	**100 (22)**	**62 (14)**	**123 (27)**	**43 (10)**	**49 (11)**	**39 (9)**	**3 (1)**	**27 (6)**	**3 (1)**	**449 (100)**

Time of Day

3.11 Nearly a third of interviewees (129 interviewees, 29%) did not tend to visit at a particular time of day. For those that did tend to visit at a particular time of day, the mornings appear to be the preferred time, with 27% of interviewees indicating that they tended to visit before 9am and 24% indicating that they tended to visit between 9 and 12. Times of day that interviewees tended to visit are summarised in Table 7. It can be seen that dog walkers were the main group that tended to visit in the early morning (35% of all dog walkers giving this as their preferred time to visit), whereas for most other activities, the most common response given by interviewees was that they didn't tend to visit at a particular time of day.

Table 7: Numbers (%) of interviewees by activity and the time of day they tend to visit (from Q6). Pale grey shading reflects the highest value in each row. Interviewees could give multiple answers (e.g. they might tend to visit in the early morning and the evening). As such percentages are based on the number of interviewees undertaking each activity (the final column) rather than the number of responses.

Activity	Before 9am	Between 9am and 12	Between 12 and 3	Between 3 and 5pm	After 5pm	No	Don't know/first visit	Number of interviewees
Dog walking	108 (35)	86 (28)	40 (13)	32 (10)	67 (22)	71 (23)	9 (3)	**311 (100)**
Walking	7 (9)	13 (16)	14 (17)	9 (11)	6 (7)	38 (46)	10 (12)	**82 (100)**
Wildlife / bird watching	5 (26)	4 (21)	1 (5)	0 (0)	4 (21)	5 (26)	3 (16)	**19 (100)**
Other	0 (0)	2 (22)	0 (0)	1 (11)	1 (11)	4 (44)	2 (22)	**9 (100)**
Outing with family / picnicking	0 (0)	0 (0)	2 (25)	1 (13)	0 (0)	4 (50)	1 (13)	**8 (100)**
Photography	1 (14)	0 (0)	1 (14)	0 (0)	0 (0)	3 (43)	2 (29)	**7 (100)**
Meet up with friends	0 (0)	1 (25)	2 (50)	1 (25)	1 (25)	2 (50)	0 (0)	**4 (100)**
Jogging / power walking	0 (0)	1 (33)	0 (0)	0 (0)	0 (0)	2 (67)	0 (0)	**3 (100)**
Cycling	0 (0)	0 (0)	1 (50)	0 (0)	1 (50)	0 (0)	0 (0)	**2 (100)**
Horse Riding	0 (0)	1 (50)	1 (50)	0 (0)	0 (0)	0 (0)	0 (0)	**2 (100)**
Visiting the information centre	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	2 (100)	**2 (100)**
Total	**121 (27)**	**108 (24)**	**62 (14)**	**44 (10)**	**80 (18)**	**129 (29)**	**29 (6)**	**449 (100)**

Time of year

3.12 There was little evidence that the interviewed visitors tended to visit more at particular times of year and most (365 interviewees, 81%) tended to visit the area equally all year round for their chosen activity. Around 12% of interviewees indicated they tended to visit at a particular time of year and – where there was a preference - spring and summer seemed to be the favoured times. Around 11% of interviewees tended to visit particularly during the summer.

3.13 Times of year that interviewees tended to visit are summarised by activity in Table 8. Comparing between groups dog walkers were the group with the highest percentage (90%) that visit all year round while those undertaking family outings/picnics tended to favour the spring and summer (50% and 75% respectively) rather than all year round (13%).

Table 8: Numbers (%) of interviewees by activity and the time of year they tend to visit (from Q7). Pale grey shading reflects the highest value in each row. Interviewees could give multiple answers (e.g. they might tend to visit in the spring and the summer). As such percentages are based on the number of interviewees undertaking each activity (the final column) rather than the number of responses.

Activity	Spring (Mar-May)	Summer (Jun-Aug)	Autumn (Sept-Nov)	Winter (Dec-Feb)	Equally all year	Don't know/first visit	Number of interviewees
Dog walking	13 (4)	17 (5)	5 (2)	3 (1)	279 (90)	12 (4)	**311 (100)**
Walking	10 (12)	13 (16)	6 (7)	0 (0)	61 (74)	8 (10)	**82 (100)**
Wildlife / bird watching	6 (32)	7 (37)	1 (5)	0 (0)	10 (53)	3 (16)	**19 (100)**
Other	2 (22)	2 (22)	0 (0)	0 (0)	5 (56)	2 (22)	**9 (100)**
Outing with family / picnicking	4 (50)	6 (75)	0 (0)	0 (0)	1 (13)	1 (13)	**8 (100)**
Photography	1 (14)	2 (29)	1 (14)	0 (0)	2 (29)	3 (43)	**7 (100)**
Meet up with friends	0 (0)	0 (0)	0 (0)	0 (0)	3 (75)	1 (25)	**4 (100)**
Jogging / power walking	1 (33)	1 (33)	1 (33)	0 (0)	2 (67)	0 (0)	**3 (100)**
Cycling	0 (0)	2 (100)	0 (0)	0 (0)	0 (0)	0 (0)	**2 (100)**
Horse Riding	0 (0)	0 (0)	0 (0)	0 (0)	2 (100)	0 (0)	**2 (100)**
Visiting the information centre	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	2 (100)	**2 (100)**
Total	**37 (8)**	**50 (11)**	**14 (3)**	**3 (1)**	**365 (81)**	**32 (7)**	**449 (100)**

Mode of Transport (Q8)

3.14 Most interviewees (365, 81%) had arrived at the survey point by car. Nearly a fifth had arrived on foot (79 interviewees, 18%). Very small numbers (2 interviewees, <1%) had arrived on a bike or by other modes of transport (3 interviewees, 1%). Other modes of transport included a horse box and mobility scooter (2 interviewees). Data are summarised by activity in Table 9.

Table 9: Numbers (%) of interviewees by activity and mode of transport (from Q8).

Activity	Car / van	On foot	Bicycle	Other	Total
Dog walking	249 (80)	61 (20)	0 (0)	1 (0)	**311 (100)**
Walking	68 (83)	13 (16)	0 (0)	1 (1)	**82 (100)**
Wildlife / bird watching	18 (95)	1 (5)	0 (0)	0 (0)	**19 (100)**
Other	6 (67)	3 (33)	0 (0)	0 (0)	**9 (100)**
Outing with family / picnicking	8 (100)	0 (0)	0 (0)	0 (0)	**8 (100)**
Photography	7 (100)	0 (0)	0 (0)	0 (0)	**7 (100)**
Meet up with friends	4 (100)	0 (0)	0 (0)	0 (0)	**4 (100)**
Jogging / power walking	1 (33)	1 (33)	1 (33)	0 (0)	**3 (100)**
Cycling	1 (50)	0 (0)	1 (50)	0 (0)	**2 (100)**
Horse Riding	1 (50)	0 (0)	0 (0)	1 (50)	**2 (100)**
Visiting the information centre	2 (100)	0 (0)	0 (0)	0 (0)	**2 (100)**
Total	**365 (81)**	**79 (18)**	**2 (0)**	**3 (1)**	**449 (100)**

3.15 The number of interviewees arriving by each mode of transport is summarised by survey point in Figure 3. Visitors who had arrived on foot were interviewed at six survey points: Forest Row, near the Golf Club (32 interviewees), Crowborough (18 interviewees), Nutley (18 interviewees), Fairwarp (8 interviewees), Box (2 interviewees) and St. Johns (1 interviewee). At Fairwarp, Nutley and Forest Row, near the Golf Club, virtually all interviewees were arriving on foot. Box is the only car-park in the main central area of Ashdown Forest where any interviewees who had arrived on foot were recorded.

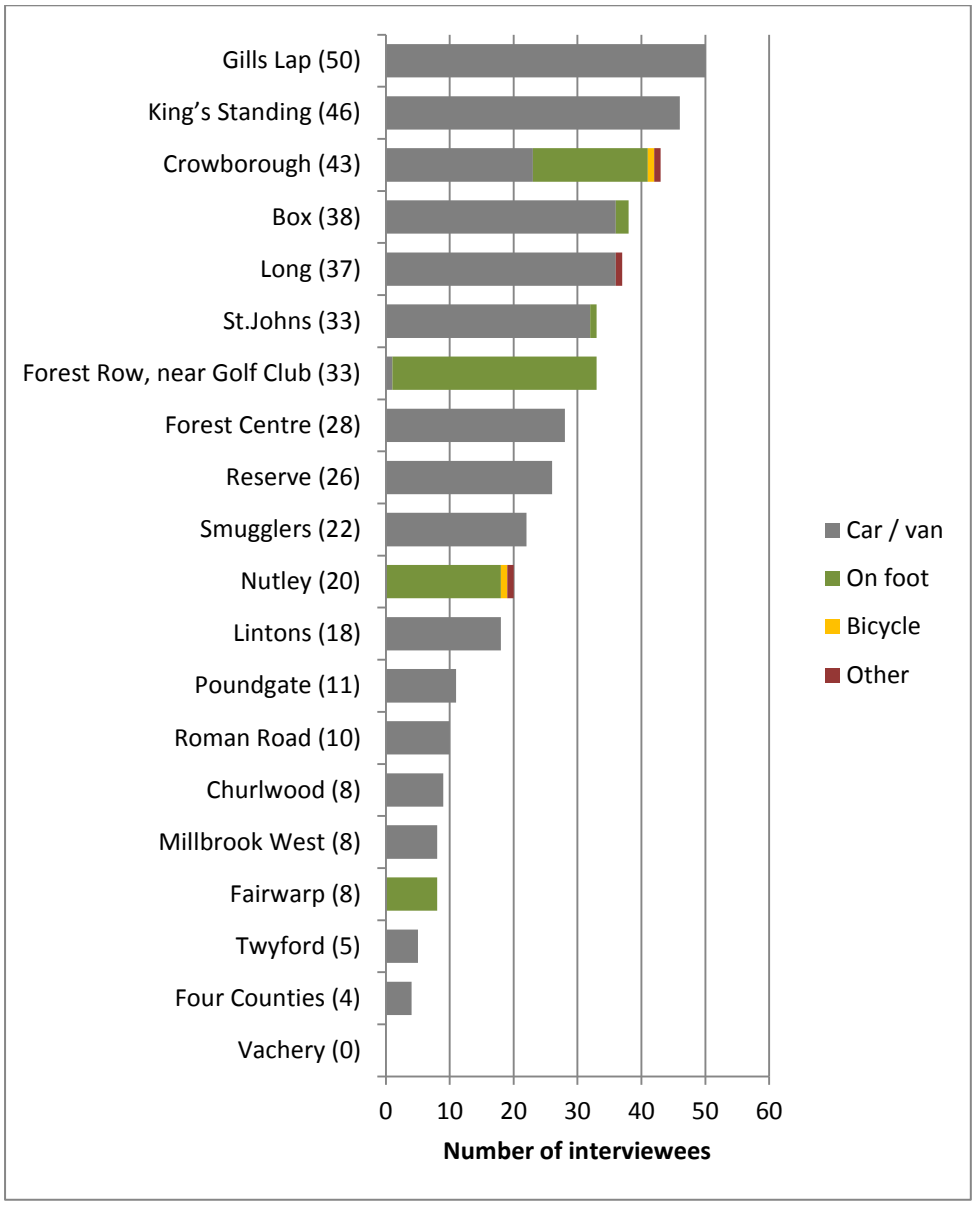


Figure 3: Mode of transport (from Q8) by survey point.

3.16 Activities undertaken by those arriving by car and on foot were similar: for example there was no significant different between the two groups in the proportion of interviewees that were dog walking compared to just walking or undertaking other activities (for car-visitors, 68% were dog walking, 19% walking and 13% were

undertaking other activities; for those on foot, 77% were dog walking, 16% walking and 7% undertaking other activities; X^2_2=3.453, 0=0.15).

Reasons for Site Choice (Q12)

3.17 A variety of reasons were given by interviewees as to why they chose to visit Ashdown Forest that day, rather than another location. Surveyors categorised answers according to a list within the questionnaire, and if a response did not fit a category then 'other' was recorded. Additional details were recorded as part of the survey and responses were also categorised as main (the one that had the most influence over the interviewee's choice) and other (all other reasons). Responses are summarised in Figure 4. It can be seen that scenery/variety of views was the most common response – given by 217 interviewees (48%) in total. Other common reasons were close to home (205 interviewees, 46%), and good for the dog/dog enjoys it (127 interviewees, 28%). The additional comments recorded by the surveyors provided more detail on some of the responses. Many people clearly have a strong affinity with the site, with comments reflecting "familiarity", "nice community feel" and "used to live here, family still here". The ability to combine a visit with an ice cream was important for at least three interviewees, four interviewees referenced a lack of livestock. Dog walkers are shown separately in Figure 4 and it can be seen that close to home was the most commonly given response by this group and scenery/variety of views, while still of importance is of less importance than the proximity to home. Comments by dog walkers included "safe for dogs, not near a road", "open and good for dog walking" and "everything needed for spaniel training".

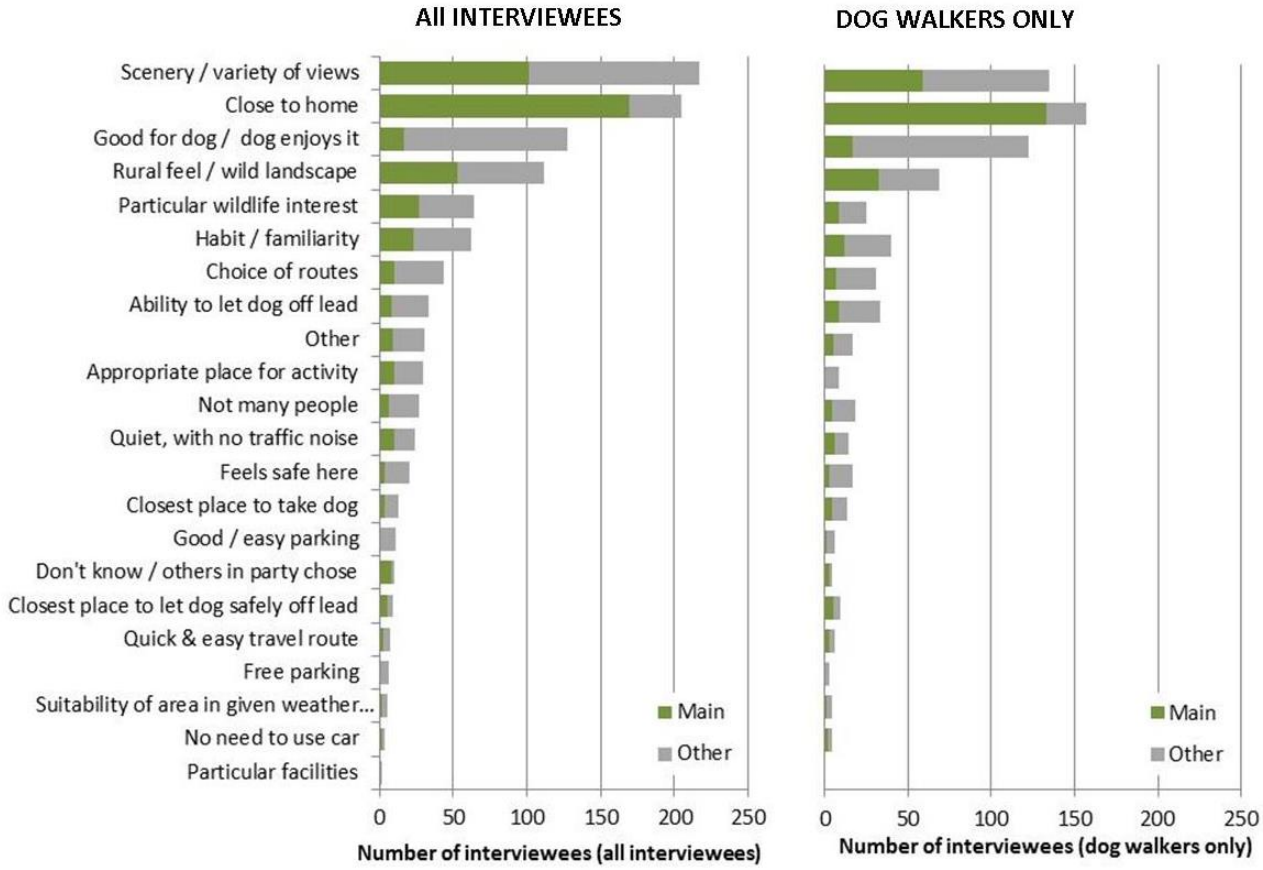


Figure 4: Reasons for site choice (from Q12). Interviewees could give one main reason and as many other reasons as appropriate, with responses categorised by the surveyor. Left hand graph is all interviewees and the right hand plot is a subset of those who were dog walking.

Alternative sites

3.18 Interviewees could name up to three alternative sites with the questions asking for the one location outside Ashdown Forest they would have visited if they did not visit the location where interviewed (Q13) and then further questions (Q17 and Q18) asked for additional sites the interviewee often visited beside Ashdown Forest. Not all interviewees named sites, for example only 204 interviewees (45%) named a site they would visit in Q13, with 205 interviewees (46%) indicating they would not have gone anywhere and a further 40 interviewees (9%) unsure (Table 10).

Table 10: Number (%) of interviewees and responses to Q13 (whether interviewees could name one location they would have visited if they did not visit Ashdown Forest on the day interviewed) by activity.

Activity	Not sure / Don't know	Nowhere / wouldn't have visited anywhere	Site Named	Total
Dog walking	23 (7)	154 (50)	134 (43)	**311 (100)**
Walking	7 (9)	28 (34)	47 (57)	**82 (100)**
Wildlife / bird watching	4 (21)	2 (11)	13 (68)	**19 (100)**
Other	0 (0)	7 (78)	2 (22)	**9 (100)**
Outing with family / picnicking	2 (25)	2 (25)	4 (50)	**8 (100)**
Photography	2 (29)	3 (43)	2 (29)	**7 (100)**
Meet up with friends	0 (0)	3 (75)	1 (25)	**4 (100)**
Jogging / power walking	0 (0)	2 (67)	1 (33)	**3 (100)**
Cycling	1 (50)	1 (50)	0 (0)	**2 (100)**
Horse Riding	0 (0)	2 (100)	0 (0)	**2 (100)**
Visiting the information centre	1 (50)	1 (50)	0 (0)	**2 (100)**
Total	**40 (9)**	**205 (46)**	**204 (45)**	**449 (100)**

3.19 All named sites are summarised in Figure 5. In order to generate the figure and a list of sites we tried to retain – as far as possible – the name given by the interviewee but where different names were clearly used for the same sites we used a single name, for example “South Downs” or “South Downs National Park” were all re-categorised as simply the “South Downs”. Where insufficient detail was provided (“the beach”) answers were discounted. It can be seen from Figure 5 that a very wide range of locations were named. The broad range of sites and wide spatial distribution reflects the draw and qualities of Ashdown Forest, for example one interviewee named Purbeck and the other the Lake District. The South Downs (named 34 times, 8% interviewees) was by far the most commonly named location. Rotherfield, Sheffield Park and Seven Sisters/Cuckmere Haven (all named nine times, 2% interviewees) were the next most commonly named sites followed by Ardingly Reservoir, Seaford (inc Head and Seafront), Buxted Park, Chailey Common, Crowborough Beacon Golf Club (all named seven times, 2% interviewees).



Figure 5: Word Cloud showing alternative sites visited (all sites named by interviewees in Q13,17 and 18, interviewees could name up to three sites each). Size of words reflects the number of times each site was mentioned. Word cloud generated using wordle.net

Frequency of visit to single named alternative site

3.20 For the one alternative site named in Q13, some additional questions were asked. These included the frequency with which the named site was visited (Q14). Frequency of visits are summarised in Table 11, for all those sites named by at least two interviewees. We used the frequency of visit to assign an approximate number of annual visits to each site by each interviewee and by summing these totals we could derive an indication of which of the named sites are actually likely to absorb the most visits. It can be seen from Table 11 that when we take into account frequency of visit, Rotherfield is the most commonly visited single alternative site, with South Downs ranked second.

Table 11: Alternative sites named at least twice by interviewees in Q13, ranked by total number of annual visits likely to be made to those sites, based on the frequency of visit responses given in Q13.

Row Labels	**No. of interviewees**	**Daily** (roughly 300 visits p.a.)	**Most days** (roughly 200 visits p.a.)	**1 to 3 times a week** (roughly 110 visits p.a.)	**2 to 3 times per month** (roughly 25 visits p.a.)	**Less than once a month** (roughly 5 visits p.a.)	**Once a month** (roughly 12 visits p.a.)	**First visit** (roughly 1 visits per annum)	**Sum of Visits**
Rotherfield	8	1	1	3	3				905
South Downs	24			5	3	5	11		782
Hartfield	3	1	2						700
Crowborough Beacon Golf Club	5	1	1	1	1		1		647
Crowborough Country Park	3	1	1	1					610
Forest Row	2	1	1						500
Forest Way	5	1		1	3				485
Chailey Common	4		1	2		1			425
East Court, East Grinstead	2	1		1					410
Wolfe Park	2		2						400
Broadwater Warren/Forest	5			3		1	1		347
Crowborough Ghyll	3			3					330
Seaford (inc Head and Seafront)	5			2	1		2		269
Harrisons Walk/Rocks	3			2	1				245
Lime Kiln Wood/Forest	2			2					220
Seven Sisters/Cuckmere Haven	5			1	1	1	2		164
Eridge	3			1	1	1			140
Sheffield Forest	5			1		3	1		137
Uckfield	2			1	1				135
Goldsmiths	2			1	1				135

Row Labels	**No. of interviewees**	**Daily** (roughly 300 visits p.a.)	**Most days** (roughly 200 visits p.a.)	**1 to 3 times a week** (roughly 110 visits p.a.)	**2 to 3 times per month (**roughly 25 visits p.a.**)**	**Less than once a month (**roughly 5 visits p.a.**)**	**Once a month (**roughly 12 visits p.a.**)**	**First visit** (roughly 1 visits per annum)	**Sum of Visits**
Lingfield	2			1	1				135
Toys Hill	3			1		1	1		127
Tunbridge Wells	2			1			1		122
Kings Standing	2			1			1		122
Ashurst Wood	2			1		1			115
Black Boys Wood	2			1		1			115
East Grinstead	2			1		1			115
Weir Wood Reservoir	2			1		1			115
Buxted Park	4				3	1			80
Sheffield Park	5				1	2	2		59
Eastbourne/Eastbourne beach	4				1	2	1		47
Ardingly Reservoir	5					2	3		46
Rye Harbour	3				1	1	1		42
Wakehurst	2						2		24
Camber Sands	3					3			15
Name ambiguous (e.g. “beach”)	8				4	1	3		141
Total	**144**	**11**	**14**	**57**	**36**	**43**	**37**	**2**	**9406**

Mode of transport for alternative sites

3.21 For the single named alternative site identified in Q13, a subsequent question (Q15) asked what form of transport was usually used to visit that site. The majority of interviewees indicated they usually visited by car or van (168 interviewees, 84% of those who answered and gave a named site). A further 32 (16%) indicated they usually visited the named site on foot. Results are summarised by site in Table 12.

Table 12: Number of interviewees visiting different named alternative sites (named in Q13) and the mode of transport used to visit those sites. Only sites named by at least two interviewees are listed.

Site Name	Car / van	On foot	Total
South Downs	23	1	24
Rotherfield	7	1	8
Forest Way	3	2	5
Sheffield Forest	5	0	5
Seven Sisters/Cuckmere Haven	5	0	5
Broadwater Warren/Forest	5	0	5
Sheffield Park	5	0	5
Crowborough Beacon Golf Club	4	1	5
Seaford (inc Head and Seafront)	5	0	5
Ardingly Reservoir	4	1	5
Buxted Park	3	1	4
Eastbourne/Eastbourne beach	4	0	4
Chailey Common	3	1	4
Camber Sands	3	0	3
Hartfield	0	3	3
Harrisons Walk/Rocks	2	1	3
Rye Harbour	3	0	3
Crowborough Ghyll	3	0	3
Toys Hill	3	0	3
Crowborough Country Park	1	2	3
Eridge	3	0	3
Ashurst Wood	2	0	2
Wakehurst	2	0	2
Uckfield	2	0	2
Goldsmiths	2	0	2
Lingfield	2	0	2
East Court, East Grinstead	1	1	2
Black Boys Wood	2	0	2
East Grinstead	1	1	2
Tunbridge Wells	2	0	2
Kings Standing	2	0	2
Wolfe Park	0	2	2
Weir Wood Reservoir	2	0	2
Forest Row		2	2
Lime Kiln Wood/Forest	1	1	2

Reasons for choice of alternative sites (Q16)

3.22 There was a strong match between the reasons interviewees chose to visit Ashdown Forest and the reasons they chose other sites – in other words Figure 4 essentially also captures the reasons for the choice of alternative sites. The three top ranking reasons interviewees chose Ashdown Forest (scenery/variety of views, close to home and good for dog/dog enjoys it) were also the top ranking reasons for choosing alternative sites. There was a highly significant correlation between the number of interviewees who gave each response for Ashdown Forest and for alternative sites (Pearson Correlation Coefficient=0.966, $p<0.001$). This would suggest that the alternative sites listed provide a similar destination/experience to Ashdown Forest.

Interviewee's routes

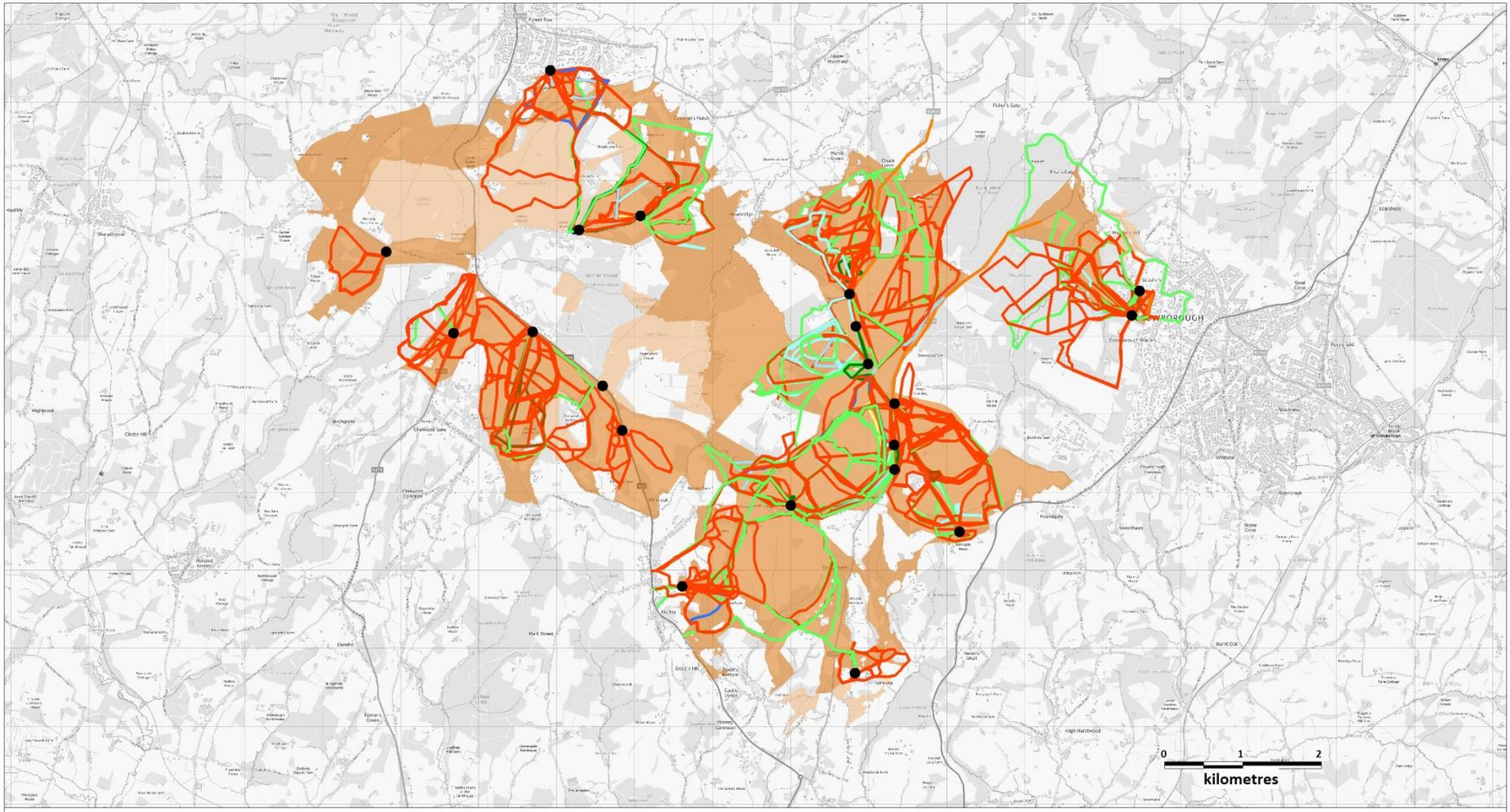
3.23 A total of 446 routes (relating to those on short visits from home or staying with friends and family) were mapped. Route lengths ranged from 31m to 7361m with a mean of 2774m ($\pm$66.6m) and a median of 2616m. All routes mapped are shown in Map 4. It is clear from the map that most routes were within the SPA/SAC and the interviewed visitors ranged over a wide part of the site. At Crowborough and St. Johns there were some routes that took visitors outside the SPA/SAC boundary.

3.24 Comparing between activities there were significant differences between those dog walking, walking and wildlife watching, with walkers tending to walk the furthest (median 3042m) compared to dog walkers (median 2639m) and those wildlife watching or birdwatching (median 2492m) (Kruskal Wallis H=9.26, 2 d.f., p=0.010). Sample sizes for other activities were relatively small, but the data are summarised in Figure 6. The figure suggests that cyclists tended to have the longest routes and those on family outings/picnics tended to have the shortest routes.

3.25 Routes are shown by survey point (all survey points are shown) in Figure 7. In order to compare routes between survey points we included those points[8] where at least 10 routes were plotted for visitors that were visiting on a short visit from home or staying with friends and family. The comparison highlighted significant differences between different parts of Ashdown Forest (Kruskal Wallis H=51.56, 12 d.f., $p<0.001$). At five survey points the median route length was at least 3km: Smugglers (median = 4356m), King's Standing (median = 3287m), Gills Lap (median = 3260m), Long (median = 3082m) and Box (median 3006m) while at others routes were typically much lower, especially Crowborough (median = 2292m), Nutley (median = 2229m), Forest Row (median = 1886m) and Poundgate (median = 1395m). The survey points with the lower route lengths were, to some extent, those with a relatively high proportion of visitors who arrived at the survey point on foot.

[8] There were eleven survey points with at least 10 routes (from those on a short visit from home or staying with friends/family): Box, Crowborough, Forest Centre, Forest Row, Gills Lap, King's Standing, Lintons, Long, Nutley, Poundgate and Reserve

Map 4: Routes taken by interviewees



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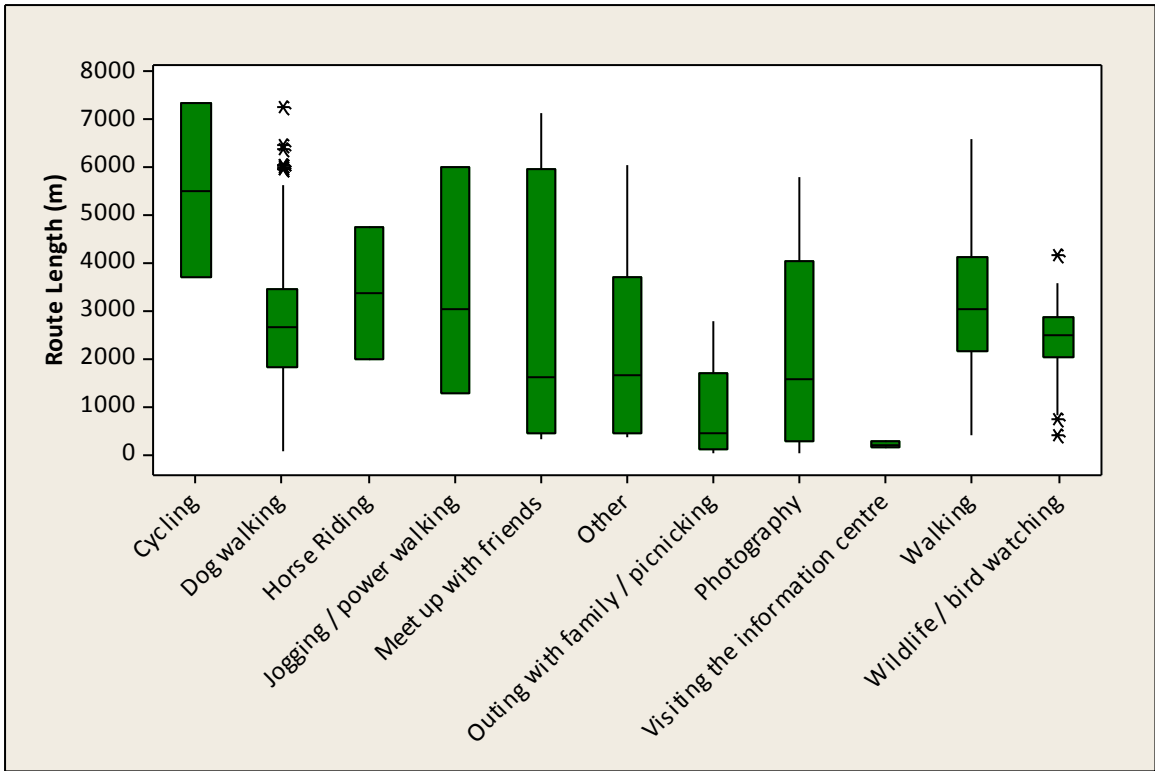


Figure 6: Box plot showing route length by activity.

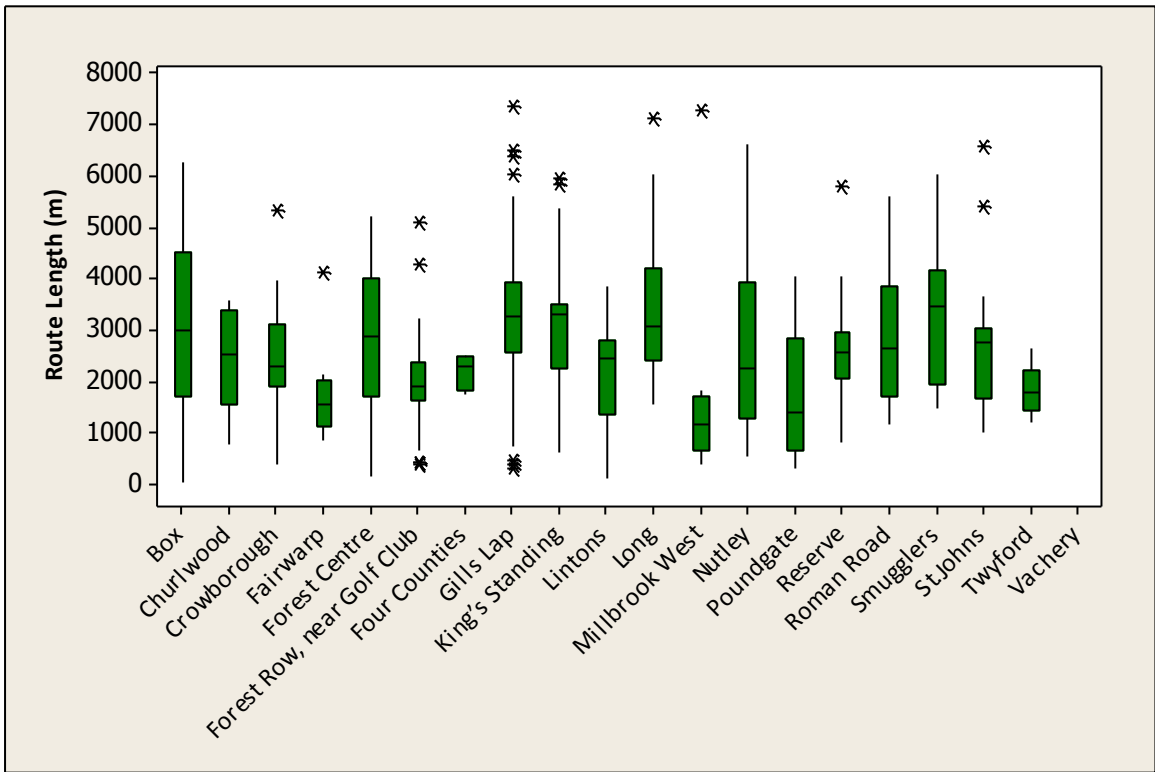


Figure 7: Box plot showing route length by survey location.

In both plots, horizontal bars reflect the median for each category; the boxes show the 25th and 75th percentiles; the vertical lines show the upper and lower limits of the data and the asterisks are outliers.

3.26 At least two-thirds of interviewees (300, 67%) indicated their route was similar to their usual route when visiting the interview location for their chosen activity (Table 13).

Table 13: Number (%) of interviewees by activity and whether their route was similar to the usual route (Q9) when visiting the interview location for their chosen activity. Pale grey cells indicate the cell with the highest value in each row.

Activity	Much longer than normal	Yes, normal	Much shorter than normal	First visit/not sure/Don't know	Total
Dog walking	6 (2)	223 (72)	51 (16)	31 (10)	**311 (100)**
Walking	3 (4)	50 (61)	12 (15)	17 (21)	**82 (100)**
Wildlife / bird watching	0 (0)	12 (63)	4 (21)	3 (16)	**19 (100)**
Other	1 (11)	5 (56)	1 (11)	2 (22)	**9 (100)**
Outing with family / picnicking	0 (0)	4 (50)	0 (0)	4 (50)	**8 (100)**
Photography	0 (0)	2 (29)	0 (0)	5 (71)	**7 (100)**
Meet up with friends	1 (25)	0 (0)	0 (0)	3 (75)	**4 (100)**
Jogging / power walking	0 (0)	2 (67)	0 (0)	1 (33)	**3 (100)**
Cycling	0 (0)	1 (50)	0 (0)	1 (50)	**2 (100)**
Horse Riding	0 (0)	1 (50)	1 (50)	0 (0)	**2 (100)**
Visiting the information centre	0 (0)	0 (0)	0 (0)	2 (100)	**2 (100)**
Total	**11 (2)**	**300 (67)**	**69 (15)**	**69 (15)**	**449 (100)**

3.27 Overall 180 interviewees (40%) indicated that they went off paths (or were planning to go off paths) during their visit. The percentage going off paths was highest for photographers (57%), those meeting up with friends (50%), those wildlife/bird watching (47%) and dog walkers (42%) (Figure 8).

3.28 A range of factors influenced the choice of interviewees' routes (Figure 9). The interviewee responses were categorised by the surveyor, and the most common category related to the activity undertaken, for example the presence of a dog, which influenced the choice of route for 118 interviewees (26%). Other relatively frequent categories included weather (52 interviewees, 12%), site specific features – such as water for the dog or viewpoints (44 interviewees, 10%), previous knowledge/experience or habit (42 interviewees, 9%) and time (32 interviewees, 7%). As might be expected, a range of additional details or other reasons were also given; these included one interviewee who had chosen the route to avoid snakes.

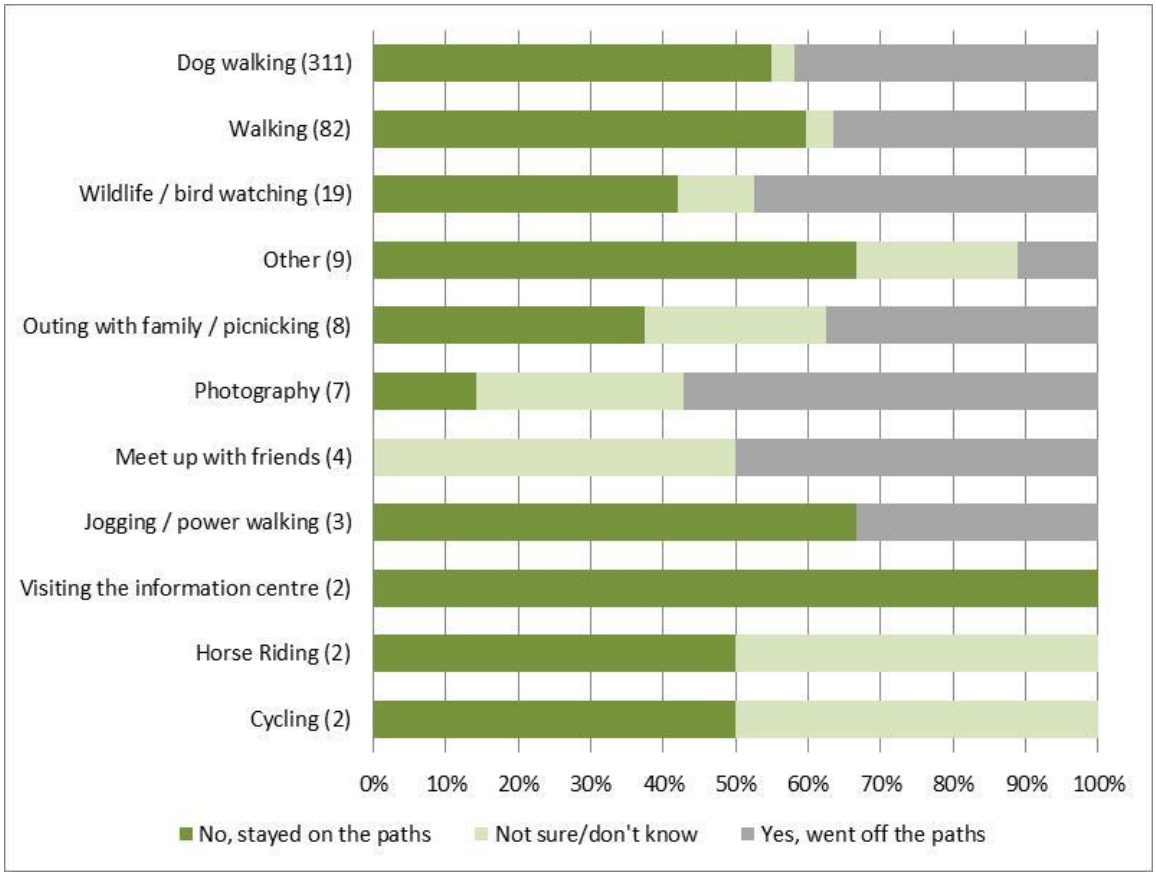


Figure 8: Percentage of interviewees that went off paths or planned to go off paths during their visit (Q10), by activity. Numbers in brackets are the number of interviews with each group.

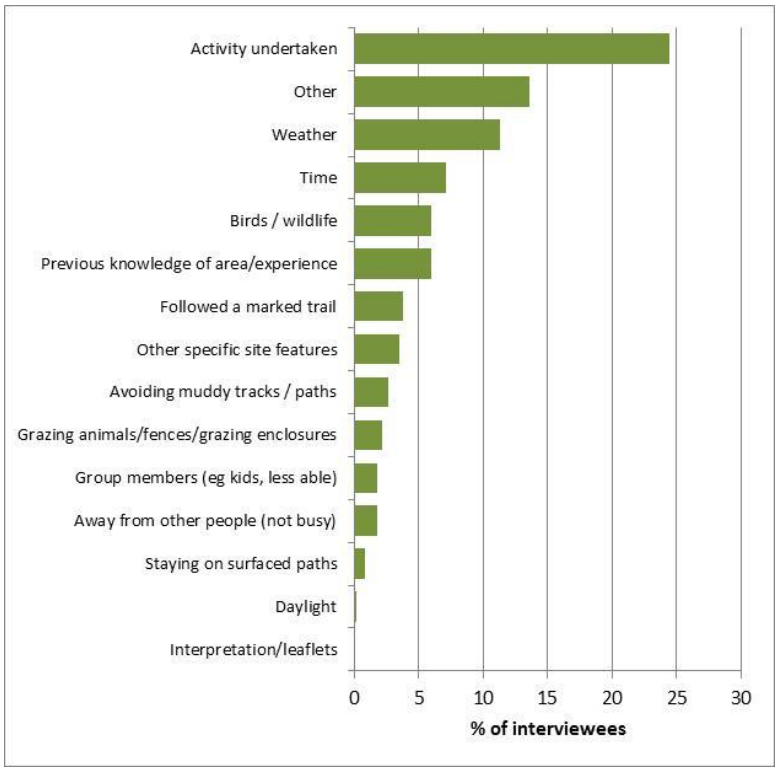


Figure 9: Factors influencing interviewee's routes (Q11). Interviewees could give multiple responses. Percentages based on number of interviewees rather than number of responses.

Awareness of current management

Awareness of guidance

3.29 Most dog walkers and a relatively high proportion of other visitors were aware of guidance relating to dog walking at Ashdown Forest (Table 14). For dog walkers, 87% (272 interviewees) responded to Q22 that they were aware of guidance, for walkers the proportions were roughly half and half and across all interviewees, three quarters (76%) indicated they were aware of guidance.

Table 14: Number (%) of interviewees and responses to Q22, asking whether the interviewee was aware of any guidance relating to dog walking.

Activity	Yes	No	Not sure	Total
Dog walking	272 (87)	37 (12)	2 (1)	**311 (100)**
Walking	38 (46)	41 (50)	3 (4)	**82 (100)**
Wildlife / bird watching	16 (84)	3 (16)	0 (0)	**19 (100)**
Other	4 (44)	5 (56)	0 (0)	**9 (100)**
Outing with family / picnicking	3 (38)	5 (63)	0 (0)	**8 (100)**
Photography	4 (57)	3 (43)	0 (0)	**7 (100)**
Meet up with friends	1 (25)	3 (75)	0 (0)	**4 (100)**
Jogging / power walking	1 (33)	2 (67)	0 (0)	**3 (100)**
Cycling	0 (0)	2 (100)	0 (0)	**2 (100)**
Horse Riding	2 (100)	0 (0)	0 (0)	**2 (100)**
Visiting the information centre	1 (50)	1 (50)	0 (0)	**2 (100)**
Total	**342 (76)**	**102 (23)**	**4 (1)**	**449 (100)**

3.30 Interviewees that were aware of guidance were also asked what guidance they had seen. For the 272 dog walkers that were aware of guidance, 39% were able to specifically mention the dog walking code of conduct ('4Cs'). Responses for the 272 dog walkers that were aware of guidance are summarised in Table 15.

Table 15: Number (%) of dog walkers that named different guidance they had seen (from Q23). Data from 272 dog walkers who were aware of guidance (see Table 14). Note that interviewees could give multiple answers and therefore the responses when summed are greater than 272.

Specific mention of dog walking code of conduct ('4Cs')	107 (39)
Mention of signs around Ashdown Forest	82 (30)
Mention of need to keep dogs under close control	101 (37)
Mention of need to pick up/flick	81 (30)
Mention of issues with dogs and livestock	70 (26)
No clear details/Not sure	9 (3)

3.31 In Table 16 we summarise how interviewees (the 272 dog walkers who were aware of the guidance) had changed their behaviour. Well over half (64%) had not changed their behaviour in any way as a result of the guidance, while keeping their dog on the lead more was the most commonly recorded change (17%). 'Other' changes in behaviour

included five dog walkers who stated they avoided areas with livestock, one whose dog had been 'sheep proofed' and one who stated they followed signs.

Table 16: Number (%) of dog walkers and change in behaviour as a result of guidance (from Q24). Data from 272 dog walkers who were aware of guidance (see Table 14).

No change/No	174 (64)
Kept dog on lead more	46 (17)
Kept dog under control	29 (11)
Flicked waste	9 (3)
Bagged waste more	6 (2)
Other	8 (3)

Awareness of visitor centre at Wych Cross

3.32 The majority (394 interviewees, 88%) were aware that there was a visitor centre at Wych Cross with a generally high level of awareness across activities (Table 17). Some 28 interviewees were conducted at the Forest Centre – outside the visitor centre at Wych Cross. If we exclude these 28 interviewees, then at the other interview locations 87% (366 interviewees) were aware of the visitor centre at Wych Cross, suggesting a good knowledge of the centre across the site away from the centre itself.

Table 17: Number (%) of interviewees and awareness of presence of visitor centre at Wych Cross (Q25).

Activity	Yes	Not sure	No	Total
Dog walking	280 (90)	0 (0)	31 (10)	**311 (100)**
Walking	69 (84)	1 (1)	12 (15)	**82 (100)**
Wildlife / bird watching	18 (95)	0 (0)	1 (5)	**19 (100)**
Other	6 (67)	0 (0)	3 (33)	**9 (100)**
Outing with family / picnicking	6 (75)	0 (0)	2 (25)	**8 (100)**
Photography	5 (71)	0 (0)	2 (29)	**7 (100)**
Meet up with friends	3 (75)	0 (0)	1 (25)	**4 (100)**
Jogging / power walking	2 (67)	0 (0)	1 (33)	**3 (100)**
Cycling	1 (50)	0 (0)	1 (50)	**2 (100)**
Horse Riding	2 (100)	0 (0)	0 (0)	**2 (100)**
Visiting the information centre	2 (100)	0 (0)	0 (0)	**2 (100)**
Total	**394 (88)**	**1 (0)**	**54 (12)**	**449 (100)**

3.33 Out of all 449 interviewees, 302 (67%) stated they had visited the centre before (Q26), suggesting that around two-thirds of all visitors have been through the centre.

General suggestions on future management

3.34 In question 27 interviewees were asked if they had any suggestions of measures they would like to see relating to the management of Ashdown Forest. Responses are listed in Appendix 4. Dog fouling was mentioned by 35 interviewees, mostly requesting dog bins in car-parks, but also covering the need for enforcement and levels of fouling. Car-

park surfacing or pot holes was also a common theme, mentioned by 21 interviewees. Another common theme was grazing, which featured in 15 of the comments.

Visitor Origins

3.35 A total of 441 home locations were mapped from the interviews. This total was primarily from the postcodes given in the interviews (431 postcodes geocoded), supplemented with an additional ten points plotted at the centre of settlements[9] where the interviewee had not given a home postcode but instead the location where they lived. Overall therefore 98% of interviewees' visitor origins were mapped.

3.36 The 441 postcodes mapped included two holiday makers, and five interviewees staying with friends and family. As the home postcode of the latter does not reflect their local address while away from home these 7 interviewees were excluded from the postcode maps. The postcodes are shown in maps 5-9. Map 5 simply shows all 434 postcodes (i.e. excluding holiday makers and those staying with friends and family). In Map 6 the same data are shown, however shading reflects activity, and indicates that some dog walkers are travelling from as far as London. There is however some suggestion that some of the home postcodes that are further away from Ashdown Forest are those of walkers, those meeting up with friends or wildlife watching.

3.37 In Map 7 we show postcodes by frequency of visit, with the shading representing a spectrum of visit frequencies, with darker red shading indicating those interviewees who are regular visitors and the blue shading indicating those that are less frequent, more occasional or one-off visitors. It can be seen that those people interviewed who lived in Royal Tunbridge Wells, those from the north towards London and those interviewed who lived along the south coast were predominantly more occasional visitors (i.e. visiting once a month or less frequently) .

3.38 In Map 8 the same postcode data are shown, this time with the shading reflecting the location where interviewed. We have used different colours to reflect the locations of the survey points, with blue shading reflecting the northern survey points (Forest Row, Forest Centre and Lintons); green shading reflecting the western survey points (those between Twyford and Millbrook West); yellow shading reflecting the southern survey points (Nutley, Fairwarp, Box and Poundgate); red shading reflecting the survey points along the B2026 between Gills Lap and Roman Road and we used purple to indicate the two eastern survey points at Crowborough and St. Johns.

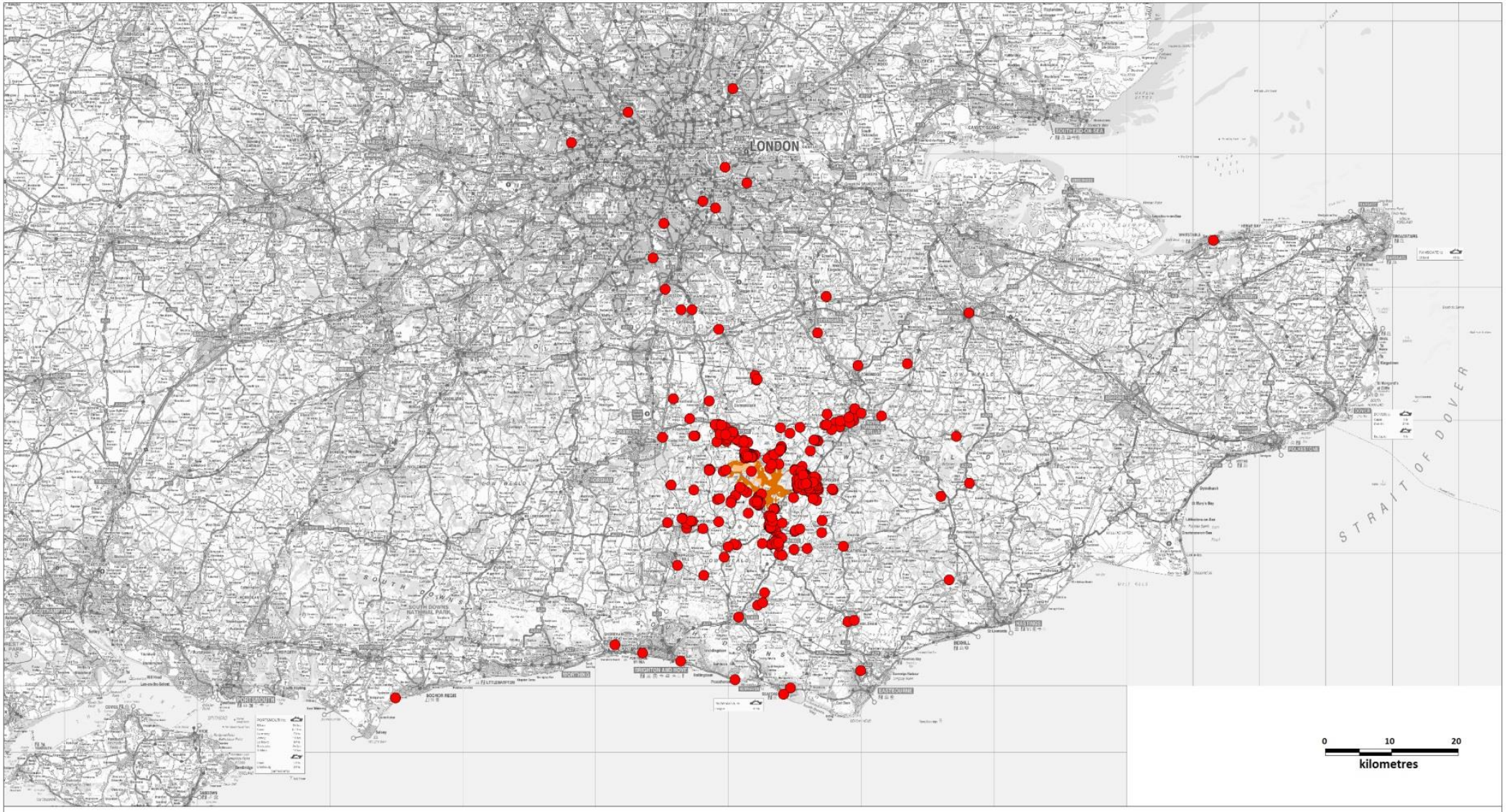
3.39 The map shows a wide scatter of colour, suggesting that visitors do not necessarily use the nearest part of Ashdown Forest to where they live, for example Box is located relatively to the south of Ashdown Forest yet visitors' postcodes reflect a distribution from all directions. Many of the sites for Long (to the west of the site) are to the west and north, with few to the east of Ashdown Forest and the St Johns and Crowborough

[9] The settlements were Maidstone, Crowborough (2), Danehill, Smallfield, Chellwood Gate, Groombridge, Uckfield, Nutley and Forest Gate

survey points – both well to the east of the site – are clearly well used by Crowborough residents.

3.40 Map 9 shows the same postcode data, with shading reflecting the responses to question 13; whether interviewees could name an alternative site they would have visited that day instead of Ashdown Forest. Red dots indicate the home postcodes of interviewees that could name alternative sites while for those who would not have gone elsewhere the dots are black. The map highlights that a high proportion of those living close to the SPA, and particularly in Nutley and Forest Row were those who would not have gone elsewhere.

Map 5: Home postcodes of interviewees (excluding holiday makers and those staying with friends/family)



Ashdown Forest European Site Boundaries

- SPA and SAC
- SPA only

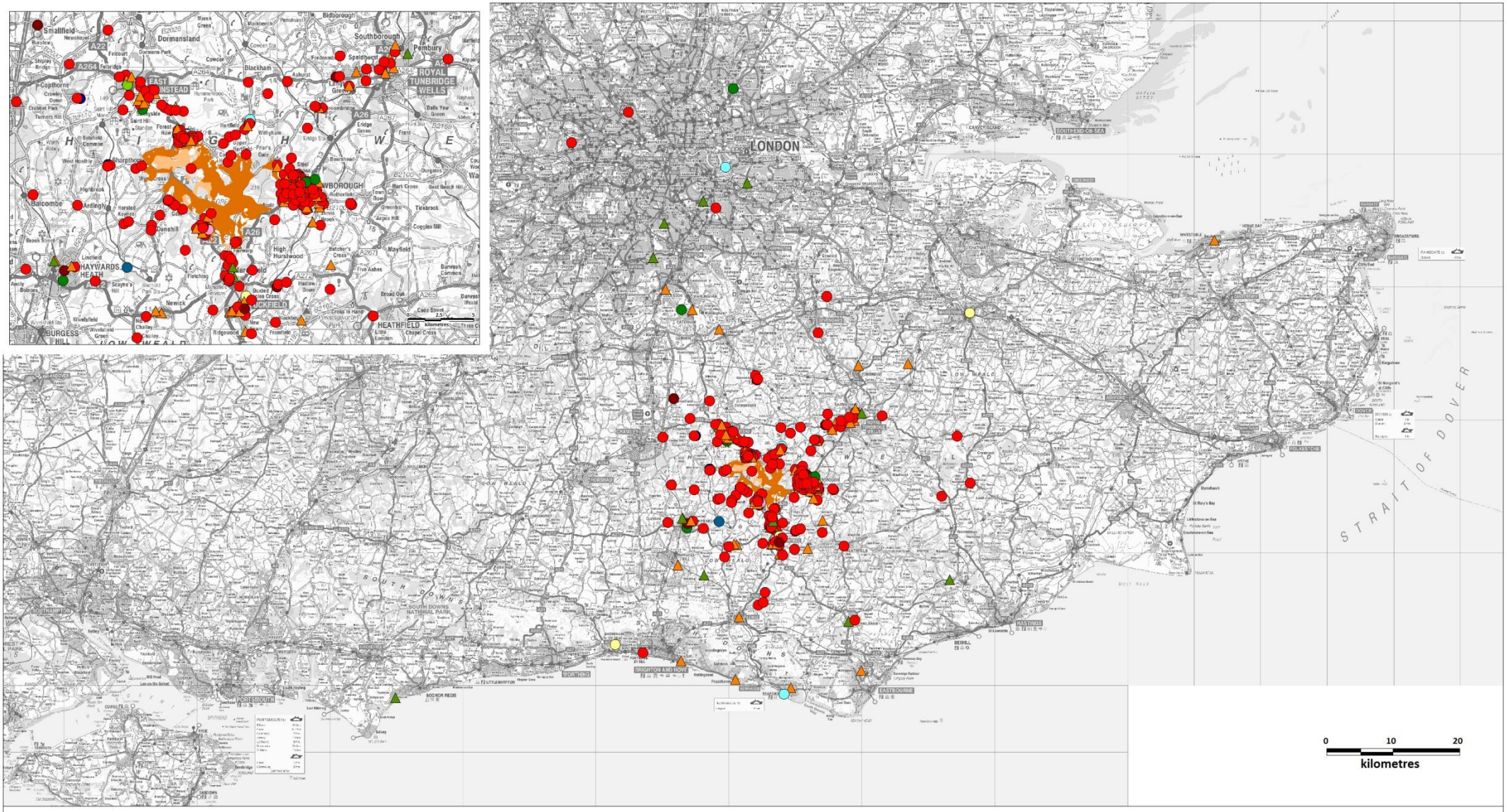
Home postcodes of interviewees

Note map excludes one interviewee from Sheffield

- Day trip/short visit from home (434)

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Map 6: Home postcodes of interviewees (excluding holiday makers and those staying with friends/family) by activity



Ashdown Forest European Site Boundaries

- SPA and SAC
- SPA only

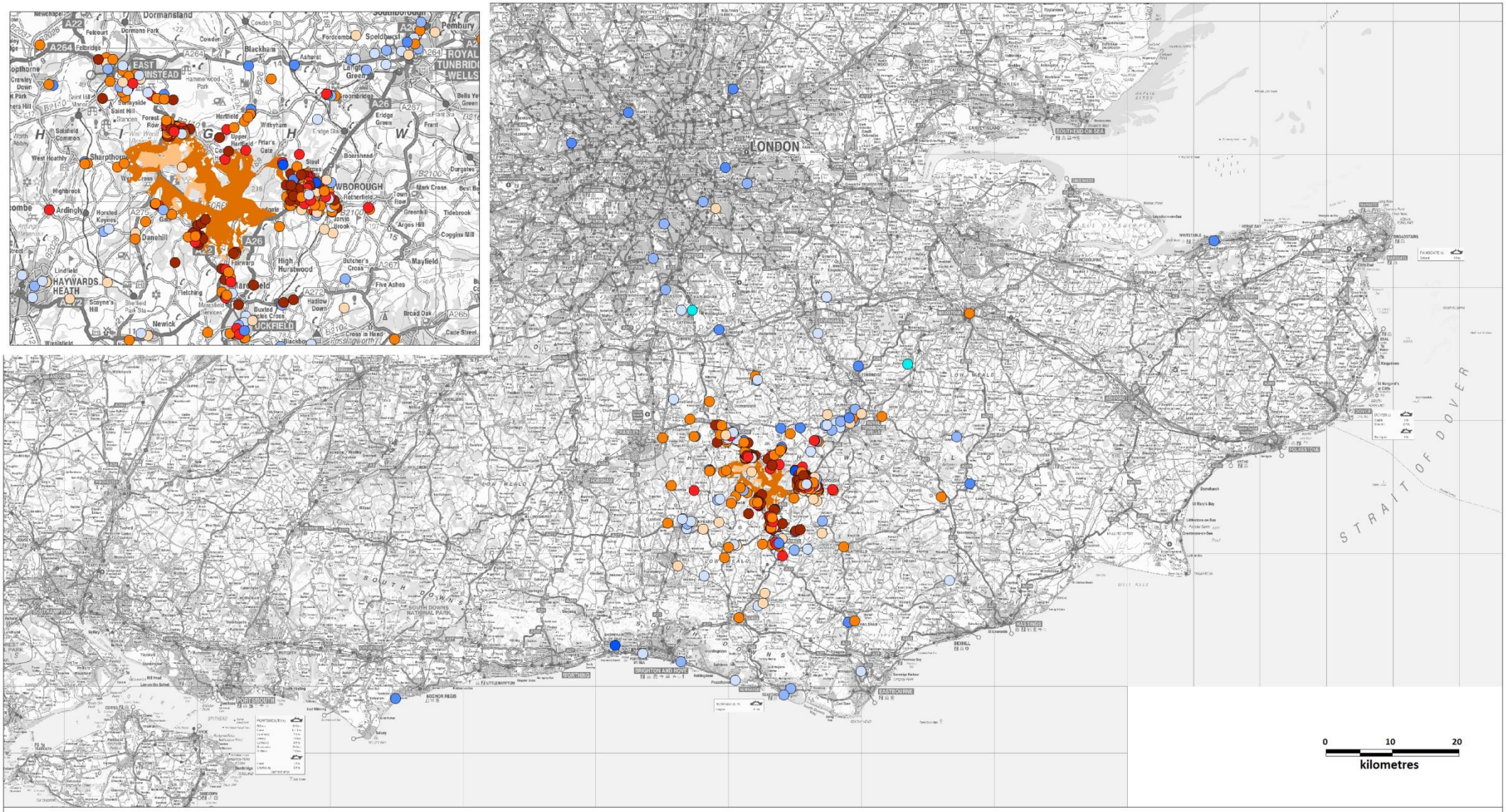
Postcodes by activity

One postcode (Sheffield) not shown as beyond map scale

Cycling	(2)	Meet up with friends	(4)	Visiting the information centre	(2)
Dog walking	(302)	Other	(9)	Walking	(78)
Horse Riding	(2)	Outing with family / picnicking	(8)	Wildlife / bird watching	(19)
Jogging / power walking	(2)	Photography	(6)		

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Map 7: Home postcodes of interviewees (excluding holiday makers and those staying with friends/family) by frequency of visit



Ashdown Forest European Site Boundaries

- SPA and SAC
- SPA only

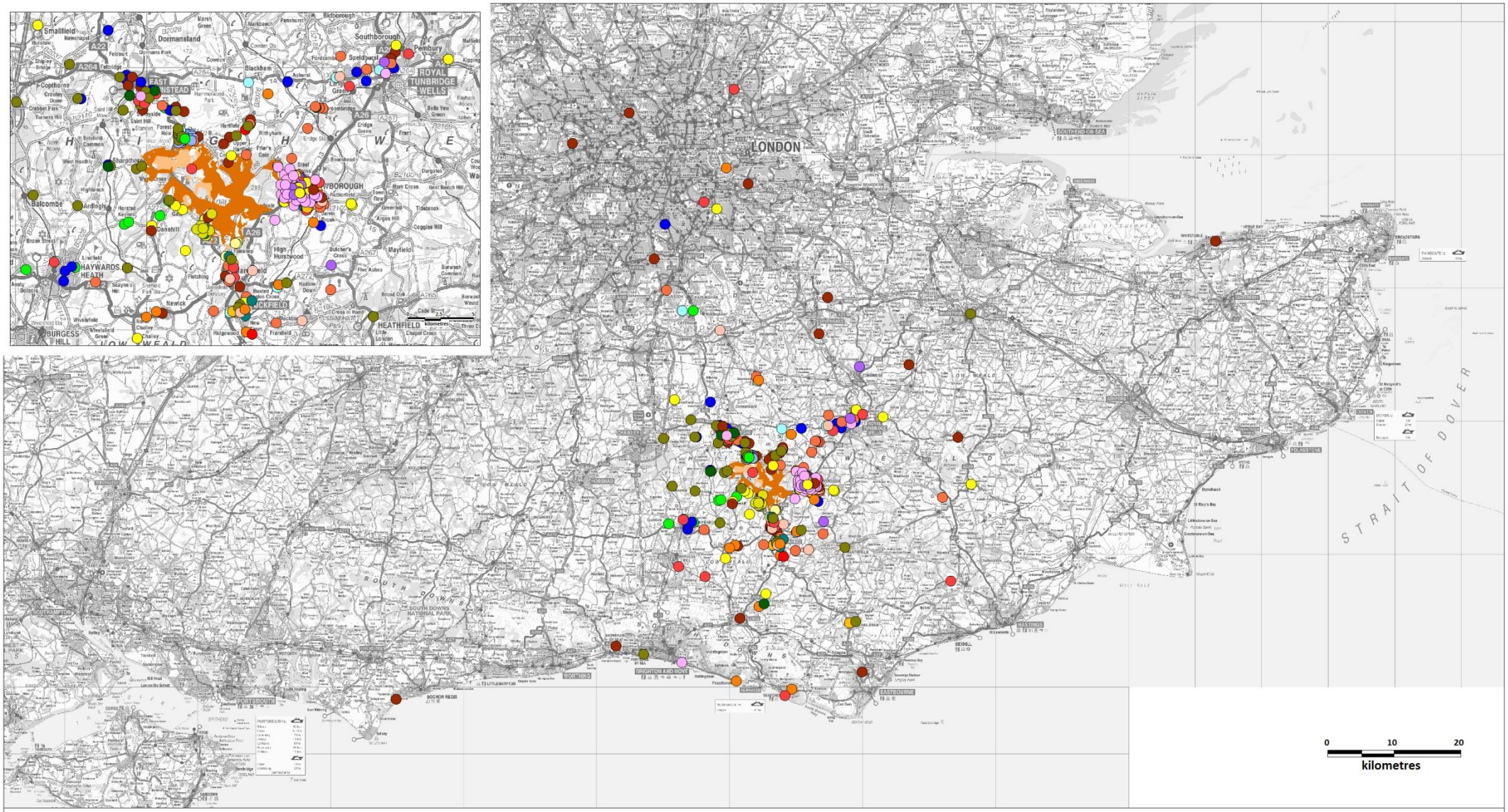
Postcodes by frequency of visit

One postcode not shown (Sheffield) as beyond map scale

- Daily
- Most days
- 1 to 3 times a week
- 2 to 3 times per month
- Once a month
- Less than once a month
- First visit
- Other
- Don't know

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Map 8: Home postcodes of interviewees (excluding holiday makers and those staying with friends/family) by survey point



Ashdown Forest European Site Boundaries

- SPA and SAC
- SPA only

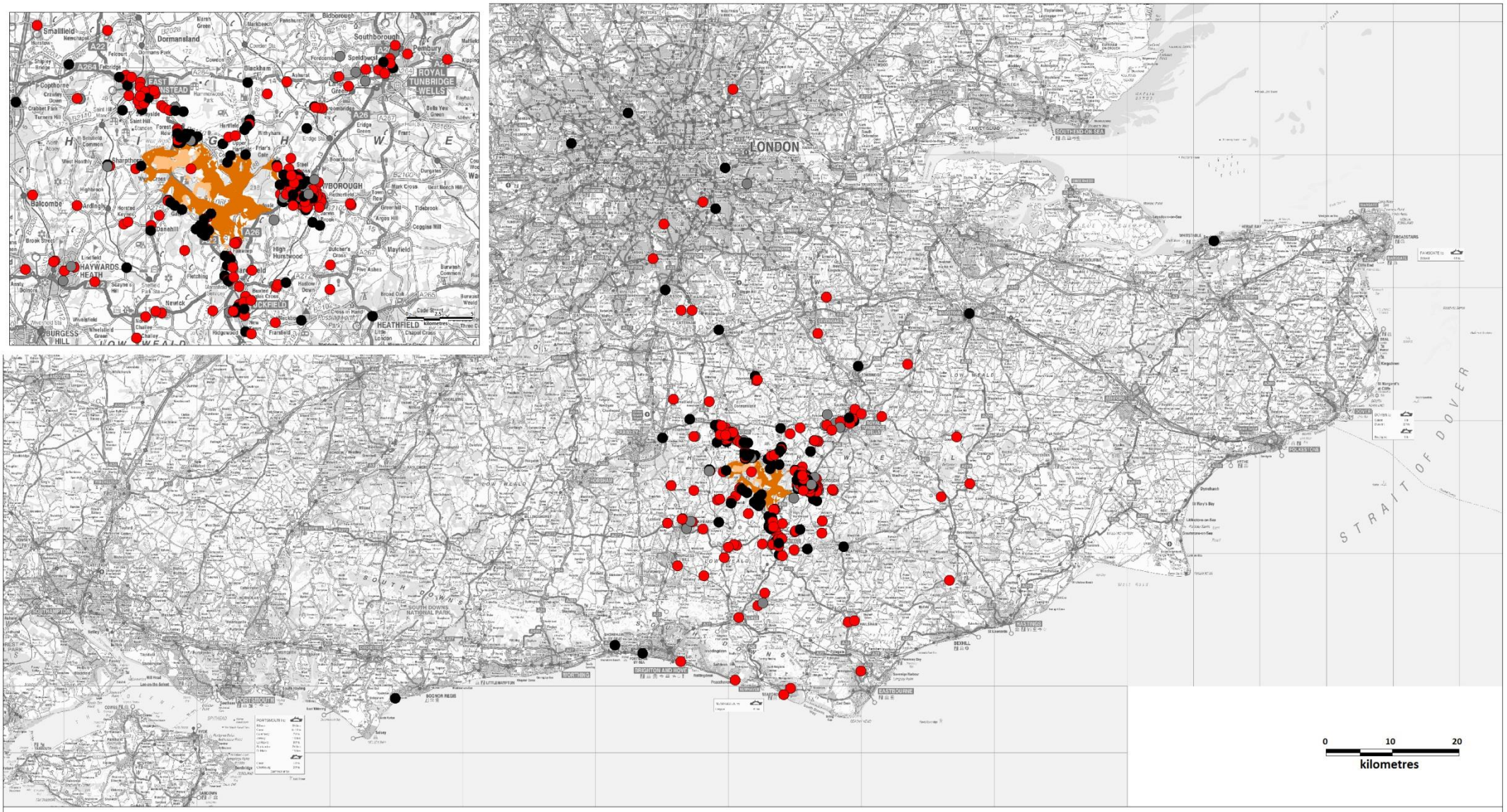
Postcodes by survey point where interviewed

One postcode (Sheffield) not shown as beyond map scale

Box	(35)	Forest Row, near Golf Club	(29)	Long	(36)	Roman Road	(9)
Churlwood	(9)	Four Counties	(4)	Millbrook West	(8)	Smugglers	(21)
Crowborough	(43)	Gills Lap	(48)	Nutley	(20)	St.Johns	(33)
Fairwarp	(8)	King's Standing	(45)	Poundgate	(10)	Twyford	(5)
Forest Centre	(28)	Lintons	(18)	Reserve	(25)		

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Map 9: Home postcodes of interviewees (exc. holiday makers and those staying with friends/family) and whether alternative site named



Ashdown Forest European Site Boundaries

- SPA and SAC
- SPA only

Postcodes shaded to reflect whether interviewee could name an alternative site they would have visited
(From Q13)

Site Named	(197)
Not sure / Don't know	(39)
Nowhere / wouldn't have visited anywhere	(198)

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3.41 The visitor postcodes (excluding holiday makers and those staying with friends and family) encompassed 23 different local authorities (see Appendix 5 for full list), but for most there were only one or two interviewees. There were six local authorities that had five or more interviewee postcodes, these are summarised in Table 18, by frequency of visit. The other seventeen local authorities all had just one or two interviewees.

3.42 It can be seen from Table 18 that 72% of all interviewees on a short visit from home (and that gave valid postcodes) were from Wealden District. A further 12% of interviewee postcodes were from Mid Sussex and 5% from Tunbridge Wells. Interviewees who stated they visited daily or most days were only recorded from Wealden District and Mid Sussex District.

3.43 In Table 19 we repeat Table 18 with the data filtered so that it shows only those who were dog walking. It can be seen that the percentages are broadly similar between the two tables, for example while 72% of all visitors were from Wealden District, the percentage of dog walkers from the District was 79%.

Table 18: Number (%) of interviewee postcodes by local authority. Data excludes holiday makers and those staying with friends and family, and percentages are based on the overall total of postcodes used (n=434), i.e. non-holiday makers visiting from other Districts beside the six listed in the table.

Frequency of visit	Wealden	Mid Sussex	Tunbridge Wells	Lewes	Tandridge	Sevenoaks	Total
Daily	94 (22)	4 (1)	0 (0)	0 (0)	0 (0)	0 (0)	**98 (23)**
Most days	58 (13)	3 (1)	0 (0)	0 (0)	0 (0)	0 (0)	**61 (14)**
1 to 3 times a week	90 (21)	19 (4)	4 (1)	3 (1)	2 (0)	1 (0)	**119 (27)**
2 to 3 times per month	25 (6)	10 (2)	4 (1)	3 (1)	0 (0)	0 (0)	**42 (10)**
Once a month	21 (5)	9 (2)	5 (1)	4 (1)	2 (0)	3 (1)	**44 (10)**
Less than once a month	14 (3)	4 (1)	6 (1)	2 (0)	0 (0)	1 (0)	**27 (6)**
First visit	7 (2)	4 (1)	4 (1)	0 (0)	1 (0)	0 (0)	**16 (4)**
Other/don't know	3 (1)	0 (0)	0 (0)	0 (0)	1 (0)	0 (0)	**3(1)**
Total	**312 (72)**	**53 (12)**	**23 (5)**	**12 (3)**	**6 (1)**	**5 (1)**	**411 (95)**

Table 19: Number (%) of interviewee postcodes by local authority, dog walkers only. Data excludes holiday makers and those staying with friends and family, and percentages are based on the overall total of postcodes used (n=302), i.e. non-holiday makers visiting from other Districts beside the six listed in the table.

Frequency of visit	Wealden District	Mid Sussex District	Tunbridge Wells District (B)	Lewes District	Tandridge District	Sevenoaks District	Total
Daily	88 (29)	3 (1)	0 (0)	0 (0)	0 (0)	0 (0)	**91 (30)**
Most days	51 (17)	3 (1)	0 (0)	0 (0)	0 (0)	0 (0)	**54 (18)**
1 to 3 times a week	69 (23)	17 (6)	4 (1)	2 (1)	2 (1)	1 (0)	**95 (31)**
2 to 3 times per month	14 (5)	3 (1)	2 (1)	2 (1)	0 (0)	0 (0)	**21 (7)**
Once a month	8 (3)	4 (1)	3 (1)	1 (0)	0 (0)	3 (1)	**19 (6)**
Less than once a month	7 (2)	1 (0)	2 (1)	0 (0)	0 (0)	0 (0)	**10 (3)**
First visit	2 (1)	0 (0)	3 (1)	0 (0)	0 (0)	0 (0)	**5 (2)**
Other/don't know	1 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	**1 (0)**
Total	**240 (79)**	**31 (10)**	**14 (5)**	**5 (2)**	**2 (1)**	**4 (1)**	**296 (98)**

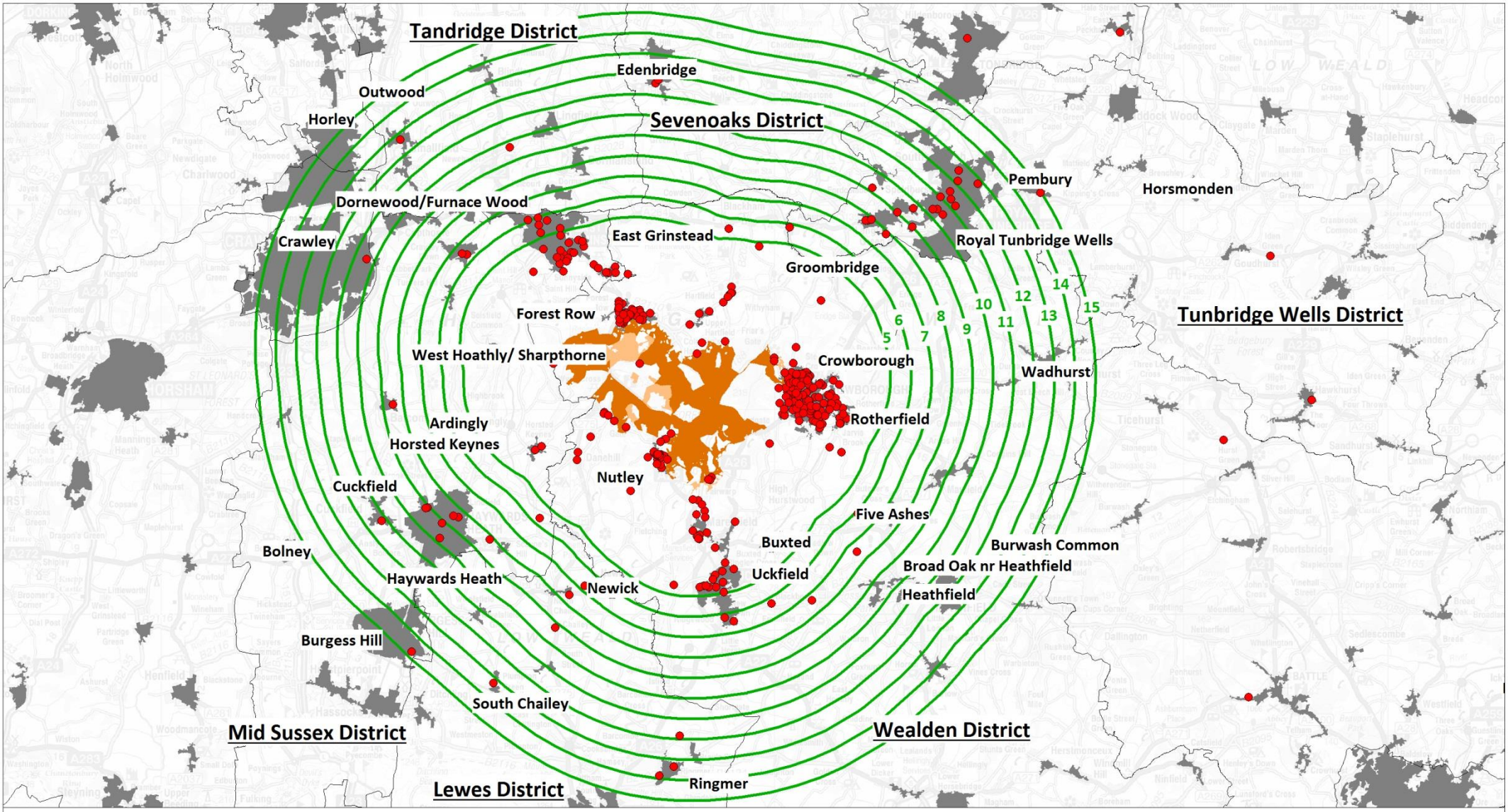
3.44 In Table 20 we list the main settlements where interviewees lived and summarise the number of interviewees that are dog walking, that are daily visitors and that visit once a month or less frequently. We have only listed settlements with at least 2 interviewee postcodes. Crowborough is the main settlement with around a third of all interviewee postcodes (32%, excluding those on holiday or staying with friends or family). Interviewees who visited daily came from Buxted, Crowborough, East Grinstead, Forest Row, Nutley and Uckfield.

3.45 Selected settlements and postcode data are also shown in Map 10. Here we have included some buffers drawn around the SPA/SAC boundary to give an indication of where each settlement falls in relation to the European site. These buffers are not intended to define any particular catchment but are drawn simply for context and extend from 5km out to 15km from the boundary. Buffers below 5km are not plotted simply for ease of viewing.

Table 20: Main settlements and number of interviewees (excluding those on holiday or staying with friends and family). Settlement boundaries are open source data from Ordnance Survey reflecting urban areas. Grey shading reflects percentages above 50%.

Settlement	County	No. interviewees	No. (%) dog walking	No. (%) daily visitors	No. (%) visiting once a month or less frequently
Crowborough	East Sussex	139	108 (78)	36 (26)	22 (16)
Forest Row	East Sussex	50	39 (78)	18 (36)	3 (6)
East Grinstead	West Sussex	30	17 (57)	2 (7)	9 (30)
Nutley	East Sussex	26	20 (77)	17 (65)	0 (0)
Uckfield	East Sussex	22	11 (50)	2 (9)	7 (32)
Royal Tunbridge Wells	Kent	18	9 (50)	0 (0)	12 (67)
Haywards Heath	West Sussex	6	1 (17)	0 (0)	4 (67)
Groombridge	East Sussex	4	3 (75)	0 (0)	2 (50)
Buxted	East Sussex	3	2 (67)	2 (67)	1 (33)
Edenbridge	Kent	3	2 (67)	0 (0)	2 (67)
West Hoathly/Sharpthorne	West Sussex	3	2 (67)	0 (0)	1 (33)
Caterham and Warlingham	Surrey	2	0 (0)	0 (0)	2 (100)
Crawley Down	West Sussex	2	1 (50)	0 (0)	1 (50)
Croydon	Surrey	2	0 (0)	0 (0)	2 (100)
Greenwich		2	0 (0)	0 (0)	2 (100)
Hailsham	East Sussex	2	1 (50)	0 (0)	1 (50)
Horsted Keynes	West Sussex	2	2 (100)	0 (0)	2 (100)
Lewisham		2	1 (50)	0 (0)	1 (50)
Rotherfield	East Sussex	2	2 (100)	0 (0)	0 (0)
Seaford	East Sussex	2	0 (0)	0 (0)	2 (100)
Upper Hartfield	East Sussex	2	2 (100)	0 (0)	0 (0)

Map 10: Home postcodes of interviewees (excluding holiday makers and those staying with friends/family) and settlements



Ashdown Forest European Site Boundaries

- SPA and SAC
- SPA only

Settlements/built-up areas

Buffers around the SPA/SAC

1km buffers (from 5km-15km) distances (km) labelled in green

Local authority boundaries

Interviewee postcodes

Home postcode

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3.46 For each individual interviewee postcode (excluding those on holiday or staying with friends and family, n=434) we calculated the Euclidean distance – "as the crow flies" – between the postcode and the survey point. The average distance was 8,402m (±803) and the median 4,870m. A quarter (25%) of interviewees lived within 1,459m of the survey point and three quarters (75th percentile) lived within 9,643m.

3.47 We show the distances between the home postcode and the survey point in Figure 10 and Figure 11. In Figure 10 it can be seen that dog walking (median 4,137m) and jogging/power walking (308m, but note the small sample size) are the two activities where visitors are particularly local. For other activities, such as walking (median 7,230m) and wildlife watching (median 16,589m), interviewees tended to travel further. From Figure 11 a clear pattern is visible whereby more frequent visitors live closer to Ashdown Forest. Daily visitors lived a median distance of 790m and 75% came from within 3,586m and those who visited most days lived within a median distance of 3,770m (with 75% travelling from within 5,903m). Grouping together those who visited at least weekly (n=281), the average distance from survey point to postcode was 4,289m (±286) and the median 3,604m. A quarter (25%) of interviewees lived within 759m of the survey point and three quarters (75th percentile) lived within 5,952m.

3.48 Comparing between modes of transport, for those who travelled by car/van the average distance from survey point to postcode was 10,165m (±960) and the median 6,056m, while for those travelling on foot the average was 499m (±45) and the median was 358m.

3.49 Cumulative percentage plots showing distance from postcode to survey point are shown in Figure 12, with separate plots for the two main modes of transport and then for all transport types combined.

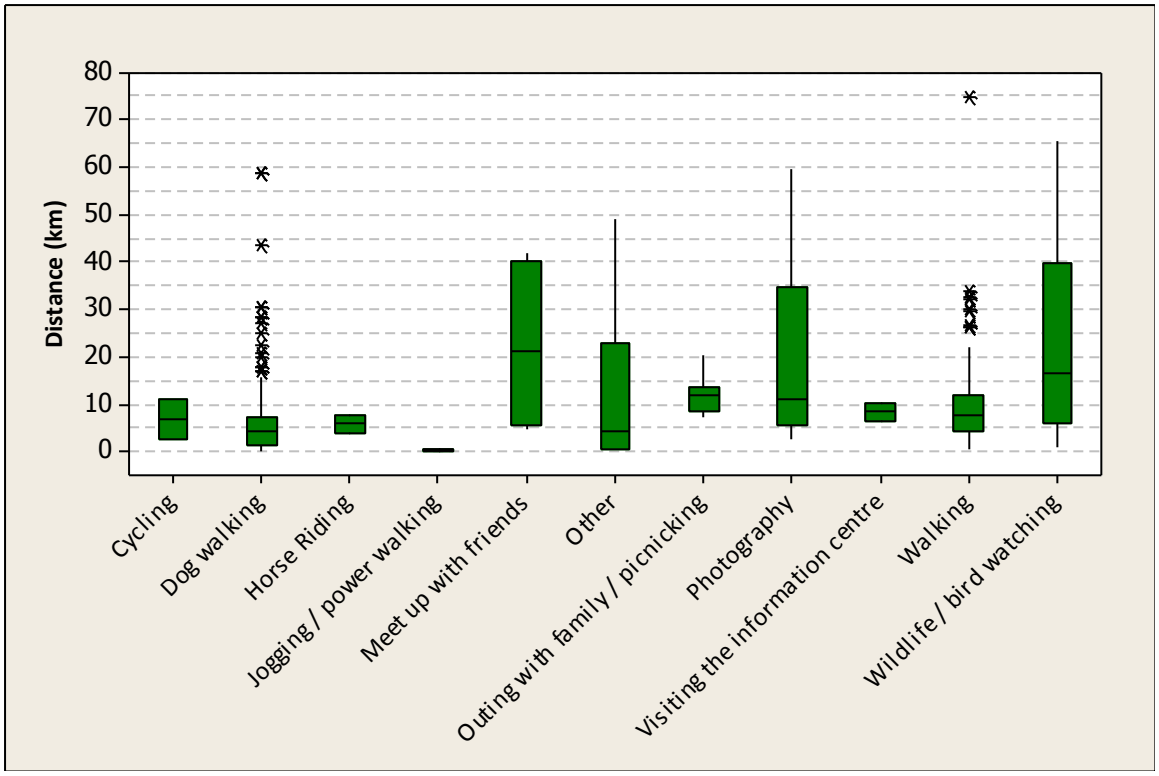


Figure 10: Distance from home postcode to survey point, by activity (excluding those on holiday or staying with friends and family).

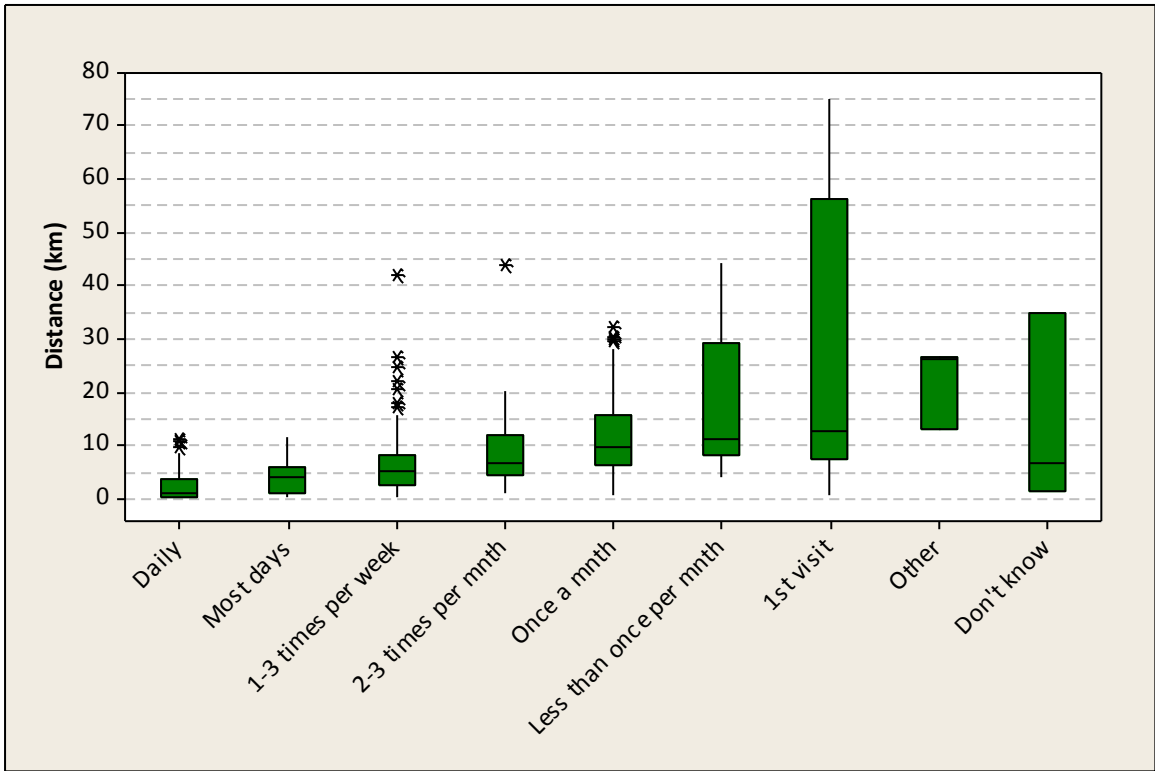
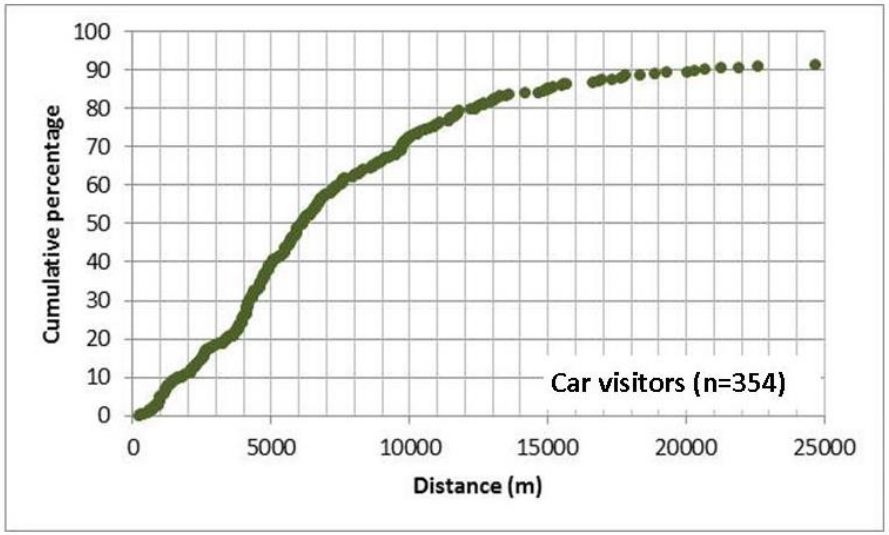
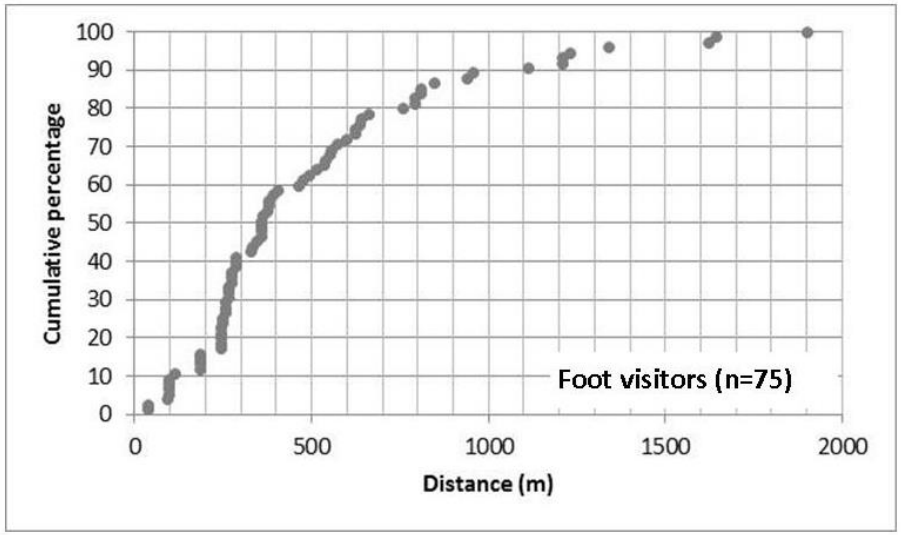
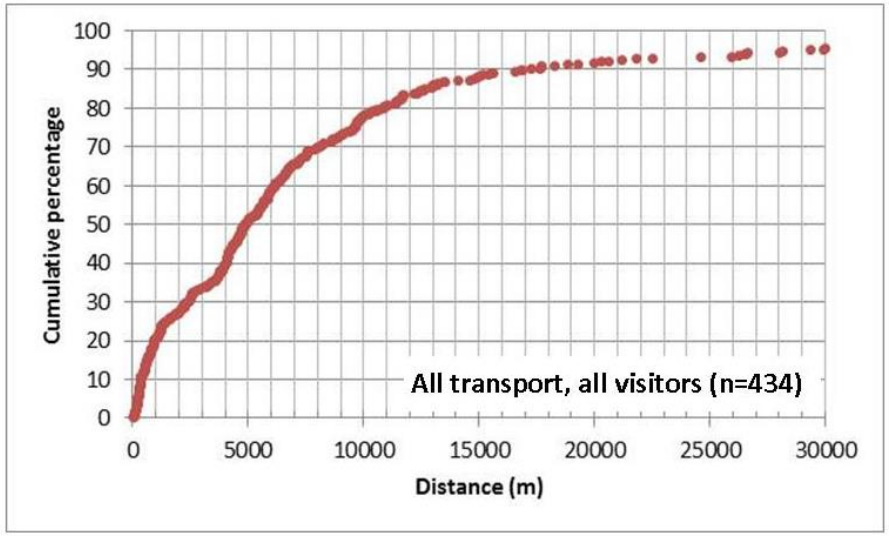


Figure 11: Distance from home postcode to survey point, by frequency of visit, (excluding those on holiday or staying with friends and family)

In both plots, horizontal bars reflect the median for each category; the boxes show the 25th and 75th percentiles; the vertical lines show the upper and lower limits of the data and the asterisks are outliers. One outlier (Sheffield) omitted from each graph.







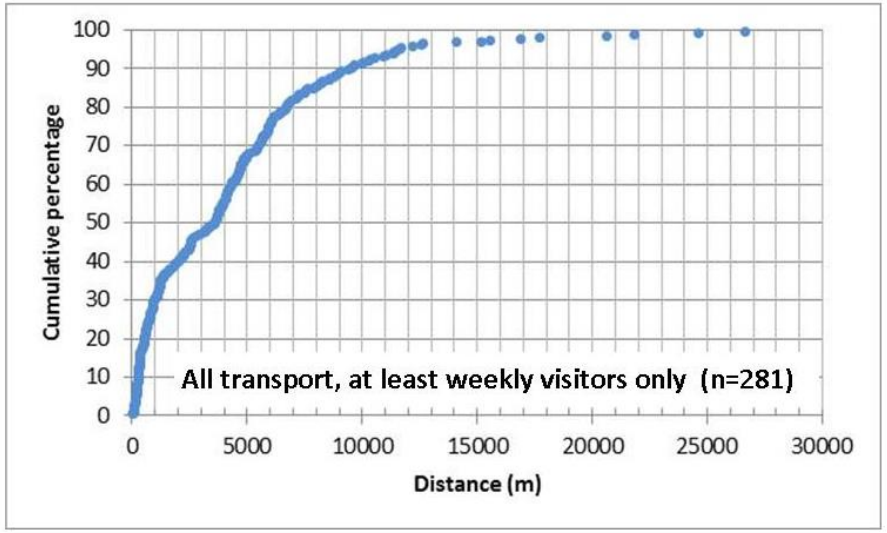


Figure 12: Cumulative percentage for distance travelled by visitors arriving by car, on foot, all transport types combined and all transport combined, at least weekly visitors only).

4. Counts of visitors

Tally data (undertaken during interviews)

4.1 Tally counts of the numbers of adults, minors, dogs and groups were maintained while surveyors were on site for the interviews of visitors. In total, 2,794 people (adults and minors) were recorded by surveyors during 320 hours of survey. At each survey point, the tally count also recorded the direction people were travelling, and therefore whether they were entering or leaving Ashdown Forest. From this we can calculate total numbers of visitors entering the site. We recorded 1,506 people entering the site at the 20 access points, resulting in an average of 4.7 people per hour. However, it was clear that the number of people (adults and minors) recorded entering or leaving was significantly different between survey points (Kruskal-Wallis test based on two hour period totals; $H = 89.23$, $DF = 19$, $P < 0.001$) (Table 21). These overall totals were often related to the number of car parking spaces (Table 21), however this relationship was only marginally significant (Pearsons correlation coefficient = 0.446, p=0.049).

4.2 Overall, the total for each tally group recorded for the site was; 1,201 groups, 2,324 adults, 470 minors and 1,258 dogs (individuals entering or leaving). From this a typical group for Ashdown Forest can be calculated; this would consist of approximately two adults in a group (on average 1.9 adults), one dog (average 1.0 per group) and approximately half of all groups with a minor (average of 0.4. minors per group).

4.3 This overall estimation is based on just the access points surveyed and typical groups and activities could also vary between different access points. Between individual access points surveyed there were some clear differences in the average number of adults, minors and dogs (Table 21 and Map 11). The largest groups, (on average more than three adults), were recorded at the Forest Centre and Smugglers survey points. While at Fairwarp and Poundgate most groups consisted of, on average, just over 1 person per group. Furthermore, at both of these locations no minors were recorded. Those with the highest numbers of minors were again the Forest Centre and Smugglers survey points with on average every group having 1.5 and 1.7 minors per group respectively. Least variation was observed in the average number of dogs recorded per group. With all survey points having an average of between 0.5 and 1.6 dogs per group.

Table 21: Summary of the total number of people passing, and of those the number entering site by survey point. Typical group sizes and average number of members also shown per survey point. Top two and bottom two ranked values are highlighted for each column.

Survey point	Parking spaces	Total people (adults and minors) passing	Total people (adults and minors) entering	Average adults per group	Average dogs per group	Average minors per group
Box	40	215	117	2.1	0.7	0.2
Churlwood	19	168	80	2.2	0.7	1.1
Crowborough	0	143	119	1.3	1	0.2
Fairwarp	0	29	**12**	**1.1**	1	**0**
Forest Centre	19	301	**220**	**3.3**	1.3	**1.5**
Forest Row, near Golf Club	0	187	83	1.5	**0.6**	0.7
Four Counties	50	30	15	1.6	1.3	0.1
Gills Lap	105	270	157	2.2	1	0.3
King's Standing	50	**381**	**163**	1.6	1.2	0.2
Lintons	23	74	29	1.7	0.7	0.5
Long	37	**312**	144	2.8	**1.6**	0.2
Millbrook West	30	53	27	1.7	1	0.2
Nutley	0	98	50	1.4	1.1	0.2
Poundgate	10	**23**	**12**	**1.2**	1	**0**
Reserve	12	111	68	2	**0.5**	0.1
Roman Road	8	61	26	2.3	0.8	0.8
Smugglers	15	217	116	**3.1**	0.8	**1.7**
St.Johns	30	97	51	1.4	**1.5**	0.1
Twyford	14	24	17	1.8	1.3	0.2
Vachery	12	**0**	**0**	-	-	-
Overall	474	2,794	1,506	1.9	1	0.4

4.4 Table 22 expresses the tallied numbers of people, minors and dogs as a proportion for the weekday and weekend day. Overall most sites had a greater proportion of visitors on a weekend than the weekday (overall percentages 59:41, weekend:weekday). The five sites which were the exception to this were; Fairwarp, Long, Nutley, Poundgate and St.Johns.

4.5 At Nutley, Twyford, Forest Row and the Forest Centre the majority of minors were recorded on a weekday. While at all other locations there was usually a much greater proportion of the minors recorded on a weekend, with many survey points only recording minors on weekends.

4.6 The proportion of dogs recorded was overall the least different between weekdays and weekends, with overall the 45% on weekdays to 55% on weekends. St.Johns had the greatest proportion of weekday dogs (70%) compared to weekends, and this was clearly related to many more people on weekdays than weekends. However, this was not always the case; at Churlwood 68% of dogs were recorded on weekdays, but only 21%

of the people were recorded, suggesting greater use by dog walkers at weekdays and conversely more people who were not dog walking visiting at weekends.

Table 22: The total number of people passing, and the ratio of weekday to weekend numbers of people minors and dogs shown per survey point. Top two and bottom two ranked values are highlighted for each column.

Location	Total people (adults and minors) passing	Percentage of people		Percentage of minors		Percentage of dogs	
		Weekday	Weekend	Weekday	Weekend	Weekday	Weekend
Box	215	31	69	21	79	36	64
Churlwood	168	21	79	**0**	**100**	**68**	**32**
Crowborough	143	47	53	18	82	50	50
Fairwarp	29	66	34	-	-	62	38
Forest Centre	301	50	50	64	36	**17**	**83**
Forest Row, near Golf Club	187	48	52	56	44	34	66
Four Counties	30	40	60	**0**	**100**	54	46
Gills Lap	270	41	59	34	66	38	62
King's Standing	**381**	37	63	24	76	46	54
Lintons	74	**15**	**85**	**0**	**100**	**17**	**83**
Long	**312**	63	37	29	71	45	55
Millbrook West	53	**17**	**83**	**0**	**100**	25	75
Nutley	98	**67**	**33**	**86**	**14**	52	48
Poundgate	**23**	65	35	-	-	53	47
Reserve	111	32	68	**0**	**100**	42	58
Roman Road	61	20	80	**0**	**100**	44	56
Smugglers	217	18	82	3	97	62	38
St.Johns	97	**71**	**29**	50	50	**70**	**30**
Twyford	24	42	58	**100**	**0**	44	56
Vachery	**0**	-	-	-	-	-	-
Overall	2,794	41	59	30	70	45	55

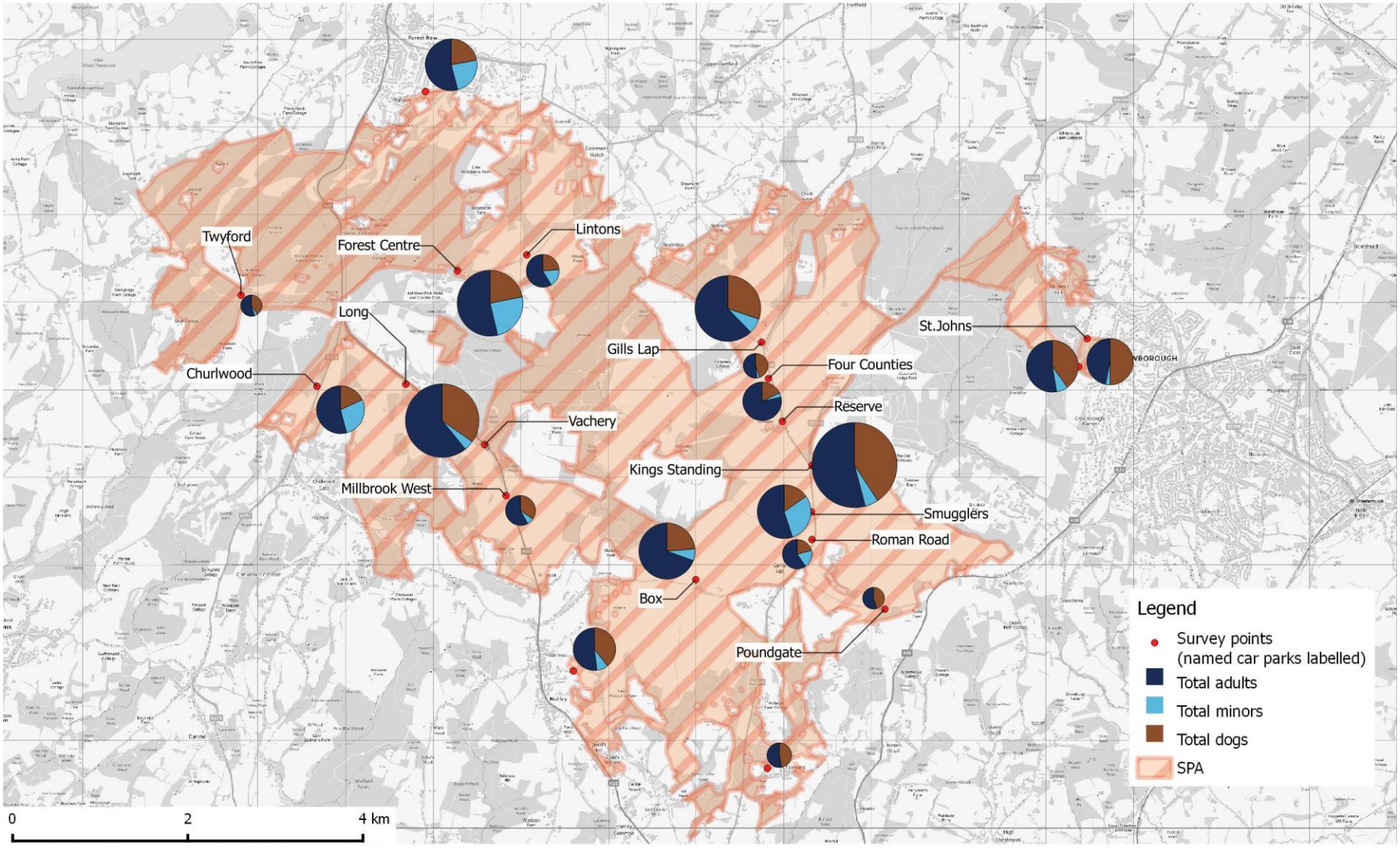
4.7 Actual numbers of people (adults and minors) from the tally data entering are shown in Table 23. Although weekend counts are obviously correlated strongly with weekday counts (Pearsons correlation coefficient = 0.756, $p<0.001$), comparison of individual pairs of weekday and weekend values suggest significant differences between weekend and weekday counts recorded ($df=18$, $\chi^2=424.72$, $p<0.001$). For the majority of survey points the numbers at weekends are greater than weekdays, typically around double, but there were some particular outliers which do not fit these patterns noted. Millbrook West and Lintons had increases of just over 400% on the weekday numbers at weekends. Conversely the largest increase on weekend values was observed at St Johns, with approximately a 250% increase on the weekend values for weekdays.

4.8 Table 23 presents the raw tally counts of the number of people recorded during the surveys, and also our estimates of the total number of people which would be expected across the whole day. The surveys involved 8 hours of survey effort spread between 07:00-19:00. Visitors will both occur outside the surveying period and in between survey gaps (9:00-10:00, 12:00-13:00, 15:00-17:00). These raw tally count values are therefore extrapolated, based on the principle that they cover approximately 75% of the typical daily total visitor numbers. This is based on our extensive previous work into visitor patterns, and assuming a typical normal, bell-shaped distribution/ weak bimodal distribution for visitor numbers across the day. These extrapolated values are used later for modelling visitor totals.

Table 23: For each location the number of people (adults and minors) entering on a weekday and weekend as recorded from the tally. Extrapolated totals for the weekday and weekends are based on these values, assuming 75% of people are captured during the survey hours. Extrapolated total for a week sums for a week of five weekdays and two weekend days.

Location	Total people (adults and minors) entering from tally (8 hours surveying)		Total people (adults and minors) extrapolated for the whole day		Extrapolated totals for a week
	Weekday	Weekend	Weekday	Weekend	
Box	67	137	89.3	182.7	812.0
Churlwood	35	76	46.7	101.3	436.0
Crowborough	67	65	89.3	86.7	620.0
Fairwarp	19	10	25.3	13.3	153.3
Forest Centre	149	178	198.7	237.3	1,468.0
Forest Row, near Golf Club	90	104	120.0	138.7	877.3
Four Counties	12	16	16.0	21.3	122.7
Gills Lap	112	149	149.3	198.7	1,144.0
King's Standing	141	223	188.0	297.3	1,534.7
Lintons	11	46	14.7	61.3	196.0
Long	197	106	262.7	141.3	1,596.0
Millbrook West	9	38	12.0	50.7	161.3
Nutley	66	42	88.0	56.0	552.0
Poundgate	15	8	20.0	10.7	121.3
Reserve	35	71	46.7	94.7	422.7
Roman Road	12	34	16.0	45.3	170.7
Smugglers	38	107	50.7	142.7	538.7
St.Johns	69	28	92.0	37.3	534.7
Twyford	10	16	13.3	21.3	109.3
Vachery	0	0	0	0	0
Sum	1,154	1,454	1,538.7	1,938.6	11,570.1

Map 11: Summary of the numbers of adults, minors and dogs recorded at survey points during tally counts .



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Car-park Counts (driving transects)

4.9 In total 30.5 hours of driving transects were conducted to cover the 62 car parks, on 15 individual transects. This results in an average of just over 2 hours to complete each transect. A total of 2,378 vehicles were counted during the 15 transects, an average of 159 vehicles per transect.

4.10 The types of vehicle were also recorded for each car park count. These were overwhelmingly standard cars, equating to 90% of vehicles recorded (2,140). Other vehicles which were recorded were, in order of most frequent: commercial vehicles (152, 6%), MPVs (42, 1.7%), campervans (42, 1.7%) and branded professional dog walker vehicles (2, <1%).

4.11 Table 24 shows the total number of vehicles recorded in each car park and the conditions during each transect. The number of vehicles was generally variable and there was no significant difference between average numbers at weekends compared to weekdays (ANOVA; df=1, F=0.84, p=0.376) or for different periods of the day (ANOVA; df=2, F=0.29, p=0.752). These averages are shown in Table 25 and visually appear to show typically more vehicles at weekend than weekday, and a peak at midday, followed closely by morning. Weekday mornings were usually the busiest period of the day, in comparison to midday at weekends. The average number of vehicles at each location is shown in Map 12. Those car parks where visitor surveys were conducted had on average 4.4 cars recorded (median 2.7 cars).

Table 24: Summary for each driving transect of the weather conditions, total number of parked vehicles and averaged fullness of car parks.

Date	Weekday type	Period	Cloud cover (8ths)	Number of car park counts with rain	Total parked vehicles	Average percentage fullness of car parks
13/07/2016	Weekday	Midday	4	0	69	12.1
14/07/2016	Weekday	Afternoon	3	0	150	9.0
16/07/2016	Weekend	Morning	3	0	114	4.8
17/07/2016	Weekend	Midday	2	2	189	17.9
17/07/2016	Weekend	Afternoon	7	0	72	16.3
18/07/2016	Weekday	Morning	2	0	276	5.8
25/07/2016	Weekday	Midday	4	9	213	10.2
25/07/2016	Weekday	Afternoon	3	0	50	9.1
26/07/2016	Weekday	Morning	7	0	95	6.5
29/07/2016	Weekday	Morning	8	0	150	10.1
29/07/2016	Weekday	Midday	7	0	159	11.4
29/07/2016	Weekday	Afternoon	7	0	139	9.2
30/07/2016	Weekend	Midday	8	2	233	15.0
30/07/2016	Weekend	Afternoon	8	0	278	17.5
31/07/2016	Weekend	Morning	3	0	191	13.0

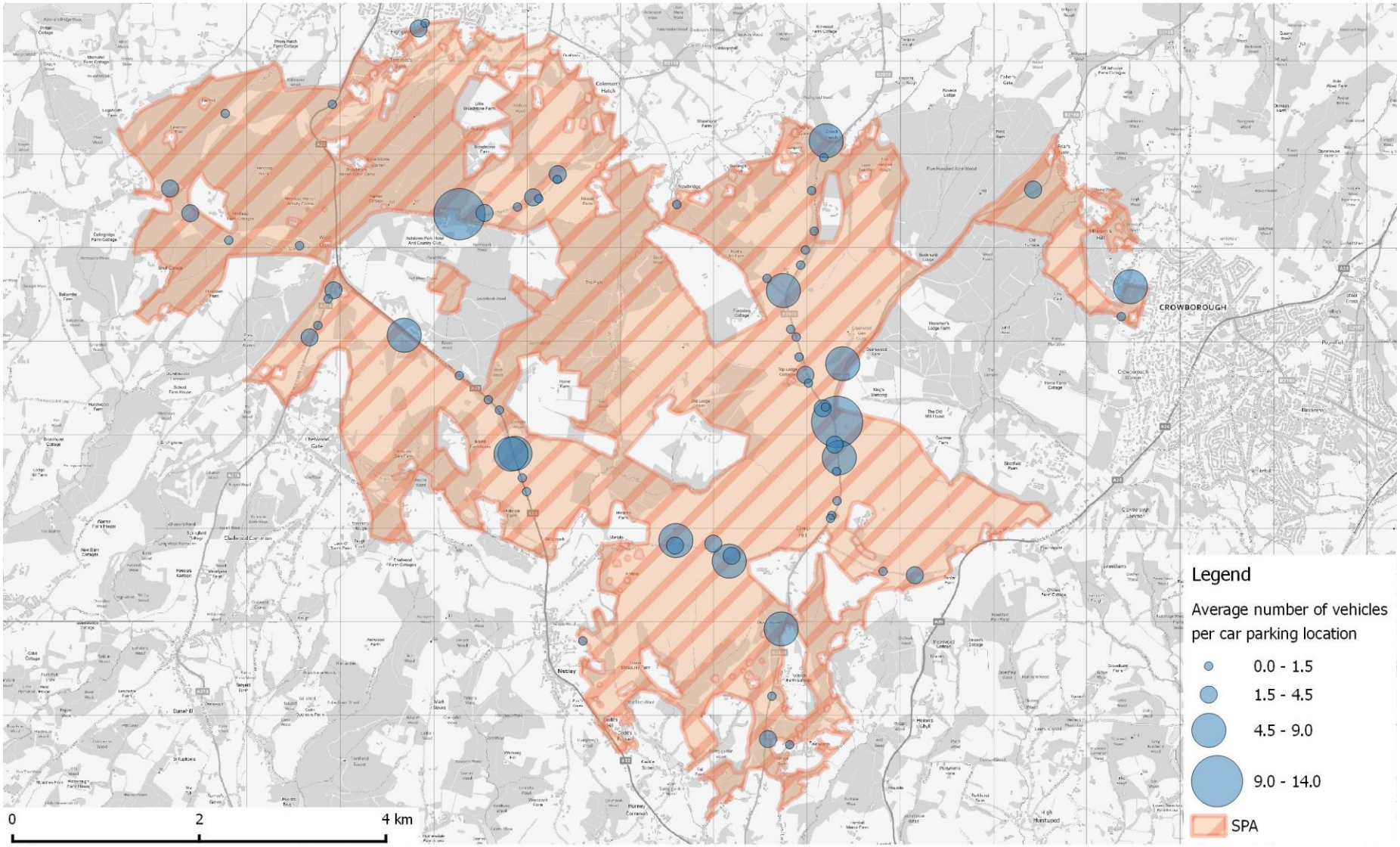
Table 25: Average number of vehicles parked in all car parks surveyed on weekday and weekends and at different times of day. Values in brackets indicate the number of surveys the average is based upon.

	Weekdays	Weekends	Total
Morning (07:00-11:00)	174 (3)	153 (2)	165 (5)
Midday (11:00 -15:00)	147 (3)	211 (2)	173 (5)
Afternoon (15:00-19:00)	113 (3)	175 (2)	138 (5)
Total	145 (9)	180 (6)	159 (15)

4.12 A key factor in explaining these differences is likely to be the weather conditions, which will have had an effect on the number of cars recorded during counts. Visually this can be seen in many of the car park counts, with many overcast days having fewer visitors, particularly on weekdays. However, this relationship was also not statistically significant (weekdays only examined; Pearson's correlation coefficient = -0.218, p =0.572). The lack of any significant results in the data, despite visual differences, could be due to the small sample sizes being considered.

4.13 The proportion of commercial vehicles was slightly higher on weekdays (average of 9.3 per transect, 7.8% of vehicles counted) than weekends (average of 11.3, 6.3% of vehicles). Both the number and proportion of MPVs and campervans was greater at weekends than weekdays; pooled total for MPVs and campervans was an average of 3.9 vehicles per transect (3.2% of vehicles) on weekdays, compared to an average 8.2 vehicles per transect (4.5% of vehicles) at weekends.

Map 12: Car parking locations with points sized by the average number of vehicles recorded at each location from transect counts.



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Automated counters

4.14 Automated counters were used to provide additional data, especially on locations thought to have few numbers of visitors. These locations were selected to supplement other survey locations and included some main access points on foot (e.g. from Nutley village) and more remote access points.

4.15 Data from three of the four automated counters deployed was useable (see methods, Table 3). From these sensors we averaged across multiple days to calculate the typical number of passes for a weekday and a weekend day. Table 26 shows these calculations for the averaged values on weekday and weekend days, the number of weekly passes and finally the number of people this equates to. The number of people entering is simply half the number of passes; assuming everyone entering the site will leave again via the same exit and therefore would have been recorded twice.

Table 26: The number of passes and people recorded at each location

	18: Fairwarp, opp. church		24: Nutley, Nursery Lane		30: Nutley, School Lane	
	Weekday	Weekend	Weekday	Weekend	Weekday	Weekend
Averaged daily total of passes	174	89	28	30	27	28
Averaged weekly total of passes (sum of weekday*5, weekend*2)	1,048		200		191	
Averaged weekly total of people entering (passes/2)	524		100		96	

4.16 Access points at Nutley (24 and 30), suggest similar low levels of use, with an estimated 100 and 96 passing per week (at Nursey Lane and School Lane respectively), equating to approximately 1.2 people per hour. While at the Fairwarp access point (18), the use was estimated to be comparatively high, with 524 people per week (approximately 6.2 people per hour). This level of access is similar to the average for those access points where face to face interviews were conducted (see Table 23). Based on anecdotal evidence this is much higher than expected, and could be spurious. The nearby car park at Fairwarp church was recorded to have on average 1.9 cars in each driving transect (with a maximum of 19). While visitors from this car park and from Fairwarp would possibly be using this access point this is still higher than expected.

4.17 While, overall sensor counts are an approximation and can be subject to errors, we were able to see that the sensors perform well. There were no errors, such as sensors being triggered by animals (e.g night time passes) noted in the dataset. For the sensor on the access point at Fairwarp we have no clear evidence the sensor was malfunctioning, but the predicted visitor levels suggest there may have been an issue.

4.18 Figure 13 shows the average hourly number of people estimated at each sensor location on the weekday and weekend. The two sensors on access points out of Nutley village suggest low levels of use across daylight hours, although some slight differences in patterns between the two locations. As noted already location 18 at Fairwarp records

high numbers of people per hour, peaking at almost 11 people per hour on average for the weekdays, which would seem extremely high for the location. This would suggest issues with the data, however as is shown here the recorded passes follow an expected peak across the day. It is a possibility that particularly slow vehicles may have triggered the sensor.

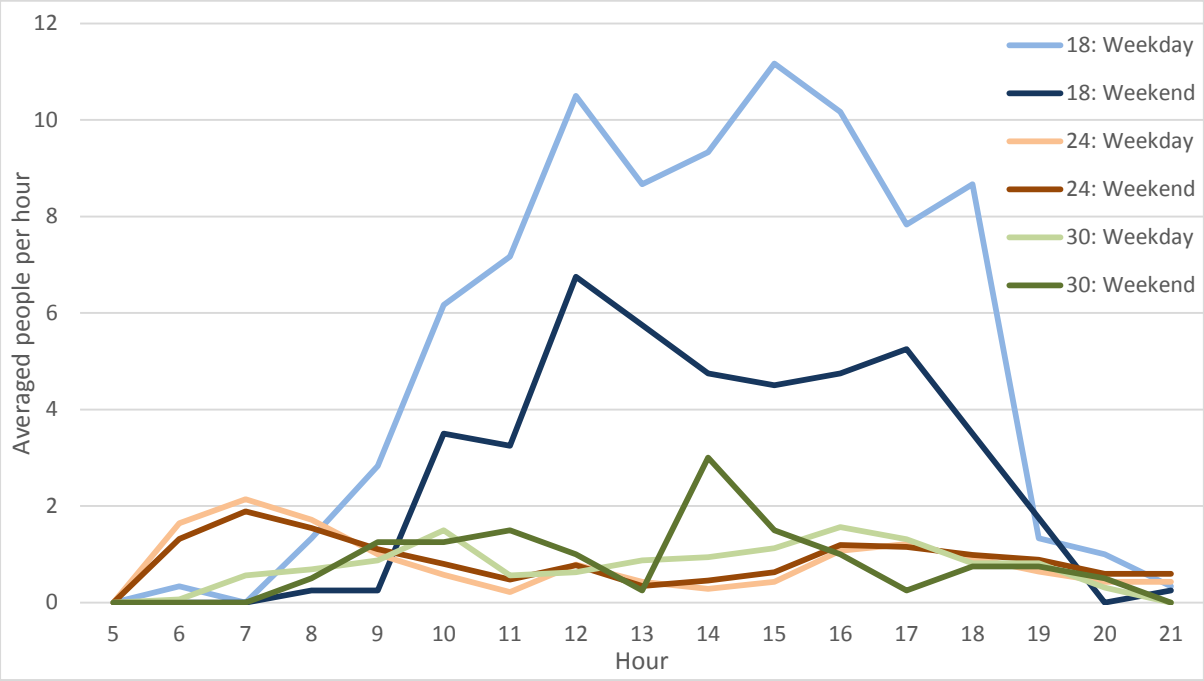


Figure 13: Averaged hourly number of people entering at each sensor location.

5. Visitor modelling and spatial distribution of visitors

5.1 In this section we provide estimates of total visitor numbers and map the spatial distribution of visitors, derived from modelling of the visitor data. As discussed in the methods, the creation of the visitor model required a large number of steps. These included an estimation of daily visitor numbers at each access point and the spatial distribution of these visitors across the path network, based on the patterns recorded from the route data in the visitor survey.

Visitor estimates

5.2 To accurately estimate visitor numbers we conducted individual calculations for visitor numbers for each of the 139 access points, considering separately those with parking (62 access points) to those with foot access (77). These locations are shown in Map 13. As explained in the methods, driving transect data were used to estimate visitor numbers for the locations with parking. The average number of cars for each access point was converted for a 12 hour day (assuming each visit lasts one hour) and our average group size of 2.216 used for visitors arriving by car. From this we estimated a total of 3,534 visitors per day by car to these parking locations. Six locations recorded no visitors to the access points. These were all laybys and the estimated average for the laybys was 4.3 visitors per lay-by day, compared to the formal car parks which averaged 72.4 visitors per car-park per day.

5.3 The number of visitors on foot was harder to estimate without data for all locations. We based our estimates on the relationship between the estimated number of visitors arriving on foot (or other, non-motorised transport) to access points (extrapolated from tally data and interviews, see methods) and the number of residential properties in close proximity. The extracted data is presented in Table 27, which was tested for the best correlations. The strongest fit was with the 500m distance buffer (Pearson's correlation coefficient =0.111, SE=0.032, p=0.013, R^2=0.389). This relationship is presented in Figure 14 and this equation was used to estimate the number of non-vehicle visitors to all access points. The relationship is not particularly strong and is unfortunately based on only a small sample size due to the relatively low number of survey points with foot visitors. The 500m distance was considered appropriate, and coincided with the visitor survey data (see Figure 12) which suggested around 53% of interviewees visiting on foot lived within a 500m radius. A single estimate was derived for each access point and foot visitors were assumed to be the same on weekdays and weekends.

5.4 The average number of residential properties within 500 metres for all 139 access points was 64.9 houses, with a maximum of 621 houses. This equated to an average 7.2 non-vehicle visitors per day per access point and a maximum of 69.2 non-vehicle visitors per day.

Table 27: The estimated number of people arriving at each survey point not by car (extrapolated from tally data and interviews) and the number of residential properties within different distance buffers of the survey point.

AP ID	Estimated number of people arriving (not by car) on an average day	Number of residential properties within distance buffer (m)							
		100	200	300	400	500	600	700	800
15	8.6	39	75	90	100	100	123	142	171
26	35.6	8	28	64	115	245	287	352	420
32	0	0	0	0	0	0	11	24	24
38	3.4	0	0	0	0	0	0	3	3
49	0	0	0	0	0	3	3	16	16
53	0	0	0	0	0	0	0	0	3
56	0	0	0	0	0	0	0	20	21
59	0	0	0	0	0	0	0	2	2
64	0	0	0	0	0	0	23	23	27
68	0	0	2	2	2	2	2	2	2
74	0	0	0	0	0	0	0	15	15
76	0	0	0	14	14	14	14	14	14
77	4.5	0	0	0	0	0	2	2	2
81	1.4	0	0	18	65	133	222	353	563
83	2.9	0	0	0	0	0	0	13	13
87	0	0	10	62	98	211	282	426	553
94	0	0	0	7	7	7	12	12	12
99	0	0	18	18	18	18	18	18	18
105	15.7	0	0	0	0	0	0	9	27
137	0	0	37	154	269	621	844	1176	1322

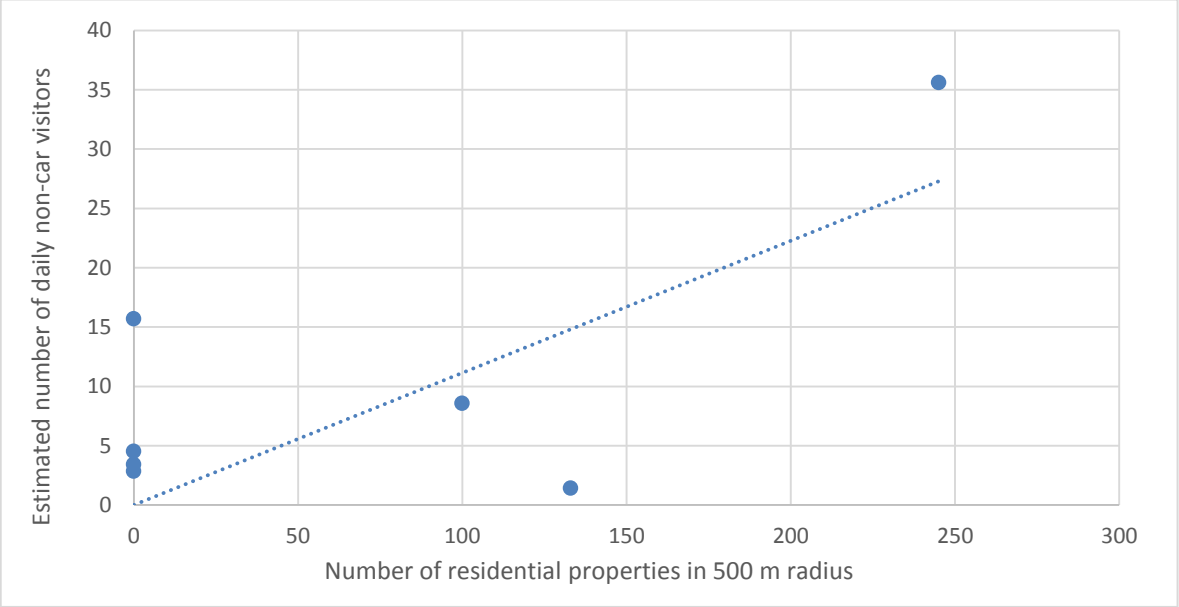
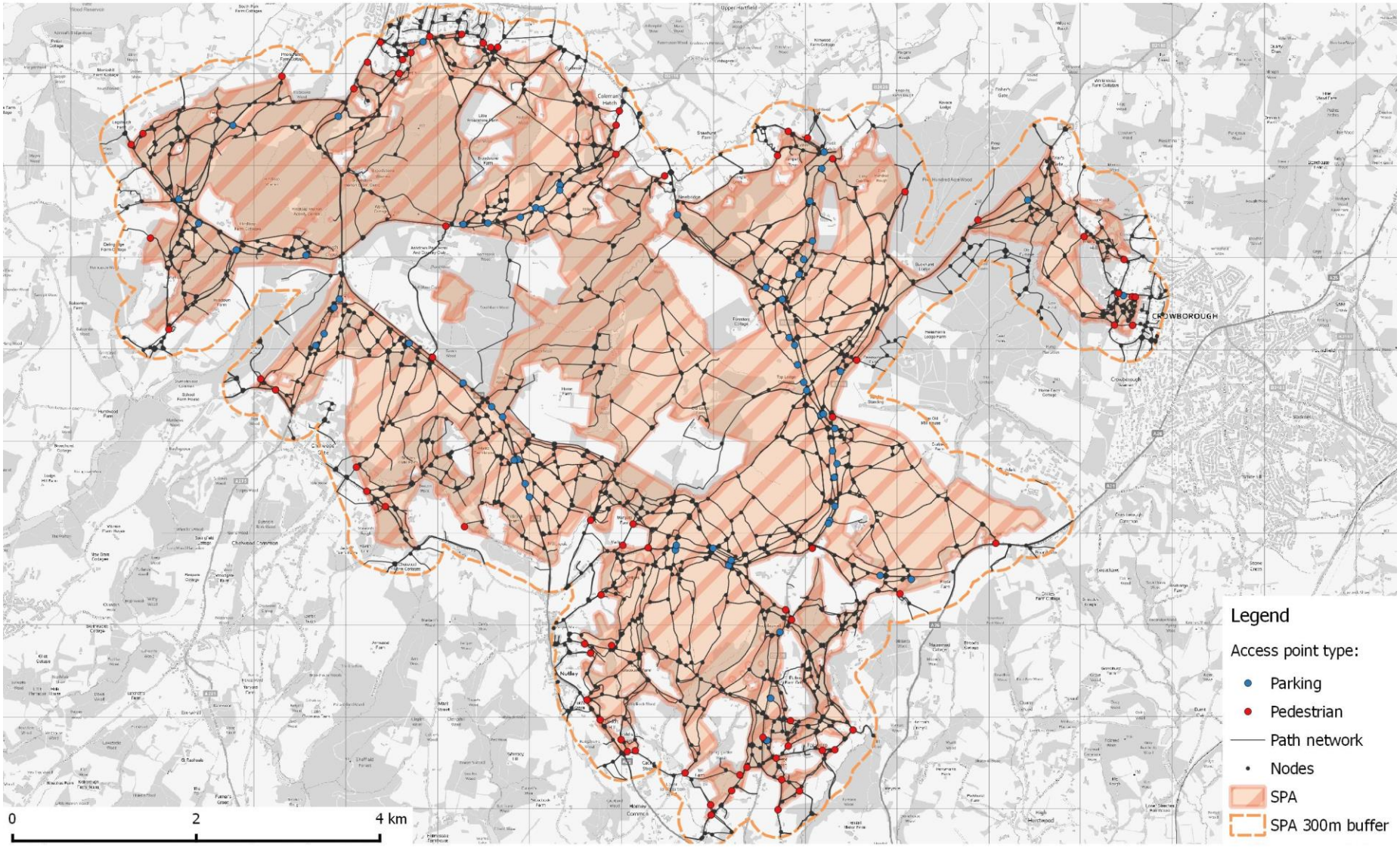


Figure 14: Relationship between the number of residential properties within a 500 m radius to estimated number of daily non-car visitors at each survey point.

Map 13: Map of the access points and path network used for spatial visitor modelling



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5.5 The final estimated total number of visitors for each access point was calculated as the sum of the estimated number of vehicle visitors and non-vehicle visitors. These final estimates of daily visitor numbers calculated were then examined against those numbers recorded from the tally data to see how these correlated with our observed counts. Figure 15 shows the relationship between our final predictions and the tally counts (including the adjustment from the 8 hours surveying to a full 12 hour day, approximately 75%, see methods). This shows some noise within this relationship, but overall a significant positive relationship is observed (Pearson's correlation coefficient = 0.753 SE=0.082, P<0.001, R^2=64.1%).

5.6 The final visitor estimates suggested 3,360 visitors arriving per weekday by car to the whole SPA and 3,971 arriving by car on weekend days, and we have estimated 1,006 foot visitors per day (and assumed foot visitor rates to be equal across weekend and weekdays). Based on a week, these give an average of 4,541 daily visitors from the 139 access points. The average number at an individual access point was 32.7, and the maximum was 340.2 (Kings Standing). The estimated number at each access point is shown in Map 14.

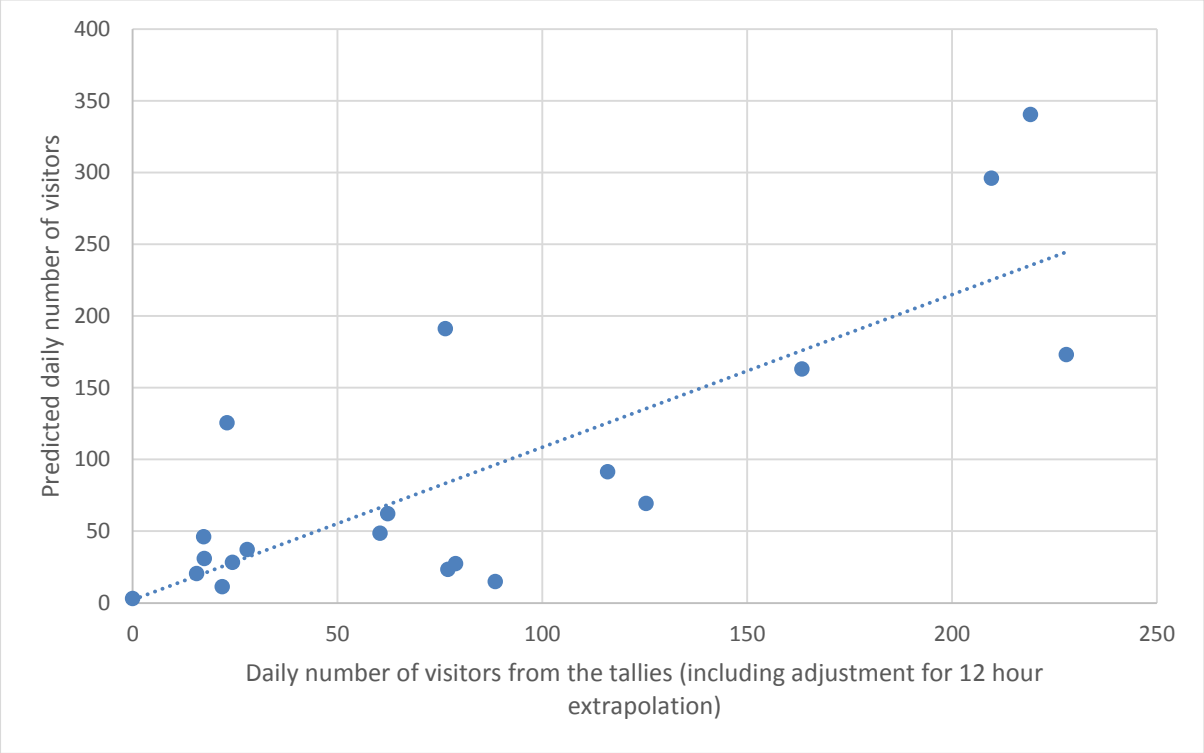
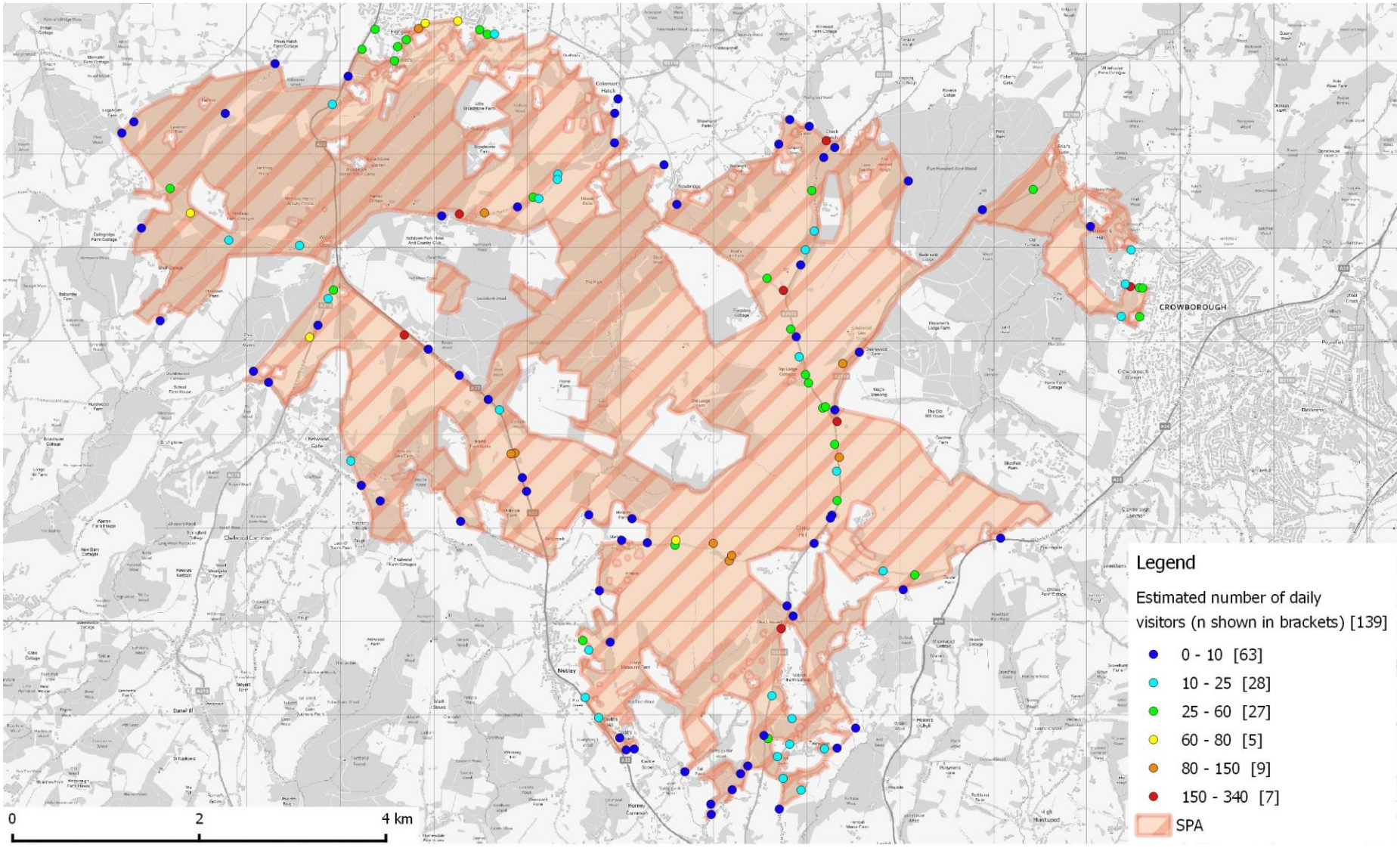


Figure 15: Relationship between observed and expected numbers. Observed tally counts of visitors at the survey points (including adjustment for 12 hour extrapolation) and the predicted daily number of visitors based on the modelled fits.

Map 14: The predicted number of daily visitors at each access point.



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Spatial visitor model

5.7 Using the estimated number of daily visitors at each access point shown in Map 14, we derived a spatial model to predict how these visitor numbers would distribute across the path network.

5.8 Key to this was estimating the length of route visitors were typically undertaking across Ashdown Forest. The route lengths were known from our interview data and we again considered those arriving by vehicle (n=365) and non-vehicle (n=84; 80 on foot, 2 on a bike and 2 on a mobility scooter) separately. The median length for visitors arriving by vehicle was 2.78 km (average 2.87km) compared to 2.12 km (average 2.41km) for non-vehicle. These differences were statistically significant (Kruskal-Wallis; H=11.09, d.f.=1, p=0.001) and therefore confirm the separation of these two visitor types. Route lengths were halved to account for a return journey back to the access point. Cumulative distance curves were then calculated which explore the relationship between decreasing numbers of visitors at increasing distances from the access point. This decay curve is shown in Figure 16.

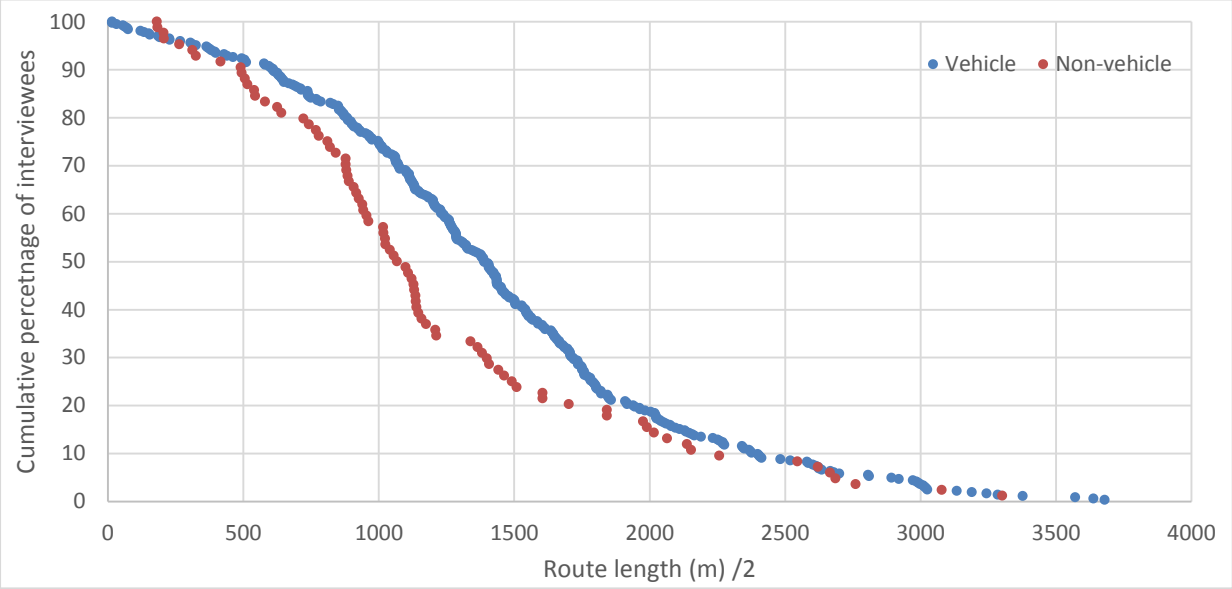


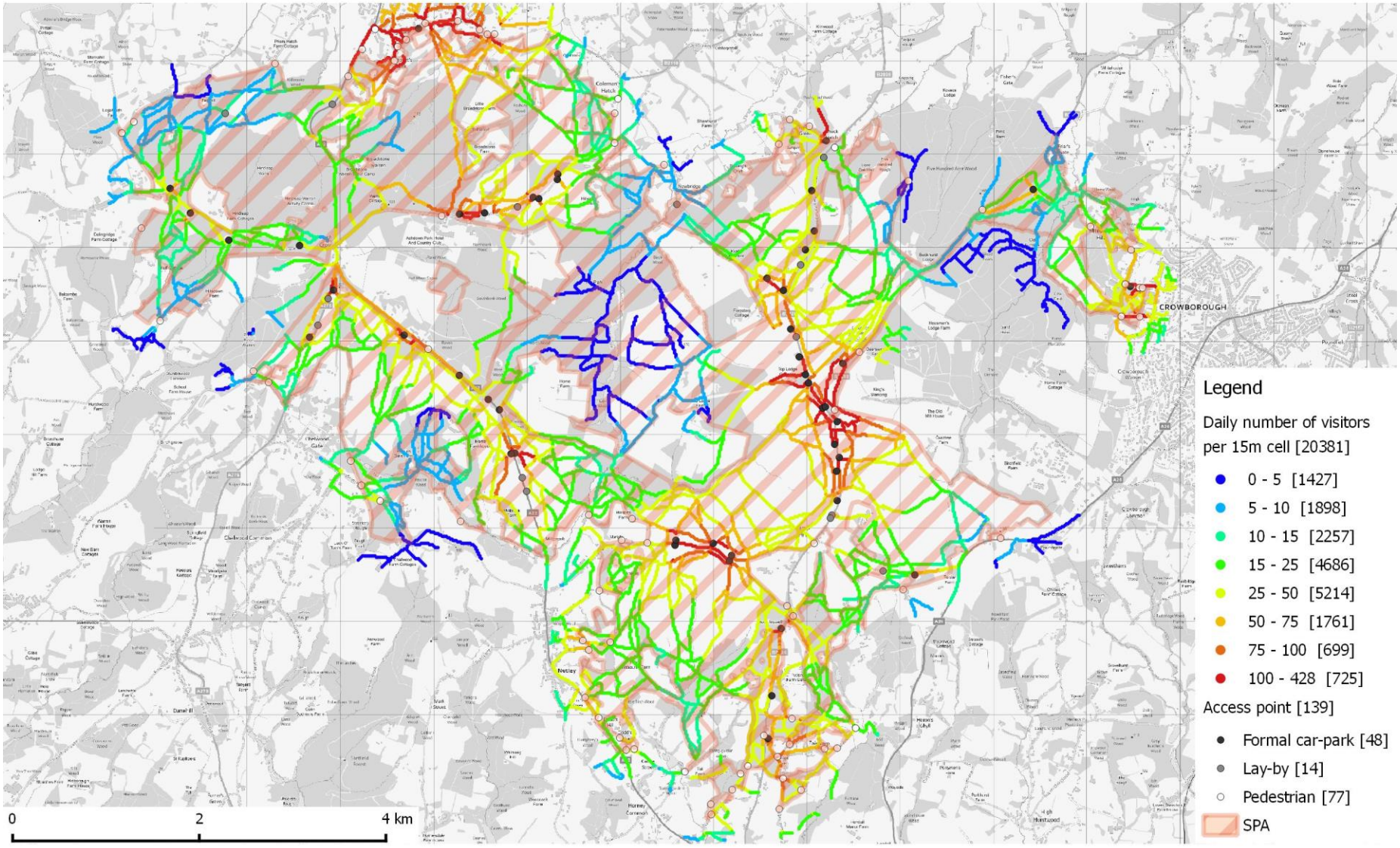
Figure 16: The decay curve of route length for levels of visitor numbers.

5.9 These decay curves were used to calculate visitor numbers moving away from access points, using the created raster data layers (see methods) to account for both distance moved and the number of network path splits. These provide values for our 15 m x 15 m cells which cover the whole of the study area. Summing across multiple access points provide us with the total daily number of visitors predicted to pass through each cell.

5.10 The results of the modelled number of daily visitors across the site are shown in Map 15. Maps 16-18 show varying degrees of smoothing applied to the predicted visitor numbers by means of buffering cells and calculating the sum of all values within the buffer of each cell. Maps show that the main hotspot of visitors is around the busiest location, Kings Standing, but also around Box, and moving out from Forest Row. The centre of Ashdown Forest e.g. North and Birch Wood was predicted to have very low

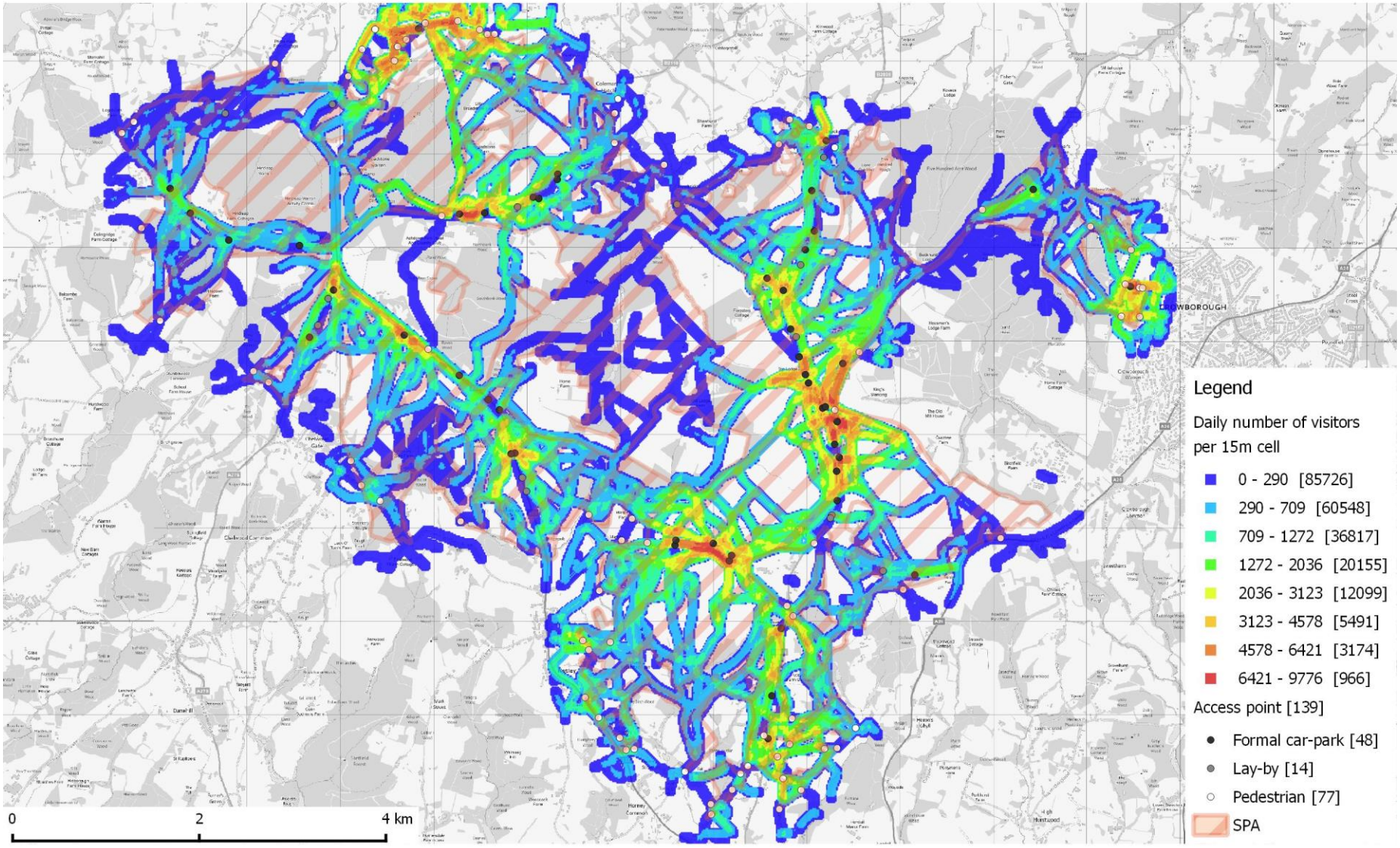
visitor numbers, attributed to its distance from access points but also the nature of the path network through this area. Main paths which connect busy areas with many access points, such as the footpath through Broadstone Warren, could have much higher numbers predicted than otherwise expected. This appears due to the effect of limited path options and high visitor numbers from two connected areas overlapping in this area.

Map 15: The predicted number of daily visitors in each 15m x 15m cell.



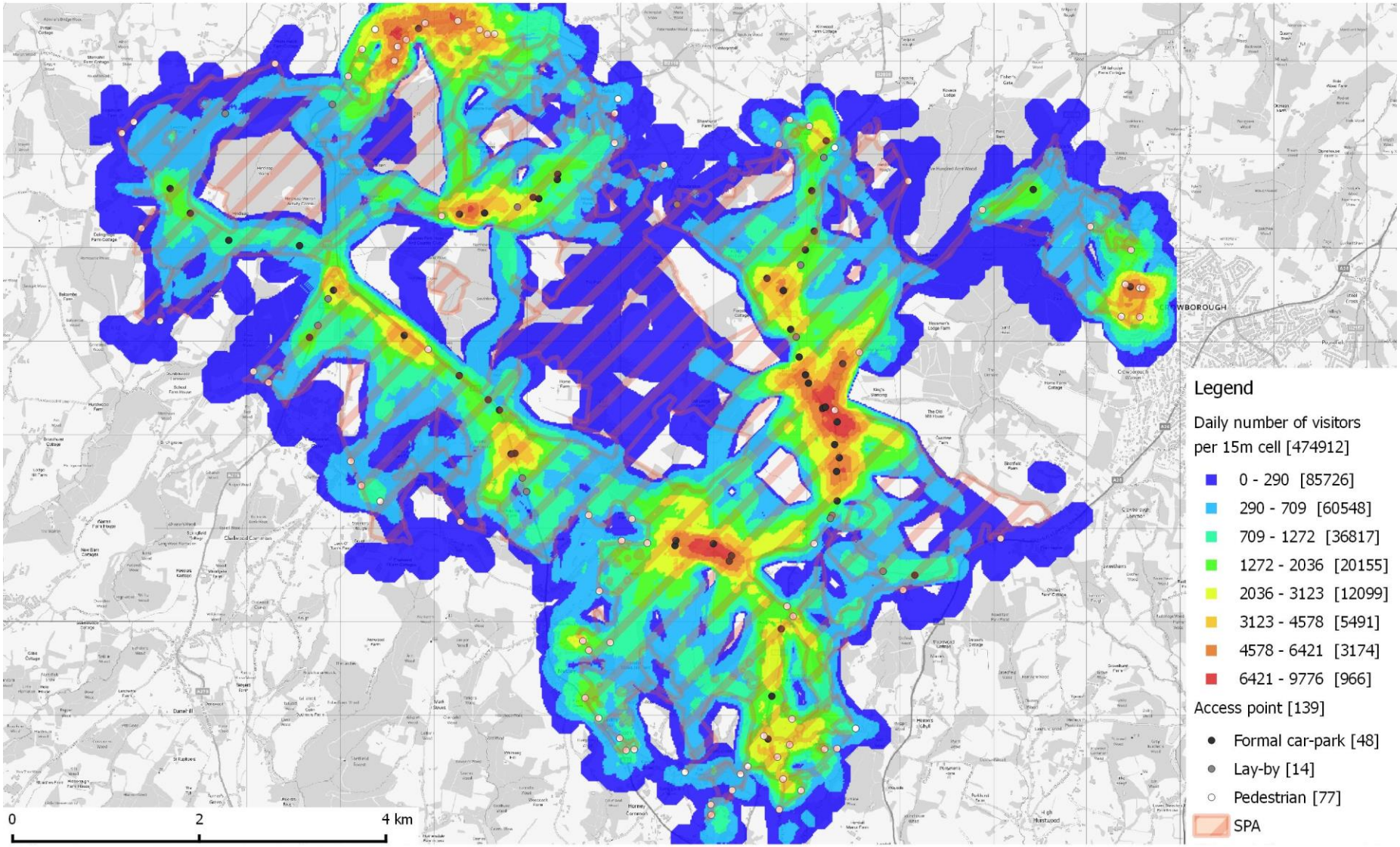
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Map 16: The predicted number of daily visitors in a 60 m buffer around each cell.



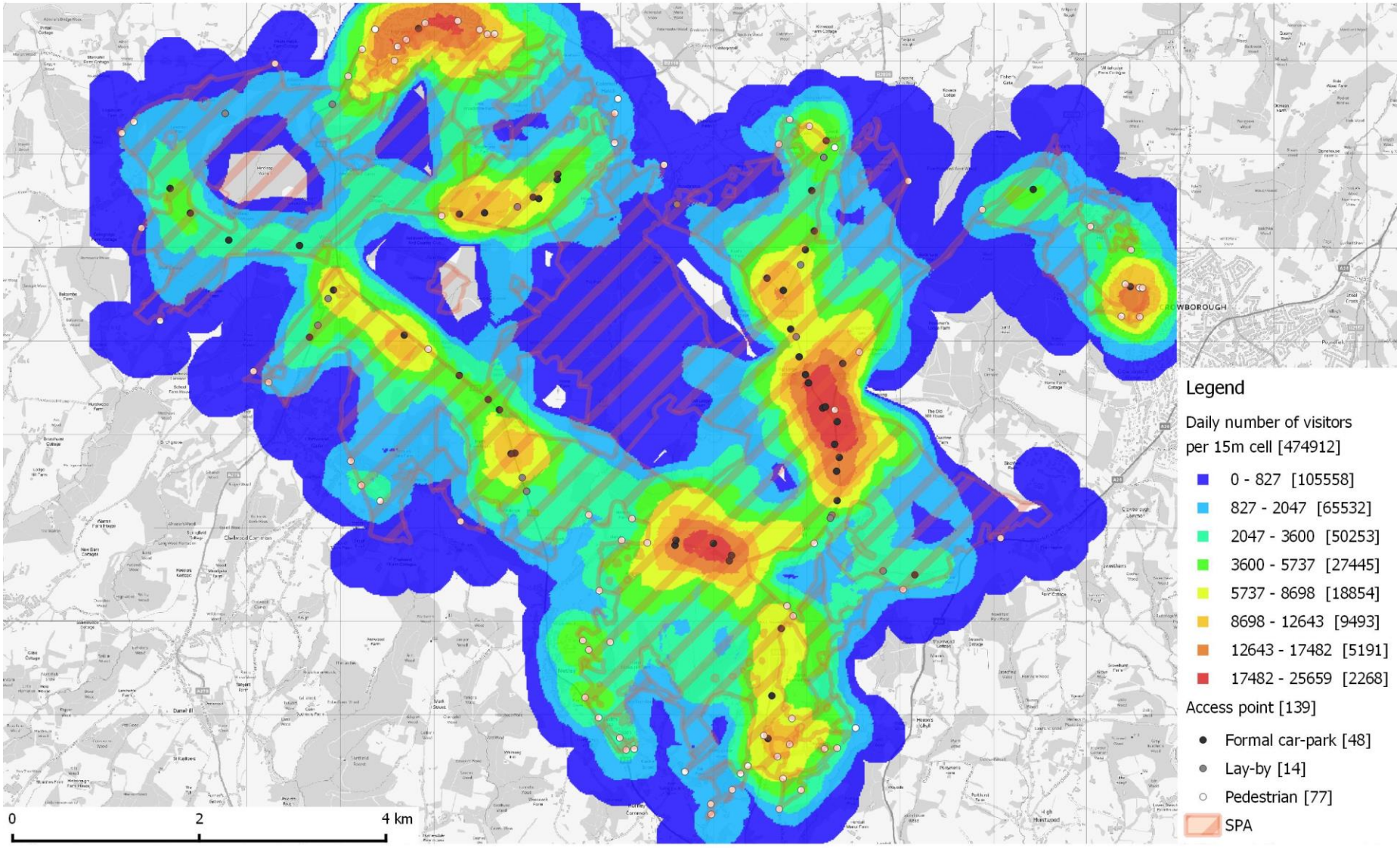
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Map 17: The predicted number of daily visitors in a 150 m buffer around each cell.



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Map 18: The predicted number of daily visitors in a 600 m buffer around each cell.



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6. Discussion

Overview

6.1 In this section we consider the results in context, cross-referencing to previous work and considering the implications and limitations of the current study.

Key findings

6.2 The results suggest Ashdown Forest receives in the region of 4,500 visitors per day, primarily dog walkers, with relatively few holiday makers and most (75%) non-holiday makers travelling from within a 9.6km radius. Visitors tend to visit frequently – with 63% of interviewees visiting at least weekly, and visits are typically short (59% visiting for less than an hour). Visitors typically arrive by car. A wide range of other alternative sites were named, providing an indication of the range of other sites that draw access besides Ashdown Forest, but nearly half (46%) of interviewees indicated they would not have gone anywhere else if they could not have visited Ashdown Forest.

Comparison with the previous survey

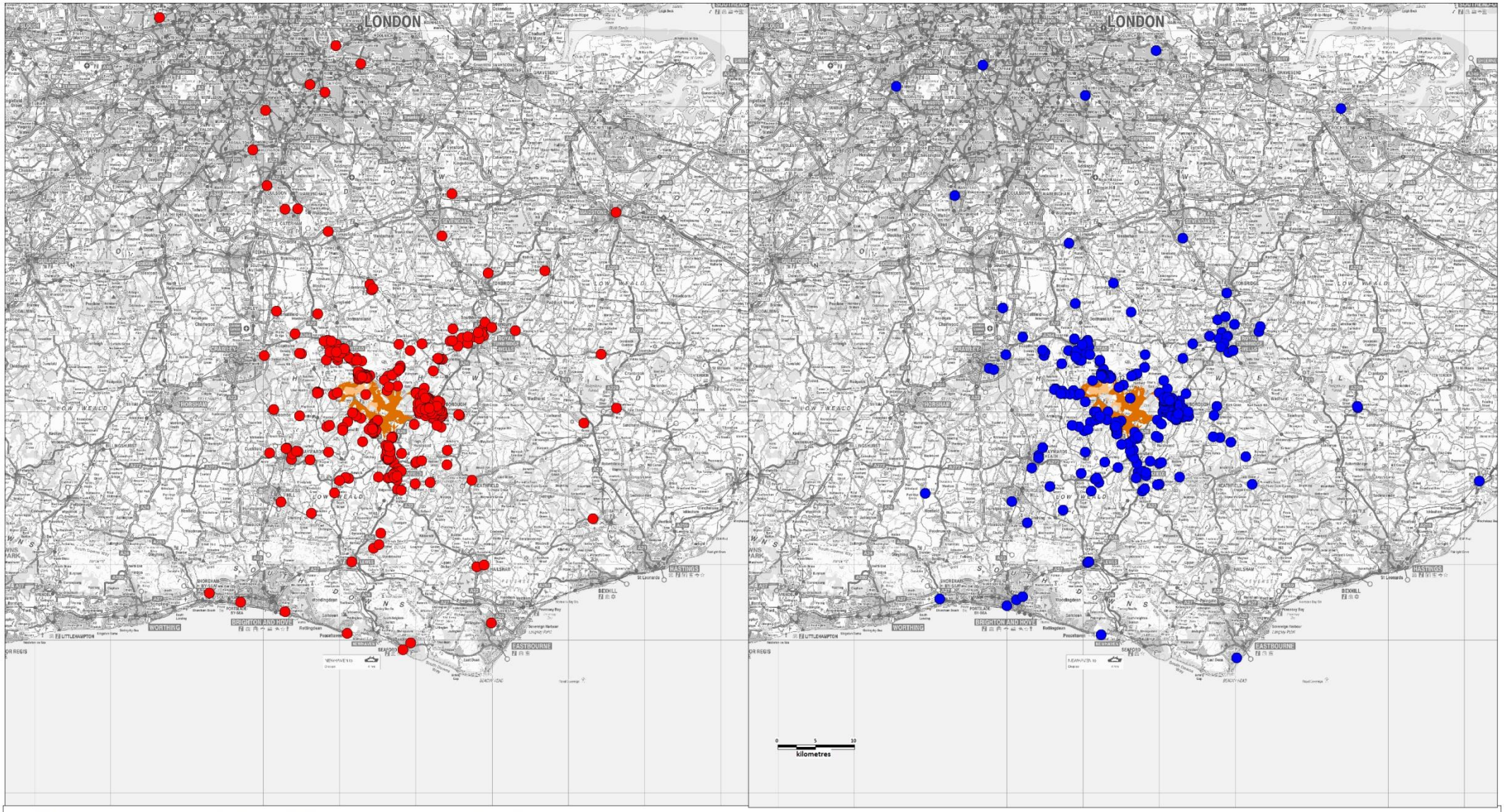
6.3 A previous visitor survey (UE Associates 2009) was undertaken in 2008 using a similar approach as used here. That survey achieved a higher number of interviews (639) from 20 survey points (not all of which matched the ones used in this survey), however this current survey was more detailed (longer questionnaire) and the postcode data are more accurate in that more full postcodes were obtained. The current survey was also undertaken during the main bird breeding season.

6.4 The previous survey was undertaken during a short time period in September (when weather patterns were unsettled) and given the differences in time of year, survey points used and questionnaire, direct comparison is mostly of limited value. There are some clear similarities in the results however. For example both surveys highlighted a high proportion of dog walkers (69% this survey; 60% in 2008) and a high proportion of more frequent visitors (63% visiting at least weekly in this survey; 73% in 2008).

6.5 Of particular interest is perhaps the postcode data, which shows the catchment of Ashdown Forest. In Map 19 we show the postcode data from the two surveys[10]. A relatively similar pattern is apparent, with clusters of postcodes from Crowborough, Forest Row, East Grinstead, Nutley, Uckfield etc. clearly visible in both maps. When reviewing the proportion of interviews from different settlements there are some differences (Crowborough: 32% of postcodes in 2016, 28% in 2008; Forest Row: 12% and 8%; East Grinstead: 7% and 6%; Nutley: 6% and 3%; Uckfield: 5% and 3%) but these are slight and may relate to chance, different levels of new development or relate to survey design.

[10] Postcode data from the original survey is mapped as provided by UE Associates for a previous piece of work – see Clarke *et al.* 2010.

Map 19: Comparison for postcode data from 2008 survey (right hand pane) and 2016 (left hand pane)



Ashdown Forest European Site Boundaries

- SPA and SAC
- SPA only

Home postcodes of interviewees

- 2016 data (day trip/short visit from home) (434)
- 2010 postcodes

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Limitations and sample size

6.6 A total of 452 interviews were achieved, which provides a reasonable sample size, potentially around 10% of the number of people visiting Ashdown Forest in a day. The number of interviews is on a par (or slightly lower) than some other heathland visitor surveys used as a basis to establish mitigation schemes and undertaken using similar survey approaches[11].

6.7 The survey was designed without a set target for the number of interviews, surveyors interviewed as many visitors as they could and selected visitors at random. More interviews were conducted at the busier locations because they had a greater flow of people through them, but the survey included small, quiet car-parks as well as the larger honey-pot locations. In addition foot-only access points were included to ensure some visitors that were not arriving by car could be included in the survey.

6.8 The number of interviews and counts of visitors may have been reduced slightly by the weather conditions. Survey work was deliberately spread across multiple weekends to avoid the risk of unusual weather (or events) creating bias in the results. The major sporting events (Wimbledon final and European Football final were also avoided) and in addition surveyors, as far as possible, responded to weather conditions by switching times where possible.

6.9 In general the weather over the survey period was unsettled. Monthly summaries from the Met Office[12] show that at the start of June, Britain's weather was dry and settled but often cloudy, with north-easterly winds bringing low cloud in from the North Sea. Showers and thunderstorms increasingly broke out inland after the 5th, although there was further warm sunny weather at times, particularly in the west of the UK. From the 10th onwards, the weather was generally unsettled, wet and cloudy with low pressure often in charge. There were also thundery downpours at times, and heavy rain and thunderstorms caused significant disruption in the south-east on the 23rd. The start of July was breezy and showery, with low pressure in charge. Unsettled conditions persisted for much of the first half of the month, with fronts frequently bringing rain, although rainfall amounts were generally small in the south. Despite the unsettled weather, 74% of our two-hour survey periods were entirely dry and only 4% of sessions had rain for at least three-quarters of the two-hour period.

6.10 The survey design is such that as far as possible a random sample of interviewees is achieved. As the surveyors selected the next available person for interview, activities where people are more likely to linger at survey points are perhaps more likely to be intercepted. This may include dog walkers – as for example they may take slightly

[11] For example Dorset Heaths in 2004: 632 interviews at 20 survey points (Clarke et al. 2006); Thames Basin Heaths in 2005: 1,144 interviews from 26 survey points (Liley, Jackson & Underhill-Day 2006); Ashdown Forest in 2008: 639 interviews from 20 survey points (UE Associates 2009); Pebblebed Heaths in 2015: 492 interviews from 12 survey points, 3 of which had double the amount of survey time per point compared to this survey (Liley, Panter & Underhill-Day 2016)

[12] http://www.metoffice.gov.uk/climate/uk/summaries/2016/

longer to get the dog into the car when compared to other visitors, but this is unlikely to account for a major bias in the balance of activities selected. Joggers, cyclists and horse riders can be difficult to intercept due to the speed with which they pass by and such visitors may be more reluctant to stop to be interviewed.

6.11 The model shows the predicted spatial distribution of visitors across the SPA. In deriving the model we have spread visitors across the path network and assumed all paths are equal, i.e. visitors will not have any preference for particular types of paths or particular routes. In reality of course visitors (and their pets) will stray from the paths and will often follow particular favoured routes, for example that encompass a viewpoint or are easy to walk along. As such the model is a simplification of the distribution of people but should reflect the general pattern across the SPA.

Implications

6.12 The results will be used to inform the implementation of mitigation measures to resolve impacts from recreation. Impacts can be avoided or reduced through the spatial distribution of development (i.e. restricting levels of development in certain areas) and potential mitigation approaches can include on-site measures at Ashdown Forest (such as wardening, provision of infrastructure, communication/information provision) or off-site work (such as provision of SANGs).

6.13 The results have particular implications in terms of mitigation delivery – and these will need to be taken into account in the design and implementation of strategic mitigation. The detail of such mitigation is beyond the scope of this report, however of particular relevance is the high proportion of dog walkers who are likely to be the key target for mitigation delivery. While 87% of dog walkers were aware of guidance relating to dog walking at Ashdown Forest, only 39% of those dog walkers who were aware of the guidance could specifically name the code of conduct ('4Cs'), suggesting that there is perhaps scope for further on-site work relating to dog walkers' behaviour. Dog walkers are relatively local (50% had travelled from within 4,137m of the survey point where interviewed), visit more frequently and chose Ashdown Forest as it is close to home, scenic and good for the dog. A typical dog walk at Ashdown Forest is 2.6km. Such information is useful to inform SANGs design and can be also linked back to the alternative sites named by dog walkers to highlight how well different locations in the area work in terms of drawing access. Of some concern with SANGs delivery is the high total (50%) of dog walkers who indicated they would not have gone elsewhere if they could not have visited Ashdown Forest. While it is possible that suitable alternatives do not currently exist (i.e. there is potential to create more sites), this may also suggest that SANGs could only work for a proportion of visitors and as such would need to also be combined with other measures focused at Ashdown Forest.

6.14 The results will also provide a baseline from which to build long-term monitoring, linked to mitigation delivery. The driving transects worked well and took around two hours to complete by a single driver. Such transects could provide the basis for long term monitoring of visitor numbers. Visitors arriving on foot are harder to count and the relative importance of counting such visitors is likely to depend on the level of change in

local housing – say with 1km of the SPA. Changes in use by people not arriving by car may best be picked up in the long term by a small number of carefully placed automated counters, potentially positioned near Crowborough, Forest Row and perhaps at Nutley and Fairwarp.

6.15 The questionnaire used in this survey could be used in future surveys to determine any change in behaviour, attitudes or visitor patterns over time. The questions used provide useful data relevant to informing future mitigation and policy making. In future (repeat) surveys, there may be merits in reducing the length of the questionnaire slightly and establishing a core set of questions that are standardised and used repeatedly over time. The survey locations used in this survey could provide the basis of survey points, but there is scope to review those locations now car-park count data are available.

6.16 The model shows where access is concentrated and where quiet areas occur. In general, as access levels increase, it is usually better to have access focussed in a limited number of locations rather than diffuse access over a wide area, as this means visitors can easily be intercepted, access management can more easily be implemented and high levels of disturbance are likely across a small proportion of the site. Further work is necessary to combine the model with bird data to explore the extent to which current access does influence the distribution of birds and there is also potential to overlay the visitor model with habitat data to assess the extent to which access and sensitive features overlap.

Appendix 1: Dates of surveys and rainfall

Here we summarise the dates each location was surveyed (visitor interviews and counts), showing the dates each time period was covered (all points were surveyed on a weekday and weekend day with all four time periods covered on both types of day). Values in the table reflect the amount of rain during each survey period: blank cells mean no coverage, 0=survey undertaken, no rain; 1=survey undertaken, rain for less than 30 minutes during two-hour period; 2 = survey undertaken, rain for less than 1 hour during two-hour period; 3 = survey undertaken, rain for less than 1 hour and 30 minutes during two-hour period; 4 = survey undertaken, rain for more than 1 hour and 30 minutes during two-hour period. Grey shading reflects survey periods with rain. A summary table at end gives total number of survey periods with rain of different duration.

Location Name	Date	0700-0900	1000-1200	1300-1500	1700-1900
Box	28/06/2016	0	0	0	4
	03/07/2016	0	0	0	0
Churlwood	17/06/2016	1	1	2	4
	18/06/2016	0	0	0	0
Crowborough	18/07/2016			0	0
	24/07/2016	0	0	0	0
	25/07/2016	0	0		
Fairwarp	30/06/2016	2	1	0	0
	03/07/2016	0	2	1	1
Forest Centre	17/06/2016	1	0		
	18/06/2016			0	0
	19/06/2016	0	0		
	21/06/2016			0	0
Forest Row Golf Club	25/06/2016	0		3	
	26/06/2016		0		0
	28/06/2016			0	3
	29/06/2016	0	1		
Four Counties	24/06/2016			0	0
	25/06/2016	0		2	
	26/06/2016		0		0
	27/06/2016	0	0		
Gills Lap	18/06/2016	0	0	0	0
	21/06/2016	0	0	0	0
Kings Standing	24/06/2016	0	0		
	25/06/2016		0		0
	26/06/2016	0		0	
	28/06/2016			1	
	26/07/2016				0
Lintons	17/06/2016			3	4
	18/06/2016	0	0		

Location Name	Date	0700-0900	1000-1200	1300-1500	1700-1900
	19/06/2016			0	2
	21/06/2016	0	0		
Long	03/07/2016	0	3	1	0
	12/07/2016	0			3
	13/07/2016		0	1	
Millbrook West	02/07/2016	0	0	2	1
	12/07/2016		1	2	
	13/07/2016	0			1
Nutley	16/07/2016	0	0	0	0
	20/07/2016		0		
	21/07/2016	0		0	0
Poundgate	02/07/2016	0	0	1	0
	07/07/2016	0	1	1	0
Reserve	03/07/2016	0	1	0	0
	06/07/2016	0	0	0	0
Roman Road	17/07/2016	0	0	1	0
	20/07/2016	0		0	0
	21/07/2016		0		
Smugglers	19/06/2016	0	0	0	0
	22/06/2016	4	1	0	0
St Johns	25/06/2016		0		1
	26/06/2016	0		1	
	27/06/2016			0	0
	28/06/2016	0	0		
Twyford	15/07/2016	0	0	0	0
	16/07/2016			0	0
	17/07/2016	0	0		
Vachery	19/06/2016	0	0	0	2
	20/06/2016	4	4	1	0

Summary:

Amount of rain	Number of two hour sessions (%)
No rain	119 (74)
Rain for less than 30 mins	22 (14)
Rain for 30 mins – 1 hour	8 (5)
Rain for 1 hour – 1 hour 30 mins	5 (3)
Rain for at least 1 hour 30 mins	6 (4)
Total	**160 (100)**

Appendix 2: Questionnaire

Ashdown Forest Visitor Survey

Good am/pm. We are undertaking a survey for local authorities looking at recreational use of Ashdown Forest. The results will help us better understand how people use Ashdown Forest. Can you spare me a few minutes please?

Q1 Firstly I'd like to ask about your visit today.

- ◯ **Are you on a day trip/short visit and travelled from home** ... *if no*
- ◯ **Are you on a short trip & staying with friends or family** ... *if no*
- ◯ **On holiday in the area, staying away from home... *if no***
- ◯ If none of the above, **How would you describe your visit today?**

Details

Q2 **What is the main activity you are undertaking today?** *Tick closest answer. Do not prompt. Single response only. Ensure activity rather than reason for undertaking (e.g. not "health", "relaxing" etc.)*

- ◯ Dog walking
- ◯ Walking
- ◯ Jogging / power walking
- ◯ Outing with family / picnicking
- ◯ Cycling
- ◯ Wildlife / bird watching
- ◯ Fishing
- ◯ Photography
- ◯ Meet up with friends
- ◯ Visiting the information centre
- ◯ Other, please detail:

Further details

Q3 **How long have you been visiting this location?** *Single response only. Do not prompt.*

- ◯ first visit
- ◯ less than or approximately 6 months
- ◯ less than or approximately 1 year
- ◯ less than or approximately 3 years
- ◯ less than or approximately 5 years
- ◯ less than or approximately 10 years
- ◯ more than 10 years
- ◯ Don't know / not sure

Q4 **How long have you spent / will you spend here today?** *Single response only. Do not prompt.*

- ◯ less than 30 minutes
- ◯ between 30 minutes and 1 hour
- ◯ more than 1 hour to 2 hours
- ◯ more than 2 hours to 3 hours
- ◯ more than 3 hours
- ◯ Don't know / not sure

Q5 **Over the past year, roughly how often have you visited this location?** *Tick closest answer, single response only. Only prompt if interviewee struggles.*

- ◯ Daily
- ◯ Most days (180+ visits)
- ◯ 1 to 3 times a week (40-180 visits)
- ◯ 2 to 3 times per month (15-40 visits)
- ◯ Once a month (6-15 visits)
- ◯ Less than once a month (2-5 visits)
- ◯ Don't know
- ◯ First visit
- ◯ Other, please detail

further details:

Q6 **Do you tend to visit here at a certain time of day?** *Tick closest answers. Multiple answers ok.*

- ☐ Before 9am
- ☐ Between 9am and 12
- ☐ Between 12 and 3
- ☐ Between 3 and 5pm
- ☐ After 5pm
- ☐ No
- ☐ Don't know
- ☐ First visit

Q7 **Do you tend to visit this area more at a particular time of year for [***insert given activity***]?** *Multiple answers ok.*

- ☐ Spring (Mar-May)
- ☐ Summer (Jun-Aug)
- ☐ Autumn (Sept-Nov)
- ☐ Winter (Dec-Feb)
- ☐ Equally all year
- ☐ Don't know
- ☐ First visit

Q8 **How did you get here today?** *What form of transport did you use? Single response only.*

- ◯ Car / van
- ◯ On foot
- ◯ Public transport
- ◯ Bicycle
- ◯ Other, please detail

further details:

Now I'd like to ask you about your route today. Looking at the area shown on this map, can you show me where you started your visit today, the finish point and your route please? Probe to ensure route is accurately documented. *Use **P** to indicate where the visitor parked, **E** to indicate the start point and **X** to indicate the exit. Mark the route with a line; a solid line for the actual route and a dotted line for the expected or remaining route.*

Q9 **Is / was your route today similar to your usual route when you visit here for [***insert given activity***]?** *Tick closest answer, do not prompt. Single response only.*

- ◯ Yes, normal
- ◯ Much longer than normal
- ◯ Much shorter than normal
- ◯ Not sure / no typical visit
- ◯ First visit

Q10 **Did you / do you plan to go off the paths during your visit today?** *Tick closest answer, do not prompt. Single response only.*

- ◯ Yes, went off the paths
- ◯ No, stayed on the paths
- ◯ Not sure / don't know

Q11 **What, if anything, influenced your choice of route here today?** *Tick closest answers, do not prompt. Multiple responses ok.*

- ☐ Weather
- ☐ Grazing animals/fences/grazing enclosures
- ☐ Daylight
- ☐ Time
- ☐ Away from other people (not busy)
- ☐ Group members (eg kids, less able)
- ☐ Avoiding muddy tracks / paths
- ☐ Staying on surfaced paths
- ☐ Followed a marked trail
- ☐ Previous knowledge of area / experience
- ☐ Activity undertaken (eg presence of dog)
- ☐ Other specific site features (viewpoint, lake etc.)
- ☐ Birds / wildlife
- ☐ Interpretation / leaflets
- ☐ Other, please detail

Further details:

Q12 **Why did you choose to visit Ashdown Forest today, rather than another location?** *Tick all responses given by visitor in the 'other' column. Do not prompt, tick closest answers. Then ask* **Which single reason would you say had the most influence over your choice to visit Ashdown Forest today?** *Tick only one main reason. Use text box for answers that cannot be categorised and for further information.*

	Other	Main
Don't know / others in party chose	○	○
Close to home	○	○
No need to use car	○	○
Quick & easy travel route	○	○
Good / easy parking	○	○
Free parking	○	○
Particular facilities	○	○
Choice of routes	○	○
Feels safe here	○	○
Quiet, with no traffic noise	○	○
Not many people	○	○
Scenery / variety of views	○	○
Rural feel / wild landscape	○	○
Habit / familiarity	○	○
Particular wildlife interest	○	○
Good for dog / dog enjoys it	○	○
Ability to let dog off lead	○	○
Closest place to take dog	○	○
Closest place to let dog safely off lead	○	○
Appropriate place for activity	○	○
Suitability of area in given weather conditions	○	○
Other, please detail	○	○

Further details:

Q13 **Could you name the one location outside Ashdown Forest you would have visited today for [*insert given activity*] if you did not visit here?** *Do not prompt, tick closest answer.*

- ◯ Not sure / Don't know — Go to Q19
- ◯ Nowhere / wouldn't have visited anywhere — Go to Q19
- ◯ Site Named

Record site name:

Q14 **Over the past year, roughly how often have you visited [insert named alternative site]?** *Tick closest answer, single response only. Only prompt if interviewee struggles.*

- ◯ Daily
- ◯ Most days (180+ visits)
- ◯ 1 to 3 times a week (40-180 visits)
- ◯ 2 to 3 times per month (15-40 visits)
- ◯ Once a month (6-15 visits)
- ◯ Less than once a month (2-5 visits)
- ◯ Don't know
- ◯ First visit
- ◯ Other, please detail

Further details

Q15 **What form of transport do you usually use to visit [insert named alternative site]?** *Single response only.*

- ◯ Car / van
- ◯ On foot
- ◯ Public transport
- ◯ Bicycle
- ◯ Other, please detail

Further details:

Q16 **Why do you choose to visit [insert named alternative site], rather than another local site?** *Tick all responses given by interviewee. Do not prompt, tick closest answers. Use text box for answers that cannot be categorised and for further information.*

	Reasons for visiting
Don't know / others in party chose	○
Close to home	○
No need to use car	○
Quick & easy travel route	○
Good / easy parking	○
Free parking	○
Particular facilities	○
Choice of routes	○
Feels safe here	○
Quiet, with no traffic noise	○
Not many people	○
Scenery / variety of views	○
Rural feel / wild landscape	○
Habit / familiarity	○
Particular wildlife interest	○
Good for dog / dog enjoys it	○
Ability to let dog off lead	○
Closest place to take dog	○
Closest place to let dog safely off lead	○
Appropriate place for activity	○
Suitability of area in given weather conditions	○
Other, please detail	○

Further details:

Please can you name up to 2 other locations outside Ashdown Forest you often visit for [*given activity*]?

Q17 Name of Site 1

Q18 Name of Site 2

Q19 **What is your full home postcode?** *This is an important piece of information, please make every effort to record full postcode correctly. If necessary add* ***This will only be used to tell us roughly how far you have travelled today***

Q20 *If visitor is unable or refuses to give postcode:* **What is the name of the nearest town or village?**

Q21 *If visitor is on holiday ask:* **Which town / village are you staying in?**

Q22 **Are you aware of any guidance on dog walking relating to Ashdown Forest?**

- ◯ Yes — Go to Q23
- ◯ No — Go to Q25
- ◯ Not sure — Go to Q25

Q23 *If yes* **Can you tell me what guidance you have seen?** *Multiple responses ok. Tick all that apply*

- ☐ Specific mention of dog walking code of conduct ('4Cs')
- ☐ Mention of signs around Ashdown Forest
- ☐ Mention of need to keep dogs under close control
- ☐ Mention of need to pick up/flick
- ☐ Mention of issues with dogs and livestock
- ☐ No clear details/Not sure

Other/more details

Q24 **Has the guidance influenced what you do at all?** *Multiple responses ok.*

- ☐ No change/No
- ☐ Kept dog on lead more
- ☐ Kept dog under control
- ☐ Flicked waste
- ☐ Bagged waste more
- ☐ Other/more details

Further details:

Q25 **Did you know there is a visitor information centre at Wytch Cross?** (*note if interview undertaken at visitor centre CP, change 'Wytch Cross' to 'here'*).

- ◯ Yes — Go to Q26
- ◯ No — Go to Q27
- ◯ Not sure — Go to Q27

Q26 **Have you visited the visitor information centre at Wytch Cross before?** *(note if interview undertaken at visitor centre CP, change 'Wytch Cross' to 'here').*

- ◯ Yes
- ◯ No
- ◯ Not sure

Q27 **Finally, do you have any suggestions of measures you would like to see relating to the management of access at Ashdown Forest?** *Free text*

To be completed by surveyor after interview

Q28 Survey details

Surveyor initials	
Survey location code	
MapRef for Route	
Gender of respondent	
Total number in interviewed group	
Total males	
Total females	
Total number of dogs	
Number of dogs off lead	

Q29 Surveyor comments. ***Note anything that may be relevant to the survey, including any changes to the survey entry that are necessary, eg changes to answers.***

Appendix 3: Dates and times of driving transects

Here we summarise the dates and times of the fifteen driving transects.

transect	date	day	start time	end time	cloud cover	weather notes
1	26/07/2016	Tuesday	7.20	8.41	7	bright but cloudy , slight chill, warm by end of transect
2	25/07/2016	Monday	12.11	13.51	4	warm, slight breeze
3	25/07/2016	Monday	16.16	18.02	3	warm and sunny
4	13/07/2016	Wednesday	11.20	13.30	4	bright blue sky, light breeze
5	18/07/2016	Monday	7.04	8.59	2	very warm already
6	17/07/2016	Sunday	12.00	14.18	2	very warm
7	17/07/2016	Sunday	15.27	17.15	7	raining for 10 mins at start of survey, then sunny for rest
8	16/07/2016	Saturday	7.11	9.38	3	very warm and muggy
9	14/07/2016	Thursday	15.40	18.35	3	sunny and muggy
10	29/07/2016	Friday	8.49	11.00	8	thick cloud but bright and warm
11	29/07/2016	Friday	12.50	14.57	7	rain for 5 mins otherwise bright and warm
12	29/07/2016	Friday	15.13	17.04	7	looked like rain for most of 2 hours but only rained briefly
13	30/07/2016	Saturday	15.00	17.14	8	heavy black cloud
14	30/07/2016	Saturday	12.32	14.27	8	heavy cloud a little rain
15	31/07/2016	Saturday	8.40	10.30	3	bright sunny morning

Appendix 4: Comments from question 27, do you have any suggestions of measures you would like to see relating to the management of access at Ashdown Forest?

Comment
Suits here.
Pot holes in car park should be filled in. Animals now on site in last ten years. Means I can't walk dog where I want. Also the fact we have been asked to clean up after dog but dog bins not provided. They say too expensive but animal's poo everywhere so why shouldn't my dog.
Pot holes quite big.
Like it the way it is.
Here can let dog off lead. Where animals are I now can't walk. Much more fenced off. Walking dogs off lead is important for exercising dogs. Love it here.
Pot holes and car park maintenance if possible. Otherwise love it, beautiful.
Like the footpath maintenance. Just a really lovely place to walk.
Like it as it is.
Feel more and more that dogs are not wanted. Daily Dog walkers do 4 C s anyway. Electric fencing is a huge concern because cannot let off lead and less places to go. Airman's grave a case in point. Dogs need exercise. Love this place. Seems a shame.
Get rid of golf course! Make road safer for cyclists. We run round here too. Love it because safe and beautiful.
Not sure about poo bins and what right decision would be especially around car parks, as need them I think.
Access being reduced because of livestock. Can't walk at Gills Lap now either because of livestock.
Keep it as it is please. Visitor centre is fantastic. Leaflets free for walks. We knew about visitor centre because my son does Beavers there. Other member of group then said her daughter does forest school there.
Leave as is. I come because no real footpaths so other dog walkers and walkers don't come here.
Leave it as it is.
Pot holes in car park here. Otherwise lucky to have so many car parks. Love the beauty of it.
Lots of dog poo on the paths. Not so bad if off path- although still bad. Not great for letting the kids run free. Otherwise love it here.
Fine.
Poo bins needed.
Been here for years. Uncertain as to the dog friendliness. More and more forest fenced off for grazing. Would like a better partnership with conservators to balance our needs. Feel like can't raise a concern, if I contact conservators they don't really reply. Want it to work.
Works just fine the way it is.
Poo bins please.
Action groups wanting to reduce access to the forest. But should be for everyone. They say it is for conservation which is fine, for example grazing is fine but there should be a balance.
Leave it as natural as can be. All ok and lovely. A few compost loos would be useful. Picnic table or two would be nice.
Poo bins would be great.
Pot holes in car park.
Pot holes. Ideas for more walks as so much grazing on other side. (I suggested they look on net or go to visitor centre).
Like it as it is.
Lovely as it is.
People take bags and dump them, poo bins needed. Livestock means reduced access but it is common land

Comment
and grazing needed, so understand it.
Speeding along the roads is a problem.
Keep it as it is.
Poo bin please.
Toilets.
Everything managed well.
Pot holes filled in please.
Keep it as it is. Pave it better. Perhaps put in lines and wooden posts to get more cars in. Keep the Habitats Directive if we leave the EU so no one can build over it.
Dog poo on ground a lot so poo bins needed please. Fill in pot holes in car park.
In bigger car parks poo bins needed. Not in smaller ones. Here, Long and Gills Lap.
Should carry on with conservation e.g. cattle and restoring heathland. A portable map which shows all walks in forest and how they link up would be good. We will go to visitor centre now and ask.
They do a good job.
Walk the other side in winter. More grazing than used to be. Fine for moment.
Like it as it is.
Poo bins please. Dogs on leads in car parks. Dogs off lead area is getting smaller. Pot holes in car park. Know it costs money though.
Pot holes a bit of a problem. Poo bin but understand why don't have them. Came round the other day with a big bag and picked up all the poo I could find.
Poo bins but understand that comes with need for more management etc.
Keep it is.
Seen article that will be building on it and don't want that. Pot holes filled in please.
Dog poo picked up please. Families picnic in this area.
Prefer if they could fence both sides so livestock can swap between. The car park side gets very muddy and overgrown and could do with some animals. I walk the dog the other side in winter because it's a nicer and longer walk. Poo bins and litter bins also good.
Prevent horses racing across pathways.
Balanced management between conservation and activities.
Dead against any development of any kind in the area.
Dog waste bins.
More detailed walks and information.
Too much sheep grazing.
Not enough provision for bike riders.
Need licence for property access but don't contribute to maintenance.
Less mowing and cutting of gorse.
More dog mess bins in car parks.
Car park signs should be lower or higher. At eye level presently which makes seeing on coming vehicles hard when exiting car parks.
Bins for dog waste and litter.
Felling of trees and general moves towards making it a heathland. Too much grazing.
Sometimes broken glass around - no bins.
Get rid of management and keep trees, stop moves toward increasing heathland.
Dog waste bins needed.
Shame no good facilities at visitor centre when visited.

Comment
More walkways next to the stream.
No dogs should be allowed.
Potholes should be filled in.
All good.
More information on grazing areas. Too much freedom for horses.
Potholes are a pain.
Potholes. Plenty of car parking.
Less management.
All good.
Dog mess bins needed at car parks to encourage people to pick up.
Keep it as it is.
Like using, more grazing animals.
Dogs not on leads.
More access for horse boxes. Very happy that it is provided. Pothole work needs doing.
Potholes in car park.
Dog waste bins needed.
Dog waste bins and litter bins needed.
More rangers more poo bins no bikes on bridleways and off routes, rangers more powers of PCSOs.
More benches along paths.
Very fast traffic on adjoining road.
Bigger sign on car park entrance.
Improve dog walker's behaviour.
Less irresponsible dog owners.
Gate at end of path near the lodge.
Good parking, stricter rules for dog walkers.
Paths need clearing of brambles.
More people less areas to walk due to fences.
Lots of parking.
Poor car park conditions in winter, littering, and restricted horse riding in muddy areas.
More advice from staff/ rangers on wildlife.
Easier/more access for mobility scooters.
Improve visitor centre. Update signage. More grazing but not with sheep. A more professional approach to management rather than political.
More directional arrows.
Clearer signage for dog walkers relating to nesting birds. Stricter dog control rules in nest areas. Clearer signage that the area is a nature reserve not just dog walking area.
Car parks need resurfacing.
Potholes at south entrance horrendous.
Too many sheep on Crowborough.
Dog poo bins please.
Put back the litter bins.
Dog owners don't clean up after their animals. Could the wardens do more to enforce picking up of muck?
Poo bins please.

Comment
Poo & litter bins please.
No dog bins in car park.
Improve drainage.
Overnight parking would be nice.
Fill pot holes. Marked car parks and clearer signs in forest.
More maps showing routes. More bins and dog mess bins.
Keep doing what you're doing.
Thinks it is well managed.
Clearing bracken and gorse too much. Too much grazing.
Better cleared paths, often overgrown.
Cars and bikes can get through wooden block/post.
Mountain bikers are a problem.
Dog fouling is a real problem. Fill in some of the bigger ruts on paths.
Cycling access to some paths in the forest would be good & potentially money spinning.
Dog poo bin might encourage dog walkers to clean up after their animals.
Improve pathways gets very boggy in winter.
Lots of beech trees and gorse needs cutting down.
Dangerous trees near paths need clearing.
Nice and peaceful.
Keep as it is, gravel paths would ruin it.
Improve public transport. Allow bikes off road on managed paths, cycle paths joining towns would be good. Separate horses from walkers. Improve boggy paths in winter.
Litter bins and poo bins.
Keep horses on bridleways not footpaths
Protect steep banks from children. Bikes should be allowed. Detailed map of pathways- easy to get lost.
More set paths, trials online would be good especially with no phone signal. More signs like the Pooh bridge area. Maps in car park.
More control of cycles and motorbikes entering over bridge.
Very muddy in winter, improve main paths.
Better drainage on paths, very muddy next to border centre.
Better sign post from the car park, more options from car park.
Very muddy on paths in winter.
Dog poo bins along paths.
Dog poo bins.

Appendix 5: Home postcodes by local authority

Table lists all local authorities from which people were visiting (those visiting on a day trip/short visit from home only)

Local authority	Number of home postcodes
Wealden	312
Mid Sussex	53
Tunbridge Wells (B)	23
Lewes	12
Tandridge	6
Sevenoaks	5
Croydon London Borough	2
The City of Brighton and Hove	2
Tonbridge and Malling	2
Greenwich London Borough	2
Rother District	2
Lewisham London Borough	2
Canterbury	1
Sutton London Borough	1
Adur	1
Redbridge London Borough	1
Barnet London Borough	1
Ealing London Borough	1
Crawley	1
Eastbourne	1
Arun	1
Sheffield	1
Maidstone	1
Total	**434**