



Severn Estuary Visitor Survey 2022

Zoe Caals & Durwyn Liley

FOOTPRINT ECOLOGY, FOREST OFFICE, BERE ROAD,
WAREHAM, DORSET BH20 7PA
WWW.FOOTPRINT-ECOLOGY.CO.UK
01929 552444



FOOTPRINT
ECOLOGY

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Summary

This survey has been commissioned by Stroud District Council on behalf of the Gloucestershire local authorities and Natural England to understand current recreation patterns around the Severn Estuary and surrounding land. The results of the survey will be used to inform Habitats Regulations Assessments (HRAs) of local plans and underpin a recreation mitigation strategy for the Severn Estuary European site to address recreation impacts associated with new housing.

Two days were spent at each of the 21 survey locations between late January and early April 2022, with surveyors conducting face-to-face interviews with visitors whilst also keeping tally counts of the number of people seen.

Key results from the survey

Interviews

- 586 interviews were completed.
- 93% of interviewees were on a day trip or short visit from home, 5% were on holiday and 1% were staying with friends/family.
- Dog walking was the most common activity (cited by 49% of interviewees) followed by walking (35%), although a range of other activities were also named.
- Most visits were quite short, with 64% of interviewees spending less than an hour on site.
- Half of all interviewees (50%) visited the location where they were interviewed at least once a week, including 19% who visited at least once a day.
- Two thirds of interviewees (67%) visited the location where they were interviewed all year round.
- 63% of interviewees had arrived by car, 33% on foot, 3% by bicycle and 1% by public transport.
- The median route length taken during the interviewee's visit was 2.33km.
- The most common factors affecting interviewees routes were previous knowledge of the area (31%), muddy tracks/paths (15%) and the weather (12%).
- By far the most common reason for choosing to visit the location where they were interviewed was that it was close to home (36% of interviewees).
- The most frequently cited alternative site to visit was Frampton on Severn (named by 45 interviewees), followed by the Forest of Dean (41 interviewees).
- Interviewees put forward a wide range of changes that could be made to improve the location that they were visiting. These related to footpaths, parking facilities, litter and signage. Some interviewees said that access needed to be made better for disabled people.
- Half of interviewees lived within 4.1km (straight-line distance) of the survey location that they were visiting, and three quarters of interviewees lived within 11.3km. For

interviewees that were on a day trip or short visit from home, these figures were 3.7km and 10.4km.

Tally counts

- In total, 1,781 groups were counted by the surveyor, either entering, leaving or passing through at the survey point.
- These groups were made up of 3,270 people (including 281 minors) and 1,153 dogs.
- The mean group size was 1.8 people (including 0.2 minors) and 0.6 dogs.
- 6% of all people counted were on bicycles.
- Lydney Harbour and Severn Ham were the busiest survey locations in terms of the total number of people counted.
- More people were seen at weekends (an average of 12 people counted per hour) than on weekdays (7 people per hour).

Implications of the results in terms of potential zones of influence and mitigation options are discussed.

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Cover photo: River Severn at Purton © Footprint Ecology

1. Introduction

Overview

- 1.1 This report presents the results of a visitor survey of the Severn Estuary. The survey has been commissioned by Stroud District Council on behalf of a partnership of local planning authorities¹ and Natural England in order to better understand the recreation use of the Estuary and surrounding habitats, from the Severn Bridge to Tewkesbury. The survey results will be used to underpin Habitats Regulations Assessments (HRAs) of the local plans and underpin a strategy to address the cumulative impacts from increased recreation use of the estuary, associated with new housing growth.

The Severn Estuary SAC/SPA/Ramsar

- 1.1 The Severn Estuary is one of the largest estuaries in Europe and is internationally important for the habitat and species the estuary supports. Saltmarsh fringes the coast backed by grazing marsh with freshwater ditches and occasional brackish ditches. The subtidal seabed is rock and gravel with subtidal sandbanks. The site also supports reefs of the tube forming worm *Sabellaria alveolata*.
- 1.2 The estuary's classic funnel shape, unique in the UK, is a factor causing the Severn to have one of the highest tidal ranges in the world. A consequence of the large tidal range is an extensive intertidal zone, one of the largest in the UK.
- 1.3 The site qualifies as a Special Area of Conservation (SAC) for a range of coastal habitats and for three fish species. The Severn Estuary Special Protection Area (SPA) is classified for its waterbird assemblage and for a range of species that occur on passage/over winter including a range of both wildfowl and wader species. The Ramsar interest overlaps with the SAC and SPA features and includes the bird interest. Further details of the conservation importance and qualifying features can be found on the Natural England website².

¹ Cheltenham Borough Council, Cotswold District Council, Forest of Dean District Council, Gloucester City Council, Stroud District Council and Tewkesbury Borough Council.

² Relevant links and background are available for the [SAC](#), [SPA](#) and [Ramsar](#).

- 1.4 The bird populations associated with the estuary move widely and make use of a range of sites away from the estuary during the course of the winter. Waterbodies, wetlands and low-lying farmland within the can provide important feeding and roost sites which may vary in importance within a season and across years, depending on water-levels, food availability and a range of other factors. While such sites lie outside the SPA they are functionally linked in that they play a role in supporting the relevant bird interest. Key locations within the Vales are described by Palmer and Smart (2021) who identified 21 sites that held more than the equivalent of 1% of the SPA population of one or more species for 50% or more of months within one or more of three WeBS counting seasons.

Balancing recreation and nature conservation

- 1.5 In the UK, many of our most important nature conservation sites have legal rights of access, for example through Public Rights of Way or Open Access through the Countryside and Rights of Way Act (CRoW) 2000. People are often drawn to such sites as they are large, scenic and often few other alternatives exist. Recreation use can include a variety of activities, ranging from the daily dog walks to competitive adventure and water sports. There can therefore be a difficult balancing act between providing for an increasing demand for access without compromising the integrity of protected wildlife sites.
- 1.6 There is now a strong body of evidence showing how increasing levels of access can have negative impacts on wildlife. Visits to the natural environment have shown a significant increase in England as a result of the increase in population and a trend to visit more (O'Neill, 2019). During the Covid pandemic access levels have increased further and local outdoor space has become critical for many in providing places for recreation, including space to socialise and exercise (Day, 2020; Kleinschroth & Kowarik, 2020).
- 1.7 The challenges are particularly acute in southern England, where population density is highest. Nature conservation impacts are varied and include disturbance, increased fire risk, contamination and damage (for general reviews see: Liley et al., 2010; Lowen et al., 2008; Ross et al., 2014; Underhill-Day, 2005).
- 1.8 The issues are not however straightforward. It is now increasingly recognised that access to the countryside is crucial to the long term success of nature

conservation projects, for example through enforcing pro-environmental behaviours and a greater respect for the world around us (Richardson et al., 2016). Access also brings wider benefits to society that include benefits to mental/physical health (Keniger et al., 2013; Lee & Maheswaran, 2011; Pretty et al., 2005) and economic benefits (ICF GHK, 2013; ICRT, 2011; Keniger et al., 2013; The Land Trust, 2018). Nature conservation bodies are trying to encourage people to spend more time outside and government policy is also promoting countryside access in general (e.g. through enhancing coastal access). Issues are likely to be site specific, as the distribution of vulnerable features, the way people behave and the types of access that take place will vary between locations.

Legislative context

- 1.9 SACs, SPAs and Ramsar sites are part of the national network of 'European sites'³; they are the most important sites for nature conservation, form the cornerstone of UK nature conservation policy and are afforded the highest degree of protection in domestic policy and law.
- 1.10 The designation, protection and restoration of European sites is embedded in the Conservation of Habitats and Species Regulations 2017, as amended, which are commonly referred to as the 'Habitats Regulations'. Importantly, the most recent amendments (the Conservation of Habitats and Species (amendment) (EU Exit) Regulations 2019⁴) take account of the UK's departure from the EU.
- 1.11 Local Plans set the levels of housing growth and allocate land for development. The strict protection afforded to European sites means that a local planning authority, as competent authority, should only adopt a plan where it can be ascertained that there will not be an adverse effect on the integrity of any European site(s) (or there are particular exceptional circumstances).

³ This term is long established in government policy e.g. ODPM Circular 06/2005: Biodiversity and Geological Conservation – Statutory Obligations and their Impact within the Planning System (16 August 2005), to be read in conjunction with the current NPPF, other Government guidance and the current version of the Habitats Regulations.

⁴ The amending regulations generally seek to retain the requirements of the 2017 Regulations but with adjustments for the UK's exit from the European Union. See Regulation 4, which also confirms that the interpretation of these Regulations as they had effect, or any guidance as it applied, before exit day, shall continue to do so.

Previous surveys

- 1.12 This report has therefore been commissioned to inform the Habitats Regulations Assessments (HRAs) for relevant authorities Local Plans. The report also updates previous visitor survey work (Liley et al., 2017; Southgate & Colebourn, 2016). The 2016 survey was commissioned by Stroud District Council to inform previous HRA work. It was recognised at the time that while baseline levels of recreational pressure on the Estuary were relatively low, disturbance could still have a high impact and recreational use was likely to increase as new housing, employment and tourism development comes forward. A likely significant effect on the conservation status of the SPA's qualifying features could not be ruled out. Stroud District Council therefore established a mitigation strategy (Stroud District Council, 2017) to run through until 2022, by which time the Stroud's updated local plan was anticipated and it was recognised that a review and update would be required.
- 1.13 The results will inform the production of that updated mitigation strategy which can now be expanded to address the cumulative effects of housing growth across a wide area, spanning multiple authorities. This report has therefore been commissioned by Cheltenham Borough Council, Cotswold District Council, Forest of Dean District Council, Gloucester City Council, Stroud District Council and Tewkesbury Borough Council working in partnership to broadly span much of the area from the Severn Bridge to Tewkesbury.

2. Survey method

Overview

- 2.1 On-site visitor surveys were undertaken between late January and early April 2022, and included both counts of the number of visitors seen, and face-to-face interviews with a random sample of visitors.

Survey locations

- 2.2 Survey locations were vehicle and/or pedestrian access points that provide public access for outdoor recreation. Some of these locations had been previously surveyed in 2016 (Southgate & Colebourn, 2016) or 2017 (Liley et al., 2017).
- 2.3 An initial list of suggested locations was supplied by the steering group and this list was then revised through discussions with the steering group and site visits, ensuring a good geographical spread across the area. A total of 21 locations were selected and these are listed in Table 1 and shown in Map 1.
- 2.4 The 21 survey locations included a number of points that were well outside the SPA/SAC yet within the Severn catchment, reflecting locations identified as potentially functionally-linked to the SPA, by Palmer and Smart (2021). This subset of survey points involved 7 out of the 21 and these are clearly identified in Table 1 and throughout the rest of report as relevant. Broadly we refer to those locations north of Arlingham / Newnham as “beyond estuary” while those to the south (14 survey points) have direct access to the SPA and are referred to throughout the rest of the report as “estuary” survey points⁵.

⁵ To avoid any confusion we include the survey points at Arlingham Old Passage and Newnham car park as estuary points as while they are clearly outside the SPA boundary they are more in character with the open parts of the estuary and it is an easy walk from those locations, along the river bank, to the SPA. Similarly, Frampton Pools and Splatt Bridge are treated as estuary due to their proximity to the SPA.

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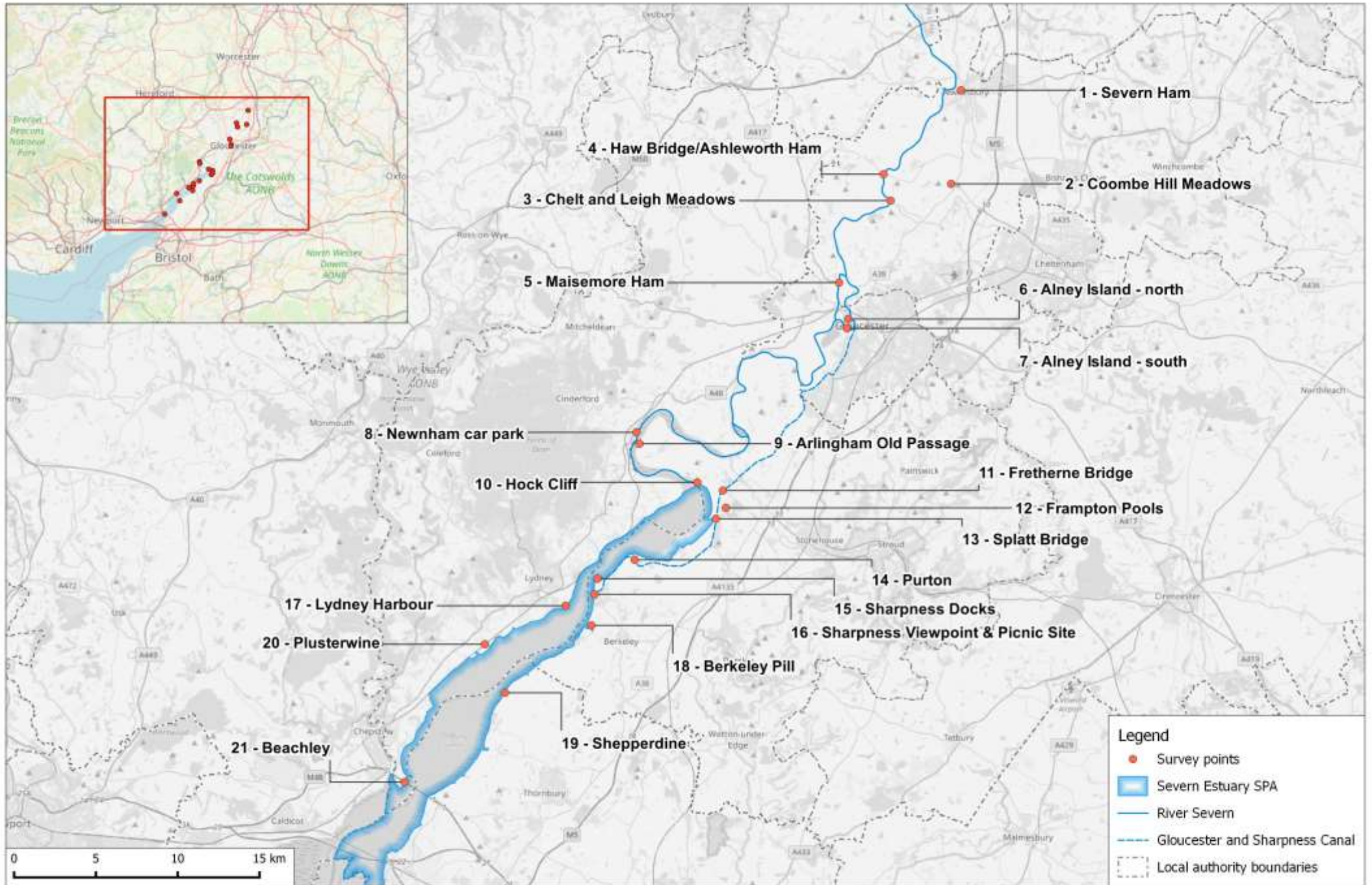
Table 1: Summary of survey locations including distance to nearest parking. Parking capacity only included for those survey locations which have parking less than 100m away. Orange shading (points 1 – 7) highlights those survey points that are beyond the estuary and blue shading (points numbered 8 – 21) highlights the estuary survey points.

ID	Name	Distance to nearest parking	Approx. parking capacity	Previous survey	Grid reference	Description of location
1	Severn Ham	<100m	40		SO89183292	NE corner of site, over the footbridge from Back of Avon car park.
2	Coombe Hill Meadows	<100m	30		SO88572720	GWT Coombe Hill Meadows Reserve car park. Nature reserve car park with bridleways providing range of route options from car park.
3	Chelt and Leigh Meadows	<100m	2		SO84872617	North of Red Lion pub/campsite where footpath leaves the road, just after River Chelt.
4	Haw Bridge/ Ashleworth Ham	<100m	2		SO84452779	Haw Bridge Inn and campsite with footpath access along river and across floodplain. Pub currently closed for refurbishment. Additional parking on other side of road.
5	Maisemore Ham	<100m	6		SO81722116	Small parking area near Maisemore Bridge with paths heading south and north. Northward route bends round and is the Three Choirs Way.
6	Alney Island – north	<100m	25		SO82291905	Car park to west of Gloucester with numerous path options. Survey point to south of car park intercepting people heading towards the nature reserve.
7	Alney Island – south	100-500m			SO82211837	On cycle path heading north/south, not far from Castle Meads car park.
8	Newnham car park	<100m	12		SO69341201	Car park and toilets just off A48 on estuary shore.
9	Arlingham Old Passage	<100m	15	EPR 2016	SO69521132	Car park and access to Severn Way by the Old Passage restaurant at the end of Passage Road.

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ID	Name	Distance to nearest parking	Approx. parking capacity	Previous survey	Grid reference	Description of location
10	Hock Cliff	>500m		EPR 2016	SO73060896	On Severn Way at footpath junction (footpath coming from north and Arlingham Road). Informal parking by church or roadside.
11	Fretherne Bridge	<100m	13	EPR 2016	SO73060896	On Severn Way by Fretherne Swing Bridge (on north side of canal). Small car park on south side, some on-street parking on north side.
12	Frampton Pools	100-500m			SO74810739	Watery Lane just after turning to sailing club, where footpath crosses Watery Lane.
13	Splatt Bridge	<100m	10	EPR 2016	SO74200673	Survey point on swing bridge. On Severn Way. Parking options nearby.
14	Purton	<100m	16	EPR 2016	SO69230422	On Severn Way (towpath) just over the Upper Swing Bridge, opposite the car park.
15	Sharpness Docks	100-500m		EPR 2016	SO66960306	On shoreline within the docks, to the east of Sharpness Point and north side of Docks.
16	Sharpness Viewpoint & Picnic Site	<100m	14	EPR 2016	SO66790211	Survey point at Sharpness Viewpoint car park. Grassy area and picnic area with car park.
17	Lydney Harbour	<100m	16	Footprint Ecology 2017	SO65010142	At end of Harbour Road, by lock gates in Lydney Harbour.
18	Berkeley Pill	>500m		EPR 2016	SO66580021	Survey point on Severn Way and path junction. Survey point a walk from any parking, remote and exposed.
19	Shepperdine	<100m	4		ST61319610	End of Shepperdine Road with access to the Severn Way. Former site of the Windbound Inn.
20	Plusterwine	>500m			ST60089906	Near Woolaston level crossing at end of Station Road. Footpath access to estuary.
21	Beachley	<100m	10		ST55179064	Car park at end of Beachley Road, almost under the bridge and on south side of bridge.

Map 1: Survey locations



Interviews

- 2.5 Face-to-face interviews were conducted with a random sample of visitors, by the surveyor approaching the next person they saw after completing the previous interview. Only one person was interviewed per group and no minors (under 18s) were interviewed.
- 2.6 The questionnaire was designed using Snap Surveys software and was conducted using tablets running the Snap Mobile Anywhere app. The app enables interviews to be conducted offline and then uploaded when the device is next connected to the internet. A copy of the questionnaire is provided in Appendix 1.
- 2.7 It is important to note that some of the questions had pre-determined categories to facilitate recording of the interviewee's responses, however these were not shown to the interviewee or read out loud, in order to avoid any bias.
- 2.8 As part of the interview, visitors were asked to describe the route they had taken on site (or were planning to take). This was captured by the surveyor on a paper map, using a unique reference number to match it to the corresponding questionnaire data, and these routes were subsequently digitised into GIS for analysis.
- 2.9 After each interview, the surveyor recorded additional information about the total number of people in the interviewed group, the number of minors (under 18s), the number of dogs with them and how many of their dogs were off lead (Q26).

Visitor counts

- 2.10 Alongside the interview data, surveyors maintained a tally count of all people seen, recording the number of groups (of any size), individuals, minors, dogs and cyclists. These counts allow a comparison across survey points in terms of footfall, and allow the proportion of visitors that were interviewed at each location to be determined.
- 2.11 Separate tallies were maintained, as relevant, at each survey point for those 'entering' (i.e. starting their visit at the survey point), 'leaving' (i.e. someone finishing their visit) or 'passing through' (those clearly passing the surveyor mid-way through their visit).

Timings

- 2.12 Fieldwork took place between 29th January and 3rd April 2022. The survey was carried out to coincide with when the wintering and passage bird interest were present, the key period for the Severn's important bird assemblage. Each location was surveyed for 16 hours, with 8 hours on a weekend day and 8 hours on a weekday, spread across daylight hours in order to capture a range of site users. Fieldwork was split into 2-hour sessions as follows:
- January/February: 07:00-09:00, 09:30-11:30, 12:30-14:30, 15:00-17:00
 - March/April: 07:00-09:00, 10:00-12:00, 13:00-15:00, 16:00-18:00.
- 2.13 Fieldwork was originally scheduled to finish in mid-March, however the weather was challenging at times, and some fieldwork had to be rescheduled to avoid severe weather events and flooding. In particular, Storms Eunice and Franklin in late February brought major weather impacts, with a red warning for wind, and severe flood warnings for the Severn. Both of the Severn Bridges were temporarily closed. Between 12th and 20th February, rainfall across the River Severn catchment was 10% higher than the monthly average for February⁶. It is not thought that the delay to fieldwork would have had a detrimental impact to the integrity of the data.
- 2.14 None of the fieldwork coincided with the Severn Bore, so as not to create any bias in the data that could be caused by visitors travelling specifically for this event.

⁶ https://www.metoffice.gov.uk/binaries/content/assets/metofficegovuk/pdf/weather/learn-about/uk-past-events/interesting/2022/2022_02_storms_dudley_eunice_franklin.pdf

3. Results: visitor counts

- 3.1 The number of visitors counted by the surveyor are summarised in Table 2. In total, 1,781 groups (of any size, including lone individuals) were counted either entering, leaving or passing through the site at the survey point. These groups contained a total of 3,270 people, including 281 minors. They had 1,153 dogs with them and 193 people were on bicycles.
- 3.2 The early afternoon session tended to be the busiest period in terms of the total number of people counted, followed by the late morning session (Figure 1). The early morning session was the quietest period for most survey locations.
- 3.3 At Sharpness Viewpoint & Picnic Site and at Beachley the surveyor noted that several people parked up to read, eat or enjoy the view, but then drove off without having left their vehicles, in which case they were not included in the tally counts.
- 3.4 Overall, the weekend counts were busier than the weekday counts, with 2,082 people counted on weekend days and 1,188 on weekdays. The average number of adults and minors counted per hour on weekdays/weekends is displayed by survey location in Figure 2. However, it is worth stressing that this was based on just 1 weekend day and 1 weekday at each survey location, and although we avoided days with the worst weather, some locations had been affected by recent flooding which may have deterred people from visiting.
- 3.5 Minors accounted for 9% of the total people counted, however this figure was 12% at weekends and only 5% on weekdays.
- 3.6 Cyclists made up 6% of the total people counted, however this varied greatly by survey location, as shown in Map 2. The highest percentages of cyclists were observed at Chelt and Leigh Meadows (37% of all people counted) and at Alney Island – south (34%). The percentage of people who were on bikes was the same for weekends and for weekdays – 6%.
- 3.7 Overall, the mean group size was 1.8 people per group, including 0.2 minors. A 'typical' group also had 0.6 dogs with them. The number of dogs was equivalent to 1 dog per 2.8 people. At the estuary survey points with direct access to the SPA the mean group size was 1.9 people per group, including 0.2 minors. A 'typical' group also had 0.7 dogs with them. There was no significant difference in the group size comparing the estuary survey points

with those that were beyond the estuary ($\chi^2_1=1.58$, $p = 0.21$). There was however a significant difference in the dogs per group, with more dogs per group at the estuary survey points ($\chi^2_1=10.08$, $p=0.001$).

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Table 2: Summary of the tally data at each survey location. Red values indicate the highest three values in each column. Orange shading indicates those survey points beyond the estuary and the blue shading the estuary survey points.

Location	Entering					Leaving					Passing through				
	Groups	People	Dogs	Minors	Bicycles	Groups	People	Dogs	Minors	Bicycles	Groups	People	Dogs	Minors	Bicycles
Total: Points beyond estuary (1-7)	341	599	206	68	28	267	484	141	48	32	45	58	10	4	36
1 - Severn Ham	190	337	114	42	1	126	225	62	18	0	8	11	4	0	0
2 - Coombe Hill Meadows	29	57	10	4	0	18	32	12	1	1	0	0	0	0	0
3 - Chelt and Leigh Meadows	14	32	14	7	0	9	21	6	1	0	35	45	0	4	36
4 - Haw Bridge/Ashleworth Ham	5	10	0	0	0	9	17	6	0	0	2	2	6	0	0
5 - Maisemore Ham	1	2	0	0	0	2	3	0	0	0	0	0	0	0	0
6 - Alney Island – north	65	101	53	8	3	45	97	31	16	5	0	0	0	0	0
7 - Alney Island – south	37	60	15	7	24	58	89	24	12	26	0	0	0	0	0
Total: Estuary survey points (8 - 21)	498	972	339	86	45	445	833	328	59	35	185	324	129	16	17
8 - Newnham car park	36	64	23	5	0	32	56	27	3	0	31	40	25	0	0
9 - Arlingham Old Passage	33	58	37	1	5	39	65	42	7	0	5	14	4	2	0
10 - Hock Cliff	10	20	9	5	0	7	15	5	3	0	10	19	10	0	0
11 - Fretherne Bridge	43	86	24	11	2	29	58	11	4	8	9	13	7	0	1
12 - Frampton Pools	34	63	33	7	1	40	58	54	4	0	20	28	21	0	0
13 - Splatt Bridge	32	57	17	0	3	30	60	18	0	4	12	17	1	0	3
14 – Purton	44	80	24	6	1	39	77	18	5	0	28	42	15	2	6
15 - Sharpness Docks	29	51	13	5	9	28	39	21	2	6	0	0	0	0	0
16 - Sharpness Viewpoint & Picnic Site	25	42	23	1	0	29	43	16	1	0	0	0	0	0	0
17 - Lydney Harbour	155	362	77	34	11	116	276	56	22	9	51	128	29	12	6
18 - Berkeley Pill	0	0	0	0	0	0	0	0	0	0	15	18	13	0	0
19 – Shepperdine	15	17	14	1	3	15	18	15	1	3	4	5	4	0	1
20 – Plusterwine	6	8	7	0	0	5	6	6	0	0	0	0	0	0	0
21 – Beachley	36	64	38	10	10	36	62	39	7	5	0	0	0	0	0
All locations	839	1,571	545	154	73	712	1,317	469	107	67	230	382	139	20	53

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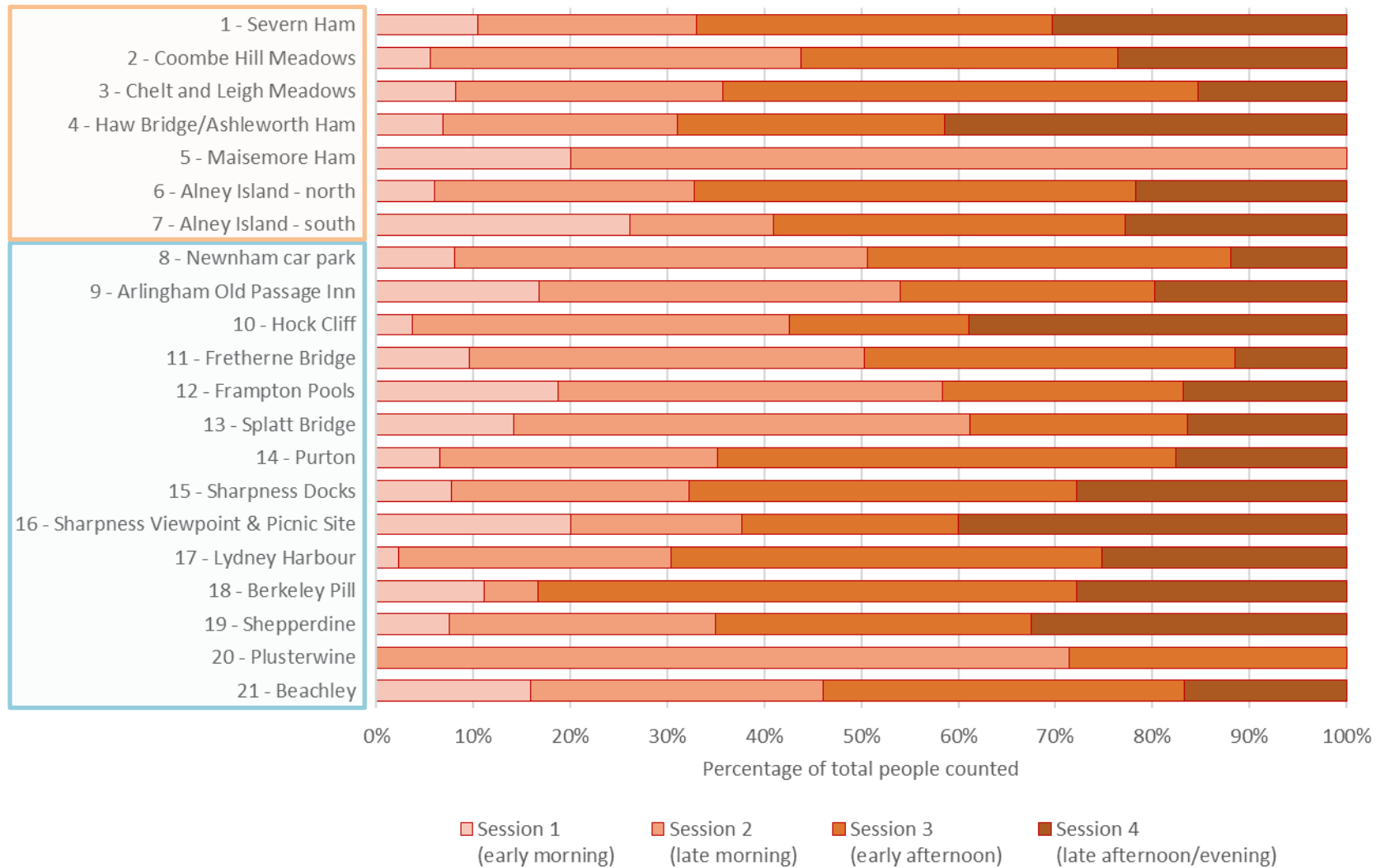


Figure 1: Proportion of the total people who were counted in each survey session, by survey location. The blue box on the left hand access indicates the estuary survey points, the orange box those beyond the estuary.

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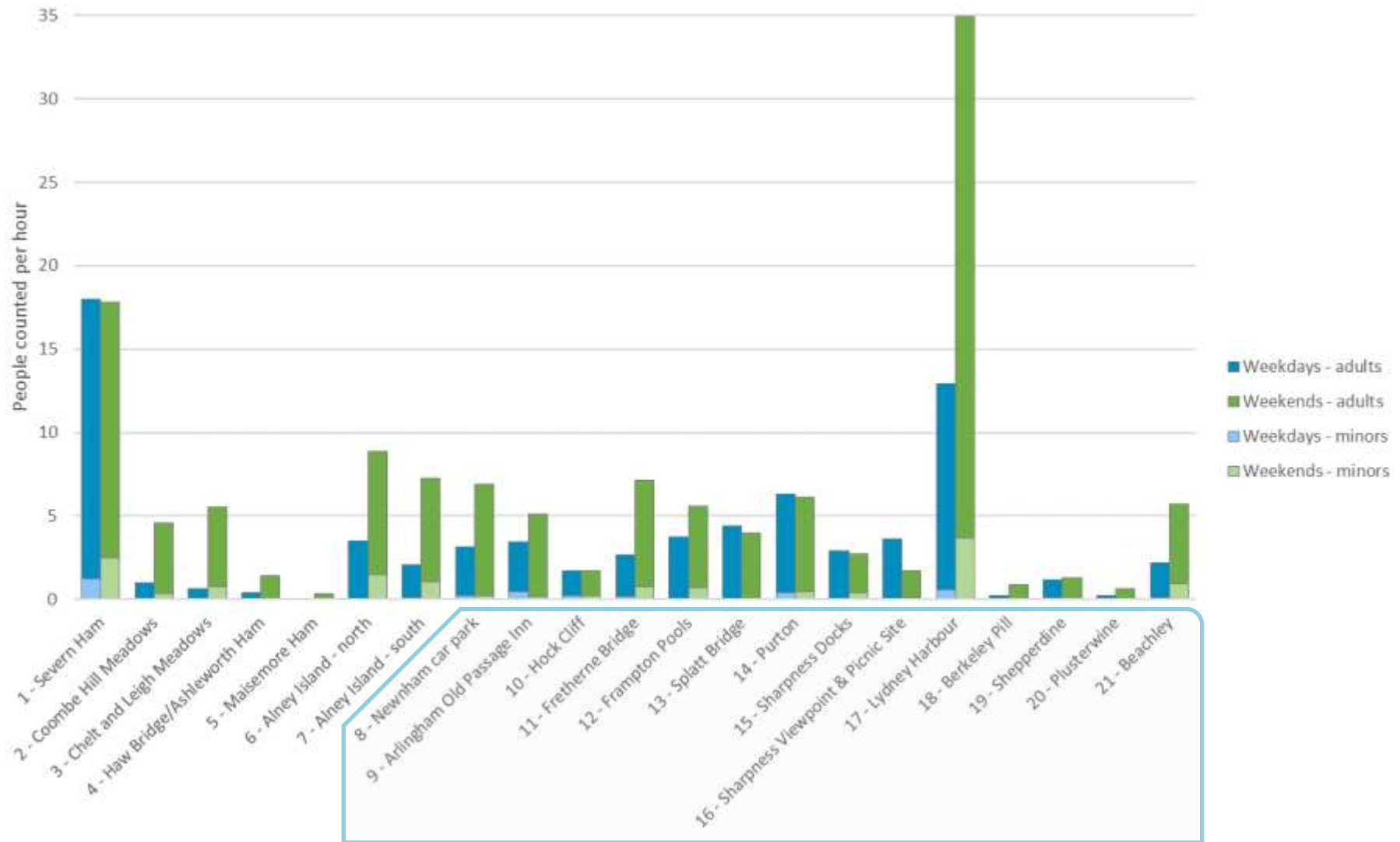
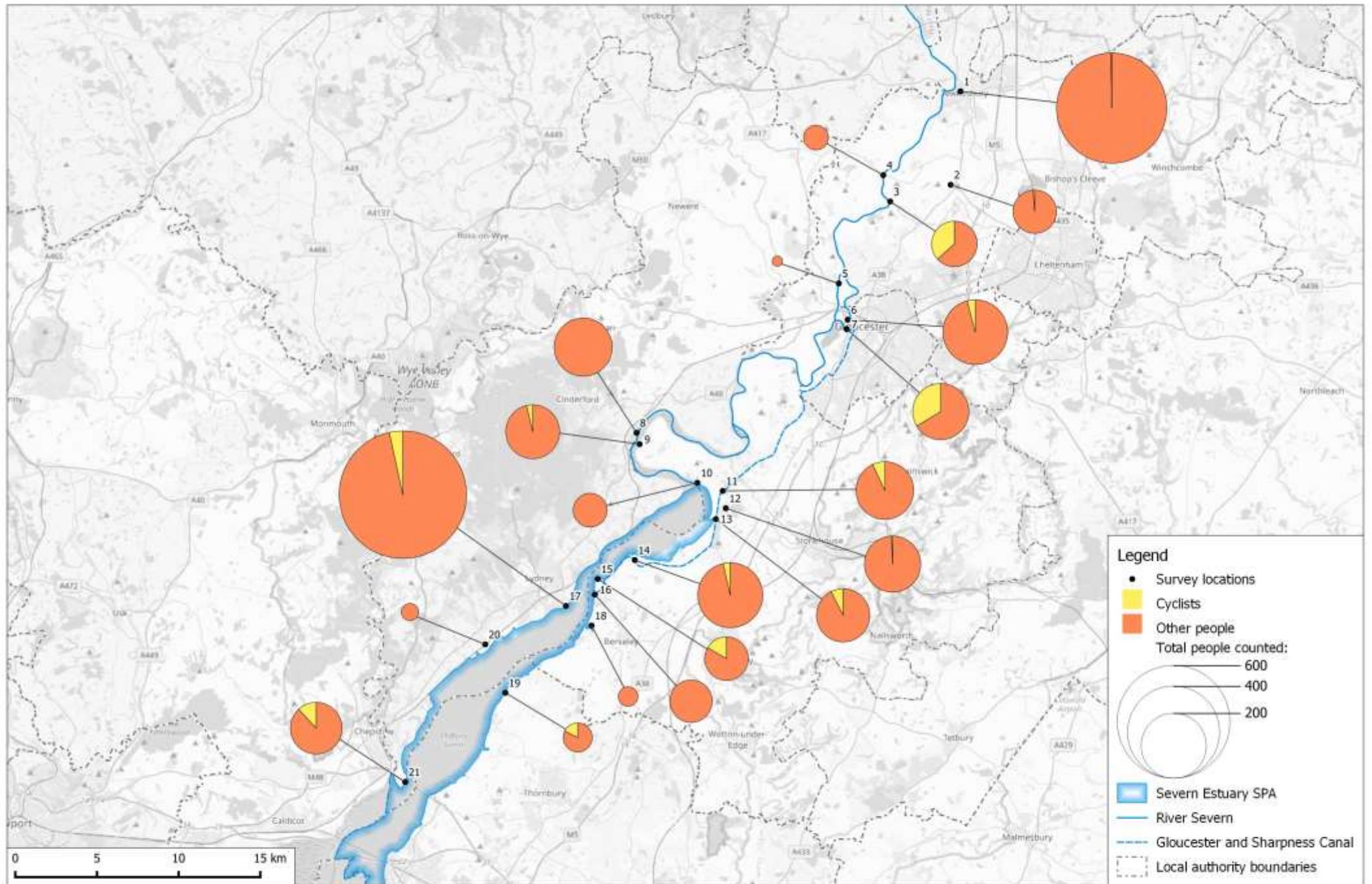


Figure 2: Average number of people counted per hour at each of the survey locations, on weekdays (blue bars) and at weekends (green bars). Blue box indicates the estuary survey points.

Map 2: Proportion of cyclists counted at each survey location. Pie charts are sized according to the total number of people who were counted at each location.



4. Results: interview data

Number of interviews

- 4.1 Over the 42 days of fieldwork, 586 interviews were completed (Table 3), of which 393 (67%) were at the estuary survey points. 308 of the overall total of 586 were conducted at weekends (53%) and 278 were done on weekdays (47%). The median interview duration was just over 6 minutes.
- 4.2 In addition to the 586 people who were interviewed, another 214 people were approached but did not take part for various reasons. This included 58 people who had already been interviewed, so were not interviewed again, 6 who could not take part due to language issues and 3 who did not take part due to concerns relating to Covid-19.
- 4.3 With regard to the other 147 people who were approached for interview, the most common reasons for declining to take part were either due to the weather (too cold/wet/windy) or not having enough time. There were also several people who were jogging or cycling who did not want to stop. However, some people who initially did not want to take part later did so on their return.
- 4.4 The locations with the highest proportion of refusals were the two Alney Island survey locations, which was mostly due to joggers, cyclists and people on their way to work, who didn't have time to stop.

Composition of interviewed groups

- 4.5 Almost half (48%) of the interviewees were on their own, 42% were with one other person and the remaining 10% were in groups of 3 or more people. The mean group size was 1.7 people. Only 9% of interviewees had one or more minors (under 18s) with them.
- 4.6 Over half (56%) of interviewees had one or more dogs with them. At the time of the interview, 44% of dogs with interviewees were off lead.

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Table 3: Number of people approached for interview at each survey location. Red values indicate the highest three values in each column. Orange shading indicates those survey points beyond the estuary and the blue shading the estuary survey points.

Location	Already interviewed	Language issues	Declined due to Covid-19	Declined due to other reason	Total interviews	Total people approached
Total: Points beyond estuary (1-7)	13	3	0	60	193	269
1 - Severn Ham	5	1	0	11	63	80
2 - Coombe Hill Meadows	0	2	0	0	26	28
3 - Chelt and Leigh Meadows	0	0	0	1	14	15
4 - Haw Bridge/Ashleworth Ham	0	0	0	1	9	10
5 - Maisemore Ham	0	0	0	0	2	2
6 - Alney Island - north	5	0	0	23	41	69
7 - Alney Island - south	3	0	0	24	38	65
Total: Estuary survey points (8 - 21)	45	3	3	87	393	531
8 - Newnham car park	6	0	0	14	33	53
9 - Arlingham Old Passage	5	1	1	6	33	46
10 - Hock Cliff	2	0	0	1	14	17
11 - Fretherne Bridge	7	0	1	9	31	48
12 - Frampton Pools	7	0	0	1	44	52
13 - Splatt Bridge	5	0	0	9	40	54
14 - Purton	0	0	1	8	44	53
15 - Sharpness Docks	2	0	0	11	22	35
16 - Sharpness Viewpoint & Picnic Site	2	0	0	7	24	33
17 - Lydney Harbour	0	0	0	13	49	62
18 - Berkeley Pill	3	0	0	2	9	14
19 - Shepperdine	0	2	0	2	17	21
20 - Plusterwine	0	0	0	0	5	5
21 - Beachley	6	0	0	4	28	38
All locations	58	6	3	147	586	800

Visit type (Q1)

- 4.7 The majority of interviewees (544 interviewees, 93%) were on a day trip or short visit from home. 30 interviewees (5%) were on holiday, 6 interviewees (1%) were staying with friends or family and the remaining 6 interviewees (1%) didn't fit into any of the above categories, for example, they were working away from home or on a university placement.
- 4.8 Nearly half of the holiday makers (14 interviewees, 47% of the 30 holiday-makers interviewed) were at the locations identified as potentially functionally-linked to the SPA, notably at Severn Ham where 10 interviewees were on holiday (33% of all the holiday makers interviewed).

Main activity (Q2)

- 4.9 Overall, the most common activity of interviewees was dog walking (289 interviewees, 49%), followed by walking (204 interviewees, 35%). Together, these two activities accounted for 84% of interviewees (Figure 3). Activities that were each given by fewer than 5 interviewees (<1%) are grouped in the pie chart as 'other activity' and included boating, commuting to work, fossil hunting, photography, 'rucking' and shopping.

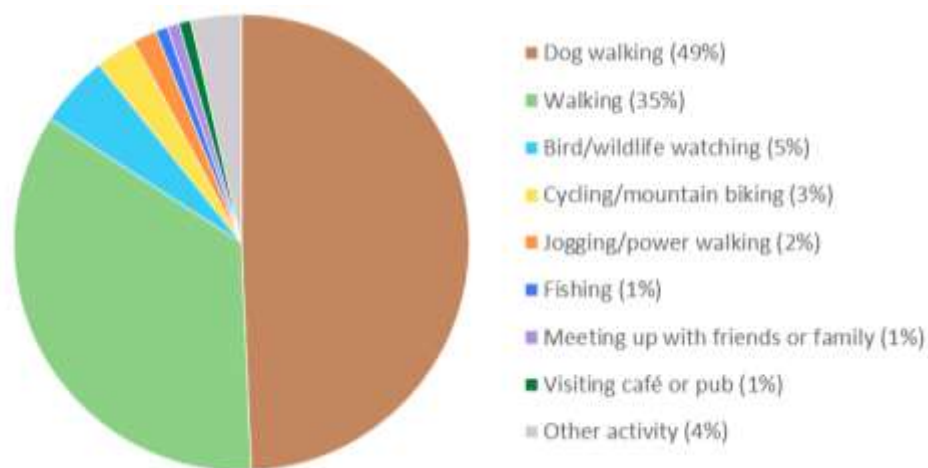


Figure 3: Main activity given by interviewees (Q2)

- 4.10 It is worth noting that there was a difference between the number of interviewees who were observed to have had one or more dogs with them (327 interviewees, 56%) and the number of interviewees who described their main activity as dog walking (289 interviewees, 49%). This discrepancy relates to those interviewees who indicated that their main activity was walking, birdwatching, meeting up with friends or family, visiting a café or pub, or jogging which they were doing with a dog.

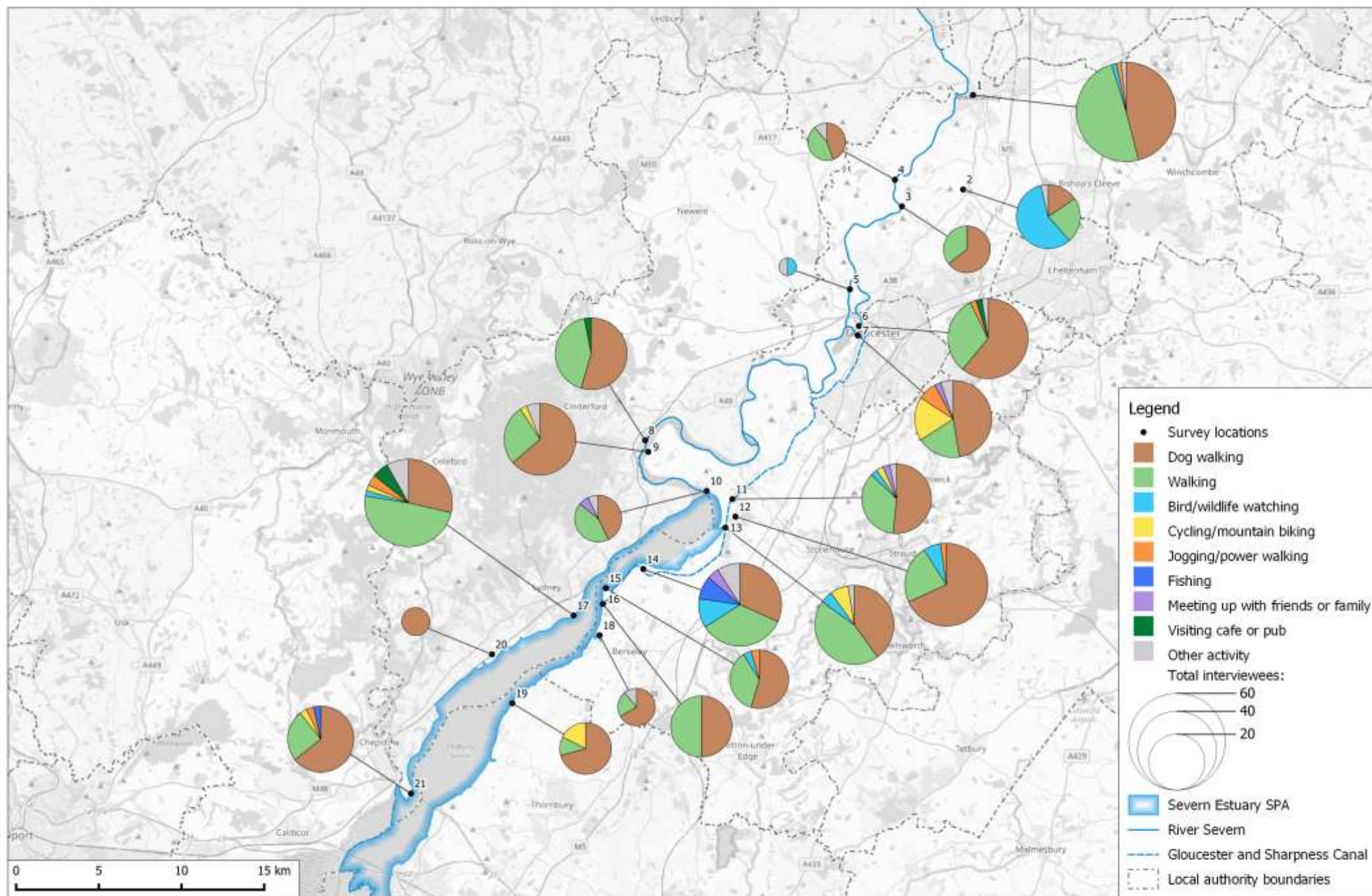
4.11 At individual survey locations, either dog walking or walking was the most common activity for all but two survey locations. These were Coombe Hill Meadows and Maisemore Ham, where the most common activity was bird/wildlife watching (Table 4 and Map 3). At the estuary survey points with direct access to the SPA, 46% of interviewees were dog walking compared to 51% at the other survey points beyond the estuary, there was however no significant difference in the relative proportions of interviewees dog walking, walking or undertaking other activities at the two types of location ($\chi^2_2=3.27$, $p=0.195$).

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Table 4: Main activity of interviewees by survey location. The highest value in each row is in red. Orange shading indicates those survey points beyond the estuary and the blue shading the estuary survey points.

Location	Dog walking	Walking	Bird/ wildlife watching	Cycling/ mountain biking	Jogging/ power walking	Fishing	Visiting café or pub	Meeting up with friends or family	Other activity	Total
Total: Points beyond estuary (1-7)	89 (46%)	66 (34%)	17 (9%)	7 (4%)	5 (3%)	0 (0%)	7 (4%)	1 (1%)	1 (1%)	193 (100%)
1 - Severn Ham	29 (46%)	31 (49%)	1 (2%)	0 (0%)	1 (2%)	0 (0%)	0 (0%)	0 (0%)	1 (2%)	63 (100%)
2 - Coombe Hill Meadows	4 (15%)	6 (23%)	15 (58%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	1 (4%)	26 (100%)
3 - Chelt and Leigh Meadows	9 (64%)	5 (36%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	14 (100%)
4 - Haw Bridge/Ashleworth Ham	4 (44%)	4 (44%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	1 (11%)	9 (100%)
5 - Maisemore Ham	0 (0%)	0 (0%)	1 (50%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	1 (50%)	2 (100%)
6 - Alney Island – north	25 (61%)	13 (32%)	0 (0%)	0 (0%)	1 (2%)	0 (0%)	1 (2%)	0 (0%)	1 (2%)	41 (100%)
7 - Alney Island – south	18 (47%)	7 (18%)	0 (0%)	7 (18%)	3 (8%)	0 (0%)	0 (0%)	1 (3%)	2 (5%)	38 (100%)
Total: estuary survey points (8 – 21)	200 (51%)	138 (35%)	13 (3%)	10 (3%)	5 (1%)	5 (1%)	14 (4%)	4 (1%)	4 (1%)	393 (100%)
8 - Newnham car park	18 (55%)	14 (42%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	1 (3%)	0 (0%)	0 (0%)	33 (100%)
9 - Arlingham Old Passage	21 (64%)	9 (27%)	0 (0%)	1 (3%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	2 (6%)	33 (100%)
10 - Hock Cliff	6 (43%)	6 (43%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	1 (7%)	1 (7%)	14 (100%)
11 - Fretherne Bridge	16 (52%)	11 (35%)	1 (3%)	1 (3%)	0 (0%)	0 (0%)	0 (0%)	1 (3%)	1 (3%)	31 (100%)
12 - Frampton Pools	30 (68%)	10 (23%)	3 (7%)	0 (0%)	1 (2%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	44 (100%)
13 - Splatt Bridge	16 (40%)	18 (45%)	2 (5%)	3 (8%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	1 (3%)	40 (100%)
14 - Purton	14 (32%)	15 (34%)	5 (11%)	0 (0%)	0 (0%)	4 (9%)	0 (0%)	2 (5%)	4 (9%)	44 (100%)
15 - Sharpness Docks	12 (55%)	8 (36%)	1 (5%)	0 (0%)	1 (5%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	22 (100%)
16 - Sharpness Viewpoint & Picnic Site	12 (50%)	12 (50%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	24 (100%)
17 - Lydney Harbour	14 (29%)	24 (49%)	1 (2%)	1 (2%)	2 (4%)	0 (0%)	3 (6%)	0 (0%)	4 (8%)	49 (100%)
18 - Berkeley Pill	6 (67%)	2 (22%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	1 (11%)	9 (100%)
19 - Shepperdine	12 (71%)	2 (12%)	0 (0%)	3 (18%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	17 (100%)
20 - Plusterwine	5 (100%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	5 (100%)
21 - Beachley	18 (64%)	7 (25%)	0 (0%)	1 (4%)	1 (4%)	1 (4%)	0 (0%)	0 (0%)	0 (0%)	28 (100%)
All locations	289 (49%)	204 (35%)	30 (5%)	17 (3%)	10 (2%)	5 (1%)	5 (1%)	5 (1%)	21 (4%)	586 (100%)

Map 3: Interviewee activities at each survey location. Pie charts are sized according to the total number of interviewees.



Visit duration (Q3)

4.12 Almost two thirds of visitors were making visits of less than an hour, with 19% spending less than 30 minutes and 45% spending 30 minutes to 1 hour (Table 5).

4.13 Longer visits tended to be made by those interviewees who were bird/wildlife watching or fishing, of which 77% and 100% respectively were spending over an hour on site. The visit duration of cyclists varied greatly, with some spending less than 30 minutes and some more than 4 hours.

Table 5: Visit duration of interviewees by their main activity. The highest value in each row is highlighted in red.

Main activity	Less than 30 mins	30 mins to 1 hour	1-2 hours	2-3 hours	3-4 hours	4+ hours	Total
Dog walking	58 (20%)	145 (50%)	71 (25%)	8 (3%)	4 (1%)	3 (1%)	289 (100%)
Walking	40 (20%)	92 (45%)	47 (23%)	15 (7%)	4 (2%)	6 (3%)	204 (100%)
Bird/wildlife watching	0 (0%)	7 (23%)	14 (47%)	8 (27%)	1 (3%)	0 (0%)	30 (100%)
Cycling/ mountain biking	3 (18%)	5 (29%)	5 (29%)	2 (12%)	0 (0%)	2 (12%)	17 (100%)
Jogging/ power walking	2 (20%)	7 (70%)	1 (10%)	0 (0%)	0 (0%)	0 (0%)	10 (100%)
Fishing	0 (0%)	0 (0%)	2 (40%)	0 (0%)	1 (20%)	2 (40%)	5 (100%)
Meeting up with friends or family	1 (20%)	3 (60%)	0 (0%)	1 (20%)	0 (0%)	0 (0%)	5 (100%)
Visiting café or pub	2 (40%)	2 (40%)	1 (20%)	0 (0%)	0 (0%)	0 (0%)	5 (100%)
Other	7 (33%)	3 (14%)	9 (43%)	0 (0%)	0 (0%)	2 (10%)	21 (100%)
All activities	113 (19%)	264 (45%)	150 (26%)	34 (6%)	10 (2%)	15 (3%)	586 (100%)

4.14 Survey locations where interviewees stayed longest (over two thirds of interviewees spent over an hour there) were Berkeley Pill, Sharpness Marina and Splatt Bridge. Locations with shorter visits (over 90% of interviewees spent less than an hour there) were Plusterwine and Severn Ham.

4.15 The duration of visits was generally longer for those interviewed at weekends rather than those interviewed on weekdays, when 40% of interviewees were spending over an hour on site, compared to 31% of interviewees on weekdays. Similarly, the visit duration tended to be slightly longer for those interviewed at estuary survey points, where 38% of

interviewees were spending more than an hour on site (compared to 31% at the other survey points beyond the SPA).

Visit frequency and pattern (Q4-7)

- 4.16 Overall, 50% of interviewees said that they visit the location where they were interviewed at least once a week, including 19% who said that they visit at least once a day.
- 4.17 Visit frequencies varied by survey location (Figure 4). At Haw Bridge, Hock Cliff, Frampton Pools and Plusterwine over 40% of interviewees said that they visit at least once a day, whereas at Coombe Hill Meadows and Maisemore Ham none of the interviewees visited daily. Those interviewed at the estuary survey points tended to visit a little more frequently (28% of interviewees visiting 'most days' or more frequently) than those at the other sites (where 25% of interviewees were visiting 'most days' or more frequently).
- 4.18 Visit frequency also varied by activity type (Figure 5). Interviewees who were dog walking were the most frequent visitors, with 32% of them saying that they visit the location where they were interviewed at least once a day.
- 4.19 When asked what effect (if any) the Covid pandemic had had on the frequency of their visits to the location where they were interviewed (Q7), the most common answer, given by 61% of interviewees, was that they were visiting just as frequently as before. 17% said that they were now visiting more than before and 7% said that they were now visiting less than before. The remaining 15% were either unsure or were visiting for the first time.

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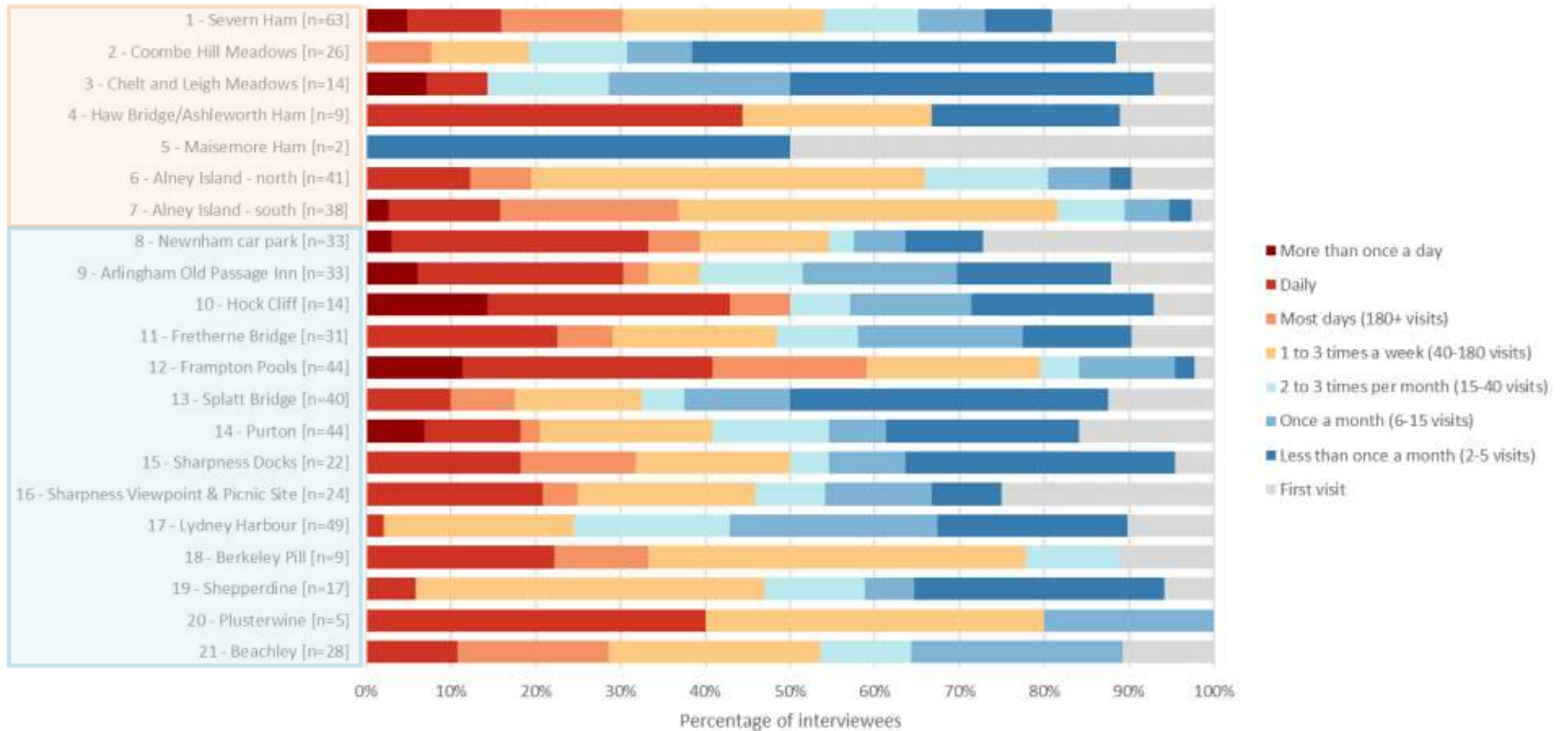


Figure 4: Visit frequency of interviewees (Q4) by the survey point where they were interviewed. Orange box indicates those sites that are beyond the estuary and the blue box indicates the estuary survey points.

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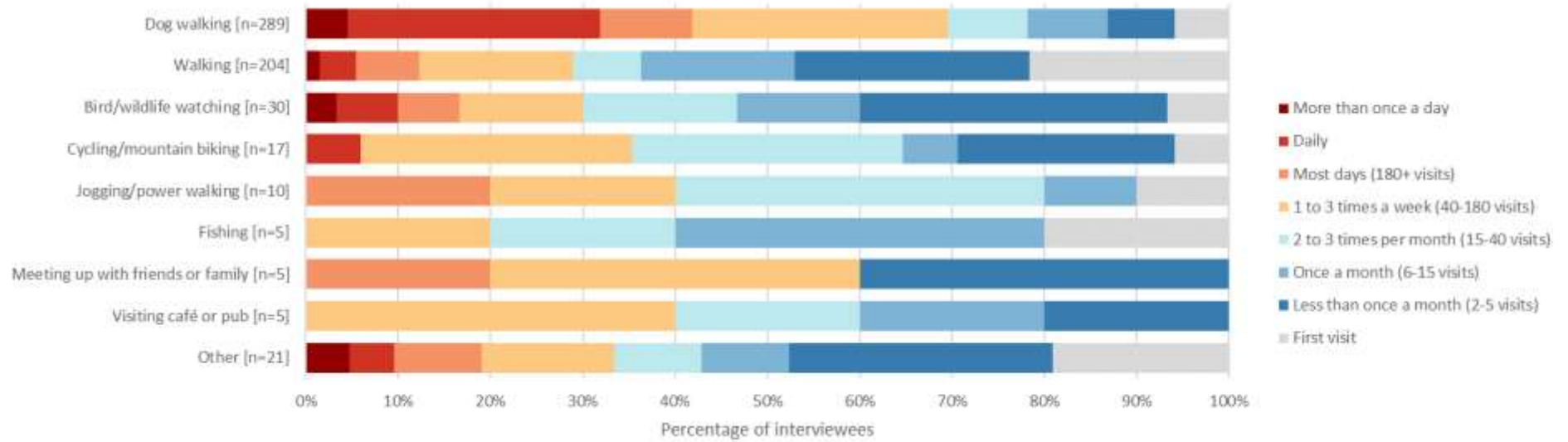


Figure 5: Visit frequency of interviewees (Q4) by their main activity.

4.20 Over a third of interviewees (209 interviewees, 36%) said that the time of their visits varied and there wasn't a particular time of day that they tended to visit (Figure 6). The next most common responses were 'late morning' (125 interviewees, 21%) and 'early morning' (103 interviewees, 18%).

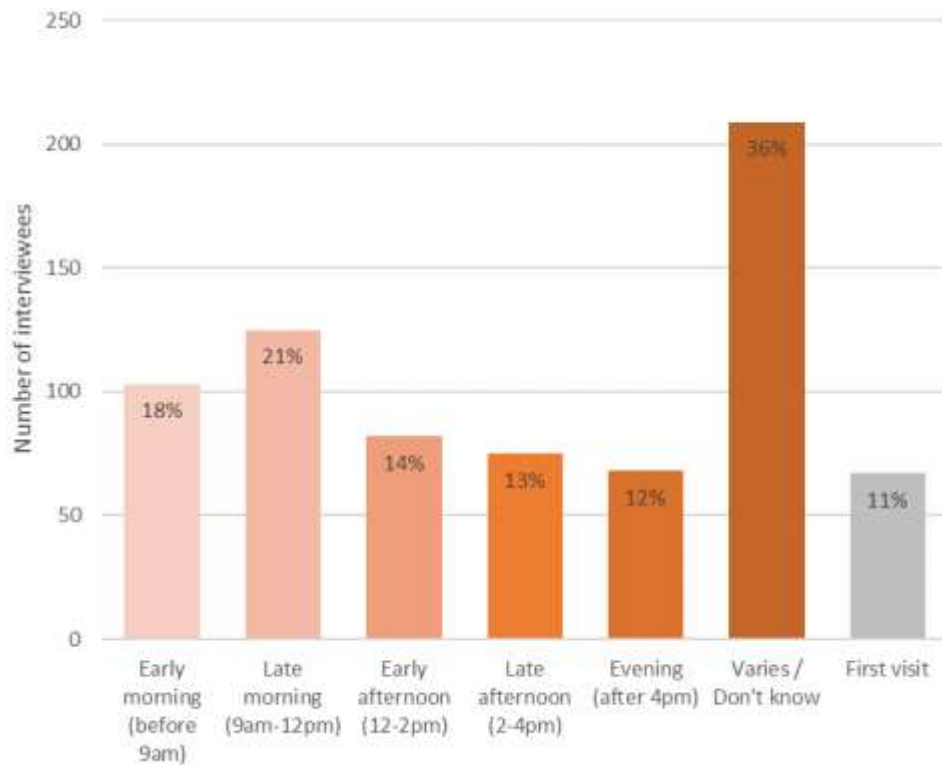


Figure 6: Responses given by interviewees to Q5 regarding the time of day that they tend to visit. Interviewees were able to give multiple responses (i.e. indicate they visited more at more than one time of day) and therefore the percentages may exceed 100%.

4.21 Two thirds of interviewees (395, 67%) indicated that they visited the site where interviewed equally all year round (Figure 7). Responses for particular seasons were low, with the highest being summer, specified by 14% of interviewees.

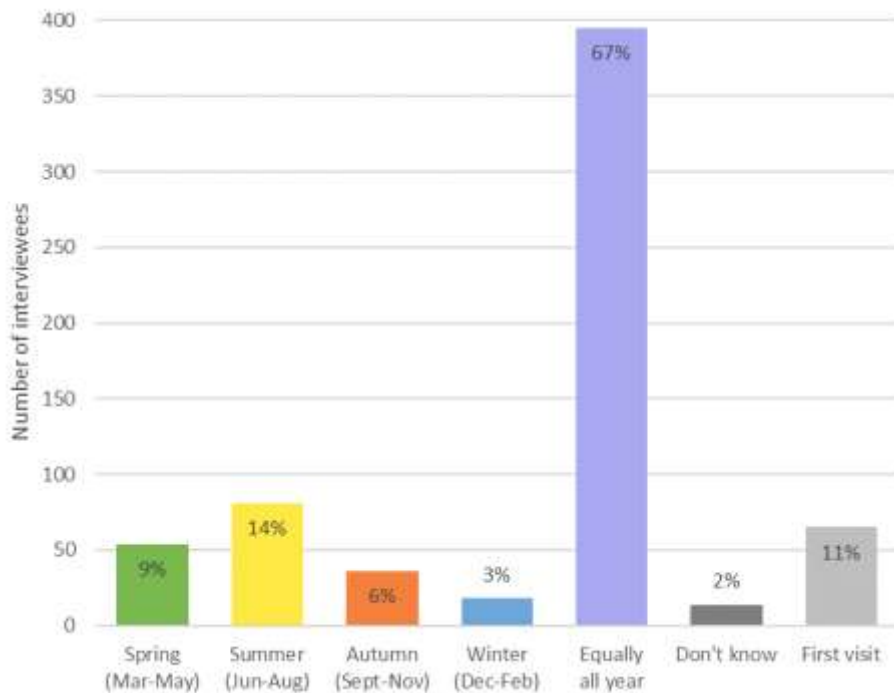


Figure 7: Responses given by interviewees to Q6 regarding the time of year that they typically visit. Interviewees were able to give multiple responses (i.e. indicate they visited more at more than one time of year) and therefore the percentages may exceed 100%.

Mode of transport (Q8)

- 4.22 Overall, 63% of interviews had arrived at the survey location by car/van and 33% had arrived on foot. Only 3% had arrived by bicycle and 1% by public transport (Table 6).
- 4.23 Survey locations which had particularly high proportions of interviewees who had arrived on foot were Maisemore Ham (100%), Plusterwine (80%) and Berkeley Pill (78%).
- 4.24 Of the 20 interviewees who arrived by bike, 14 gave their main activity as cycling, 4 were commuting to work and 2 were going for a walk.
- 4.25 The only survey locations where any of the interviewees had arrived by public transport were Severn Ham (2 interviewees) and Alney Island – south (1 interviewee).

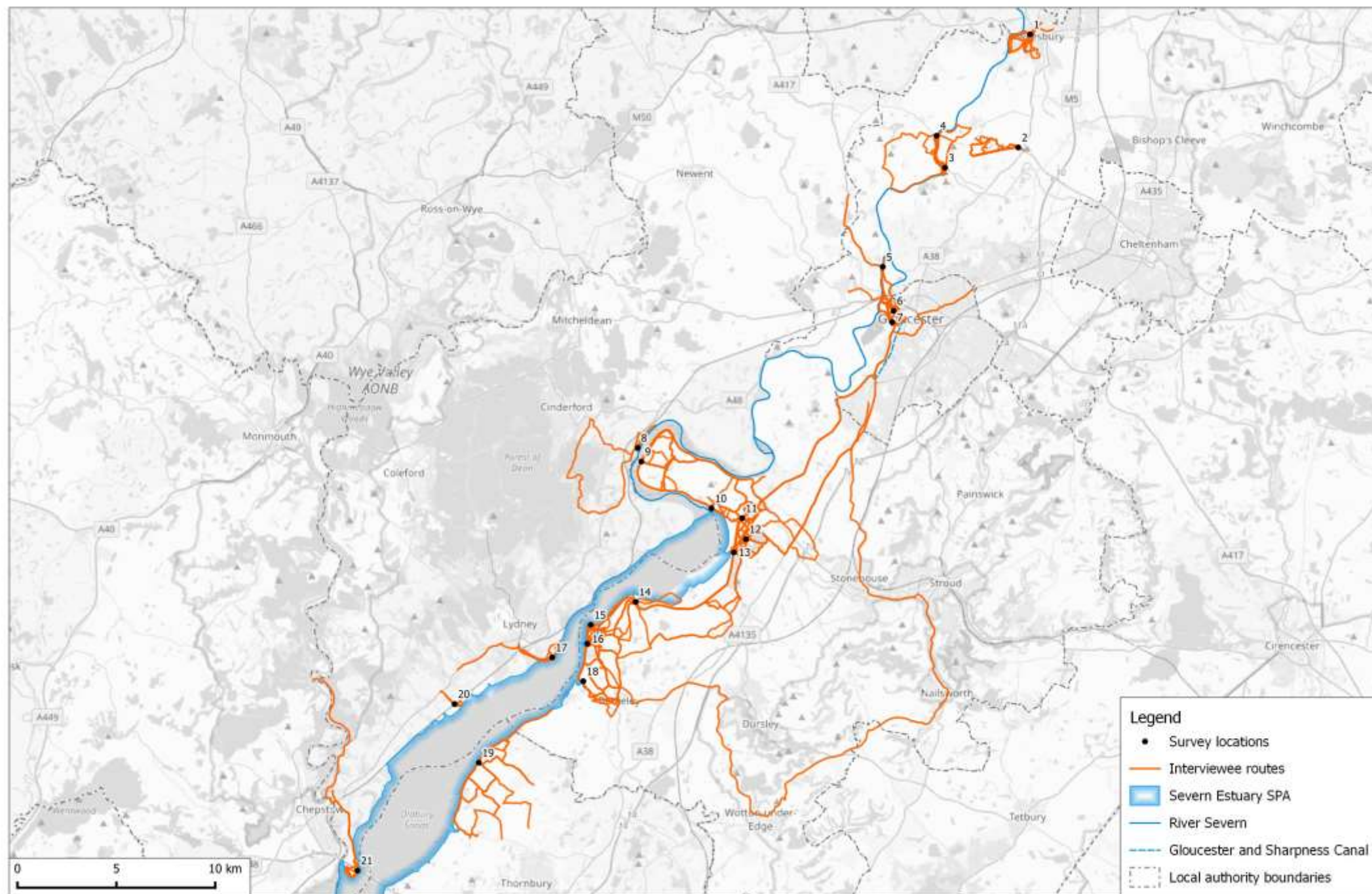
Table 6: Mode of transport (Q8) of interviewees by survey location. The highest value in each row is highlighted in red. Orange shading indicates those survey points beyond the estuary and the blue shading the estuary survey points.

Location	Car/van	On foot	Bicycle	Public transport	Other	Total
Total: Points beyond estuary (1-7)	103 (53%)	80 (41%)	7 (4%)	3 (2%)	0 (0%)	193 (100%)
1 - Severn Ham	29 (46%)	32 (51%)	0 (0%)	2 (3%)	0 (0%)	63 (100%)
2 - Coombe Hill Meadows	24 (92%)	2 (8%)	0 (0%)	0 (0%)	0 (0%)	26 (100%)
3 - Chelt and Leigh Meadows	10 (71%)	4 (29%)	0 (0%)	0 (0%)	0 (0%)	14 (100%)
4 - Haw Bridge/Ashleworth Ham	5 (56%)	4 (44%)	0 (0%)	0 (0%)	0 (0%)	9 (100%)
5 - Maisemore Ham	0 (0%)	2 (100%)	0 (0%)	0 (0%)	0 (0%)	2 (100%)
6 - Alney Island – north	27 (66%)	14 (34%)	0 (0%)	0 (0%)	0 (0%)	41 (100%)
7 - Alney Island – south	8 (21%)	22 (58%)	7 (18%)	1 (3%)	0 (0%)	38 (100%)
Total: Estuary survey points (8 – 21)	266 (68%)	112 (28%)	13 (3%)	0 (0%)	2 (1%)	393 (100%)
8 - Newnham car park	17 (52%)	16 (48%)	0 (0%)	0 (0%)	0 (0%)	33 (100%)
9 - Arlingham Old Passage	27 (82%)	6 (18%)	0 (0%)	0 (0%)	0 (0%)	33 (100%)
10 - Hock Cliff	6 (43%)	7 (50%)	1 (7%)	0 (0%)	0 (0%)	14 (100%)
11 - Fretherne Bridge	19 (61%)	10 (32%)	2 (6%)	0 (0%)	0 (0%)	31 (100%)
12 - Frampton Pools	21 (48%)	22 (50%)	0 (0%)	0 (0%)	1 (2%)	44 (100%)
13 - Splatt Bridge	24 (60%)	12 (30%)	3 (8%)	0 (0%)	1 (3%)	40 (100%)
14 - Purton	31 (70%)	11 (25%)	2 (5%)	0 (0%)	0 (0%)	44 (100%)
15 - Sharpness Docks	14 (64%)	8 (36%)	0 (0%)	0 (0%)	0 (0%)	22 (100%)
16 - Sharpness Viewpoint & Picnic Site	21 (88%)	3 (13%)	0 (0%)	0 (0%)	0 (0%)	24 (100%)
17 - Lydney Harbour	44 (90%)	4 (8%)	1 (2%)	0 (0%)	0 (0%)	49 (100%)
18 - Berkeley Pill	2 (22%)	7 (78%)	0 (0%)	0 (0%)	0 (0%)	9 (100%)
19 - Shepperdine	13 (76%)	1 (6%)	3 (18%)	0 (0%)	0 (0%)	17 (100%)
20 - Plusterwine	1 (20%)	4 (80%)	0 (0%)	0 (0%)	0 (0%)	5 (100%)
21 - Beachley	26 (93%)	1 (4%)	1 (4%)	0 (0%)	0 (0%)	28 (100%)
All locations	369 (63%)	192 (33%)	20 (3%)	3 (1%)	2 (<1%)	586 (100%)

Routes taken on site (Q9-10)

- 4.26 Out of 586 interviewees, 579 of them were able to describe the route they had taken on site (or planned to take) to the surveyor. These routes are presented in Map 3, and in more detail in Appendix 2.
- 4.27 Maps showing the routes of interviewees undertaking the four most common activity types (dog walking, walking, bird/wildlife watching and cycling/mountain biking) are shown separately in Appendix 3.

Map 4: Routes of all interviewees.



- 4.28 Across all survey locations, the length of interviewees' routes ranged from 150m to 78km, with a median length of 2.33km (Table 7). There was a significant difference in the route length of those interviewed at the estuary survey points (median 2.65km) compared to those beyond the estuary (median 2.24km) (Mann-Whitney $W=117363$, $p=0.016$).
- 4.29 The route lengths varied by both survey location and activity type (Figure 8, and Figure 9). Survey locations where interviewees tended to do shorter routes were Lydney Harbour, Beachley and Severn Ham (all sites where the median route length was less than 1km). Survey locations which had the highest median route length were Berkeley Pill, Sharpness Docks and Splatt Bridge. At Splatt Bridge, two interviewees, both cyclists, had routes of over 60km, possibly following some of the publicised cycle routes.

Table 7: Summary statistics for the length (km) of interviewees' routes, for the most common activity types and by survey location.

	Category	N	Min	Max	Mean (\pm SE)	Median
All	All interviewees	579	0.15	77.94	3.70 \pm 0.23	2.33
Main activity	Dog walking	286	0.32	17.62	3.14 \pm 0.16	2.25
	Walking	203	0.15	19.99	3.37 \pm 0.24	2.28
	Bird/wildlife watching	30	0.60	11.46	4.13 \pm 0.42	3.65
	Cycling/mountain biking	15	3.37	77.94	18.54 \pm 6.08	7.98
Survey location	1 - Severn Ham	62	0.56	6.61	1.64 \pm 0.17	0.97
	2 - Coombe Hill Meadows	26	0.16	7.05	3.36 \pm 0.36	3.33
	3 - Chelt and Leigh Meadows	14	1.50	6.54	3.17 \pm 0.40	2.84
	4 - Haw Bridge/Ashleworth Ham	9	0.40	10.67	3.52 \pm 1.06	3.76
	5 - Maisemore Ham	2	0.80	1.49	1.15 \pm 0.35	1.15
	6 - Alney Island – north	40	1.32	5.98	2.45 \pm 0.18	2.00
	7 - Alney Island – south	37	1.09	47.55	4.64 \pm 1.23	3.03
	8 - Newnham car park	32	0.27	15.44	1.54 \pm 0.46	1.09
	9 - Arlingham Old Passage	31	0.52	19.99	4.78 \pm 0.72	3.63
	10 - Hock Cliff	14	1.18	15.62	5.56 \pm 1.42	2.71
	11 - Fretherne Bridge	30	0.55	12.49	4.58 \pm 0.45	4.22
	12 - Frampton Pools	44	0.88	13.03	3.15 \pm 0.28	3.20
	13 - Splatt Bridge	40	0.92	77.94	8.95 \pm 2.31	4.68
	14 - Purton	44	0.39	30.61	5.56 \pm 0.96	4.07
	15 - Sharpness Docks	22	1.02	15.45	4.87 \pm 0.80	5.12
	16 - Sharpness Viewpoint & Picnic Site	24	0.15	6.39	1.68 \pm 0.31	1.05
	17 - Lydney Harbour	49	0.31	5.85	1.46 \pm 0.20	0.90
	18 - Berkeley Pill	9	4.88	8.32	7.03 \pm 0.37	7.31
	19 - Shepperdine	17	1.09	15.18	5.86 \pm 1.12	4.38
	20 - Plusterwine	5	0.57	2.22	1.32 \pm 0.27	1.39
	21 - Beachley	28	0.86	12.52	2.30 \pm 0.55	0.95
Point type	Points beyond estuary (1-7)	190	0.16	47.55	2.83 \pm 0.27	2.23
	Estuary survey points (8-21)	389	0.15	77.94	4.13 \pm 0.31	2.65

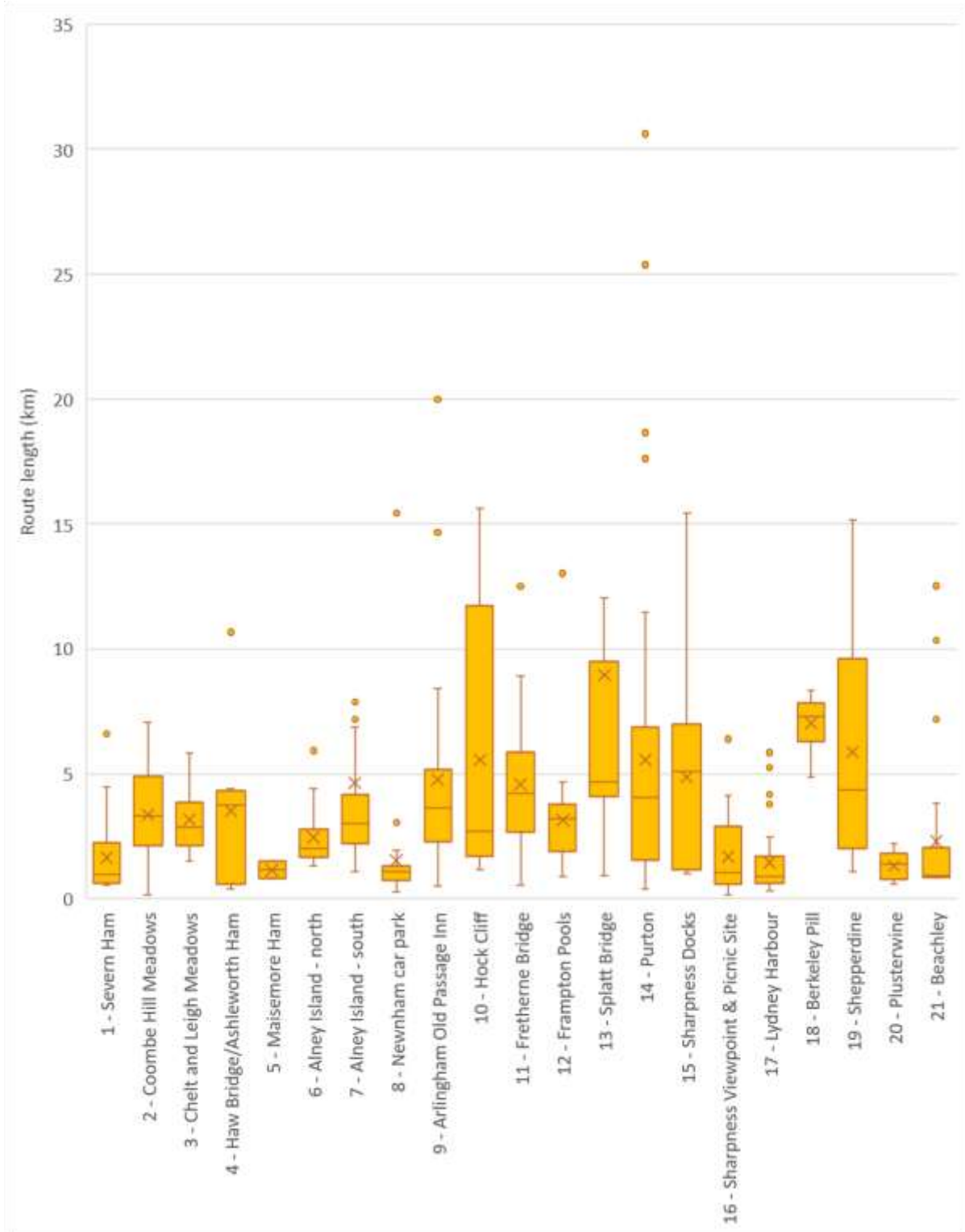


Figure 8: Box plot showing the route lengths of interviewees at each survey location. Horizontal lines show the median, crosses indicate the mean, boxes show the interquartile range and the dots are outliers. The y-axis is truncated at 35km, which excludes 3 outliers (1 at Alney Island south which was 48km and 2 at Splatt Bridge which were 78km and 62km).

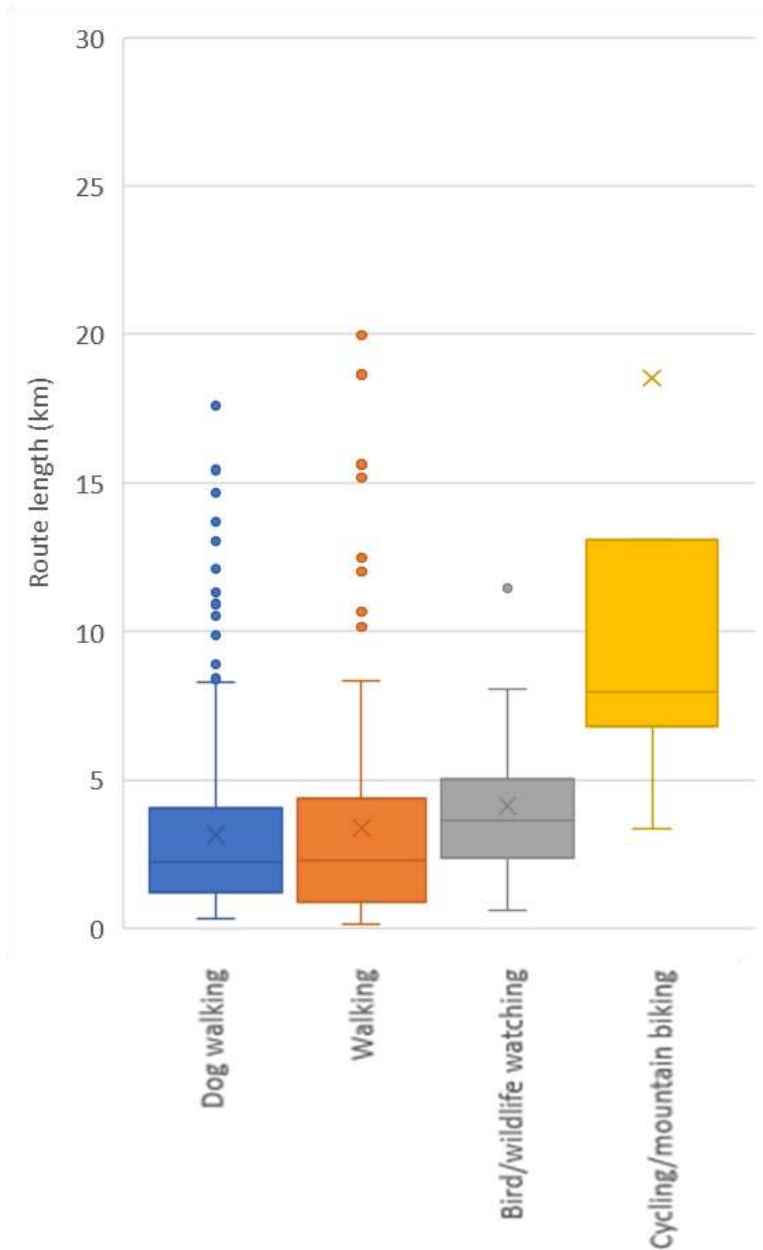


Figure 9: Box plots of the route lengths taken by interviewees, for the four most common activity types. Horizontal lines show the median, crosses indicate the mean, boxes show the interquartile range and the dots are outliers. The y-axis is truncated at 30km, which excludes 3 outliers (all cyclists, with route lengths of 78km, 62km and 48km).

4.30 Most interviewees (62%) said that their route that day was a typical length for when they visit the location where they were interviewed (Q9). However, 17% said that their route was much shorter than normal. Only 2% said that their route was much longer than normal.

4.31 Factors affecting interviewees' routes included previous knowledge of the area (31% of interviewees), avoiding muddy footpaths (15%) and the weather (12%). Responses grouped as 'Other' in Figure 10 were very varied but included 'following the dog', 'random' and 'avoiding traffic'.

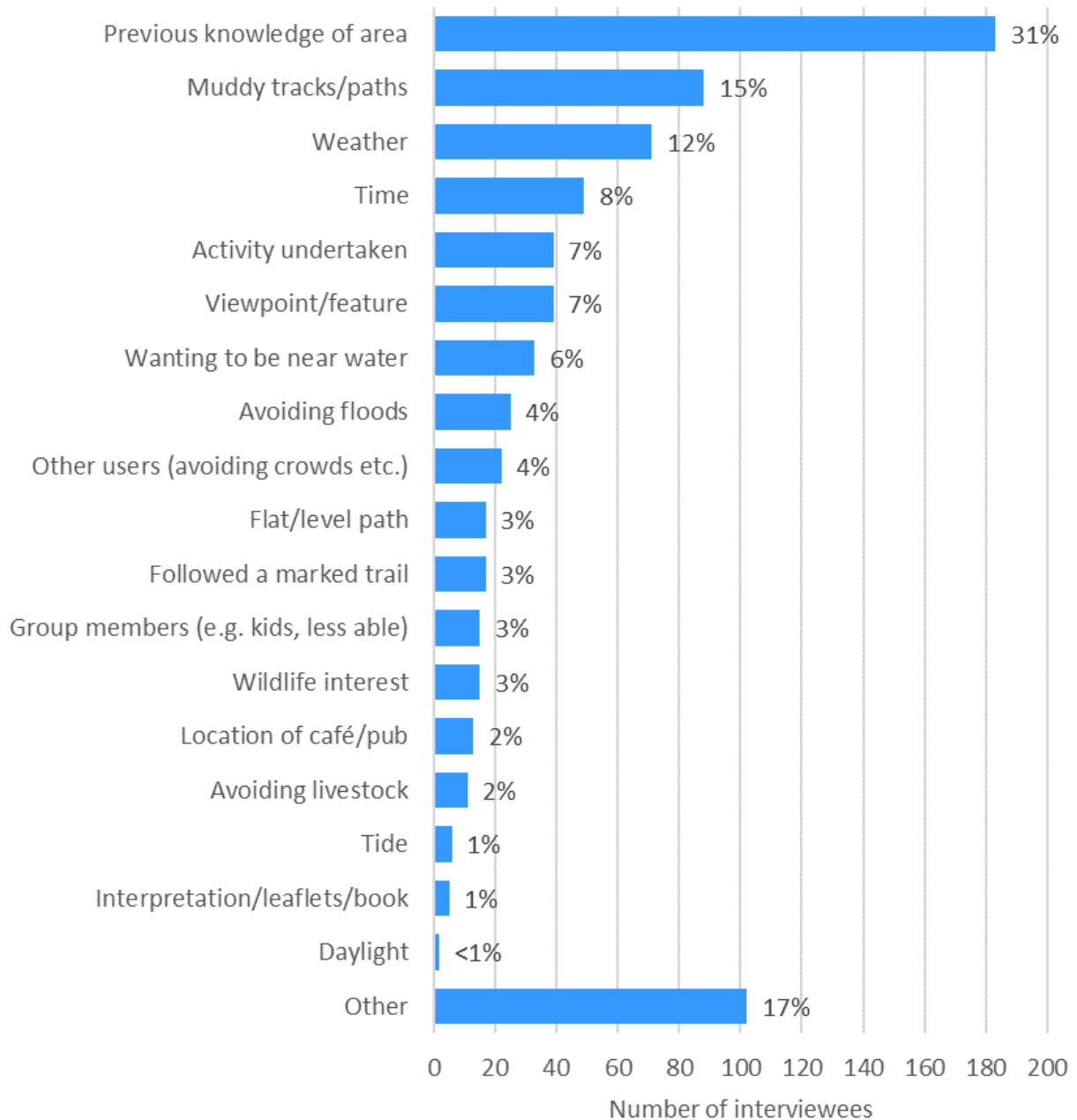


Figure 10: Factors influencing route choice of interviewees (Q10). Categories are based on a pre-determined list (which was not shown to the interviewees) with additional categories later added to include commonly cited 'other' reasons which were recorded as free text. Interviewees could cite more than one factor so percentages will not add up to 100%.

Reasons for site choice (Q11)

4.32 By far the most common reason why interviewees chose to visit the location where they were interviewed was that it was close to home (Figure 11). This was cited by 210 interviewees (36%), including 153 (26%) who said that it was their main reason for site choice. Being close to home was particularly important for dog walkers, and was given as a reason for site choice by 45% of dog walkers compared to 27% of interviewees with other activities.

4.33 The next most commonly cited reasons were the scenery/variety of views (21% of interviewees), habit/familiarity (13%) and being near the coast/water (12%).

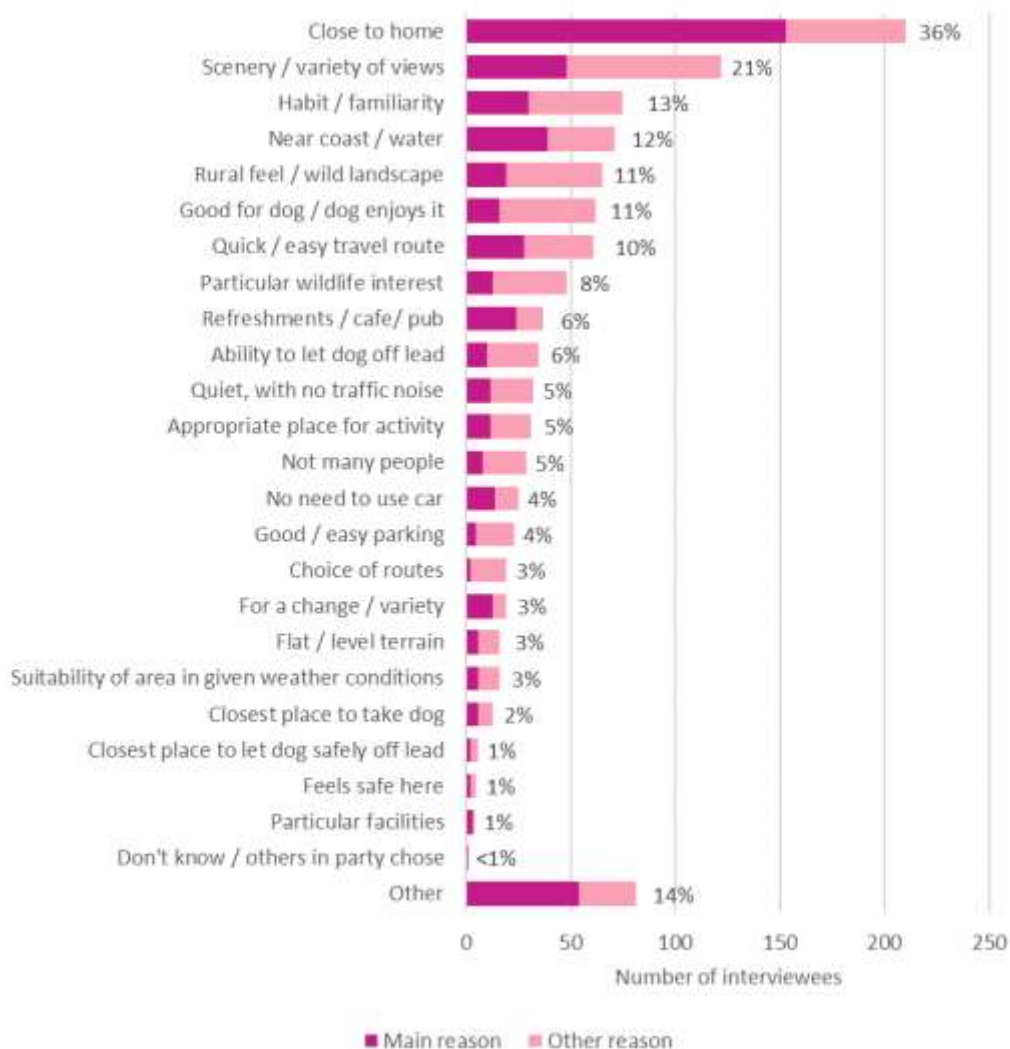


Figure 11: Reasons given by interviewees for choosing to visit the location where they were interviewed (Q11). Interviewees were asked (without any prompting) for all reasons and then asked which of these was their main reason. The percentage labels indicate the percentage of interviewees who cited that particular reason, whether as a 'main' reason or an 'other' reason.

Information used to plan visit (Q12-17)

4.34 Sources of information that were used by interviewees to plan their visit are summarised in Table 8. Very few interviewees said that they had used any of these to plan their visit. Of those that had, word of mouth was the most common source of information (5% of interviewees) followed by websites (4%).

Table 8: Sources of information that interviewees used to plan their visit (Q12-17).

Source of information	Number (%) of interviewees	Examples named by interviewees
Websites	24 (4%)	Gloucestershire Wildlife Trust, Ordnance Survey, Arlingham Parish Council, Google Maps, AllTrails, Strava, Camping UK, Gloster Birder, Tripadvisor, Canal & River Trust
Social media	3 (1%)	Facebook
Smartphone apps	13 (2%)	Instagram, AllTrails, Google Maps, OS Maps, MapMyWalk, Pub Walks
Maps (online or paper)	15 (3%)	N/A
Leaflets	2 (<1%)	Downloaded the Arlingham Parish Council walks leaflet
Word of mouth	32 (5%)	Friend, family, work colleague, host at holiday accommodation

4.35 Figure 12 illustrates how the use of different information sources varied by activity type, showing that interviewees who were bird/wildlife watching made up a large proportion of interviewees who had used websites or word of mouth to plan their visit, despite representing only 5% of interviewees overall.

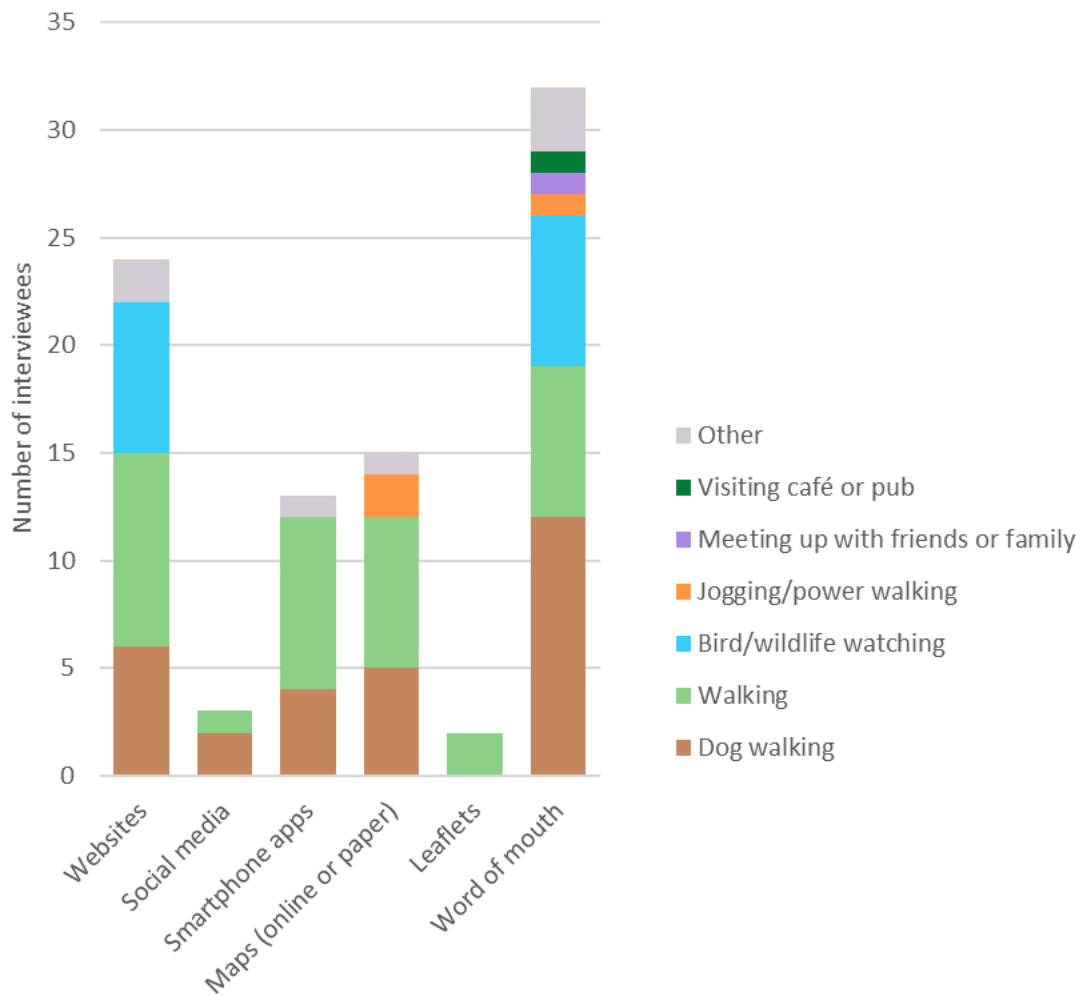


Figure 12: Sources of information used by interviewees to plan their visit, by their main activity.

Other locations (Q18-20)

4.36 Three quarters of interviewees (450 interviewees, 77%) named an alternative location that they would have visited if they were not able to visit the location where interviewed and a further 17% of interviewees said that they wouldn't have visited anywhere or were not sure (6%). Interviewees who named a location were invited to name an additional two other locations that they visit for their activity.

4.37 Responses to these three questions produced over 600 different site names, however many of these were different names or different spellings for the same place, for example, Chosen Hill and Churchdown Hill. Responses are summarised in Figure 13. This only includes specific locations, and does not include answers such as 'local canal' or 'local woods'.

Severn Estuary Visitor Survey 2022

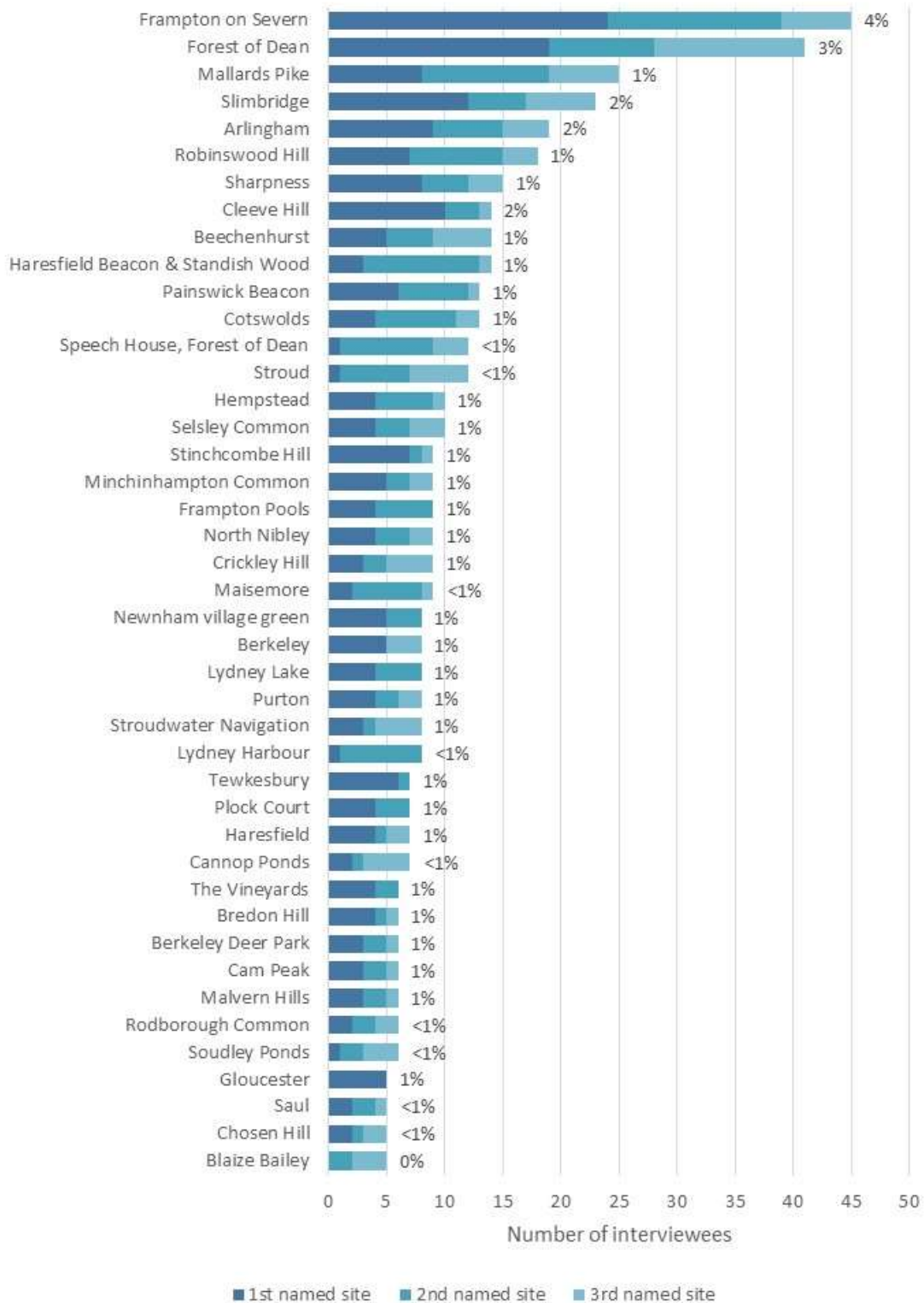


Figure 13: Other locations that interviewees visit for their activity (Q18-20). Interviewees could name up to three locations. Figure only includes specific location names that were given by at least 5 interviewees. Labels indicate the % of interviewees who named that site as their first named alternative.

- 4.38 In total there were 984 responses from the 450 interviewees who named an alternative site. While the alternative site names were sometime ambiguous (such as “local woodland”) and therefore not always possible to pinpoint, around 223 responses (i.e. around 23% of responses) clearly related to another part of the Severn or adjacent land. Of these responses, 110 were the first named site, and therefore at least 19% of interviewees, if unable to visit the location where interviewed would have instead gone to another part of the Severn.
- 4.39 Of note, 100 of the 984 responses (i.e. 10%) related to other European sites, for example Rodborough Common, the Cotswold Beechwoods or the Forest of Dean. Around 35 interviewees (i.e. 6% of interviewees) gave another European site as their first named alternative.
- 4.40 Also of note is the role of canals, as in total 39 responses (4%) related to canals and 22 interviewees (4%) gave a canal as the first named alternative site they would have visited. Local Canals in Gloucestershire will be Cotswolds Canals (comprising Stroudwater Navigation, Thames and Severn Canal), Gloucester - Sharpness Canal, Coombe Hill Canal and Hereford - Gloucester Canal.

Site improvements (Q21)

- 4.41 Over half of all interviewees (52%) were happy with the site that they were visiting and didn't suggest any changes. At Beachley, Chelt and Leigh Meadows, and Severn Ham, interviewees were particularly satisfied and over 80% of interviewees at each of these did not make any suggestions for improvements.
- 4.42 Improvements that were suggested by interviewees are summarised in Figure 14. These categories were pre-defined to aid the recording of responses (but were not shown to interviewees) and additional information was recorded as free text. Additional categories were then added following a review of responses. The most common suggestions related to footpath condition (60 interviewees), increased parking capacity (30 interviewees), dog waste bins (29 interviewees) and improved signage or information boards (29 interviewees).
- 4.43 Responses grouped as 'Other' in Figure 14 were varied and included replacing stiles with gates, preventing footpaths from getting flooded, improvements to access roads, better lighting, and requests for visitor

facilities such as a visitor centre, boat/kayak hire, bike storage and bird hides.

4.44 There were some common themes that came up at certain survey locations, for example:

- 12 interviewees at Splatt Bridge suggested improving footpaths;
- 8 interviewees at Frampton Pools said that the site needed better access for disabled visitors and those with pushchairs;
- 8 interviewees at Purton mentioned issues regarding parking capacity;
- 7 interviewees at Purton mentioned the need for toilet facilities;
- 7 interviewees at Purton were concerned about the impacts that increased visitor numbers were having on local residents and wildlife, and wanted to see restrictions on visitor numbers.

Severn Estuary Visitor Survey 2022

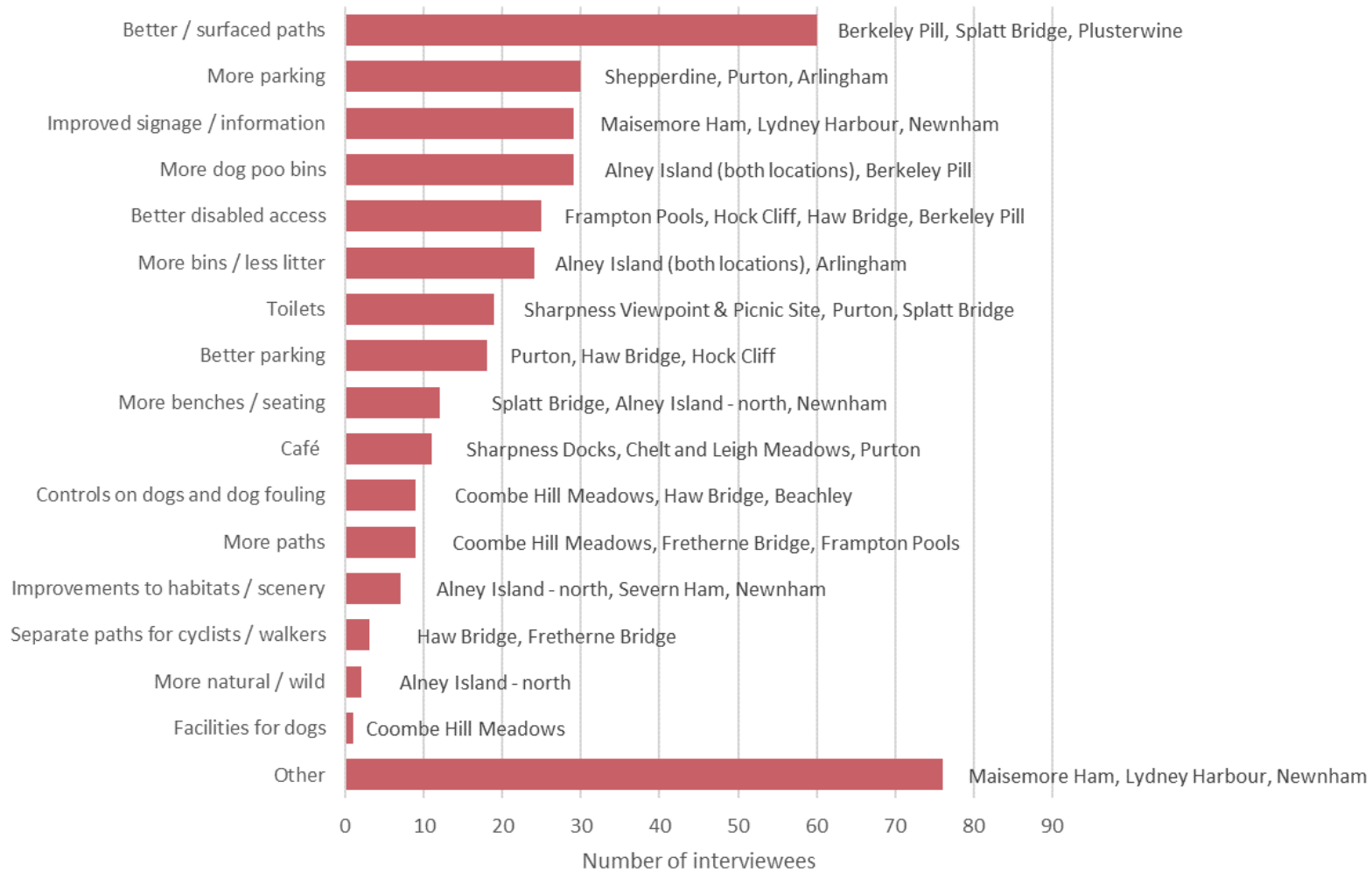


Figure 14: Summary of site improvements suggested by interviewees (Q21). Interviewees were not prompted or given any options, and were able to give multiple responses. The labels next to each bar are the 3 survey locations which had the highest percentage of their interviewees who suggested that improvement.

Visitor origins (Q22-24)

- 4.45 Full, valid postcodes were obtained for 524 interviewees (89%). The distribution of these is shown by visit type in Map 5, by visit frequency in Map 6, by activity in Map 7 and by survey location in Map 8.
- 4.46 The local authority where the largest proportion of interviewees were resident was Stroud with 36% of interviewees, followed by Gloucester, Forest of Dean and Tewkesbury (Table 9). In total, interviewees came from 35 different local authority areas. Interviewees at the estuary survey points were mostly from Stroud (52%) and the Forest of Dean (22%).

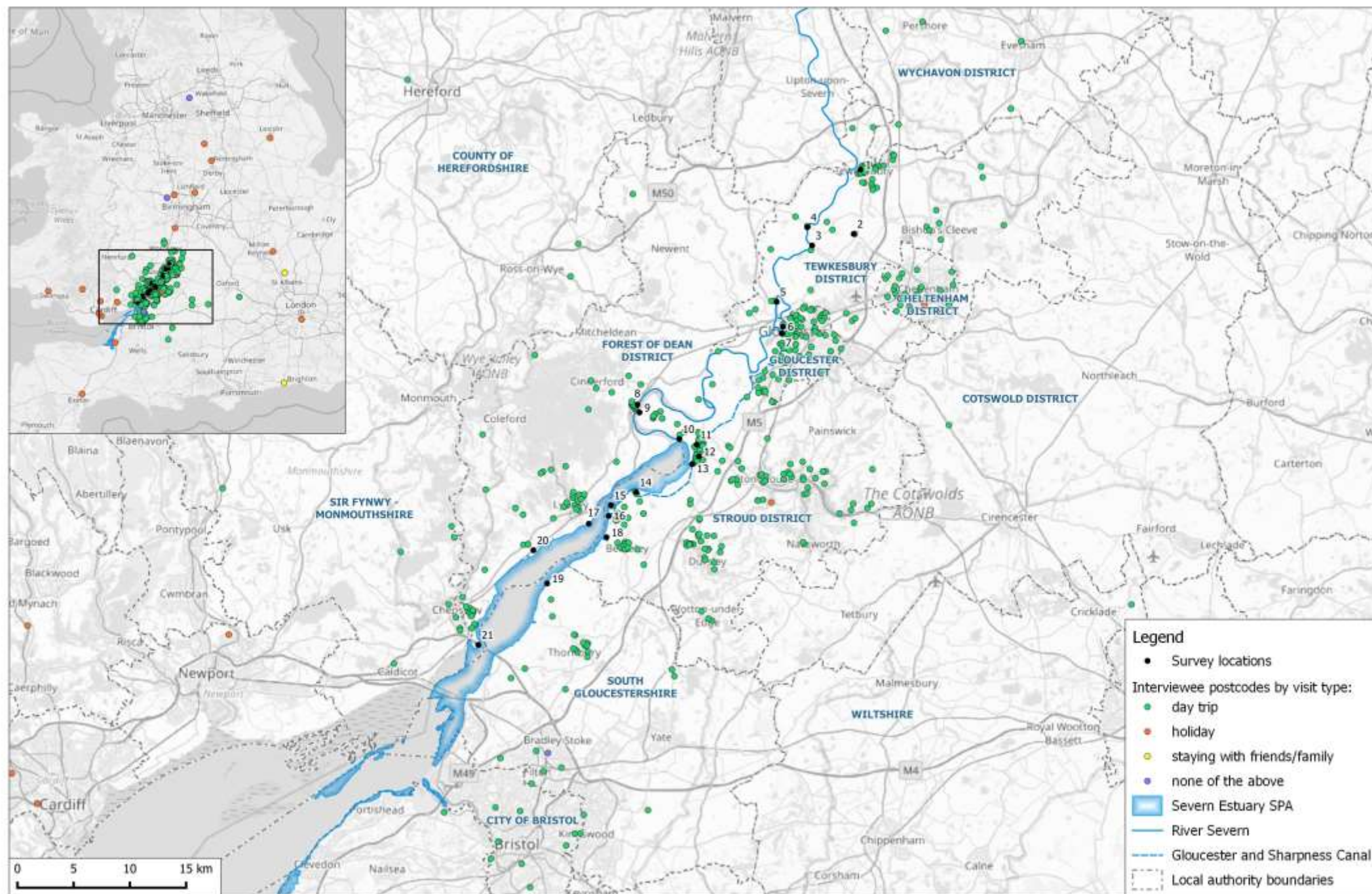
Table 9: Number (%) of interviewees living in each local authority (district, borough or unitary) area. Only those authorities with at least 1 interviewee in total listed. Percentages are based on the number of interviewees with full, valid postcodes rather than the total number of interviewees.

Local authority	All survey locations	Survey points beyond the estuary (points 1-7)	Estuary survey points (points 8-21)
Total interviewees with valid postcodes	524 (100%)	177 (100%)	327 (100%)
Stroud District	188 (36%)	6 (3%)	182 (52%)
Gloucester District	84 (16%)	68 (38%)	16 (5%)
Forest of Dean District	76 (15%)	0 (0%)	76 (22%)
Tewkesbury District	67 (13%)	63 (36%)	4 (1%)
South Gloucestershire	27 (5%)	1 (1%)	26 (7%)
Cheltenham District	26 (5%)	18 (10%)	8 (2%)
City of Bristol	9 (2%)	0 (0%)	9 (3%)
Sir Fynwy - Monmouthshire	9 (2%)	0 (0%)	9 (3%)
Wychavon District	5 (1%)	4 (2%)	1 (<1%)
Herefordshire	3 (1%)	2 (1%)	1 (<1%)
Wiltshire	3 (1%)	1 (1%)	2 (1%)
Caerdydd - Cardiff	2 (<1%)	1 (1%)	1 (<1%)
South Staffordshire District	2 (<1%)	1 (1%)	1 (<1%)
Worcester District	2 (<1%)	2 (1%)	0 (0%)

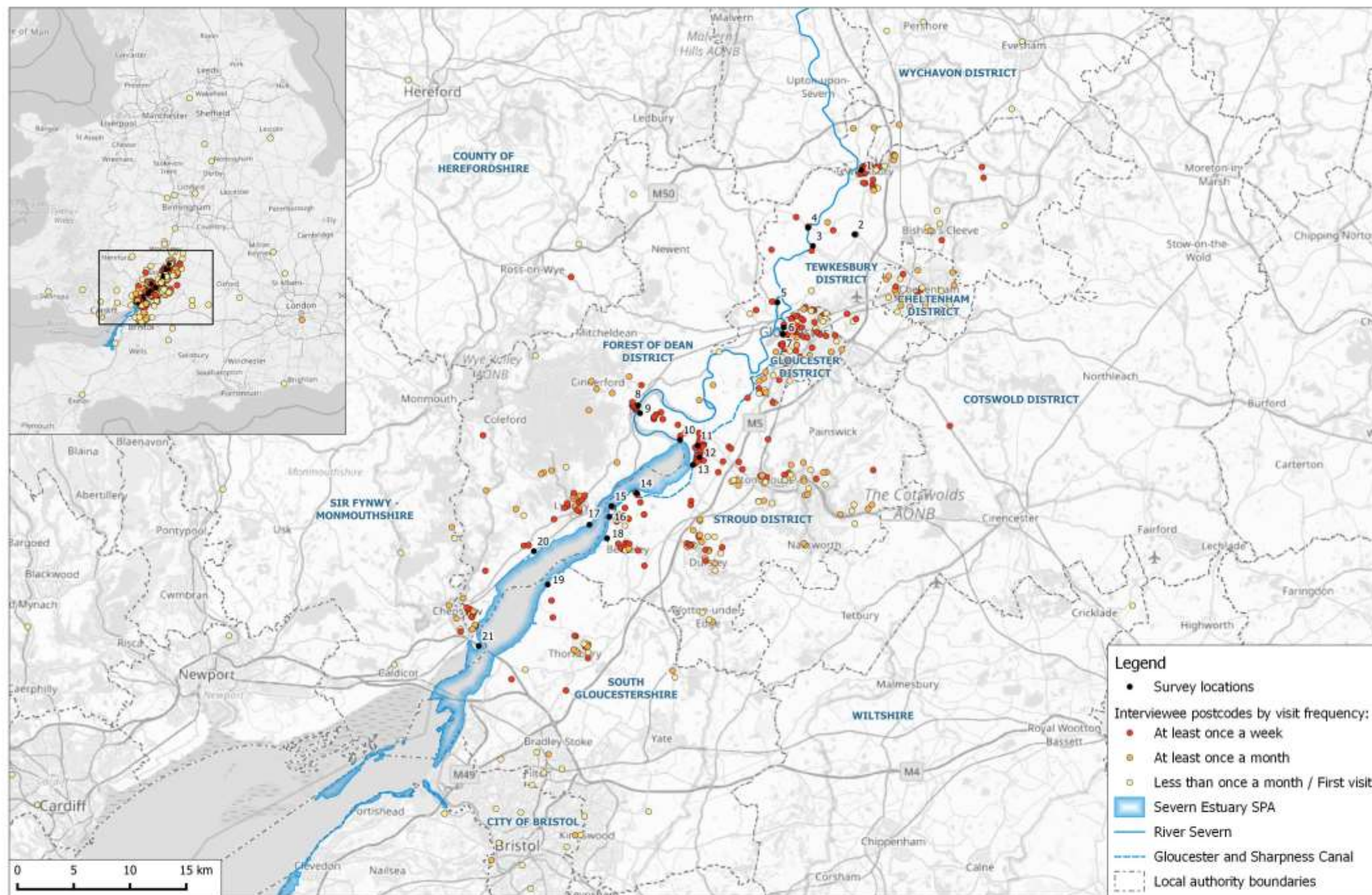
4.47 Summary statistics for the straight-line distance between the interviewee's home postcode and the survey location where they were interviewed are shown for different groups of interviewees in Table 10. Across all survey locations, the median distance was 4.1km and the upper quartile distance (i.e. the distance within which 75% of interviewees lived) was 11.3km. There was a significant difference in the distances between the interviewee's postcode and survey location when comparing the estuary survey points (survey points 8-21; median = 5.5km) with those points beyond the estuary (survey points 1-7; median = 3.2km) (Mann-Whitney $W=95042$, $p = 0.02$). It is also interesting to note the differences between the Estuary survey points on the East side compared to the West. There were many more survey points on the eastern side which to some extent reflects the local geography and potential access points. Taking just the Estuary survey points (i.e. survey points 8-21), the median distance for the pooled data for all 4 survey points on the west⁷ was 2.9km (from 93 postcodes) while for those on the east the median was 6.8km (from 254 interviews and 10 survey points). Again, differences were significant (Mann-Whitney $W=14168$, $p = 0.01$).

⁷ Points 8, 17, 20 and 21 were on the western side.

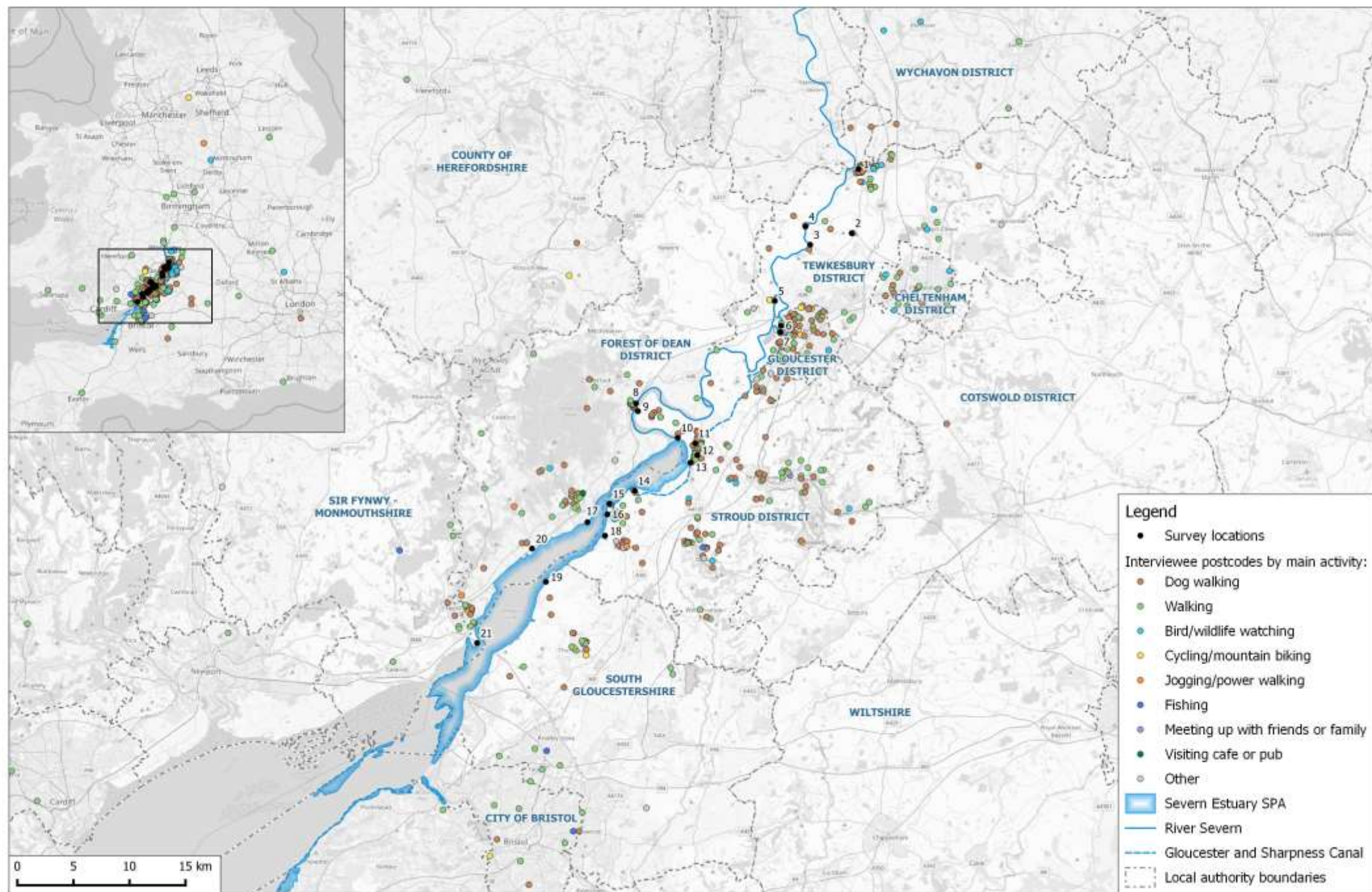
Map 5: Interviewee postcodes by visit type



Map 6: Interviewee postcodes by visit frequency



Map 7: Interviewee postcodes by main activity



Map 8: Interviewee postcodes by local authority of the location they were visiting

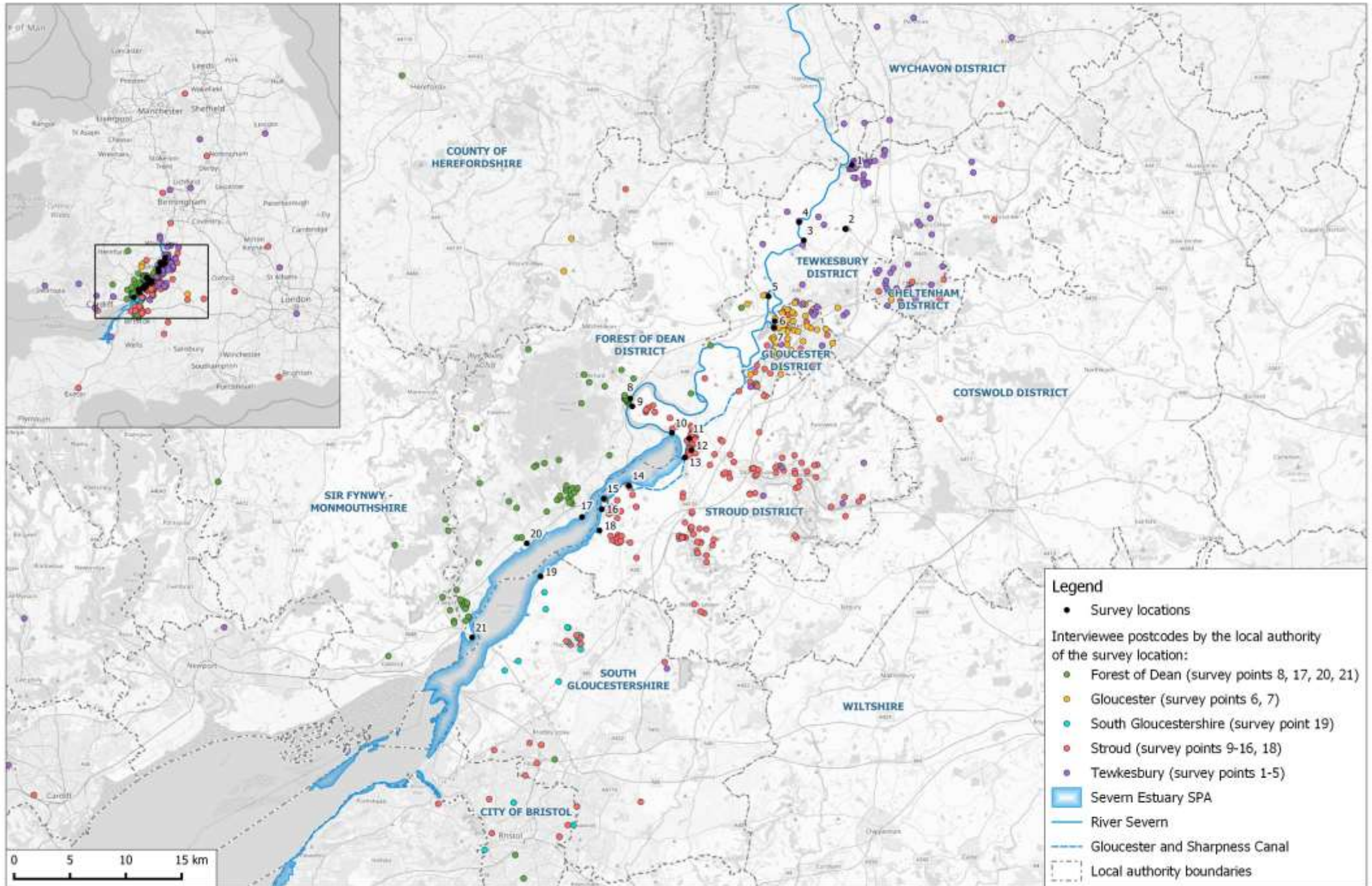


Table 10: Summary statistics for the straight-line distances (km) from the interviewee's home postcode to the survey point where they were interviewed. N is the number of interviewees in each cohort for which we have full postcodes.

	Category	N	Range	Mean (\pm SE)	Median	Q3
All	All interviewees	524	0.1 - 206.8	12.4 \pm 1.1	4.1	11.3
Visit type	Day trip or short visit from home	501	0.1 - 95.0	7.8 \pm 0.5	3.7	10.4
	On holiday	18	11.3 - 172.3	99.9 \pm 10.6	94.0	139.6
	Staying with friends or family	2	124.1 - 175.0	149.6 \pm 25.5	149.6	-
Main activity	Dog walking	264	0.1 - 178.8	6.6 \pm 1.0	2.7	6.9
	Walking	180	0.1 - 175.0	19.2 \pm 2.3	9.3	20.2
	Bird/wildlife watching	26	0.1 - 153.2	18.7 \pm 7.1	7.7	12.6
	Cycling/mountain biking	16	1.1 - 206.8	22.2 \pm 12.5	6.9	20.4
Visit frequency	More than once a day	16	0.1 - 3.4	0.7 \pm 0.2	0.4	0.8
	Daily	84	0.1 - 27.6	1.9 \pm 0.4	1.0	1.8
	Most days	48	0.1 - 10.4	2.5 \pm 0.4	1.7	3.2
	1 to 3 times a week	123	0.1 - 178.8	5.6 \pm 1.5	2.3	5.6
	2 to 3 times a month	54	0.4 - 20.7	6.4 \pm 0.6	6.0	9.4
	Once a month	65	0.7 - 155.3	12.8 \pm 2.4	9.9	13.5
	Less than once a month	81	0.2 - 175.0	23.4 \pm 3.6	14.8	24.6
	First visit	53	1.0 - 206.8	46.6 \pm 6.4	31.6	73.6
Survey location	1 - Severn Ham	60	0.1 - 172.3	20.5 \pm 5.0	2.1	13.6
	2 - Coombe Hill Meadows	26	0.1 - 124.1	17.0 \pm 5.5	7.7	13.5
	3 - Chelt and Leigh Meadows	13	0.4 - 155.3	19.9 \pm 11.4	8.5	12.6
	4 - Haw Bridge/Ashleworth Ham	9	0.1 - 13.1	5.0 \pm 1.7	3.8	10.3
	5 - Maisemore Ham	1	0.2 - 0.2	-	0.2	-
	6 - Alney Island - north	34	0.2 - 19.7	3.5 \pm 0.6	2.7	4.7
	7 - Alney Island - south	34	0.4 - 39.4	3.6 \pm 1.2	1.6	3.2
	8 - Newnham car park	27	0.2 - 44.0	7.5 \pm 2.3	0.5	11.4
	9 - Arlingham Old Passage	31	1.3 - 139.5	19.1 \pm 4.8	12.6	20.7
	10 - Hock Cliff	13	0.4 - 60.9	12.4 \pm 4.9	2.4	19.2
	11 - Fretherne Bridge	28	0.2 - 32.1	7.4 \pm 1.5	6.8	10.7
	12 - Frampton Pools	42	0.2 - 14.6	3.6 \pm 0.6	2.1	7.1
	13 - Splatt Bridge	35	0.5 - 206.8	18.6 \pm 5.9	9.0	17.5
	14 - Purton	38	0.1 - 153.2	19.4 \pm 4.6	12.6	24.5
	15 - Sharpness Docks	22	0.1 - 175.0	23.5 \pm 9.9	4.1	18.6
	16 - Sharpness Viewpoint & Picnic Site	21	0.7 - 103.1	15.0 \pm 5.0	7.5	21.8
	17 - Lydney Harbour	35	1.5 - 32.7	7.2 \pm 1.2	3.2	12.0
	18 - Berkeley Pill	9	1.1 - 7.5	2.4 \pm 0.6	1.7	2.2
	19 - Shepperdine	15	1.5 - 25.0	9.5 \pm 1.8	6.5	9.6
	20 - Plusterwine	4	0.7 - 1.0	0.8 \pm 0.1	0.7	0.9
	21 - Beachley	27	1.6 - 178.8	13.0 \pm 6.7	3.1	6.7
Point type	Points beyond estuary (1-7)	171	0.1 - 172.3	12.5 \pm 2.1	3.2	8.6
	Estuary survey points (8-21)	341	0.1 - 206.8	11.9 \pm 1.2	5.5	12.6

Other comments/feedback (Q25)

- 4.49 At the end of the interview, the interviewee was given an opportunity to make further comments or general feedback about their visit and access to the area. These comments are listed in Appendix 4.

5. Discussion

Overview

- 5.1 The results provide an overview of visitor patterns and access across a wide part of the Severn Estuary (with survey locations spanning some 60km and both sides of the estuary). The survey was deliberately targeted at a time of year (outside the school holiday and the end of the winter/very early spring) when the use is likely to be dominated by locals (as opposed to holiday makers) and to coincide with a time of year relevant to the bird interest of the SPA (i.e. when there are risks of disturbance). Survey locations included relatively remote sections of the Estuary (such as Berkeley Pill) as well as more accessible locations close to towns, harbours and facilities (Lydney Harbour, Severn Ham). Some were on well-known cycle routes (Alney Island).
- 5.2 The count data highlight some areas as particularly busy (Lydney Harbour, and Severn Ham) however even the more remote survey points were still visited and there were only three locations with very low numbers of visitors (Maisemore Ham, Plusterwine and Berkeley Pill). The interview results show visitor use to involve a high proportion of local residents, visiting the estuary often because it is close to home and a high proportion visiting to walk their dog, a pattern common across virtually all locations.
- 5.3 This study has been commissioned to provide the evidence to underpin a mitigation strategy for the Severn Estuary European sites. The data presented here can be used to identify the zone of influence and design mitigation measures to influence behaviour and manage potential conflicts between increasing levels of access and the European site interest.

Comparison with other surveys

- 5.4 Some key metrics from the survey are summarised in Table 11, which also provides some examples of similar data from 3 other surveys undertaken by Footprint Ecology in recent years. We have used data from the Solent and Humber as these are large estuary sites that are perhaps similar to the Severn. The Solent is more built up in many areas and has more large settlements directly adjacent to the shoreline. We have also included data from the Cotswold Beechwoods, simply because of the site's proximity to the Severn.

Table 11: Summary metrics from this survey alongside data from a selection of other European sites. Metrics marked with * are only for interviewees who were on a day trip or short visit from home. Data from the Humber are drawn from Saunders et al. (Saunders & Liley, 2022), which related solely to the East Riding area and we have used only the data from the autumn period; data from the Solent are drawn from Caals *et al.* (2020) and the Cotswold Beechwoods from Panter & Caals (2019). Red values indicate the highest value in each row.

Visitor metric	This survey	Humber Estuary (East Riding)	Solent	Cotswold Beechwoods
Season/year	Winter 2021/22	Autumn 2021	Winter 2019/20	Summer 2019
Number of survey points	21	7	10	12
Total hours of fieldwork	336	112	160	192
Tally data: mean number of people per group	1.8	1.9	1.8	2.1
Tally data: mean number of dogs per group	0.6	0.3	0.6	0.6
Tally data: mean number of people per hour	9.7	13.0	20.1	1.6
Tally data: mean number of dogs per hour	3.4	2.2	6.7	0.5
Number of interviews	586	213	267	139
% interviewees on day trip/short visit from home	93%	78%	96%	85%
% interviewees whose main activity was dog walking	49%	23%	61%	40%
% interviewees whose main activity was walking	35%	28%	25%	45%
% interviewees arriving by car	63%	69%	55%	67%
% interviewees visiting daily or more than once a day	19%	8%	36%	11%
Median route length taken by interviewees on site	2.33km	3.03km	2.21km	3.04km
Distance from home postcode to survey point – median	4.1km	17.6km	2.3km	6.0km
Distance from home postcode to survey point – 75% percentile	11.3km	103.8km	5.3km	15.4km
Distance from home postcode to survey point – median *	3.7km	9.4km	2.0km	7.2km
Distance from home postcode to survey point – 75% percentile *	10.4km	50.6km	4.7km	20.5km

5.5 A survey at Lydney in March 2017 (Liley et al., 2017) included the Lydney Harbour survey point also surveyed in this survey. The 2017 survey recorded 98 people and 48 groups entering (tally data) which compares to 155 groups and 362 people recorded in this survey. While the two surveys are only snapshots in time, the survey point and method used for the tallies was the same and would suggest levels of access could have increased. A total of 49

interviews were undertaken in 2017 which is identical to the current survey. 43% of interviewees were dog walkers in 2017 which compares to 29% from this survey. Comparison of the mapped routes from the two surveys suggests some marked differences, with the 2017 survey indicating a much wider range of routes extending much further along the estuary shore and using a range of inland footpaths and routes. It would therefore appear that there have been some changes in access patterns at Lydney between the two surveys.

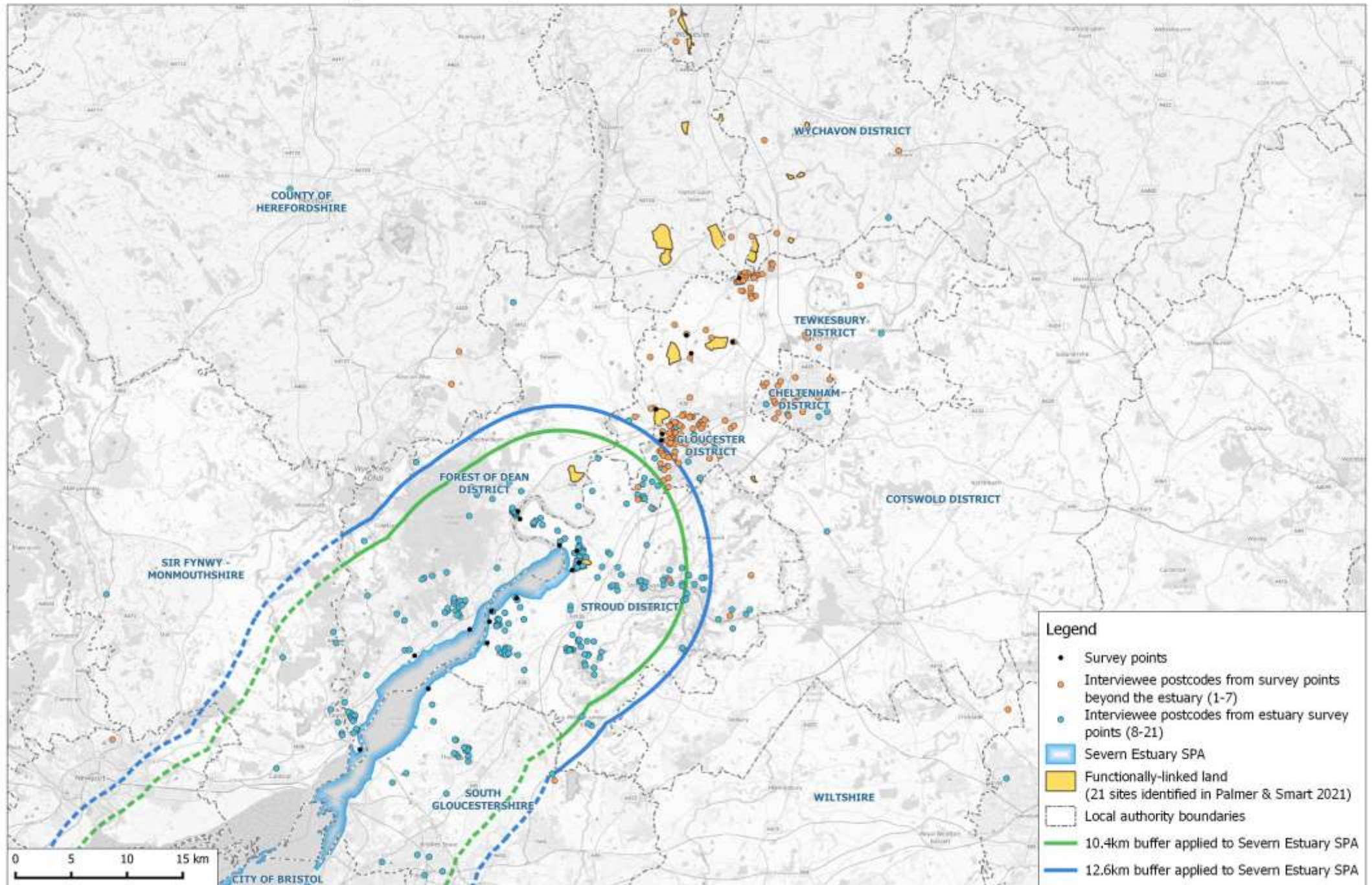
- 5.6 Visitor surveys were also undertaken within the Stroud part of the Severn Estuary (Berkeley to Arlingham) in 2015/16 (Southgate & Colebourn, 2016). The scope for direct comparison is again limited in that the two surveys are just discrete snapshots in time with the data collected in very narrow time windows. The 2015/16 survey included 9 survey points, of which 8 were included in this survey. The 2015/16 survey recorded the highest visitor numbers at Purton and Splatt Bridge, which accords with this survey. Fretherne Bridge appears to be relatively busier now than the 2016 survey while Arlingham seems less so. 52% of interviewees were dog walking in 2015/16 which compares to 47% from this survey (from the 8 survey locations that are the same).

Identifying a zone of influence

- 5.7 The previous survey in 2016 was in part commissioned to identify a zone of influence for Stroud District with respect to impacts from housing growth and increased recreation. The study recommended 7.7km, this being the 75th percentile distance from interviewee's home postcodes to the survey location for Stroud residents only. The use of the 75th percentile from postcode data (with the buffer applied to the European site boundary) is a recognised standard approach to defining a zone of influence from postcode data (see Liley, et al., 2021 for discussion).
- 5.8 This report provides the evidence to update the strategy and include adjacent authorities in a more strategic and joined up approach for mitigation. It will be for any subsequent strategy to define a zone of influence, and a key consideration will be the extent to which any strategy extends to encompass sites that are potentially functionally-linked to the SPA. While such sites clearly play a role in the site achieving its conservation objectives, there is potential for recreation to be managed differently at these sites and there is a logic for them to be treated differently.

- 5.9 From this study the 75th percentile for all interviewees on a short visit directly from home was 10.4km. Comparing between the interviewee postcodes on the Estuary with those interviewed beyond the Estuary (on the potential functionally-linked sites), the Estuary points draw people from further afield (75th percentile of 12.6km compared to 8.6km). This potentially reflects the particular recreation draw of the Estuary for example in terms of scale, sense of space etc. The interviewee data also indicate that those interviewed at the Estuary survey points undertook longer walks and visited for longer.
- 5.10 There are also differences between the two sides of the Estuary. It should be noted there were relatively few Estuary survey points on the western side and at one of these, Plusterwine, there were relatively few people interviewed. Nonetheless, for the western side (i.e. Forest of Dean survey points) the 75th percentile was 10.5km while on the eastern side of the Estuary the 75th percentile was 14.7km.
- 5.11 These various distances are shown in Map 9. This includes the following:
- 10.4km buffer around the SPA/SAC (reflecting the 75th percentile from those visiting directly from home at all survey points);
 - 12.6km buffer around the SPA/SAC (reflecting the 75th percentile from all visiting directly from home at Estuary survey points only);
 - Postcode data (shaded to indicate Estuary postcodes and those interviewed beyond the Estuary).

Map 9: Severn Estuary SPA, potentially functionally-linked land, and buffers around the estuary at 10.4km and 12.6km. Dotted lines indicate local authorities that were not involved in commissioning this visitor survey.



Options for mitigation

- 5.12 The results relating to other sites that interviewees visit or might visit (if they couldn't visit the location where interviewed) suggest a strong affinity to the Severn (see Figure 13). Around 19% of interviewees indicated they would visit somewhere else around the Severn and this this may have implications in terms of the potential role of alternative natural greenspace (Suitable Alternative Natural Greenspace – 'SANG'). It would suggest that any sites intended to draw people away from the European site (or functionally linked land) are likely to need to be in close proximity and potentially with views of the estuary or designed in such a way that visitors feel they are visiting the estuary without causing disturbance.
- 5.13 It is clear from the interview results that visitors use very little in the way of websites, leaflets or similar to plan their visits, and instead rely on prior experience and to a small degree word of mouth. This fits with interviewees travelling from relatively nearby and visiting locations because they are close to home, implying a long standing familiarity. Such well established access patterns are likely to be hard to modify and may require an extended time period and measures being very much targeted towards new residents.
- 5.14 The survey results provide a suite of recommendations and ideas that interviewees would like to see by way of changes in the way access is managed at sites (Figure 14), and these may help to draw and influence where people go and how much time they spend at different locations. Some of these could be included within a strategic mitigation approach.

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Appendix 1: Questionnaire

Survey questionnaire used in the face-to-face interviews.



FOOTPRINT ECOLOGY

Good morning/afternoon. I am conducting a visitor survey on behalf of the local Councils around the River Severn. The survey is to find out more about how people use this area for recreation. Can you spare me a few minutes please?

Q1 **I'd like to first ask about the type of visit you are undertaking here today.**

- Are you on a day trip/short visit and have travelled directly from your home ... *if no***
- Are you staying away from home with friends or family ... *if no***
- Are you staying away from home, for example on holiday or using a second home or mobile home**
- If none of the above, How would you describe your visit today?**

Further details

Q2 **What is the main activity you are undertaking here today?** *Tick closest answer. Do not prompt. Single response only.*

- Dog walking
- Walking
- Jogging/power walking
- Beach Activity (sunbathing, bucket/spade etc)
- Cycling/Mountain Biking
- Bird/Wildlife watching
- Fishing
- Meet up with friends or family ('social')
- Watersport (canoe, paddleboard, surfing, kitesurf, jetski, boating etc, give details)
- Other, please detail:

Further details

Q3 **How long have you spent / will you spend in this area today?** *Single response only.*

- Less than 30 minutes
- Between 30 minutes and 1 hour
- 1-2 hours
- 2-3 hours
- 3-4 hours
- 4 hours +

Q4 **Over the past year, roughly how often have you visited this location?** *Tick closest answer, single response only. Only prompt if interviewee struggles.*

- More than once a day
- 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:

Q5 **Do you tend to visit here at a certain time of day?** *Tick closest answers. Multiple answers ok.*

- Early morning (before 9am)
- Late morning (between 9am and 12)
- Early afternoon (between 12 and 2)
- Late afternoon (between 2 and 4pm)
- Evening (after 4pm)
- Varies / Don't know
- First visit

Q6 **Do you tend to visit here 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

Q7 **Has the coronavirus pandemic changed how often you visit this site?** *Await answer and If yes follow with **Have your visits increased or decreased?** Do not prompt. Single response only.*

- No, visiting the same as before
- Don't know / unsure
- Yes, have changed, visiting more
- Yes, have changed, visiting less

Further details:

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 the normal length 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 **What, if anything, influenced your choice of route here today?** Tick closest answers, do not prompt. Multiple responses ok. As necessary add: **Why did you walk/ride where you did?**

- Weather
- Daylight
- Time
- Other users (avoiding crowds etc)
- Group members (e.g. kids, less able)
- Muddy tracks / paths
- Followed a marked trail
- Previous knowledge of area / experience
- Activity undertaken (eg presence of dog, slipway access for watersports)
- Interpretation / leaflets / other promotion
- Wanting to be near water
- Viewpoint/Feature
- Tide
- Other, please detail

Further details:

Q11 Why did you choose to visit this location, rather than another local site? *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 of site to visit 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	<input type="radio"/>	<input type="radio"/>
Close to home	<input type="radio"/>	<input type="radio"/>
No need to use car	<input type="radio"/>	<input type="radio"/>
Quick & easy travel route	<input type="radio"/>	<input type="radio"/>
Good / easy parking	<input type="radio"/>	<input type="radio"/>
Particular facilities	<input type="radio"/>	<input type="radio"/>
Refreshments / cafe/ pub	<input type="radio"/>	<input type="radio"/>
Choice of routes	<input type="radio"/>	<input type="radio"/>
Feels safe here	<input type="radio"/>	<input type="radio"/>
Quiet, with no traffic noise	<input type="radio"/>	<input type="radio"/>
Not many people	<input type="radio"/>	<input type="radio"/>
Scenery / variety of views	<input type="radio"/>	<input type="radio"/>
Rural feel / wild landscape	<input type="radio"/>	<input type="radio"/>
Particular wildlife interest	<input type="radio"/>	<input type="radio"/>
Habit/familiarity	<input type="radio"/>	<input type="radio"/>
Good for dog / dog enjoys it	<input type="radio"/>	<input type="radio"/>
Ability to let dog off lead	<input type="radio"/>	<input type="radio"/>
Closest place to take dog	<input type="radio"/>	<input type="radio"/>
Closest place to let dog safely off lead	<input type="radio"/>	<input type="radio"/>
Appropriate place for activity	<input type="radio"/>	<input type="radio"/>
Suitability of area in given weather conditions	<input type="radio"/>	<input type="radio"/>
Near coast / water	<input type="radio"/>	<input type="radio"/>
Other, please detail	<input type="radio"/>	<input type="radio"/>

Further details:

I'd now like to ask how you plan your visit, either before you leave or during your visit.

Q12 Thinking of your visit today:

	Yes	No	Don't know/unsure
Did any particular website influence your choice of where to go or what to do?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Did any social media influence your choice of where to go or what to do?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Did any smartphone app influence your choice of where to go or what to do?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Did any maps (online or paper) influence your choice of where to go or what to do?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Did any leaflets influence your choice of where to go or what to do?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Did word of mouth influence your choice of where to go or what to do?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q13 You indicated that a website influenced your visit today, which websites did you use?

Q14 You indicated that social media influenced your visit today, which social media did you use?

- Twitter
- Facebook
- Instagram
- Other, please detail:

Other

Q15 You indicated that you have used a smartphone app specifically relating to your activity. Which apps do you use?

Q16 You indicated that leaflets influenced your visit. Which leaflet did you mean?

Q17 You indicated that word of mouth influenced your visit today. Who did you speak to?

- Family
- Friend
- Other (give details):

Further details:

Q18 **Which one location would you have visited today if you could not visit here?** *Do not prompt, tick closest answer.*

- Not sure/Don't know
- Nowhere/wouldn't have visited anywhere
- Site named

Site name: *type carefully, capture a specific named location and ask interviewee to spell it if necessary)*

Please could you tell us the name of up to 2 other locations you visit most often for [given activity]? Please list them in order, starting with the one you visit most. Ask for spelling if necessary.

Q19 Name of Site 1

Q20 Name of Site 2

Q21 **Are there any changes you would like to see here with regards to how this area is managed for access?** *Do not give options, tick closest option(s).*

- No changes/leave as is
- More parking
- Better parking
- More paths
- Better / surfaced paths
- Separate paths for cyclists/ walkers
- More bins / less litter
- More dog poo bins
- Controls on dogs and dog fouling
- Facilities for dogs (training areas, washes etc)
- Toilets
- Cafe
- Improvements to habitats /scenery
- More natural / wild
- Not sure/ don't know
- Other, please detail

Further details:

Q22 **What is your full home postcode?** *This is an important piece of information, please make every effort to record correctly.*

Q23 *If visitor is unable or refuses to give postcode:* **What is the name of the town or village where you live?**

Q24 *If visitor is on holiday ask:* **Which town / village are you staying in?**

Q25 **Do you have any further comments or general feedback about your visit and access to this area?**

That is the end. Thank you very much indeed for your time.

Q26 TO BE COMPLETED AFTER INTERVIEW FINISHED.

Surveyor initials

Survey location number

Map reference number

Total people in interviewed group

Total minors in interviewed group

Number of dogs

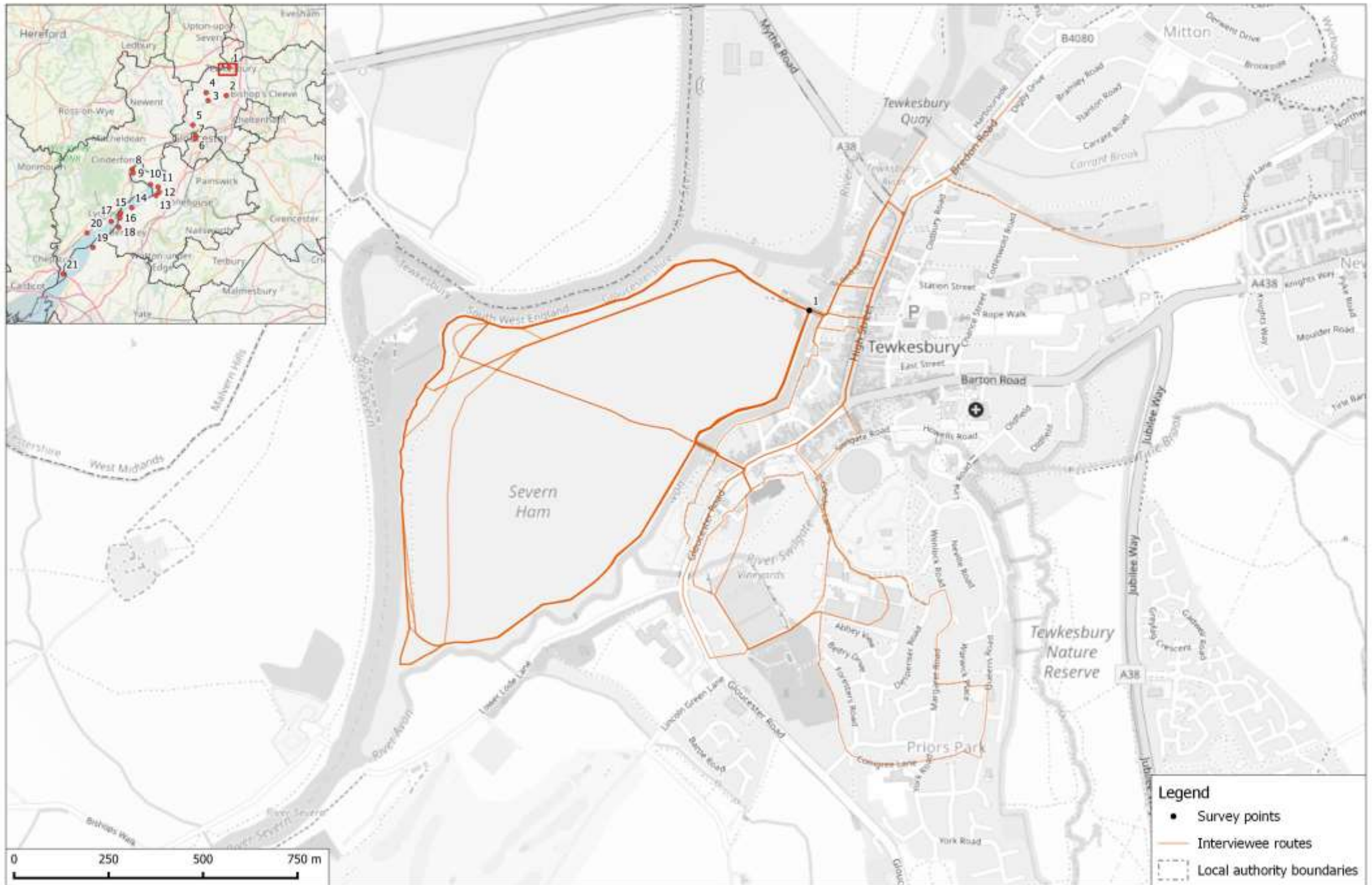
Number of dogs seen off lead

Q27 **Surveyor comments.** *Note anything that may be relevant to the survey, including any changes to the survey entry that are necessary, e.g. typos/mistakes/changes to answers/additional information.*

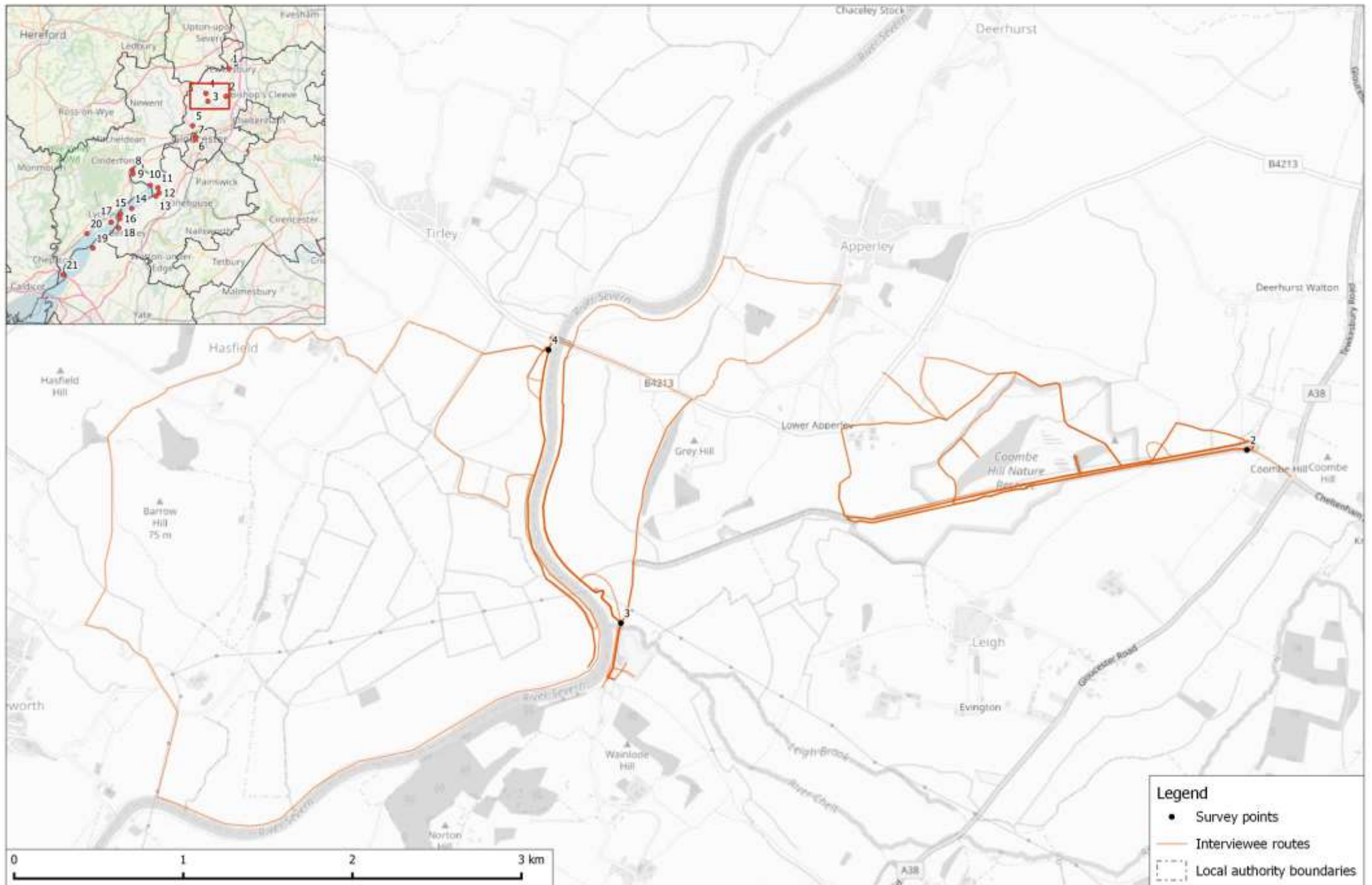
Appendix 2: Detailed maps of interviewee routes

Here are more detailed maps of the routes taken by interviewees on site.

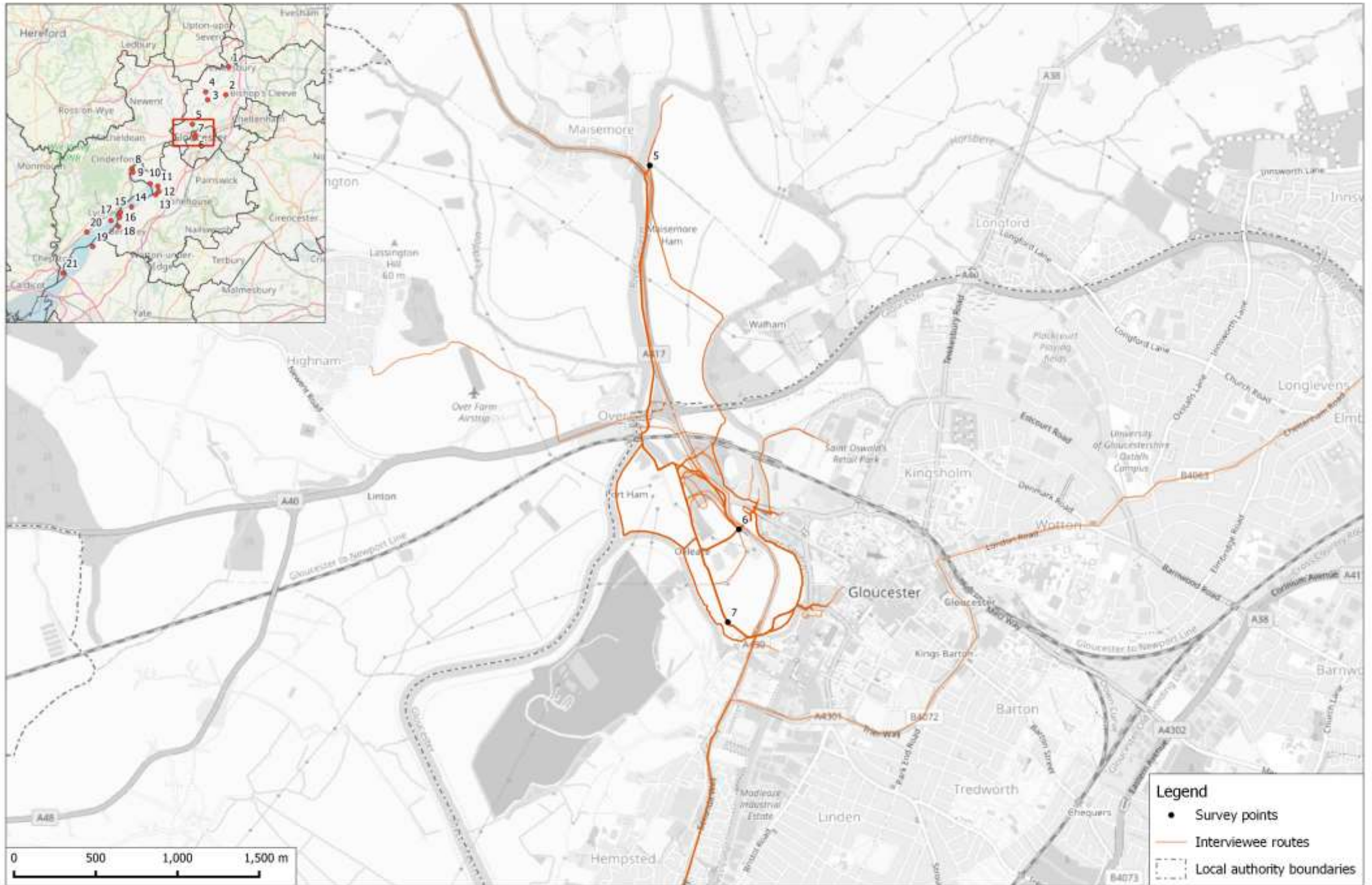
Map of routes taken by interviewees at survey location 1. Darker lines indicate where more routes overlapped i.e. where there was the most footfall.



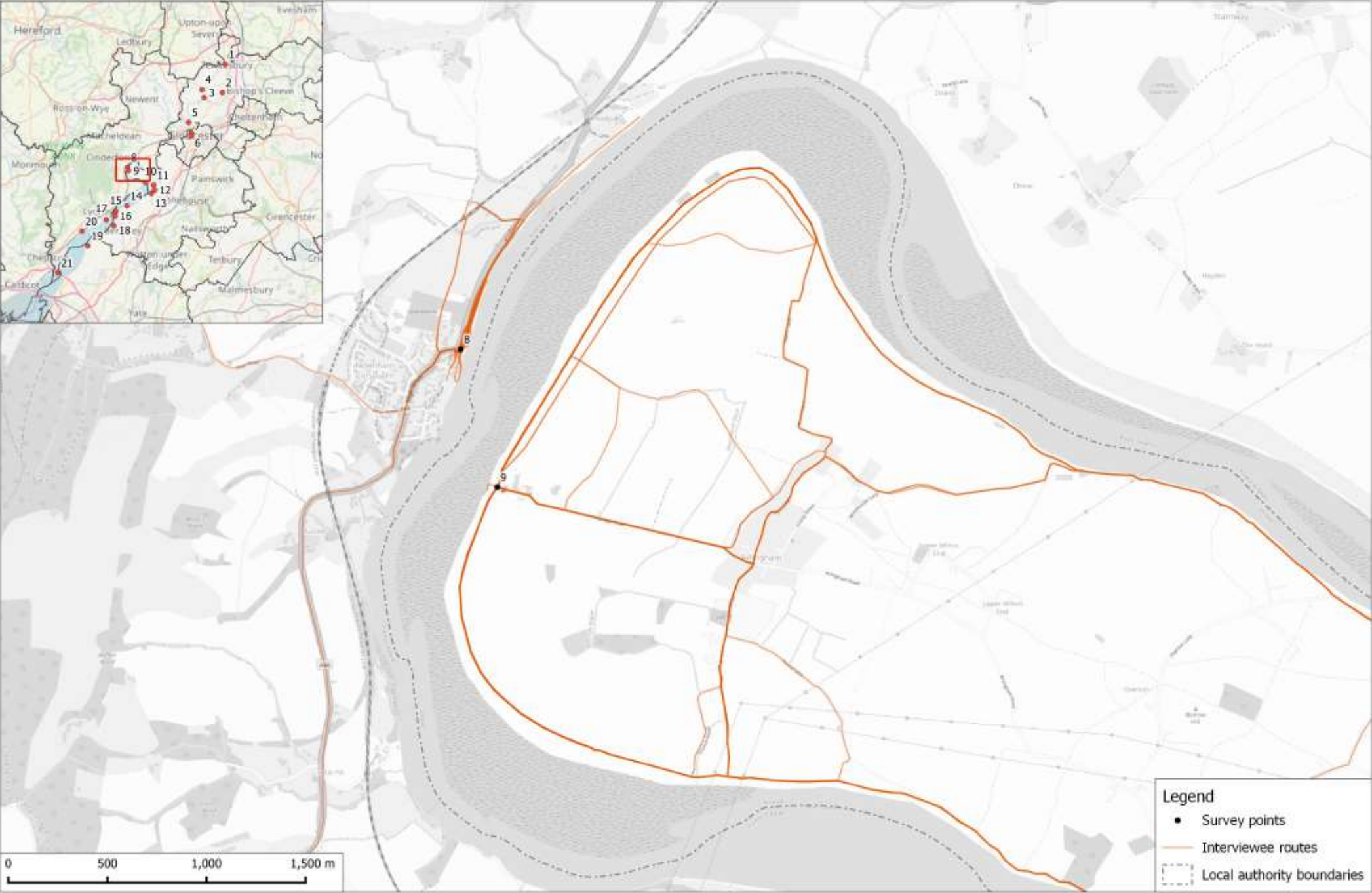
Map of routes taken by interviewees at survey locations 2, 3 and 4. Darker lines indicate where more routes overlapped i.e. where there was the most footfall.



Map of routes taken by interviewees at survey locations 5, 6 and 7. Darker lines indicate where more routes overlapped i.e. where there was the most footfall.



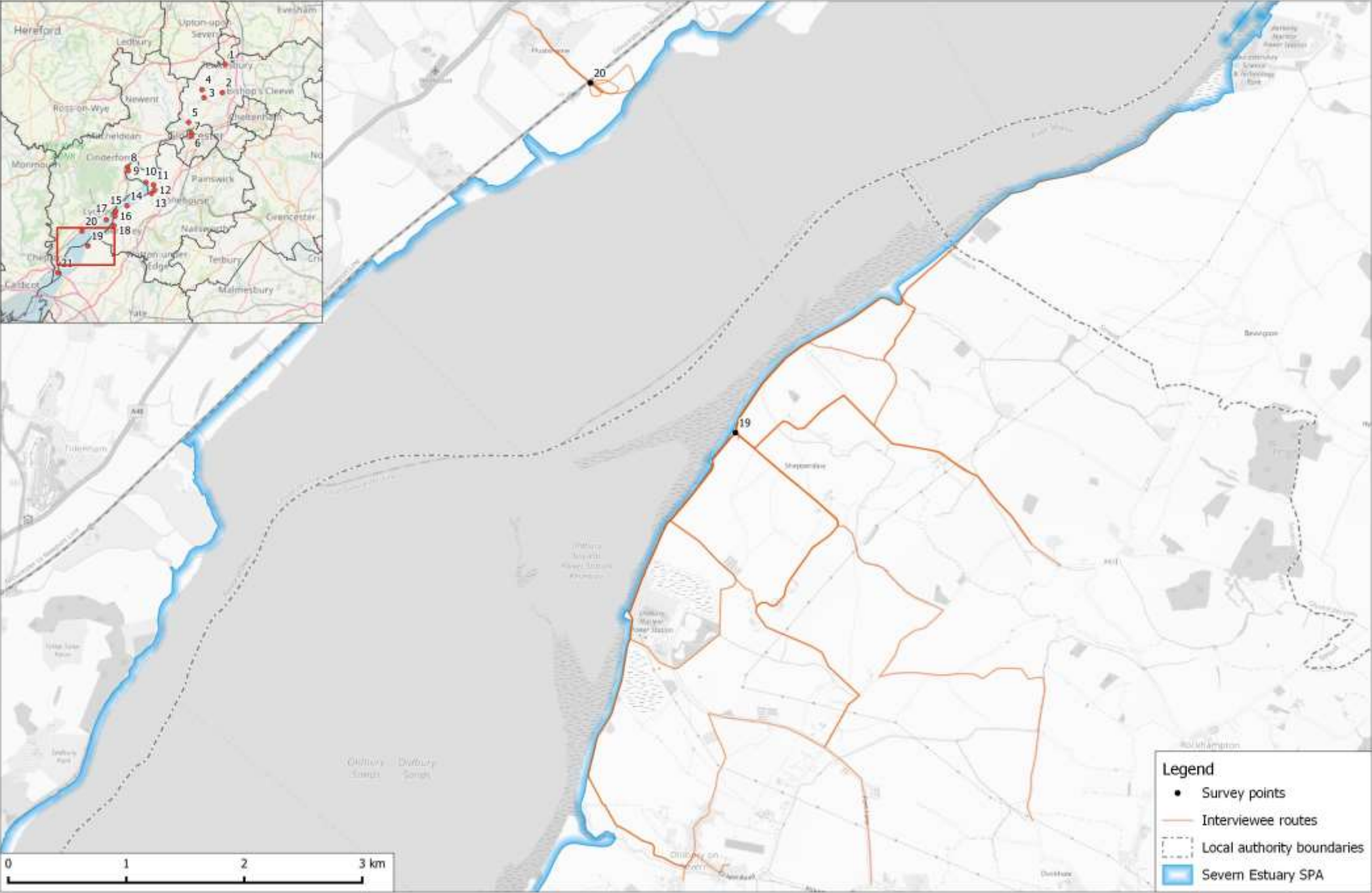
Map of routes taken by interviewees at survey locations 8 and 9. Darker lines indicate where more routes overlapped i.e. where there was the most footfall.



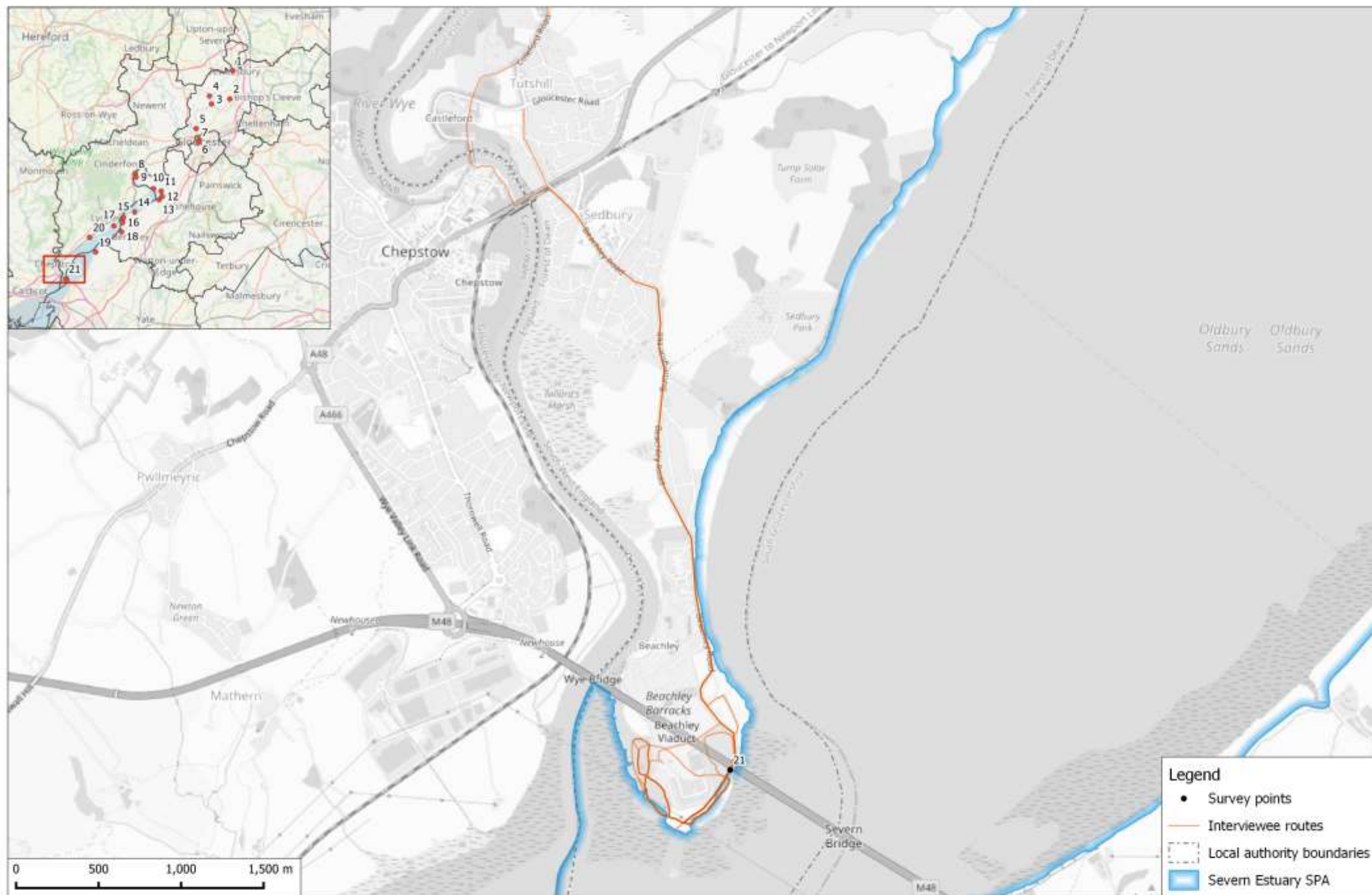
Map of routes taken by interviewees at survey locations 10 to 13. Darker lines indicate where more routes overlapped i.e. where there was the most footfall.



Map of routes taken by interviewees at survey locations 19 and 20. Darker lines indicate where more routes overlapped i.e. where there was the most footfall.



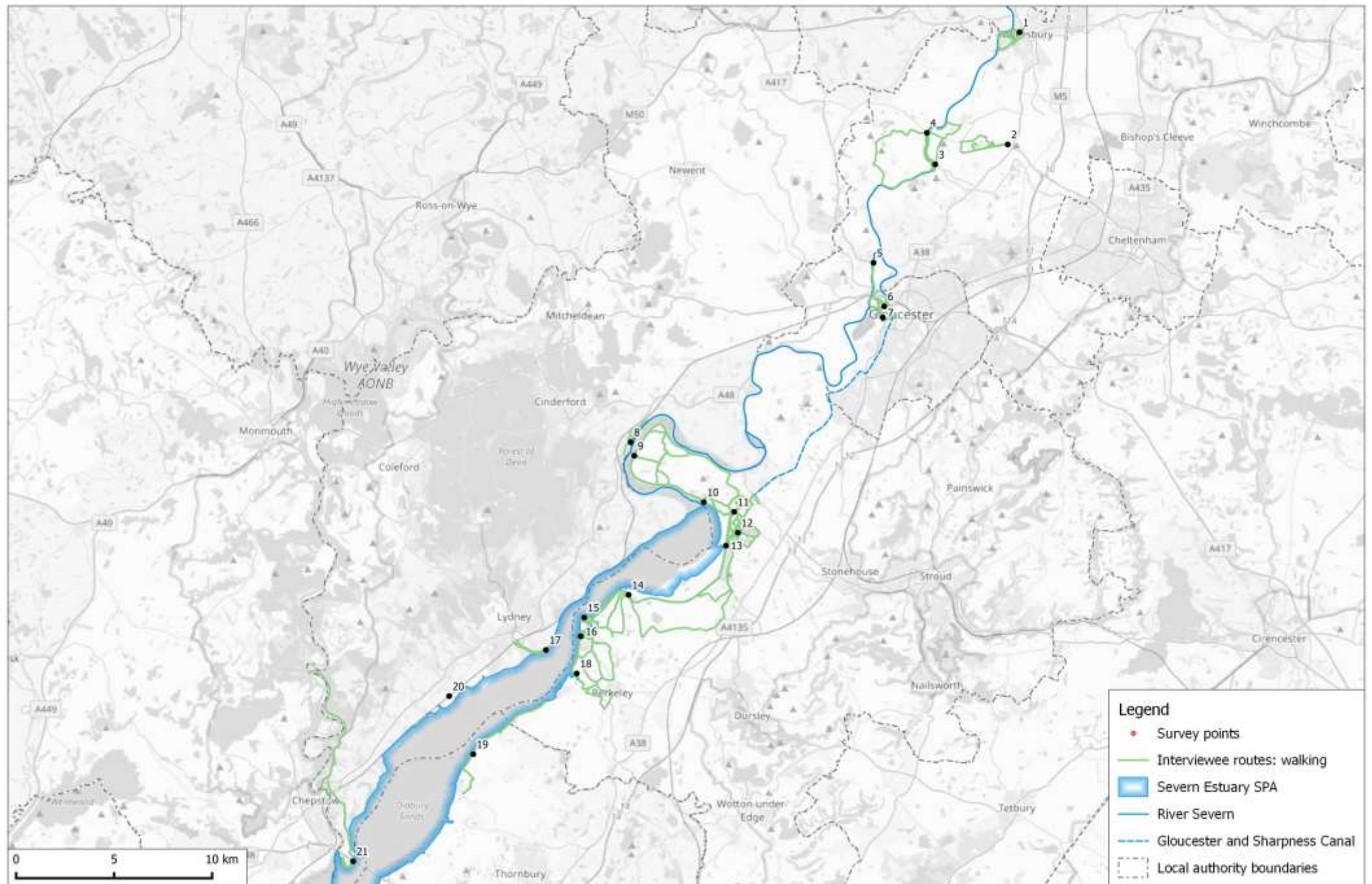
Map of routes taken by interviewees at survey location 21. Darker lines indicate where more routes overlapped i.e. where there was the most footfall.



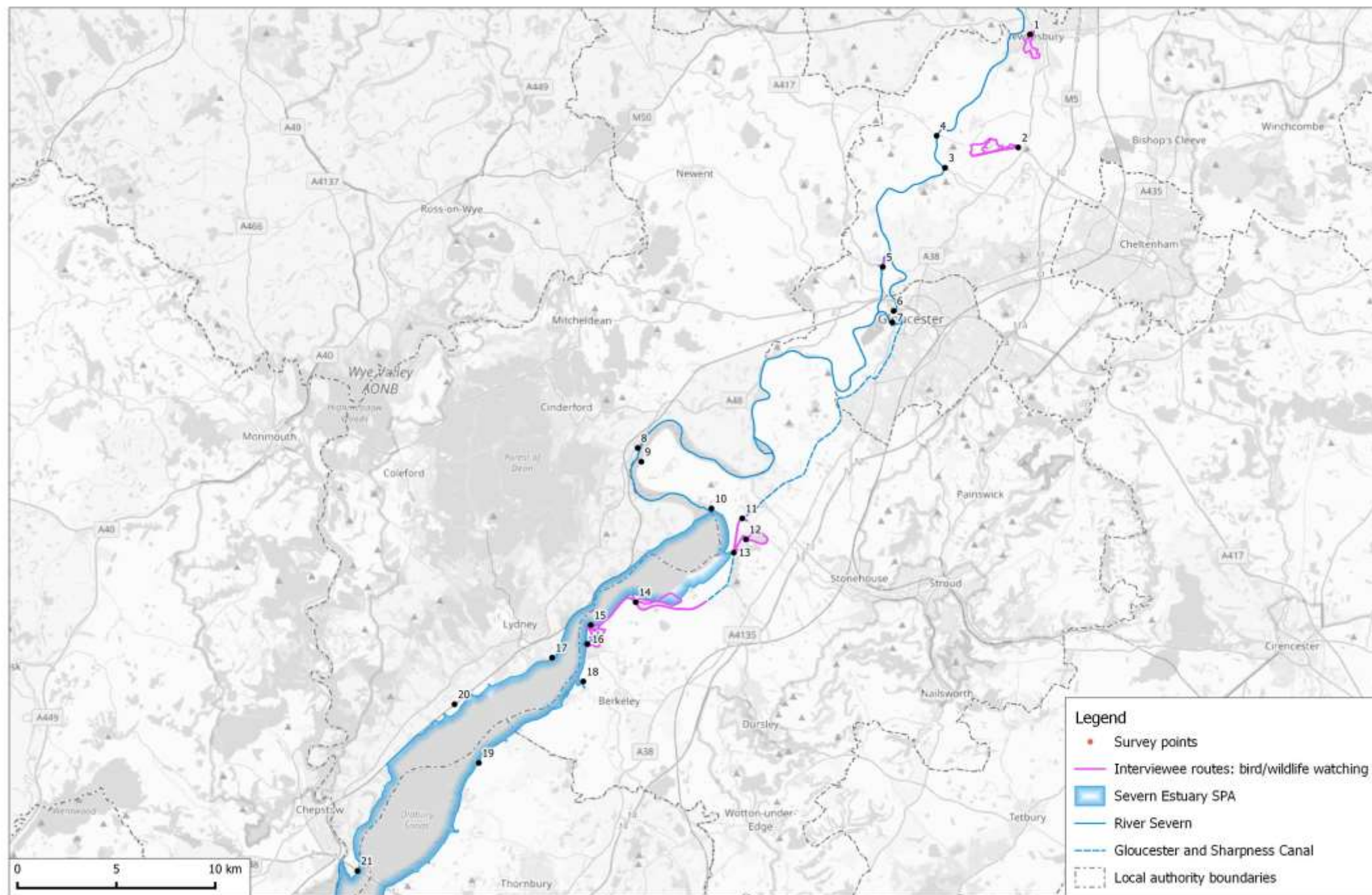
Appendix 3: Maps of interviewee routes for different activity types

Below are maps showing separately the routes of interviewees who were dog walking, walking, bird/wildlife watching and cycling/mountain biking.

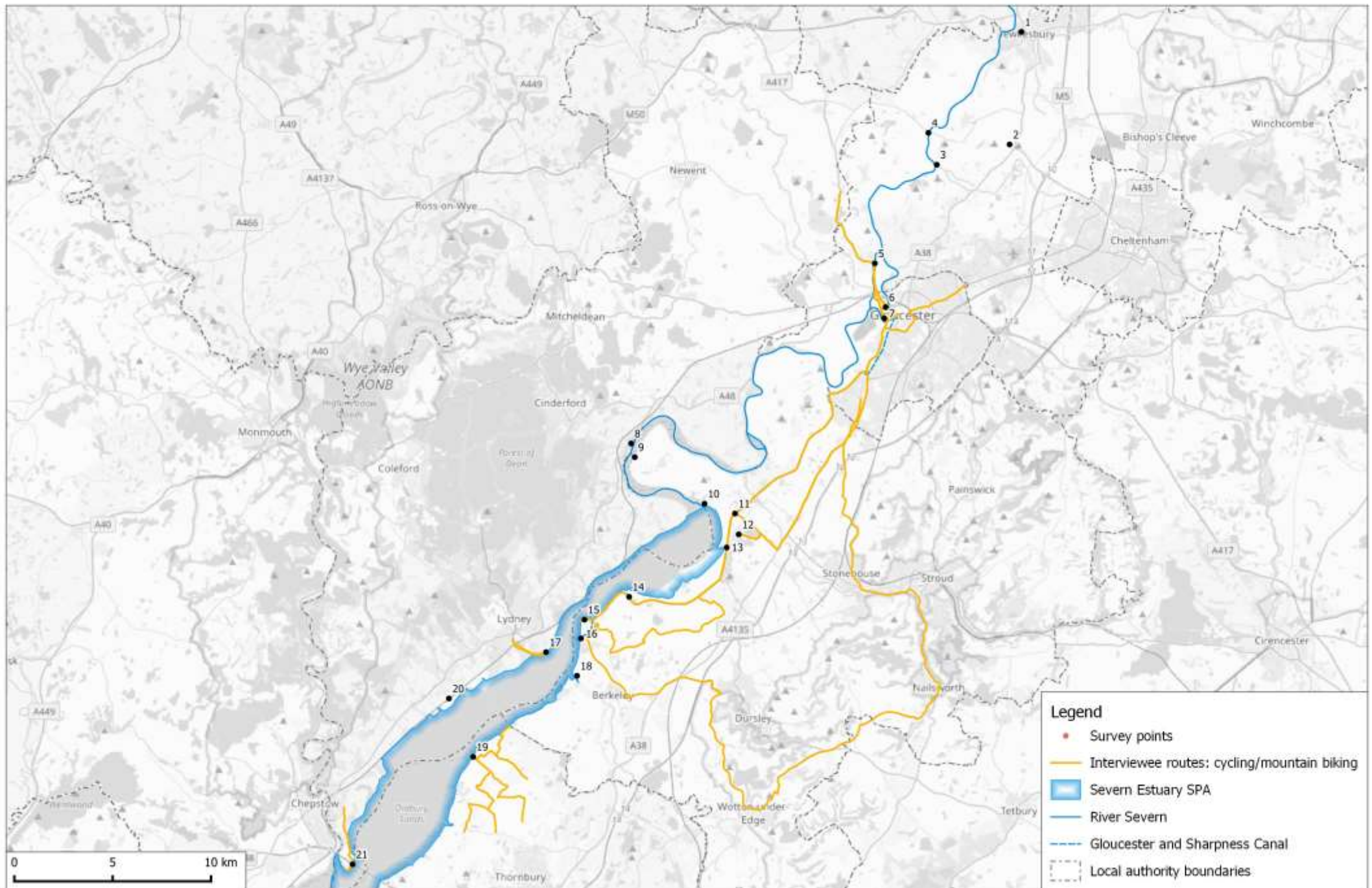
Map of routes taken by interviewees whose main activity was walking.



Map of routes taken by interviewees whose main activity was bird/wildlife watching.



Map of routes taken by interviewees whose main activity was cycling/mountain biking.



Appendix 4: Responses to Q25

In the table below are all of the comments made by interviewees in response to Q25 which asked for any additional feedback regarding their visit and access to the area.

Survey location	Response
1 - Severn Ham	Dog on lead restriction for birds and then sheep. Can sheep be penned into different areas so dogs can be let off the lead?
	Path next to Avon narrow for people to pass. All-purpose path as brings grandchild in wheelchair. Can Ham path next to Avon connect on West side.
	Replacement of new boom barrier at Mill Bank.
2 - Coombe Hill Meadows	Disabled access should be improved and muddy footpath surface.
3 - Chelt and Leigh Meadows	Pond on the campsite seems to be being neglected - trees felled into it and rubbish dumped, needs improvement. Bigger dog access hole on the stile here would be good.
	Really love the area.
	Shame about all the debris surrounding the river since the flooding, does need clearing up.
	Stroud waterways - lots of work has been done with new sections opened up which is lovely to see.
	Traffic on this road seems to go faster than it should - doesn't feel safe walking on the road.
4 - Haw Bridge/ Ashleworth Ham	Debris in flood gate could be cleared more often.
	Pleased that the pub will be reopening in due course.
	Poor surfacing makes the mobility scooter access bad here at the gate, could be improved.
6 - Alney Island - north	Fallen trees often not cleared.
	Needs more advertising.
	Would like information boards replaced as they were vandalised and most are now missing.
7 - Alney Island - south	Really appreciates wilder feel and current management approach.
	Thinks area is under advertised.
	Would like a ranger or warden here.
	Would like to see more info around about wildlife that can be found here.
9 - Arlingham Old Passage	Beautiful area.
	Deterioration in riverbank/flood defence on loop.
	Disappointed that EA won't maintain flood banks.
	Don't want it spoiled by solar panels.
	Excellent having the four circular routes in the village.
	Footpath maintenance needs to be better. Local farmer blocks paths with barbed wire or drives through gateways to make them muddy. Severn Way blocked near the sewage treatment. Local roads inadequate for any more development in the area, and no more solar farms.

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Survey location	Response
9 - Arlingham Old Passage	Good, road works a pain.
	Happy, like the flat and the river.
	Happy.
	Keen for biodiversity to be improved in area.
	Keep it quiet.
	Lovely, quiet.
	Lovely.
	Lovely.
	More dog bins on bank.
	More dog bins.
	Nice and quiet.
	Pleased pub open.
	Public transport to this spot.
	Pubs don't open at normal times.
10 - Hock Cliff	Don't want it to change, no need for any new development in the area. Traffic on lane too fast and too close to pedestrians.
	Great.
	Happy.
	Like finding fossil (kid's answer).
	Love it, really rely on PROW.
	Lovely and well managed.
	Lovely.
No good parking in the area, and country lane is getting dangerous.	
11 - Fretherne Bridge	Concern over housing developments and facilities.
	Convenient.
	Could have another café near bridge.
	Like the fact that's it's not touristy. If it's too busy will look for quieter areas. Really like it, tow path gets muddy, possibly a bit more maintenance.
12 - Frampton Pools	Dog poo bags left lying around and parking in village very bad.
	Estate manages location very well.
	Village needs more parking.
	Visitor numbers have been higher due to Covid in the areas and puts pressure on parking.
13 - Splatt Bridge	Beautiful.
	Happy, open more PROW.
	Happy.
	Happy.
	Happy.
	Improvements made by Canal Trust have been great.
	It's just beautiful.
	Lovely but well-hidden and quiet.
	Lovely.
Open access to lakes in by putting right gates e.g. Radar key. Reduce numbers to minimise damage.	

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Survey location	Response
13 - Splatt Bridge	Super, access very good.
	The canal is brilliant.
	Towpath trail signs, not very accurate timings, misleading.
	Very pleasant.
	Well looked after.
14 - Purton	Access in local roads very narrow - can lead to green being churned by large vehicles getting stuck.
	Access to the canal here is good with good parking but at a lot of the other bridges it's very poor.
	Don't close it, also lack of toilets is a problem here.
	During COVID the Hulks (stranded boats) were advertised by local authority (?) as a destination and it became very busy and this has not really subsided since. Makes it very difficult for the residents.
	Interviewee stressed that parking by visitors is a big issue here - but wouldn't want to see it increased as it wouldn't be fair on local residents.
	It's good to have a free car park here.
	Parking - road parked in village though not sure if that's a problem.
	Real concern that since pandemic this quiet village has been spoilt by too many visitors parking inappropriately and not taking care of the water.
	Somewhere to get something to eat near the water for those leaving on the boats would be great.
	Unlike the view of many locals would like to see better facilities provided to deal with large numbers of visitors and night anglers rather than try to dissuade people from coming. Would like to see the pub reopened. More footbridges across the canal would be great.
	Unusable surface in the winter, could be great commuter route. Too much invested in Stroud canal.
Wish people would stay out of the water - lots of boating activity. Don't like it when people don't treat the water with respect. Very pleased the hatch club didn't get their scheme through to be based here.	
15 - Sharpness Docks	Café in Sharpness.
	Get path over the docks opened ASAP.
	Interpretation boards at the dock.
16 - Sharpness Viewpoint & Picnic Site	Good access. Quiet site.
	Information panels.
	Like it as is.
	Tide table and list of expected ships.
17 - Lydney Harbour	Access road bumpy.
	Appreciates café.
	Appreciates café.
	Appreciates free parking.
	Appreciates improvements, especially café, would like a bit more parking but no more development.
	Concerned about parking provision as site now busier due to café.
Don't introduce car park charges.	

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Survey location	Response
17 - Lydney Harbour	Good walking route given on map by harbourside.
	Likes new improvements cafés etc.
	Preferred this place before improvements and addition of café etc. as it is now overused, has more litter and feels sanitised with safety fence.
	Really likes café and new safety railings.
	Really lovely, pretty place, appreciates facilities.
	Signs could do with refreshing.
	Unhappy about safety fence, visually spoils area and unnecessary. Appreciates café.
18 - Berkeley Pill	We don't want 'out of scale' development.
19 - Shepperdine	Dog bins nearer to the power stations.
	Repairs to roads leading to site.
20 - Plusterwine	Dislikes seeing rubble and building waste dumped beside river on fields here.
21 - Beachley	Inconsiderate parking when busy, blocking people in.
	Rubbish being left despite bins. Thanks for dog bins.