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Plymouth Sound and Estuaries MPA Marine Recreation Study

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Summary

This report has been commissioned by Plymouth City Council (on behalf of the local authorities) and the ReMEDIES project. It presents the results of a comprehensive study into marine recreation around the Plymouth Sound and Estuaries conducted in 2023/24.

Data gathering included five different elements:

- Vantage point activity counts at 20 different locations. Each location was visited 20 times between June 2023 and January 2024. On each occasion, counts were made over a wide area of how many people were present and their activity.
- On-site interviews with a random sample of people at 19 different locations and tally counts of the number of people seen passing the surveyor. Each location had two days of fieldwork (16 hours) in summer 2023 and one day (8 hours) in autumn 2023.
- An online survey that participants could complete themselves, to supplement the data from the on-site interviews.
- Two workshops with recreational users to gather additional information about specific activities.
- Ten semi-structured in-depth interviews with key stakeholders.

Key results and figures from the survey

Vantage point counts (counts at 20 locations on 20 dates, June-Jan)

- 3,318 people and 12,289 boats were counted within the 20 count areas, giving an average of 166 people and 614 boats on each date.
- 54% of the people counted were on land (footpath, promenade or jetty), 24% were on the beach above Mean High Water (MHWM), 1% were on the beach (or sand/mudflats) below MHWM and 21% were on/in the water.
- The peak count of people was on the August bank holiday.
- The highest number of boats were counted on 12th July.
- The most frequently observed activities (all counts combined) were walking without a dog (28%), sitting/sunbathing (26%) and swimming (14%).
- The busiest locations (largest total count) were locations 5 (Mount Batten), 7 (The Hoe) and 8 (Devil's Point), and the quietest location was location 16 (Churchtown Farm).
- Swimming was most observed at location 8 (Devil's Point) and at location 7 (The Hoe). Location 9 (Mount Wise) appeared to be a popular spot for angling/fishing, and location 2 (Wembury) a popular spot for surfing/kitesurfing.

On-site visitor interviews (57 days of fieldwork at 19 locations, involving tally counts and interviews)

- 3,983 groups passed the surveyors during the fieldwork, involving a total of 1,792 people (mean group size 2.1 people).
- Cawsand (survey point 19) was by far the busiest location from the tally data, with 1,527 people counted, equivalent to an average of 64 people passing the surveyor per hour. It also had the highest mean group size, of 2.8 people per group.
- A total of 1,108 interviews were conducted, 781 during the summer and 327 during the autumn.
- 37% of interviewees had 1 or more dogs with them, with a total of 504 dogs. 38% of the dogs counted were off lead at the time of the interview.
- 82% of interviewees were on a day trip or short visit and had travelled from home that day. 13% were on holiday in the area and 5% were away from home and staying with friends or family.
- The most common main activities of interviewees were dog walking (29%), walking (24%) and swimming (13%).
- At most locations dog walking or walking were the most common activity, exceptions were at Firestone Bay and East Hoe where swimming was the most common activity (58% and 49% respectively) and at Cawsand walking and swimming were joint most common activity (23% for both).
- Marine activities which concentrated at individual survey locations, but were not necessarily widespread, were windsurfing/windfoiling/wingfoiling (14% of those interviewed at Torpoint), rockpooling (10% at Wembury) and surfing (10% at Wembury).
- 49% said that they visit the location where they were interviewed at least once a week, including 18% who visit on a daily basis.
- Interviewees undertaking boat maintenance, dog walking or swimming were mostly likely to visit daily for their activity (56%, 38% and 15% respectively).
- The most common visit duration category was 30 minutes to 1 hour (28% of interviewees).
- Interviewees who were fishing (from shore) or kayaking/canoeing tended to have longer visits, with over 60% of them visiting for at least 2 hours.
- 61% of interviewees had travelled to the interview location by car or van, 33% on foot and 2% by train.
- Key factors determining the choice of location visited were close to home (34% of interviewees), scenery and views (21%) and wanting to be by the sea/coast (14%).
- Median route length (all interviewees) was 1.20 km (i.e. how far they walked or travelled while visiting). Those kayaking/canoeing undertook notably long routes (median of 5.73 km).
- 7% of interviewees were aware of the National Landscape (AONB) designation, 5% of interviewees were aware the estuary was a Marine Protected Area and also 5% knew that the place they were visiting was a SSSI.
- 18% of interviewees mentioned seagrass when asked about wildlife or habitats that they felt were special to the area.
- 91% of interviewees agreed that they feel connected to nature when they visited for their relevant activity.

- 55% of interviewees gave one or more suggestions for improvements at the location where interviewed, the most common responses related to litter/bins (9%), better accessibility (7%) and comments relating to toilets, including opening times (5%).
- 1,015 interviewees (92%) gave a full UK home postcode. The median straight-line distance (postcode to the location where they were interviewed) was 3.8 km and the 75th percentile distance was 10.1 km.
- For those interviewees on a short visit or day trip from home (i.e. not staying overnight), the median distance was 3.0 km and the 75th percentile distance was 6.8 km.

Online survey

- 427 interviewees completed the online survey. These data supplement the face-face interviews and do not represent a random sample of visitors.
- The most common main activities (activities undertaken most often) were swimming (23%), walking (17%) and sailing/yachting (15%).
- Most respondents tended to visit multiple parts of the Plymouth Sound and Estuaries for their activity. The Plymouth waterfront area was visited by the most respondents, followed by the southern part of the Sound (66%) and the central part of the Sound (58%). Far fewer respondents said that they visit the Lynher River, the upper parts of the Tamar or the Tavy.
- For most areas the most common visit frequency was 'less than once a month'.
- Plymouth waterfront was notable in that 41% of respondents who indicated that they visit this area do so at least once a week.
- 71% of respondents indicated that they visit all year round. Those who were sailing/yachting or paddleboarding tended to visit in summer or spring rather than all year round.
- 54% of respondents tended to travel to the site by car and 35% on foot.
- Key factors relating to site choice were close to home (70% of respondents), the scenery/views (64%) and having easy access to the water (60%).
- 93% of respondents had heard of the Plymouth Sound National Marine Park.
- 96% agreed that they feel connected to nature when they do their activity in the Plymouth Sound and Estuaries.

Workshops and stakeholder interviews

- Two workshops were held with recreational users, these were attended by 43 people.
- These provided more specific, detailed information through the form of a series of workbooks and maps.
- Further stakeholder interviews were undertaken with a selection of key organisations, individuals and groups.
- The various data provide further, often more qualitative information about specific activities, locations and local issues.

Contents

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Cover photo: River Yealm © Footprint Ecology

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1. Introduction

Overview

1.1 This report has been commissioned by Plymouth City Council and presents the results of a visitor survey around the Plymouth Sound and Estuaries conducted in 2023/24. The survey broadly repeats a previous survey from 2016/17 and has been commissioned to provide evidence to support ongoing management and protection of the Plymouth Sound and Tamar Estuaries Marine Protected Area (MPA).

Impacts and importance of access

1.2 In the UK there is considerable overlap between nature conservation and recreation. People use nearby green and blue spaces for a range of recreation, which includes dog walking and physical exercise. In marine areas access occurs in, on and under the water and much is concentrated around the shoreline which is a draw for many visitors.

1.3 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. 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 inculcating 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 and Maheswaran, 2011; Olafsdottir et al., 2020) and economic benefits (ICF GHK, 2013; Keniger et al., 2013; Sandbrook, 2010; Stebbings et al., 2020).

1.4 There are also considerable challenges as the use of sites for recreation can damage the nature conservation interest and hinder potential for nature recovery. There is a strong body of evidence showing how increasing levels of access can have negative impacts on wildlife. Issues are varied and there is an extensive body of literature documenting a wide range of types of impact (for general reviews, see: Liley et al., 2010; Lowen et al., 2008; Ross et al., 2014; Saunders et al., 2000).

1.5 A large increase in visitors to green and blue spaces during the coronavirus pandemic (Burnett et al., 2021; Lemmey, 2020; Natural England and Kantar Public, 2021; Ugolini et al., 2020) has resulted in further significant visitor management challenges, at times putting a huge strain on sites.

Legislative context

1.6 Sites that are important for nature conservation are subject to a range of legal protection. Sites that are designated or classified under the Habitats Regulations ('Habitats Sites') comprise Special Areas of Conservation (SACs) and Special Protection Areas (SPAs) and are afforded the highest degree of protection.

1.7 Under the Habitat Regulations, a competent authority should only give effect to a plan, or authorise or undertake a project after having ascertained that it will not adversely affect the integrity of the site, either as a result of the plan or project alone or in-combination with other plans or projects. This means that in the absence of certainty, the plan or project should not normally proceed (subject to the further exceptional tests set out within the legislation). Mitigation measures are counteracting measures that serve to avoid, cancel or reduce harmful effects. Guidance (Tyldesley & Chapman, 2021) is clear that, to be taken into account, at the appropriate stages, all 'mitigation measures' should be effective, reliable, timely, guaranteed to be delivered and as long-term as they need to be to achieve their objectives.

1.8 Marine Conservation Zones (MCZs) are designated by the Secretary of State under the provisions of Part 5 of the Marine and Coastal Access Act 2009 (MCAA) for nationally important habitats and species. The MCAA created powers and imposes obligations on various bodies (including Local Planning Authorities). A Marine Conservation Zone Impact Assessment is required by the MCAA where there are implications for an MCZ.

1.9 Where the functions of a public authority have the potential to impact on an MCZ, the MCAA created an obligation on the authority to carry out its functions in a manner that best furthers the conservation objectives of the MCZ. Where this is not possible, the public authority is required to proceed in the manner that least hinders the achievement of the MCZ's conservation objectives.

Plymouth Sound and Estuaries Marine Protected Area (MPA)

1.10 Plymouth Sound and its associated tributaries comprises a complex site of marine inlets and straddle the border between Devon and Cornwall. The city of Plymouth lies immediately to the east.

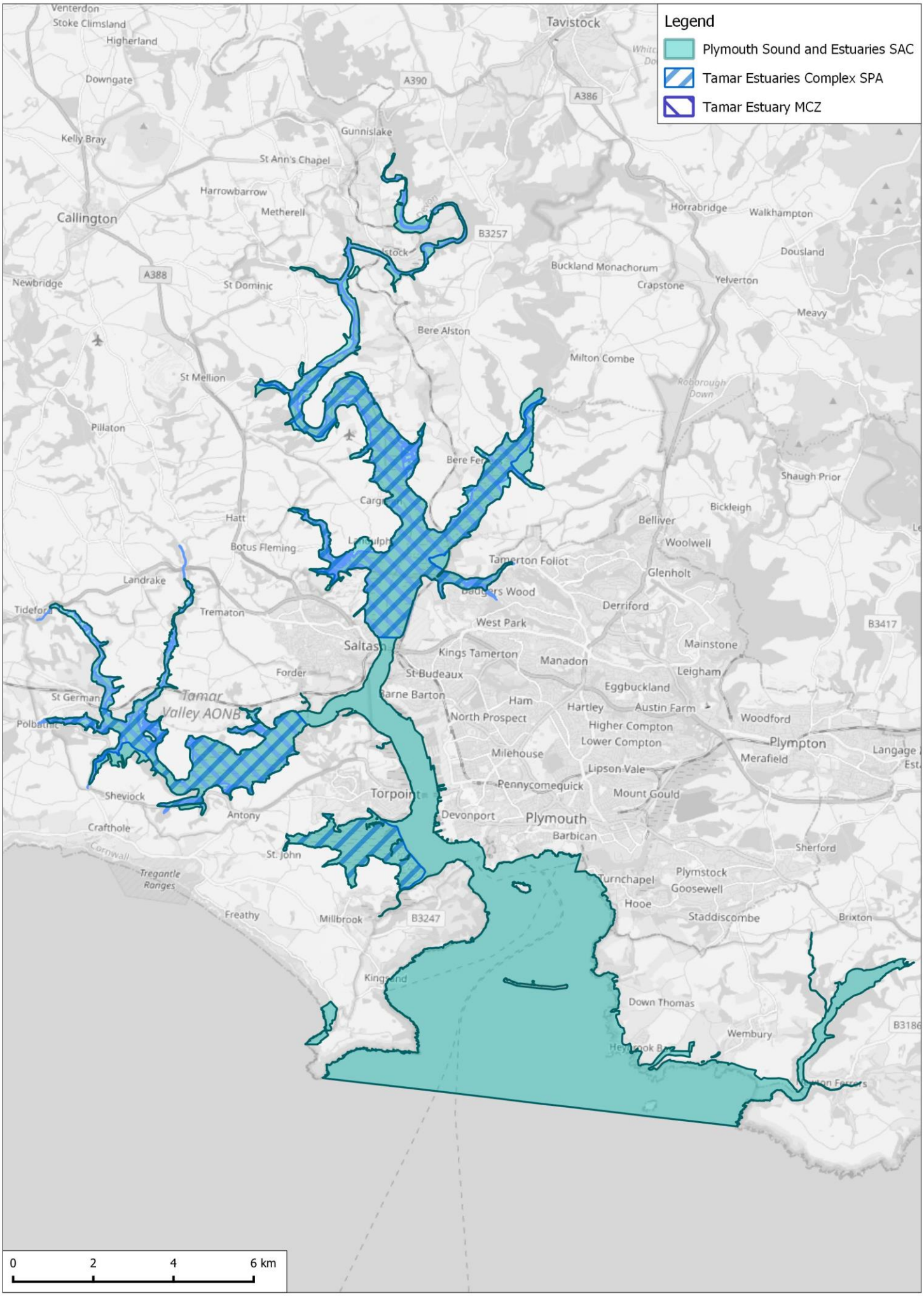
1.11 The ria systems entering Plymouth Sound (St John's Lake and parts of the Tavy, Tamar and Lynher), the large bay of the Sound itself, Wembury Bay, and the ria of the River Yealm are of international marine conservation importance because of their wide variety of salinity conditions and sedimentary and reef habitats. The broader lower reaches of the rivers form extensive tidal mudflats bordered by saltmarsh communities which are of international importance for the large numbers of waterbirds.

1.12 The Plymouth Sound and Estuaries MPA comprises:

- **Plymouth Sound and Estuaries SAC** (6,402 ha) which qualifies for a range of coastal habitats (Sandbanks which are slightly covered by sea water all the time, Estuaries, Mudflats and sandflats not covered by seawater at low tide, Large shallow inlets and bays, Reefs, Atlantic salt meadows) and 2 species (Allis Shad *Alosa alosa* and Shore Dock *Rumex rupestris*);
- **Tamar Estuaries Complex SPA** (1,955 ha) classified for 2 over-wintering bird species: Avocet *Recurvirostra avosetta* and Little Egret *Egretta garzetta*;
- **Tamar Estuary MCZ** (1,530 ha) designated for Blue Mussel *Mytilus edulis* beds, Intertidal biogenic reefs, Intertidal course sediment; Native Oyster *Ostrea edulis*; Smelt *Osmerus eperlanus.*

1.13 The relevant site boundaries are shown in Map 1. Background to the site, including summaries of the distribution of the qualifying features, are summarised in a separate report (Caals et al., 2024).

Map 1: Plymouth Sound and Tamar Estuaries Marine Protected Area (MPA)



Need for this report

1.14 The Recreational Mitigation and Management Scheme[1] for the Plymouth Sound and Estuaries MPA sets out the plans for the delivery of statutory duties under the Habitats Regulations 2017 (as amended) and Marine and Coastal Access Act 2010 on behalf of the relevant Local Planning Authorities around the estuary (Cornwall Council, Plymouth City Council, South Hams District Council and West Devon District Council).

1.15 The scheme mitigates recreation impacts associated with the increased population linked to new housing and tourism developments. All new residential developments within 12.3 km of the MPA boundary provide mitigation. This is delivered through a strategic mitigation scheme funded by Section 106 and Community Infrastructure Levy (CIL) developer contributions. The mitigation measures are set out in the scheme, and cover the following delivery themes:

- **Conservation** – projects supporting secure habitats and species protection, enhancement and restoration;
- **Advocacy and engagement** – encouraging positive behaviour changes, community and stakeholder sharing knowledge, increasing understanding;
- **Working together** – partnerships, sharing best practices, resources, collaboration;
- **Monitoring and management** – baseline monitoring enabling more effective management.

1.16 Research was carried out in 2016/17 by the Marine Biological Association (MBA) comprising a sensitivity analysis of the features of the Plymouth Sound and Tamar Estuaries MPA, followed by a study of recreational activities through on-site surveys, workshops and an online survey (Langmead et al., 2017). This work provided the evidence base to inform the strategic mitigation approach.

1.17 **This work has been commissioned to bring the evidence base up to date, to reflect recreational use post-Covid, to inform ongoing mitigation delivery and ensure protection of the site's designated features.**

[1] See http://www.plymouth-mpa.uk/wp-content/uploads/2019/11/Recreation-Mitigation-and-Management-Scheme.pdf

1.18 The findings will also be used to inform the work of the ReMEDIES project[2]. The LIFE Recreation ReMEDIES: 'Reducing and Mitigating Erosion and Disturbance Impacts affecting the Seabed' project (LIFE 18 NAT/UK/000039) runs from July 2019 to October 2024 and will improve the condition of seagrass beds in five Special Areas of Conservation (SACs) between Essex and Isles of Scilly. This will be achieved by restoration, demonstration and reducing recreational pressures. Promoting awareness, communications and inspiring better care of sensitive seabed habitats will be key. Natural England (lead partner) is working with Marine Conservation Society, Ocean Conservation Trust, Plymouth City Council/TECF and the Royal Yachting Association. The project is financially supported by LIFE, a financial instrument of the European Commission.

[2] www.saveourseabed.co.uk

2. Methods

Overview

2.1 In order to understand current recreational use of the Marine Protected Area, several approaches were used:

- **Vantage point counts**, providing a range of counts of different activities and their distribution around the estuary;
- **On-site visitor survey** allowing detailed interviews with a random sample of visitors to explore patterns of use and visitor behaviour;
- **Online survey** circulated and promoted by the client to provide wider information on recreation use from a broader sample of people;
- **Workshops** with marine recreation users to gather further information on visit patterns and where people go for different activities**;**
- **Stakeholder interviews** – ten video calls with key local stakeholders identified by the client.

2.2 Further details on each of these is given below.

Vantage point counts

Activity counts

2.3 Vantage point counts were conducted from 20 locations, each providing a good view of a wide area of the MPA. Counts were conducted on set dates and times when all locations were visited sequentially, ensuring comparable data from each location. Counts comprised a single snapshot of the activities and numbers of people visible within a pre-defined recording area ('count zone'). Binoculars were used if necessary.

2.4 Counts separated the following activities (see Appendix 1 for the recording form used):

- Swimming;
- Paddleboarding;
- Canoeing/kayaking;
- Angling/fishing;
- Personal watercraft e.g. jet ski;
- Windsurfing;
- Surfing or kitesurfing;
- Water skiing or wakeboarding;

- Foraging or spearfishing;
- Bait digging;
- Crab tiling;
- Rockpooling;
- Sitting/sunbathing;
- Walking (without a dog);
- Dog walking;
- Jogging;
- Bird/wildlife watching;
- Other activity.

2.5 Any activities observed that were not listed on the form were recorded as 'Other activity' with notes made to describe what the activity was. The number of dogs was also recorded, categorised as 'on lead' and 'off lead'.

2.6 Each of these counts was split into the following 'zones', although not all zones were present or visible at all locations:

- Seawall/promenade;
- Shore/beach above MHWM;
- Sandflats/mudflats below MHWM;
- On/in the water.

2.7 Finally, the number of boats was recorded, categorised as either 'moving', 'anchored' or 'moored'. Ferries and large commercial or military boats were not counted but all other boats were. At Jennycliff, surveyors were also asked to note whether any boats were seen anchored within the Voluntary No Anchor Zone (VNAZ), which is indicated with marker buoys.

2.8 Metadata such as the time, tide state, weather, wind direction and visibility were recorded at each location. The surveyors also recorded details of anything that may have affected visitor numbers or activities.

2.9 Photos were taken at each location and archived for future reference, for example to see where boats were anchored.

Vantage point locations

2.10 The vantage point locations are shown in Table 1 and Map 2. The criteria used to select the locations were:

- Positions where the surveyor would have a good view of the water;
- A good geographical spread around the MPA;
- Ideally, locations that are close to roads/parking, to minimise the time spent conducting the counts.

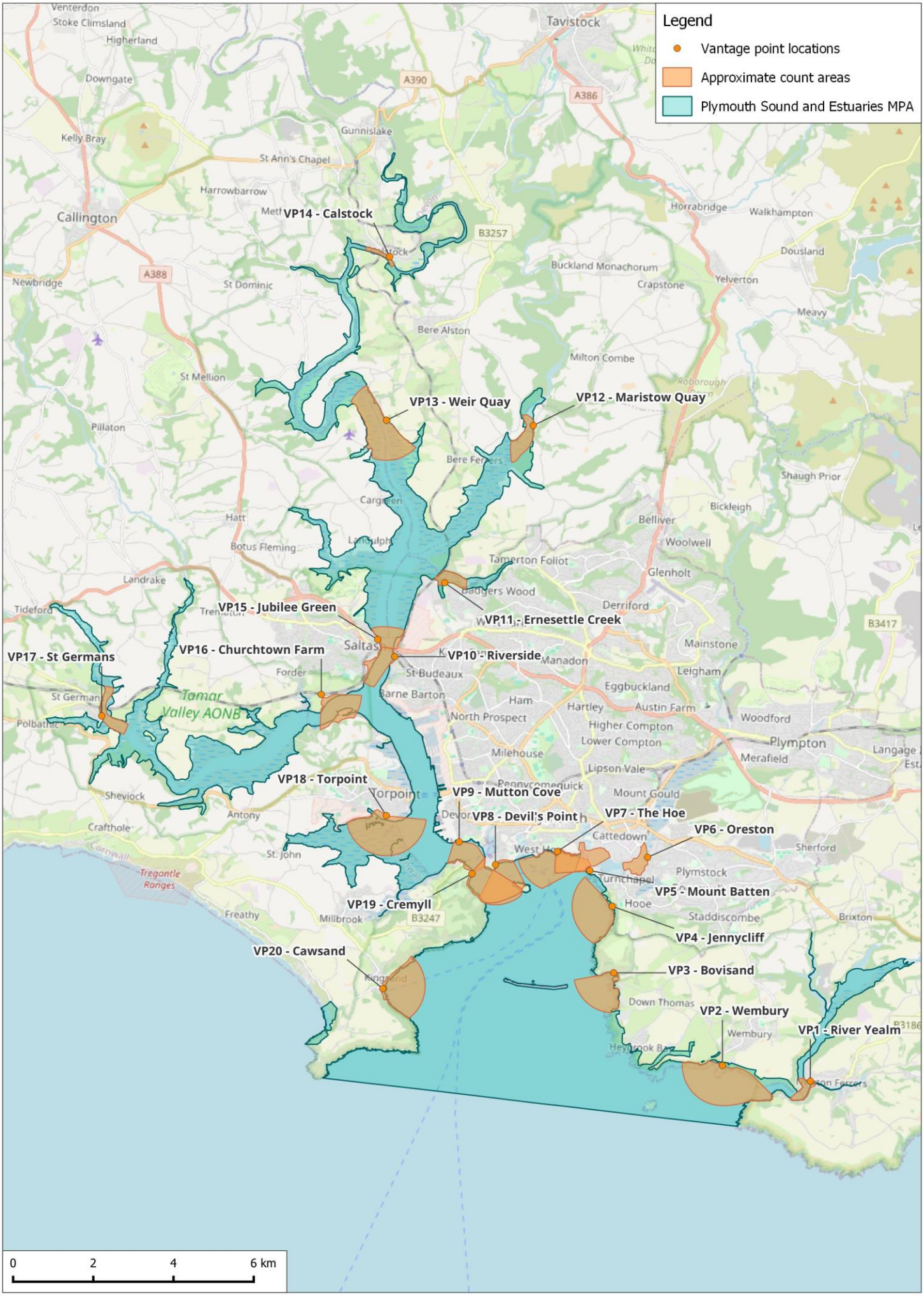
2.11 The 20 locations were split between two surveyors who set off at the same time, with one visiting locations 1 to 11 (route A) and the other one visiting locations 12 to 20 (route B). Each route typically took 4-5 hours to complete.

2.12 The count zones together comprised a total area of 1,288 ha within the MPA, covering approximately 20% of the area of the site.

Table 1: Details of the vantage point count locations.

ID	Name	Grid reference	Description
1	River Yealm	SX54074799	On Yealm Road, where there is a view of both the River Yealm and Newton Creek.
2	Wembury	SX51884838	The far (eastern) end of the National Trust car park at Wembury Beach with view of Cellar Beach, Wembury Bay and the Great Mewstone.
3	Bovisand	SX49175069	Next to the post box near Cliffedge Café, with view of Bovisand Bay.
4	Jennycliff	SX49135235	View of the Sound (including the VNAZ) from information panel near the café.
5	Mount Batten	SX48575324	On top of the mount, with view across to Elphinstone and the Barbican.
6	Oreston	SX50015357	At Oreston slipway with views across the Cattewater.
7	The Hoe	SX47765372	Hoe Road above Tinside Lido, next to the viewing telescope.
8	Devil's Point	SX46225339	In front of Devil's Point car park, where Firestone Bay can be seen, including the archway where paddleboarders enter from Royal William Yard.
9	Mutton Cove	SX45315396	Between Café Roma and the jetty at Mutton Cove, where there are good views of the Tamar.
10	Riverside	SX43705858	Interpretation board close to the D-Day Memorial, just south of Tamar Bridge. Only counting south of the Tamar Bridge.
11	Ernesettle Creek	SX44956042	Interpretation board and bench with views across Ernesettle Creek/Tamerton Lake.
12	Maristow Quay	SX47156432	Small car park south of Lopwell Dam with views across the Tavy.
13	Weir Quay	SX43506447	On bank of River Tamar, opposite small car park.
14	Calstock	SX43586855	Top of Calstock slipway, looking downstream towards the viaduct and upstream as far as the football club.
15	Jubilee Green	SX43285900	Standing next to the Jubilee Green Slipway, covering the area north of the Tamar Bridge only.
16	Churchtown Farm	SX41875763	Footpath over the railway line, looking across Sand Acre Bay towards Antony Estate.
17	St Germans	SX36405710	View of the River Tiddy from public footpath through The Quay Sailing Club.
18	Torpoint	SX43495461	Layby off Chapeldown Road with view across St John's Lake.
19	Cremyll	SX45635316	From Mount Edgcumbe cannons, looking across to Devil's Point, Drake's Island and Barn Pool.
20	Cawsand	SX43425030	War Memorial Garden off New Road, with view across Cawsand Bay.

Map 2: Locations for the vantage point activity counts



Survey timings

2.13 Counts were carried out on 20 occasions between June 2023 and January 2024 (Table 2). They included 7 weekdays during term time, 7 weekends during term time, 4 weekdays during school holidays (including the August bank holiday) and 2 weekends during school holidays. The start times were varied to capture activities at different times of day. The direction of travel was evenly split between ascending order (i.e. surveyors starting at locations 1 and 12) or descending order (i.e. surveyors starting at locations 11 and 20). On 3 occasions, logistical issues meant route A and B could not be completed on the same date and on those occasions the route was undertaken on the next available opportunity (as indicated in Table 2).

Table 2: Dates and start times of the vantage point counts. * indicates that routes A and B were done on different dates.

Count	Date	Day type	Start time	Direction
1	Fri 30 Jun 2023	Term time weekday	10:00	Ascending
2	Sat 1 Jul 2023	Term time weekend	10:00	Descending
3	Sun 9 Jul 2023	Term time weekend	13:00	Descending
4	Wed 12 Jul 2023	Term time weekday	08:00	Ascending
5	Wed 2 Aug 2023	School holiday weekday	15:00	Ascending
6	Sun 13 Aug 2023	School holiday weekend	13:00	Descending
7	Mon 14 Aug 2023	School holiday weekday	13:00	Ascending
8	Mon 28 Aug 2023	August bank holiday	10:00	Descending
9	Fri 8 Sept 2023	Term time weekday	08:00	Ascending
10	Sun 17 Sept 2023	Term time weekend	14:00	Descending
11	Mon 18 Sept 2023	Term time weekday	14:00	Ascending
12	Sat 7 Oct 2023	Term time weekend	10:00	Descending
13	Wed 25 Oct 2023	School holiday weekday	13:00	Ascending
14	Sat 28 Oct 2023	School holiday weekend	10:00	Descending
15	Wed 8 Nov 2023	Term time weekday	08:00	Ascending
16	Sun 19 Nov 2023	Term time weekend	11:00	Descending
17	Mon 20 / Wed 22 Nov 2023*	Term time weekday	11:00	Ascending
18	Fri 8 / Mon 11 Dec 2023*	Term time weekday	10:00	Ascending
19	Sat 9 / Sun 17 Dec 2023*	Term time weekend	10:00	Descending
20	Sat 13 January 2024	Term time weekend	08:00	Descending

2.14 See Appendix 2 for a summary of weather conditions during the fieldwork period.

On-site visitor survey

Interviews

2.15 Face-to-face interviews were conducted with a random sample of visitors to gather detailed information on recreation use from those visiting the site. Interviews took place at pre-selected locations and the surveyor interviewing a selection of people passing, a random selection was achieved by approaching the next person seen after completing the previous interview. Only one person was interviewed per group and no minors (under 18s) were interviewed.

2.16 The surveyor kept a record of the number of visitors who were approached for interview but declined to take part or were unable to take part for whatever reason. They also recorded the number of people who were approached but had already been interviewed, so were not re-interviewed.

2.17 The questionnaire (Appendix 3) was designed using Snap XMP software and was conducted using tablets running the Snap Offline Interviewer app. The app enables interviews to be conducted offline and then uploaded when the device is next connected to the internet.

2.18 It is important to note that some of the questions had pre-determined categories to facilitate recording of the interviewee's responses, however unless specified these were not shown to the interviewee or read out loud, in order to avoid any bias.

2.19 As part of the interview, visitors were asked to describe the route that they had taken during their visit (or were planning to take). This included anywhere that they had been on/in the water as well as on land. This route 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.

2.20 At the end of each interview, the surveyor recorded additional information about the number of people in each interviewed group and the number of dogs that they had with them (Q27).

Tally counts

2.21 Alongside the interviews, surveyors maintained a tally of all people seen passing them, recording the number of groups (of any size), people (total headcount), minors (under 18s), dogs and cyclists. These counts allow a

comparison across survey points in terms of visitor volume/footfall, and indicate the proportion of visitors that were interviewed at each location.

Survey locations

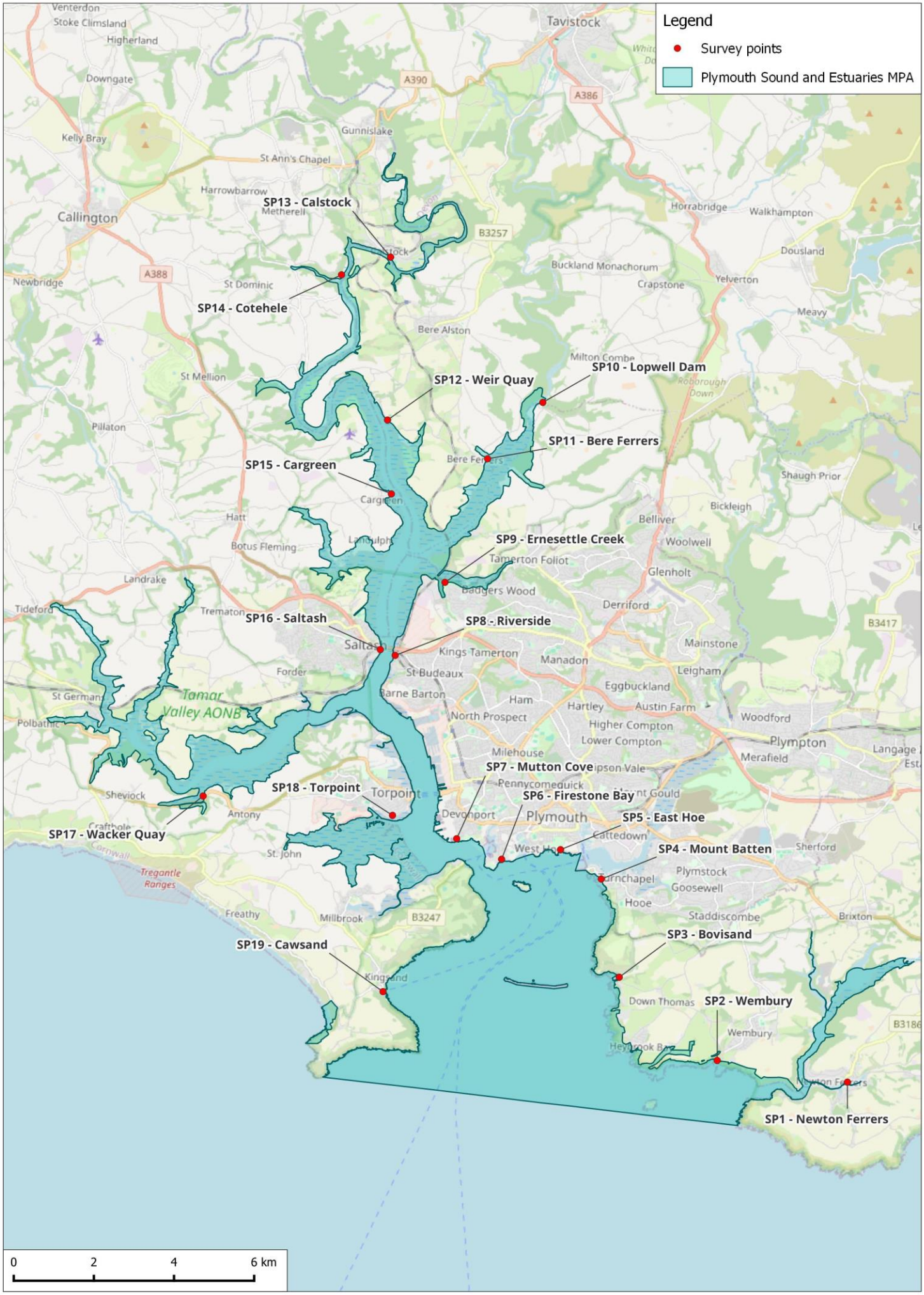
2.22 Surveys took place at 19 locations (see Table 3 and Map 3). They included 17 locations which were the same or similar to locations used in the 2016 survey. The criteria used to select these locations were:

- Locations where people can access the MPA for recreation, for example via a beach or a slipway;
- Locations that represented the different habitats and landscapes across the MPA e.g. a mix of urban/rural locations;
- Locations that enabled data to be captured relating to a range of different activities and users.

Table 3: Details of the survey locations. Those marked with '*' are the same as (or similar to) those surveyed in 2016.

ID	Name	Grid ref	Access type	Notes
1	Newton Ferrers *	SX54994795	Slipway	At Newton Creek, below Riverside Road East. Several boats moored here.
2	Wembury *	SX51744849	Beach	On path to beach. Close to Wembury Marine Centre. National Trust car park and café. Within a Voluntary Marine Conservation Area.
3	Bovisand *	SX49295056	Beach	On footpath, at entrance to beach.
4	Mount Batten *	SX48845301	Beach	At top of steps leading to Mount Batten Beach.
5	East Hoe	SX47845375	Beach	Halfway down the terraces east of Tinside Lido, below the café. Popular swimming area.
6	Firestone Bay *	SX46365351	Beach	By the steps leading to Firestone Bay and the tidal pool. Recently designated as an official bathing water, also used by scuba divers.
7	Mutton Cove *	SX45245401	Car park, slipway	Based in car park adjacent to small harbour. Surveyor to prioritise interviewing those using the harbour slipway but to also interview anyone else.
8	Riverside *	SX43715859	Slipway, park	Just south of Tamar railway bridge. Surveyor to stand near the D-Day Memorial, so they can interview both those using the slipway and those accessing the small waterside park off Wolseley Road.
9	Ernesettle Creek	SX44956042	Footpath, slipway	Footpath along Ernesettle Creek/Tamerton Lake where there is an interpretation board, bench and small slipway.
10	Lopwell Dam *	SX47396491	Car park	Car park just south of Lopwell Dam, on the River Tavy.
11	Bere Ferrers *	SX46016351	Quay, slipway	Small quay and grassy area with benches and view across the Tavy.
12	Weir Quay *	SX43526446	Car park	Small car park next to the river, just south of the watersports club.
13	Calstock *	SX43596854	Slipway, pier	Surveyor to roam between the slipway and the floating pier.
14	Cotehele *	SX42376809	Slipway	Surveyor to stand near National Trust welcome hut/toilet block, opposite tea rooms.
15	Cargreen *	SX43616262	Park	End of Fore Street where there are two private slipways.
16	Saltash *	SX43335873	Slipway, pier	Surveyor to roam area between the slipway, pier and steps.
17	Wacker Quay *	SX38915509	Car park, jetty	Car park and picnic area adjacent to Wacker Lake, off Lynher River.
18	Torpoint *	SX43645460	Slipway	Grassy area and slipway off Chapeldown Road.
19	Cawsand *	SX43405021	Beach	Busy beach, where the ferry arrives from Plymouth.

Map 3: Locations for the on-site visitor surveys



Survey timings

2.23 Two days were spent at each survey location between 3rd and 27th August, with one weekday and one weekend day at each. This was followed by one day of fieldwork at each location on a weekday between 18th September and 12th October. These times of year were chosen to coincide firstly with peak summer usage and then quieter term-time use. Survey effort was spread evenly within these survey windows, so as to reduce the risk of bad weather or other disruption from influencing the results. See Appendix 2 for a summary of the weather during fieldwork.

2.24 Each survey point was surveyed for 16 hours, with 8 hours on a weekend day and 8 hours on a weekday. Surveys were split into 2-hour sessions to provide breaks for the surveyors and comparable survey windows across all locations. Session times comprised**:** 07:00-09:00, 10:30-12:30, 14:00-16:00 and 17:00-19:00.

Online survey

2.25 An online survey was set up to reach a wider audience and to ensure that we gathered detailed information about a range of activities, including ones that were less represented in the on-site interviews. The online survey ran from August to December 2023 and was widely promoted via posters, newsletters, email, social media and the Plymouth Sound National Marine Park website (see Figure 1 for examples).

2.26 The questionnaire (see Appendix 4) was similar to that used for the on-site visitor interviews but was adapted to work online and for self-completion. To capture geographical information in Q3 we used a map with labelled areas (A to Q) so that the participant could indicate which area(s) they visit, as well as giving them the option of typing out specific placenames.

2.27 In order to maximise participation, the online survey was designed to be quick and easy to complete, and was compatible with a range of devices (e.g. smartphones, tablets, laptops). A paper version was also available upon request.

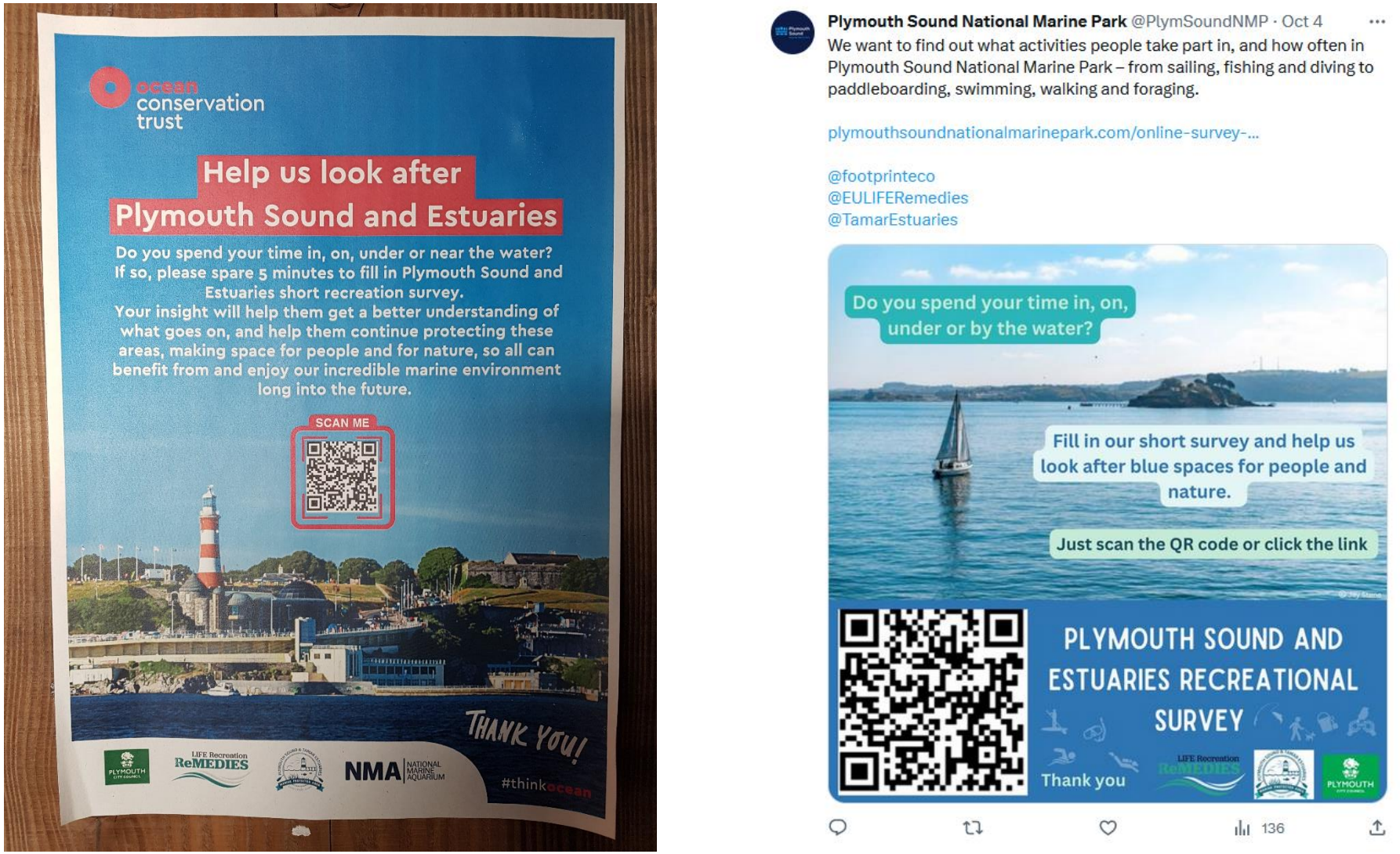


Figure 1: Examples of how the online survey was promoted: by poster at the National Marine Aquarium (left) and on Twitter/X (right).

Workshops

2.28 We held two in-person workshops which were open to anyone who uses the Plymouth Sound and Estuaries for marine recreation. We were particularly keen to involve people who participate in activities that were potentially under-represented in the on-site interviews, such as sailing and diving.

2.29 The first workshop was at Isambard House in Saltash on 9th January and the second was at the Mount Batten Watersports Centre on 10th January. Both events were held in the evening, to enable those working during the day to attend. These locations were chosen to encompass both sides of the Tamar. The Saltash venue was at the train station, making it easily accessible, and the Mount Batten Centre is used by several clubs, so is a familiar location to many recreational users.

2.30 The workshops were advertised through a range of means:

- Via the Port of Plymouth Marine Liaison Committee (PPMLC) and their contacts;
- Posters at key locations;
- Direct emails to over 20 clubs and groups;
- Plymouth National Marine Park newsletter;
- Listings on the events page of the Plymouth National Marine Park website;
- Social media: Instagram, Facebook and Twitter/X (e.g. Figure 2).

Figure 2: Instagram post advertising the marine recreation workshops.

2.31 An online registration form was set up for people to register their interest, although it was not necessary to book in advance and some participants were walk-ins on the day.

2.32 The format of both workshops was identical and comprised an introduction to the Plymouth Sound and Estuaries MPA recreational mitigation and management scheme from Plymouth City Council, followed by a presentation summarising initial survey results, with an opportunity for questions and discussion.

2.33 We then distributed a simple workbook for each participant to complete (see Appendix 5), along with a selection of A3 maps showing different parts of the MPA at a scale of approximately 3 cm to 1 km. Participants were then encouraged to annotate the maps with key locations that they visit for the recreational activities that they undertake (marked either as lines or as polygons) and mooring/anchoring/launching locations if relevant.

Figure 3: Photo showing workbooks and maps being completed by workshop participants.

Stakeholder interviews

2.34 A list of key stakeholders was provided by the client and video calls were scheduled with each of them. Ten calls were made, which involved 15 stakeholders in total. They included representatives of the following activities or organisations:

- Sailing;
- Angling;
- Scuba diving;
- Paddleboarding;
- Mount Batten Watersports & Activities Centre;
- Natural England;
- Cattewater Harbour Commission;
- Devon Wildlife Trust & Wembury MCA Advisory Group;
- South Devon National Landscape / Yealm Management Group;
- Calstock Parish Council.

2.35 Each call took the form of a semi-structured interview. The questions asked were similar to those detailed in the workshop workbook, including discussion of different types of activity, their distribution within the MPA, seasonality, and impacts upon and awareness of the MPA itself.

3. Results: Vantage point counts

Overview

3.1 Across all 20 counts a total of 3,318 people and 12,289 boats were observed within the 20 count areas, giving an average of 166 people and 614 boats on each occasion.

3.2 Of the total people, 1,785 (54%) of them were on land (e.g. on a footpath, promenade or jetty), 797 (24%) were on the beach above MHWM, 45 (1%) were on the beach below MHWM and 691 (21%) were on or in the water (Table 4). 11,219 (91%) of the boats were moored, 425 (3%) were anchored and 645 (5%) were moving (Table 5).

3.3 The highest number of people was observed on count number 8 (28/08/2023, August bank holiday) and the fewest number of people was observed on count number 15 (8/11/2023, mid-week, term time). The weather on the August bank holiday was described by surveyors as warm, bright and sunny with little wind, compared to the wet and windy weather described during the quietest count on 8th November.

3.4 The highest number of boats was recorded on count number 4 (12/07/2023, term time weekday), a day that was described as dull, mild but breezy with a few rain showers. The fewest number of boats were recorded on count number 16 (19/11/2023, term time weekend), when strong winds and rain were recorded.

Table 4: Number (%) of people observed on each of the 20 counts by zone. Rows are shaded according to season (summer/autumn/winter).

Date	Seawall/jetty/ promenade	Shore/beach above MHWM	Sandflats/ mudflats below MHWM	On / in the water	Total
30 Jun	38 (83%)	3 (7%)	0 (0%)	5 (11%)	46 (100%)
1 Jul	177 (54%)	62 (19%)	2 (1%)	84 (26%)	325 (100%)
9 Jul	191 (54%)	70 (20%)	14 (4%)	80 (23%)	355 (100%)
12 Jul	51 (53%)	23 (24%)	0 (0%)	22 (23%)	96 (100%)
2 Aug	33 (69%)	8 (17%)	0 (0%)	7 (15%)	48 (100%)
13 Aug	124 (41%)	126 (42%)	0 (0%)	49 (16%)	299 (100%)
14 Aug	151 (53%)	82 (29%)	0 (0%)	50 (18%)	283 (100%)
28 Aug	240 (56%)	105 (25%)	6 (1%)	74 (17%)	425 (100%)
8 Sep	67 (36%)	39 (21%)	5 (3%)	75 (40%)	186 (100%)
17 Sep	69 (63%)	19 (17%)	1 (1%)	21 (19%)	110 (100%)
18 Sep	52 (49%)	30 (28%)	0 (0%)	24 (23%)	106 (100%)
7 Oct	115 (32%)	136 (38%)	0 (0%)	110 (30%)	361 (100%)
25 Oct	70 (67%)	16 (15%)	7 (7%)	11 (11%)	104 (100%)
28 Oct	35 (48%)	11 (15%)	8 (11%)	19 (26%)	73 (100%)
8 Nov	14 (70%)	4 (20%)	0 (0%)	2 (10%)	20 (100%)
19 Nov	47 (66%)	8 (11%)	2 (3%)	14 (20%)	71 (100%)
20/22 Nov	30 (71%)	3 (7%)	0 (0%)	9 (21%)	42 (100%)
9/17 Dec	166 (83%)	25 (13%)	0 (0%)	9 (5%)	200 (100%)
8/11 Dec	89 (98%)	0 (0%)	0 (0%)	2 (2%)	91 (100%)
13 Jan	26 (34%)	27 (35%)	0 (0%)	24 (31%)	77 (100%)
Total	**1,785 (54%)**	**797 (24%)**	**45 (1%)**	**691 (21%)**	**3,318 (100%)**

3.5 The trend in the proportion of people observed in each zone varied across the survey period. However, most people were observed on the seawall, jetty or promenade, in particular during summer. The fewest number of people were counted below the mean high-water mark (no one observed in winter). The total number of people observed decreased, perhaps unsurprisingly, with the change of the seasons with more people typically observed in the summer counts (see Figure 4).

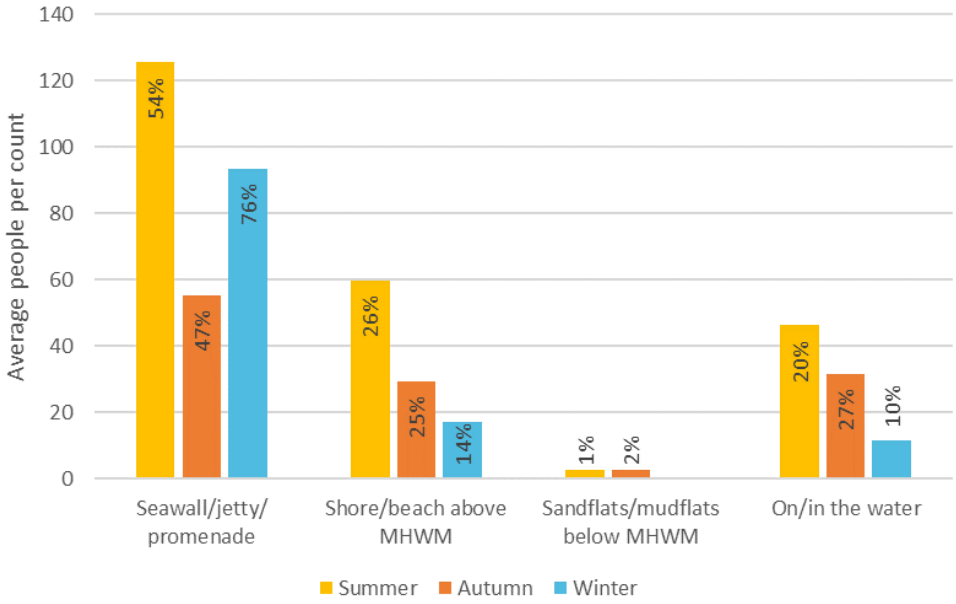


Figure 4: Average number of people observed on each date, by season. Labels indicate the proportion of people within that zone, for each season.

Table 5: Number (%) of boats observed on each of the 20 counts. Rows are shaded according to season (summer/autumn/winter).

Date	Moored	Anchored	Moving	Total
30 Jun	778 (92%)	30 (4%)	36 (4%)	844 (100%)
1 Jul	805 (92%)	31 (4%)	41 (5%)	877 (100%)
9 Jul	730 (91%)	10 (1%)	63 (8%)	803 (100%)
12 Jul	856 (93%)	13 (1%)	53 (6%)	922 (100%)
2 Aug	724 (95%)	41 (5%)	1 (0%)	766 (100%)
13 Aug	633 (86%)	55 (7%)	50 (7%)	738 (100%)
14 Aug	637 (90%)	20 (3%)	49 (7%)	706 (100%)
28 Aug	740 (89%)	5 (1%)	84 (10%)	829 (100%)
8 Sep	642 (89%)	33 (5%)	44 (6%)	719 (100%)
17 Sep	631 (98%)	3 (0%)	12 (2%)	646 (100%)
18 Sep	695 (97%)	8 (1%)	15 (2%)	718 (100%)
7 Oct	618 (82%)	58 (8%)	78 (10%)	754 (100%)
25 Oct	470 (88%)	19 (4%)	47 (9%)	536 (100%)
28 Oct	387 (98%)	3 (1%)	6 (2%)	396 (100%)
8 Nov	374 (99%)	2 (1%)	3 (1%)	379 (100%)
19 Nov	300 (98%)	2 (1%)	3 (1%)	305 (100%)
20/22 Nov	323 (96%)	3 (1%)	12 (4%)	338 (100%)
9/17 Dec	295 (89%)	12 (4%)	23 (7%)	330 (100%)
8/11 Dec	296 (79%)	73 (20%)	5 (1%)	374 (100%)
13 Jan	285 (92%)	4 (1%)	20 (6%)	309 (100%)
Total	**11,219 (91%)**	**425 (3%)**	**645 (5%)**	**12,289 (100%)**

3.6 Boating activity varied across the survey period. Most commonly, the boats observed were moored (i.e. attached to a mooring or tied to a jetty) and the number of boats recorded decreased over time. A total of 645 boats were recorded moving, which peaked on counts 8 (28th August) and 12 (7th October). Fewer boats were observed anchored, and none were observed (from surveyor notes) within the Voluntary No Anchor Zone (VNAZ) at Jennycliff Bay. A summary of boat activity across the survey period is shown in Figure 5.

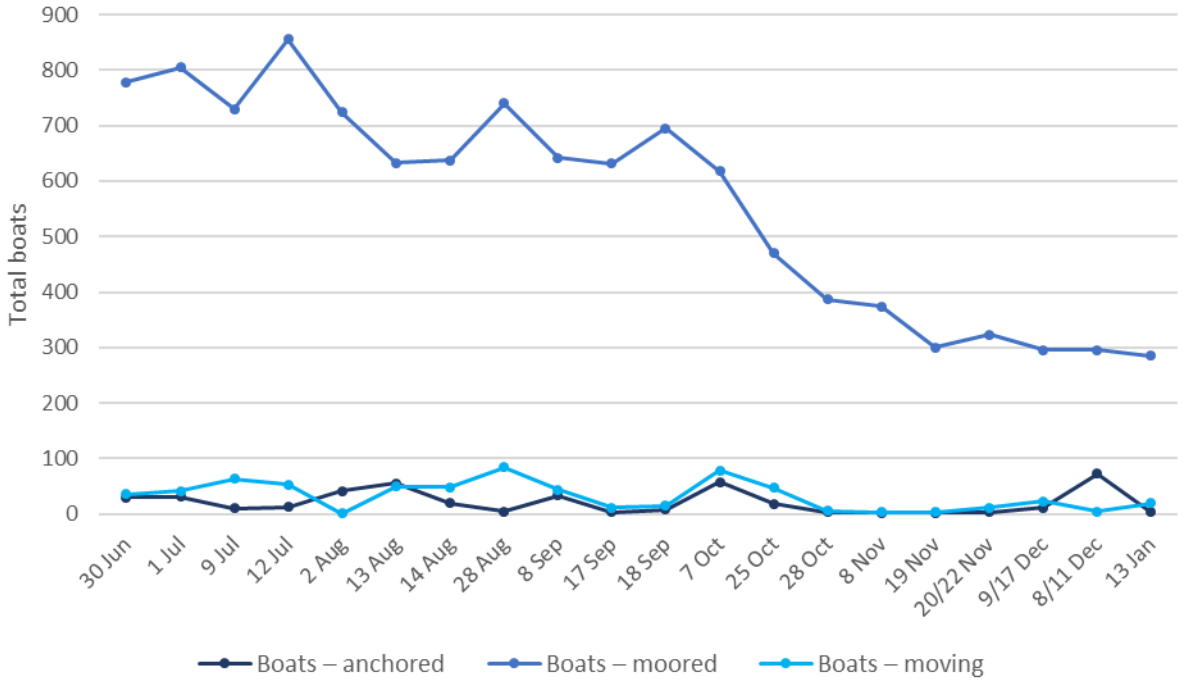


Figure 5: Boat activity observed (total count) on each date.

Types of recreational activities

3.7 A breakdown by activity type is summarised in Figure 6 and presented by count number in Table 6. The most frequently observed activities were walking without a dog (28%), sitting/sunbathing (26%) and swimming (14%).

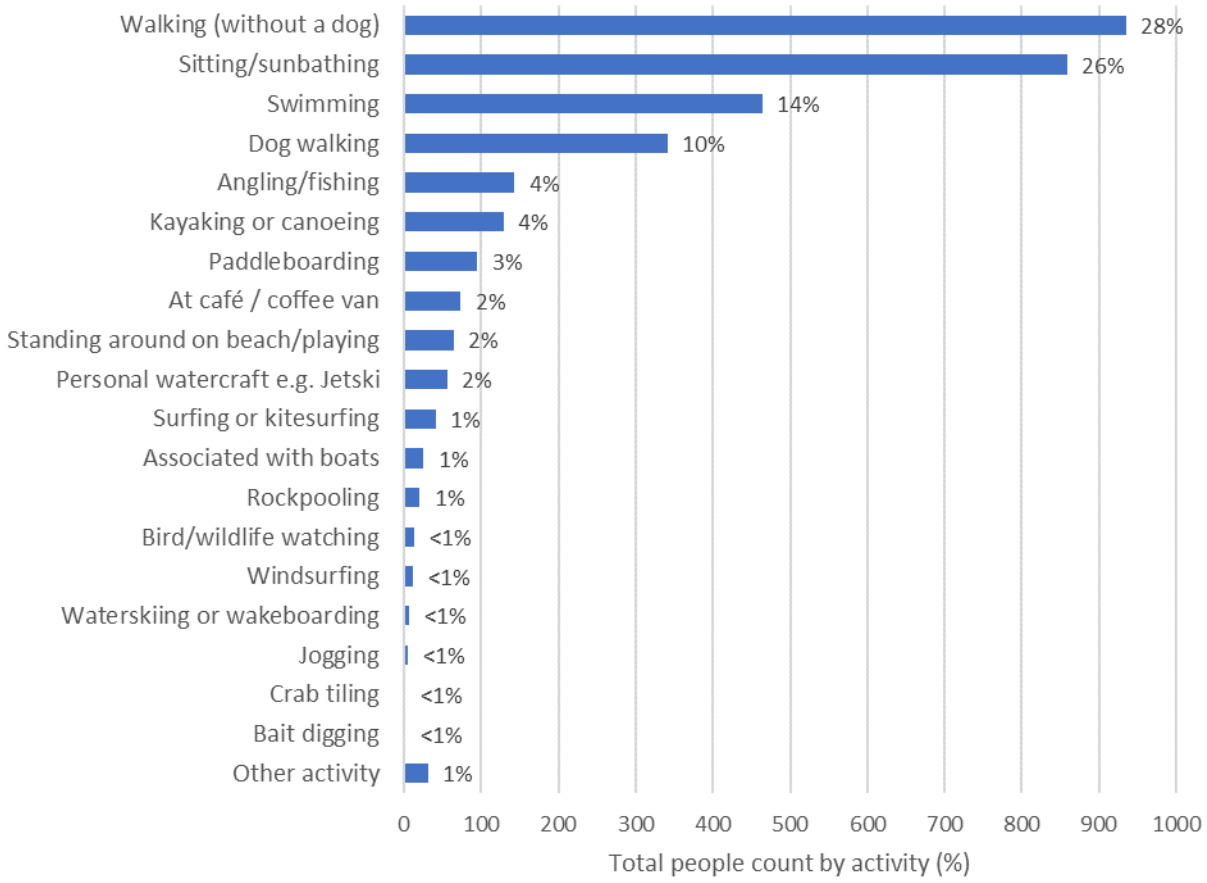


Figure 6: Total count of people by activity observed. Note that 'Other' category has been summarised using surveyors' notes, so final figures differ to those in Table 6. These categories include 'standing around on the beach/playing a sport' and 'visiting a café/coffee van'.

Table 6: Number (%) of people observed on each of the 20 counts by the 10 most popular activities. Rows are shaded according to season (summer/autumn/winter). The highest value in each row is highlighted in red.

Date	Walking (without a dog)	Sitting / sunbathing	Swimming	Dog walking	Angling / fishing	Kayaking or canoeing	Paddle-boarding	Personal Watercraft e.g. jet ski	Surfing or kitesurfing	Rockpooling	Total
30 Jun	**17 (37%)**	1 (2%)	4 (9%)	11 (24%)	2 (4%)	0 (0%)	1 (2%)	0 (0%)	0 (0%)	1 (2%)	**46 (100%)**
1 Jul	48 (15%)	**150 (46%)**	52 (16%)	16 (5%)	5 (2%)	18 (6%)	10 (3%)	2 (1%)	0 (0%)	2 (1%)	**325 (100%)**
9 Jul	76 (21%)	**148 (42%)**	46 (13%)	25 (7%)	14 (4%)	7 (2%)	8 (2%)	0 (0%)	9 (3%)	1 (0%)	**355 (100%)**
12 Jul	**23 (24%)**	11 (11%)	18 (19%)	20 (21%)	3 (3%)	14 (15%)	0 (0%)	2 (2%)	0 (0%)	1 (1%)	**96 (100%)**
2 Aug	**20 (42%)**	2 (4%)	2 (4%)	12 (25%)	6 (13%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	**48 (100%)**
13 Aug	68 (23%)	**76 (25%)**	29 (10%)	4 (1%)	19 (6%)	23 (8%)	19 (6%)	3 (1%)	0 (0%)	5 (2%)	**299 (100%)**
14 Aug	**88 (31%)**	52 (18%)	34 (12%)	12 (4%)	15 (5%)	20 (7%)	12 (4%)	0 (0%)	3 (1%)	0 (0%)	**283 (100%)**
28 Aug	113 (27%)	**163 (38%)**	45 (11%)	25 (6%)	26 (6%)	17 (4%)	18 (4%)	8 (2%)	0 (0%)	7 (2%)	**425 (100%)**
8 Sep	32 (17%)	49 (26%)	**57 (31%)**	17 (9%)	7 (4%)	8 (4%)	11 (6%)	0 (0%)	3 (2%)	0 (0%)	**186 (100%)**
17 Sep	**38 (35%)**	8 (7%)	25 (23%)	30 (27%)	3 (3%)	4 (4%)	1 (1%)	1 (1%)	0 (0%)	0 (0%)	**110 (100%)**
18 Sep	**38 (36%)**	16 (15%)	26 (25%)	9 (8%)	4 (4%)	1 (1%)	0 (0%)	0 (0%)	1 (1%)	0 (0%)	**106 (100%)**
7 Oct	65 (18%)	**136 (38%)**	48 (13%)	23 (6%)	17 (5%)	13 (4%)	15 (4%)	33 (9%)	0 (0%)	1 (0%)	**361 (100%)**
25 Oct	**53 (51%)**	19 (18%)	7 (7%)	11 (11%)	10 (10%)	2 (2%)	0 (0%)	1 (1%)	0 (0%)	0 (0%)	**104 (100%)**
28 Oct	**35 (48%)**	2 (3%)	5 (7%)	13 (18%)	1 (1%)	0 (0%)	0 (0%)	0 (0%)	8 (11%)	0 (0%)	**73 (100%)**
8 Nov	7 (35%)	0 (0%)	2 (10%)	**11 (55%)**	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	**20 (100%)**
19 Nov	**31 (44%)**	2 (3%)	4 (6%)	17 (24%)	1 (1%)	0 (0%)	0 (0%)	0 (0%)	9 (13%)	2 (3%)	**71 (100%)**
20/22 Nov	9 (21%)	**15 (36%)**	4 (10%)	7 (17%)	2 (5%)	0 (0%)	0 (0%)	2 (5%)	3 (7%)	0 (0%)	**42 (100%)**
9/17 Dec	**119 (60%)**	0 (0%)	13 (7%)	40 (20%)	3 (2%)	0 (0%)	0 (0%)	4 (2%)	5 (3%)	0 (0%)	**200 (100%)**
8/11 Dec	**53 (58%)**	2 (2%)	3 (3%)	17 (19%)	1 (1%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	**91 (100%)**
13 Jan	2 (3%)	7 (9%)	**40 (52%)**	22 (29%)	4 (5%)	2 (3%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	**77 (100%)**
Total	**935 (28%)**	**859 (26%)**	**464 (14%)**	**342 (10%)**	**143 (4%)**	**129 (4%)**	**95 (3%)**	**56 (2%)**	**41 (1%)**	**20 (1%)**	**3,318 (100%)**

3.8 The most commonly observed activities varied little across the seasons (Table 7). Walking without a dog was the second most frequently observed activity in summer and the most frequently observed activity during both the autumn and winter. Sitting or sunbathing was more frequent in summer and only 9 people were observed doing so in winter. Swimming was consistently popular across all seasons, despite numbers decreasing. The increased popularity of bird/wildlife watching in winter is likely to be accounted for during one vantage point count (18) at Torpoint where a group of 11 people were observed.

Table 7: Top 5 activities by each season.

Summer	Autumn	Winter
Sitting/sunbathing (603)	Walking (without a dog) (308)	Walking (without a dog)
Walking (without a dog) (453)	Sitting/sunbathing (247)	Dog walking (79)
Swimming (230)	Swimming (178)	Swimming (56)
Other activity (150)	Dog walking (138)	Other activity (19)
Dog walking (125)	Angling/fishing (45)	Bird/wildlife watching (12)

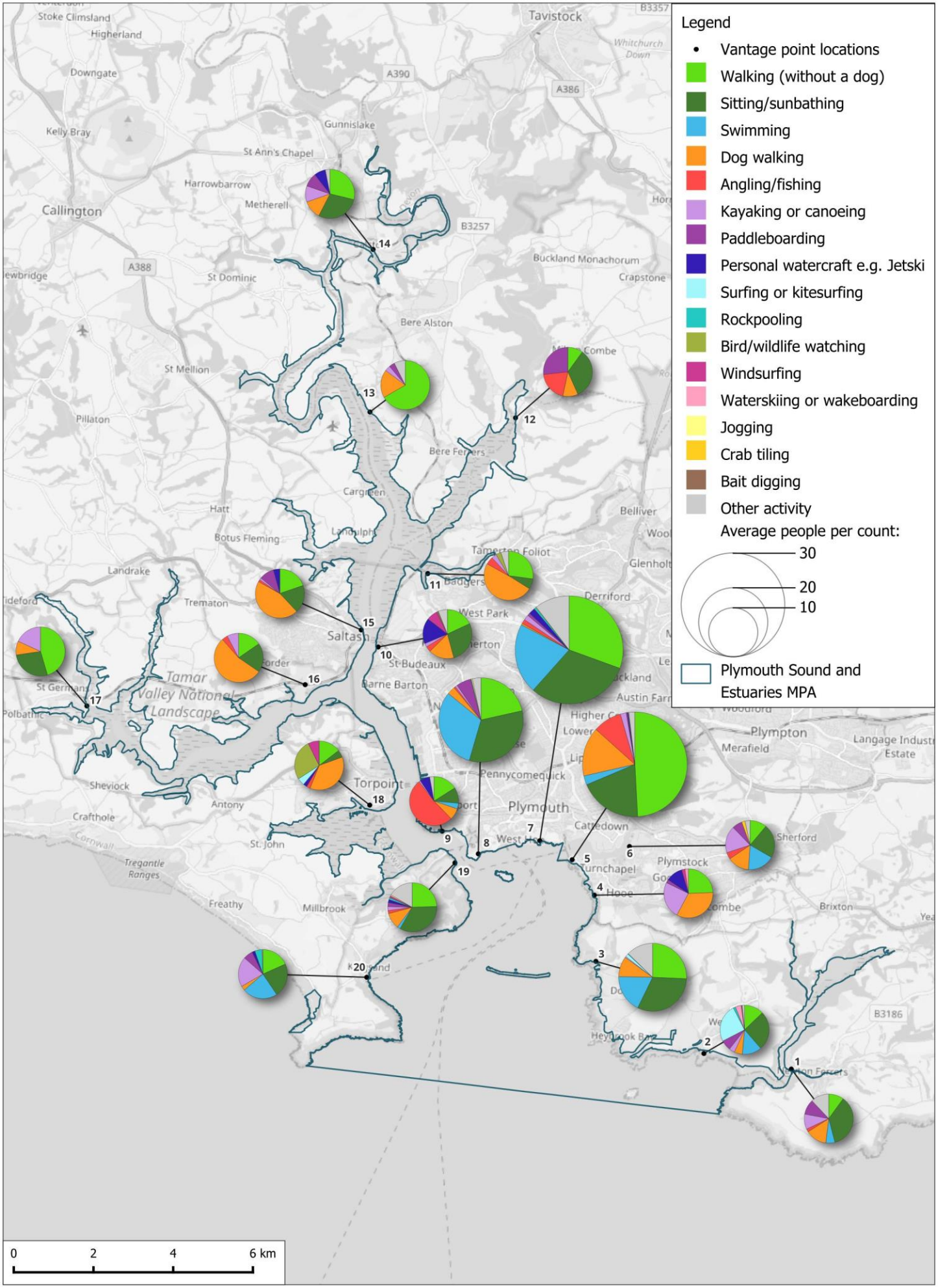
Variation between vantage points

3.9 Map 4 shows the average number of people observed doing each activity at each vantage point location. The busiest locations (largest total count) were locations 5 (Mount Batten), 7 (The Hoe) and 8 (Devil's Point), and the quietest location was location 16 (Churchtown Farm). Swimming was most observed at location 8 (Devil's Point) and at location 7 (The Hoe). Location 9 (Mount Wise) appeared to be a popular spot for angling/fishing, and location 2 (Wembury) a popular spot for surfing/kitesurfing. Other activities, including walking (with or without a dog), sitting/sunbathing and kayaking appear to have taken place in varying numbers across most locations.

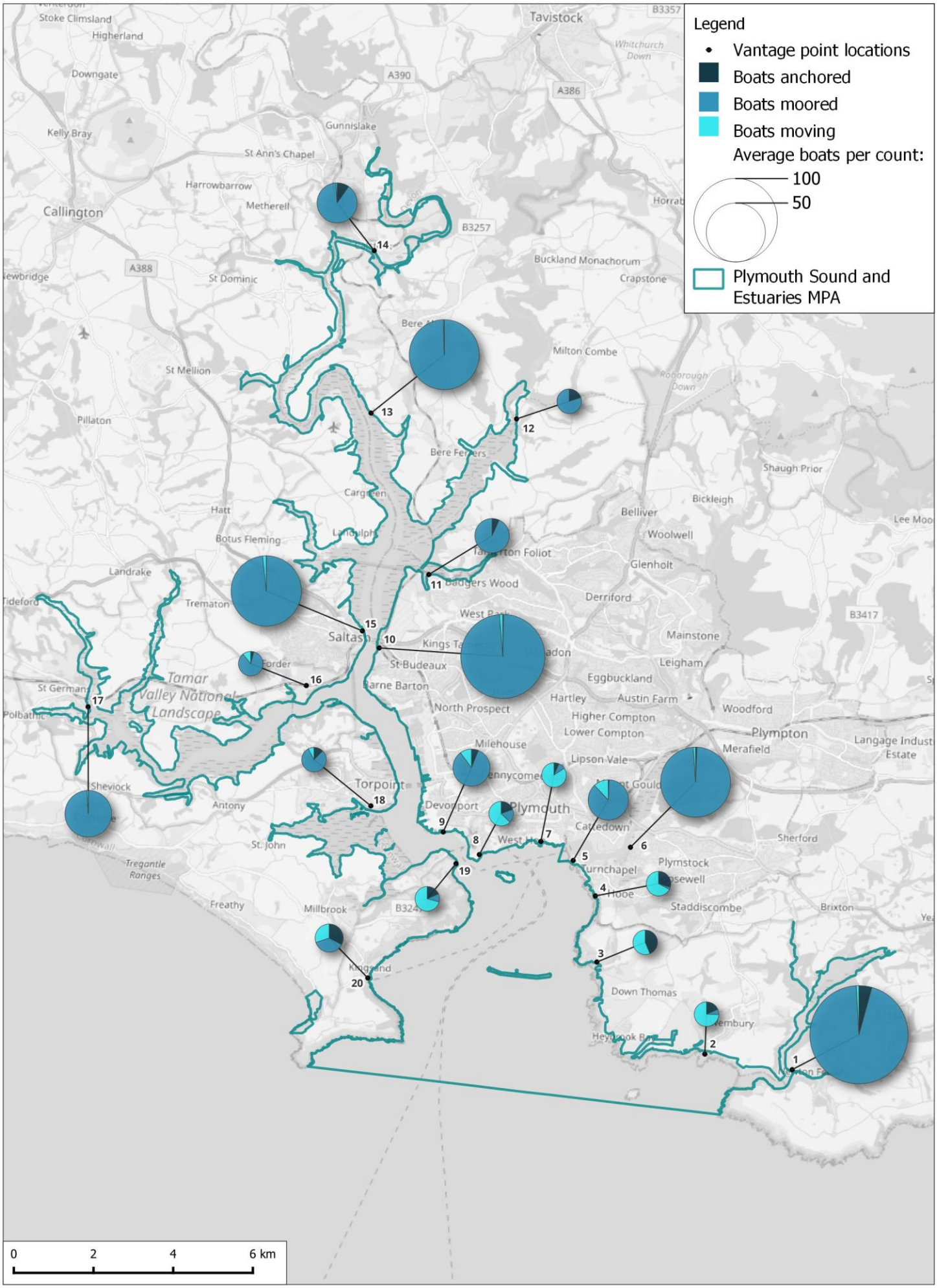
3.10 Similarly, Map 5 summarises the average number of boats seen at each vantage point. Whilst boats were most often observed whilst moored, this differs in proportion by location. The highest number of boats were counted at location 1 (River Yealm, 2,758 boats), mostly moored, followed by location 10 (Riverside, 2,025 boats). The fewest number of boats (10) were counted at location 12 (Maristow Quay). Boats that were moving were most likely to be observed at locations 2, 3, 4, 7, 8, 19 and 20, overlooking the mouth of the Plymouth Sound. These locations were also the most likely that boats were observed anchored, with the highest number

recorded at location 1, consistent with the overall count of boats recorded at this location. At location 20 (Cawsand) boats were almost equally counted as anchored, moored or moving.

Map 4: Summary of activities observed at vantage points. Pie charts are sized according to the total number of people observed.



Map 5: Summary of boat activity across vantage points



4. Results: On-site visitor survey

Tally counts

4.1 Tally data are summarised in Table 8. In total, over the 57 days of fieldwork, 3,983 groups (including lone individuals) were counted passing the surveyor. These groups contained a total of 8,300 people, of which 1,792 (22%) were minors (under 18s). From these totals the mean group size was 2.1 people.

4.2 Cawsand (survey point 19) was by far the busiest location from the tally data, with 1,527 people counted, equivalent to an average of 64 people passing the surveyor per hour. It also had the highest mean group size, of 2.8 people per group.

4.3 The quietest location was Newton Ferrers (survey point 1) where 79 people were counted, equivalent to 3 people per hour. However, at Newton Ferrers several people were observed in the wider area either on the river (kayaking, paddleboarding or rowing) or on the Voss (crabbing or walking across the causeway) but were not included in the counts since they didn't pass the survey point.

4.4 Most survey locations were busier during the summer than the autumn, based on two days of fieldwork in the summer and one day of fieldwork in the autumn (Figure 7). However, at some locations, including East Hoe and Firestone Bay, more people were counted per day in the autumn.

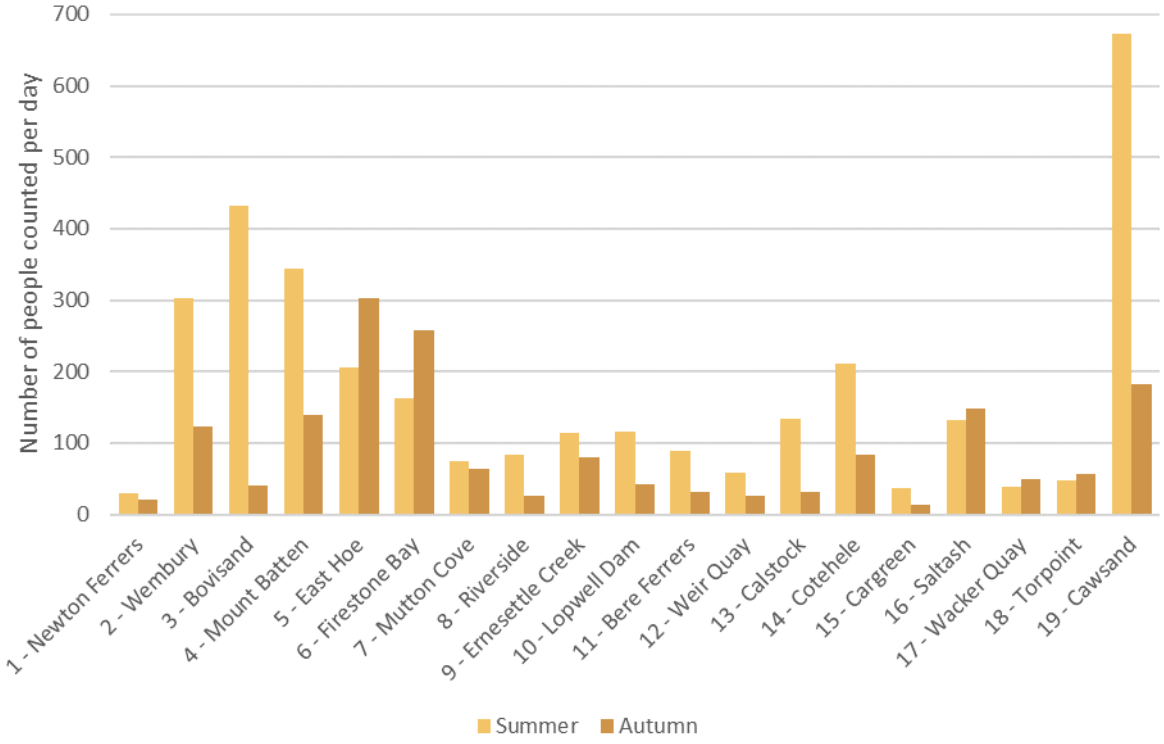


Figure 7: Number of people counted per day at each survey location, by season. The summer figure is an average from two days (one weekday and one weekend day) and the autumn figure is from a single weekday.

Table 8: Summary of tally data by survey location. 'Groups' includes lone individuals. 'People' is a total headcount including minors (under 18s). The highest three values in each column are highlighted in red. Three days (24 hours) were spent at each survey location.

Survey location	Groups	People	Minors	Dogs	Bikes	People per group	% minors
1 - Newton Ferrers	51	79	5	21	0	1.5	6%
2 - Wembury	**393**	730	**221**	125	1	1.9	**30%**
3 - Bovisand	363	**906**	**256**	**215**	1	**2.5**	**28%**
4 - Mount Batten	**379**	**829**	153	**163**	0	2.2	18%
5 - East Hoe	337	716	166	24	3	2.1	23%
6 - Firestone Bay	279	584	91	56	1	2.1	16%
7 - Mutton Cove	134	214	50	55	3	1.6	23%
8 - Riverside	117	192	41	75	2	1.6	21%
9 - Ernesettle Creek	188	310	65	**168**	**22**	1.6	21%
10 - Lopwell Dam	116	274	42	30	7	**2.4**	15%
11 - Bere Ferrers	93	208	38	51	2	2.2	18%
12 - Weir Quay	82	145	20	28	**8**	1.8	14%
13 - Calstock	153	300	48	77	0	2.0	16%
14 - Cotehele	243	505	96	128	2	2.1	19%
15 - Cargreen	57	87	6	32	1	1.5	7%
16 - Saltash	253	413	78	127	5	1.6	19%
17 - Wacker Quay	83	127	8	66	4	1.5	6%
18 - Torpoint	124	154	15	137	7	1.2	10%
19 - Cawsand	**538**	**1,527**	**393**	116	**8**	**2.8**	**26%**
Total	**3,983**	**8,300**	**1,792**	**1,694**	**77**	**2.1**	**22%**

Overview of interviews

4.5 A total of 1,108 interviews were conducted (Table 9), with 781 of these during the summer and 327 during the autumn. The median interview duration was 8 minutes.

4.6 In addition to those interviewed, 121 people were spoken to who had already been interviewed, and therefore were not re-interviewed, and 26 people could not take part due to language issues.

4.7 There were also 453 people who were approached for interview but declined to take part for a variety of reasons. Reasons for not wanting to taking part included being short on time, not wanting to get cold, needing to get to work, or just not being interested.

Table 9: Number of interviews by survey location, and the number of people approached but not interviewed.

Survey location	Summer interviews	Autumn interviews	Total interviews	Refusals	Already interviewed	Language issues
1 - Newton Ferrers	11	6	17	1	5	0
2 - Wembury	68	28	96	39	5	4
3 - Bovisand	60	9	69	51	15	4
4 - Mount Batten	74	24	98	21	3	1
5 - East Hoe	40	29	69	56	11	5
6 - Firestone Bay	62	33	95	31	0	1
7 - Mutton Cove	43	22	65	23	10	0
8 - Riverside	35	13	48	19	16	1
9 - Ernesettle Creek	54	20	74	12	20	1
10 - Lopwell Dam	43	14	57	2	4	0
11 - Bere Ferrers	24	8	32	3	2	0
12 - Weir Quay	18	7	25	26	1	0
13 - Calstock	50	14	64	26	5	2
14 - Cotehele	39	19	58	27	3	0
15 - Cargreen	18	5	23	4	1	1
16 - Saltash	40	24	64	21	3	0
17 - Wacker Quay	27	14	41	8	4	1
18 - Torpoint	26	16	42	25	8	2
19 - Cawsand	49	22	71	58	5	3
Total	**781**	**327**	**1,108**	**453**	**121**	**26**

Group composition

4.8 Just under half of the interviewees (45%) were on their own and 34% were with one other person. The remaining 20% were in groups of between 3

and 20 people. Some of the interviewees in larger groups were taking part in organised activities such as a corporate litter pick, a sea swimming group and dingy racing. Overall, the mean group size[3] (including interviewees who were on their own) was 2.0 people and 16% of interviewees had 1 or more minors (under 18s) with them.

4.9 413 of the interviewees (37%) had 1 or more dogs with them, with a total of 504 dogs. 194 of these dogs (38%) were off lead at the time of the interview.

Visit type (Q1)

4.10 The majority of interviewees (907, 82%) were on a day trip or short visit and had travelled from home that day. 141 interviewees (13%) were on holiday in the area (including second homes) while a further 59 interviewees (5%) were away from home and staying with friends or family. There was 1 interviewee who didn't fit into any of these categories.

4.11 The survey locations with the highest proportion of interviewees staying away from home (either on holiday or staying with friends/family) were Bovisand (46%), Cargreen (43%) and Cawsand (41%).

Activity (Q2-3)

4.12 The most common main activities of interviewees were dog walking (29%), walking (24%) and swimming (13%). However, there was a wide variety of other activities being undertaken, including several different types of water sports. Table 10 lists all activities that were named by 3 or more interviewees.

[3] By group size we mean the number of people in the group, including the interviewee. While only one interview was conducted per group or party, the number of people in the group as a whole was logged.

Table 10: The main activity of interviewees (Q2). This question was single choice. Responses originally recorded as 'Other' with free text have been analysed so that all activities named by 3 or more interviewees are listed.

Main activity	Number of interviewees	% of interviewees
Dog walking	324	29%
Walking	266	24%
Swimming	142	13%
Outing with family	48	4%
Beach activity (e.g. sitting/playing on the beach)	44	4%
Paddleboarding	24	2%
Meeting up with friends	17	2%
Boat maintenance/checking	16	1%
Rockpooling	14	1%
Going for coffee/lunch	13	1%
Fishing from shore	12	1%
Bird/wildlife watching	11	1%
Kayaking or canoeing	11	1%
Surfing	10	1%
Photography	8	1%
Sailing/yachting	8	1%
Visiting a National Trust property	8	1%
Beachcombing e.g. looking for sea glass	7	1%
Sightseeing	7	1%
Cycling/mountain biking	6	1%
Rowing	6	1%
Windsurfing/windfoiling/wingfoiling	6	1%
Going to the park	5	<1%
Enjoying the view	4	<1%
Jogging/running	4	<1%
Picnic	4	<1%
Crabbing	3	<1%
Diving	3	<1%
Snorkelling	3	<1%
Other activity	74	7%
Total	**1,108**	**100%**

4.13 Map 4 summarises the main activity of interviewees by survey location. At most survey locations, either dog walking or walking was the most common activity. However, at Firestone Bay and East Hoe swimming was the most common activity (58% and 49% respectively) and at Cawsand walking and swimming were joint most common activity (23% for both).

4.14 Some of the marine activities which were concentrated at individual survey locations, but not necessarily widespread, were windsurfing/windfoiling/wingfoiling (undertaken by 14% of those interviewed at Torpoint), rockpooling (10% of interviewees at Wembury) and surfing (10% of interviewees at Wembury).

4.15 Interviewees were also asked to name any other activities that they or members of their group/party were undertaking during their visit that day (Q3). These additional activities are shown in Figure 8 along with the main activity of the interviewees (Q2). The most common additional activity was 'beach activity', named by 60 interviewees, giving an overall total of 104 interviewees (9%) whose visit included this activity.

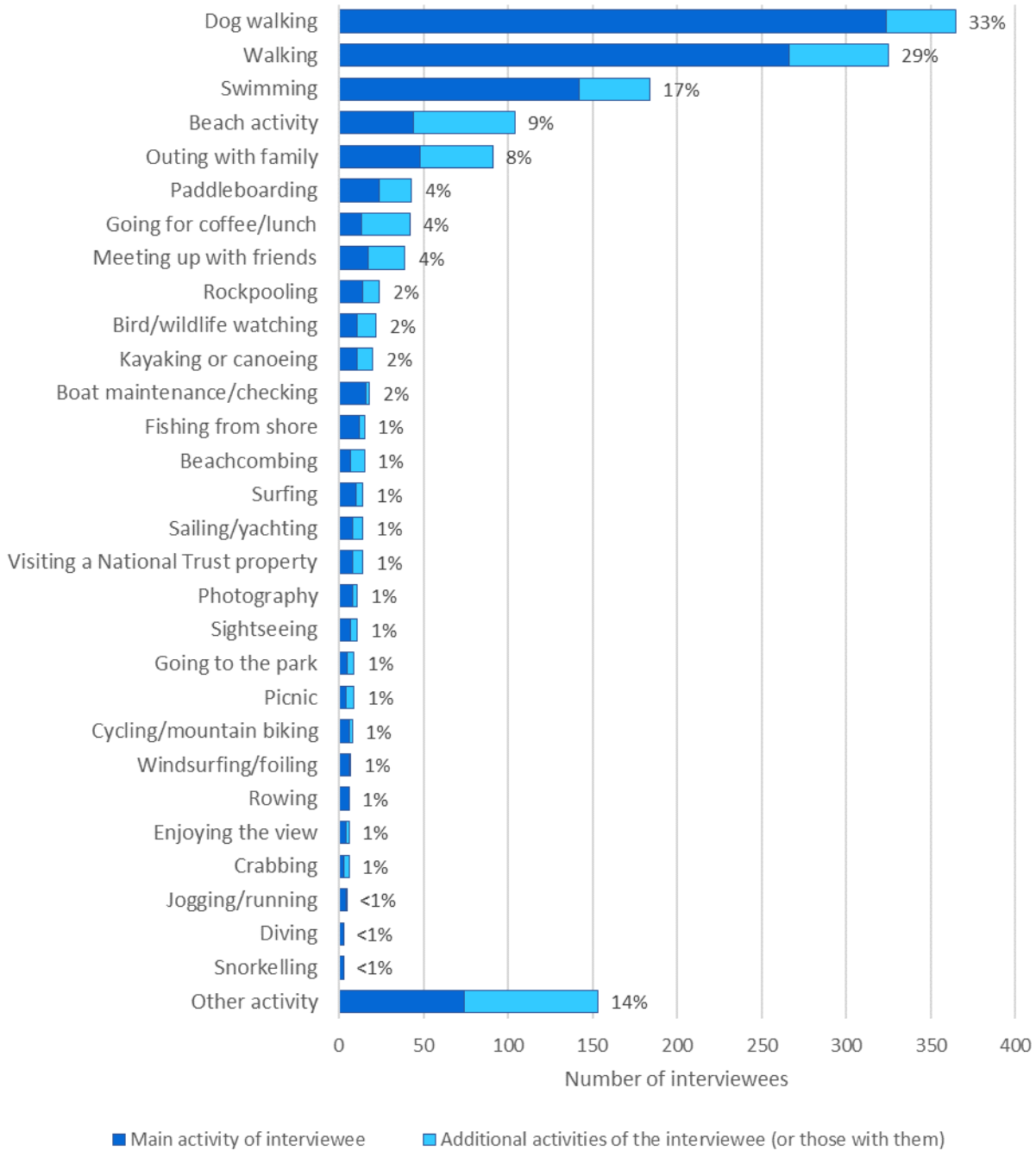
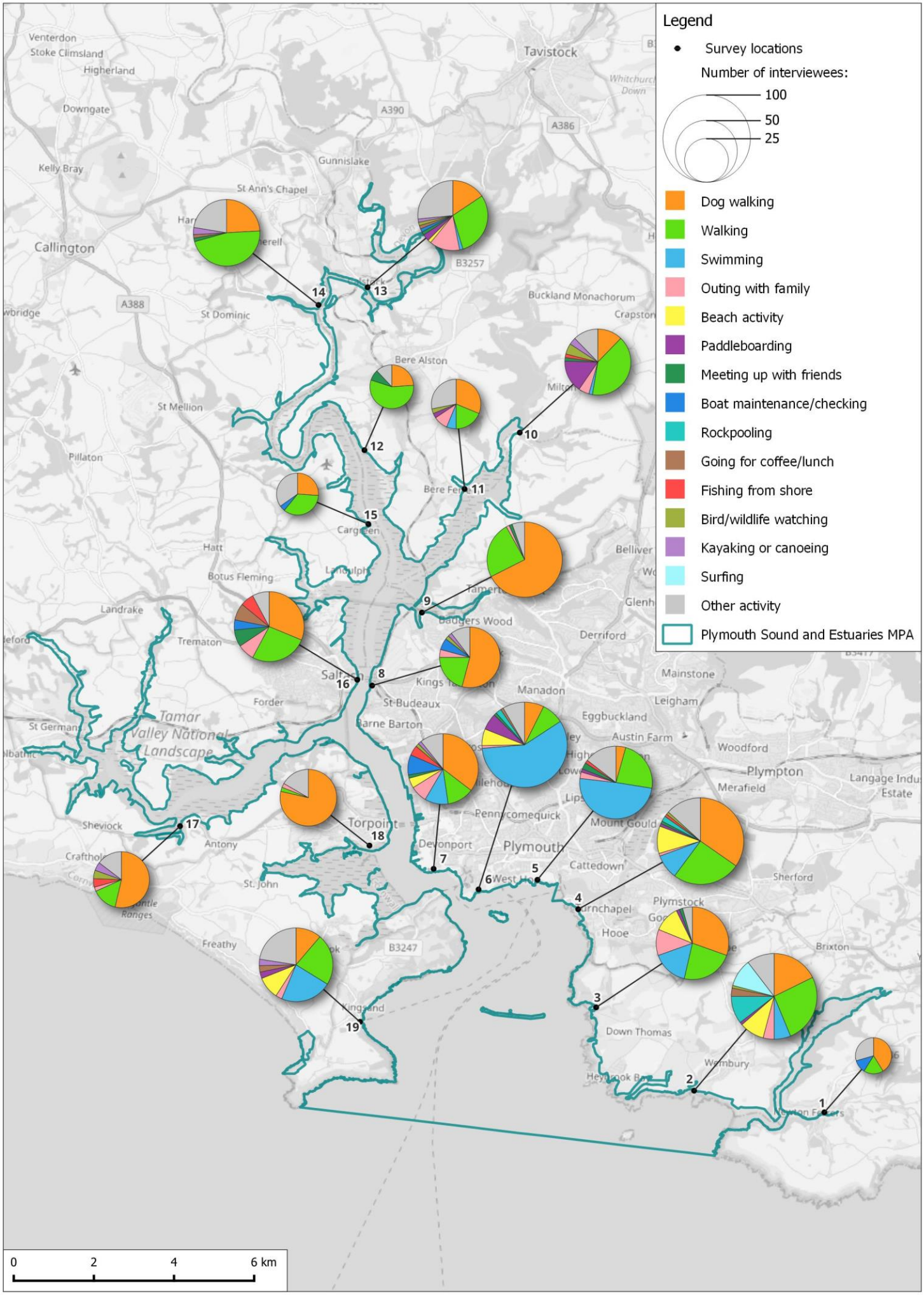


Figure 8: Activities undertaken by interviewees and those with them during their visit that day. Each interviewee could name one main activity (Q2) and multiple additional activities (Q3). Labels indicate the total percentage of interviewees who named each activity, regardless of whether it was named in Q2 or Q3.

Map 6: Main activity of interviewees at each survey location. Activities named by fewer than 10 interviewees are grouped as 'other activity'.



Temporal visit patterns (Q4-7)

Visit frequency (Q4)

4.16 Visit frequencies are summarised in Figure 9. Overall, almost half of the interviewees (49%) said that they visit the location where they were interviewed at least once a week, including 18% who visit on a daily basis.

4.17 Amongst the most common activity types, interviewees who were doing boat maintenance, dog walking or swimming were mostly likely to visit daily for their activity (56%, 38% and 15% respectively).

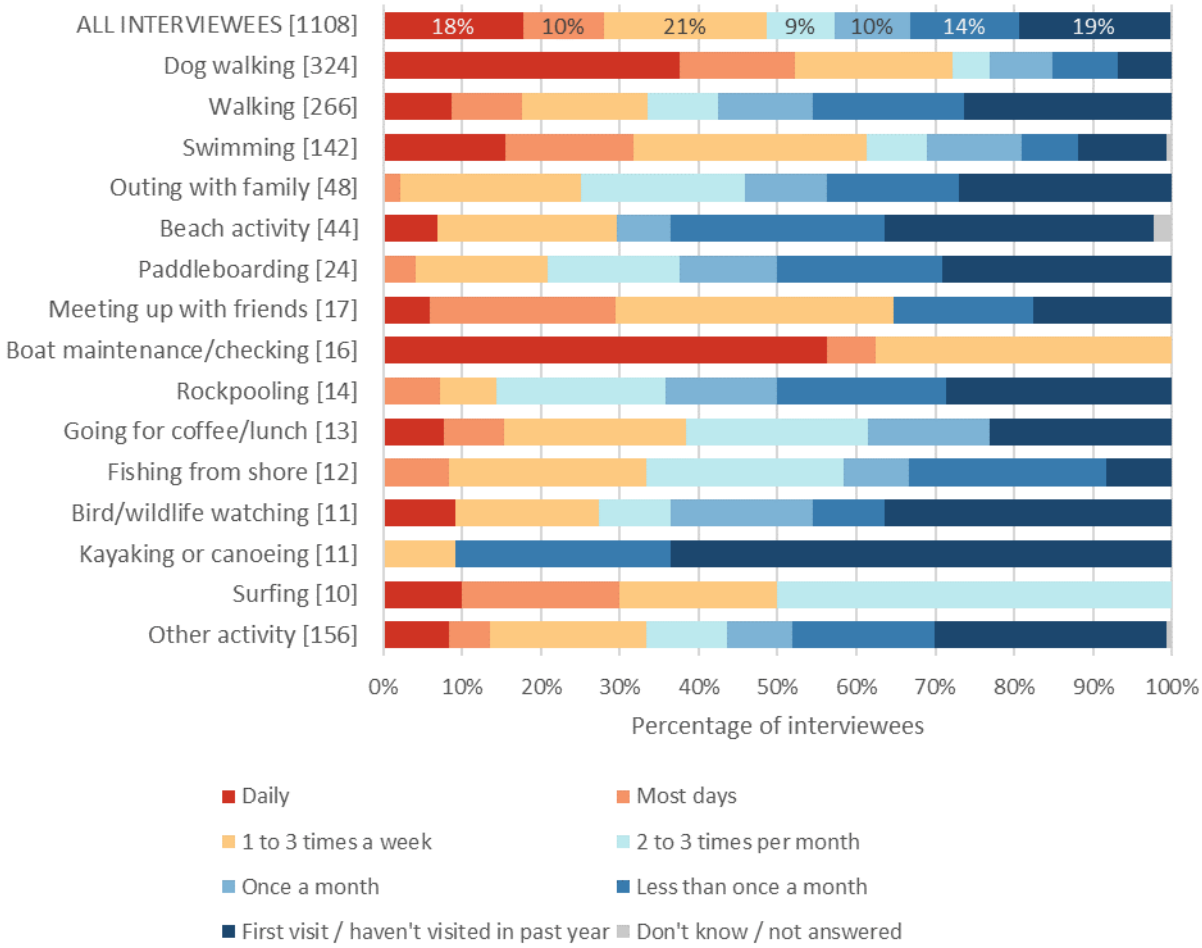


Figure 9: Visit frequency (Q4) of all interviewees and by the interviewee's main activity, for activity types given by at least 10 interviewees. Numbers in brackets refer to the sample size.

4.18 Visit frequency also varied by survey location (Figure 10), with interviewees at Torpoint tending to be particularly regular visitors (67% visiting daily). In contrast, at Lopwell Dam none of the interviewees visited daily and 70%

visited less than once a month (including 33% who were on their first visit there).

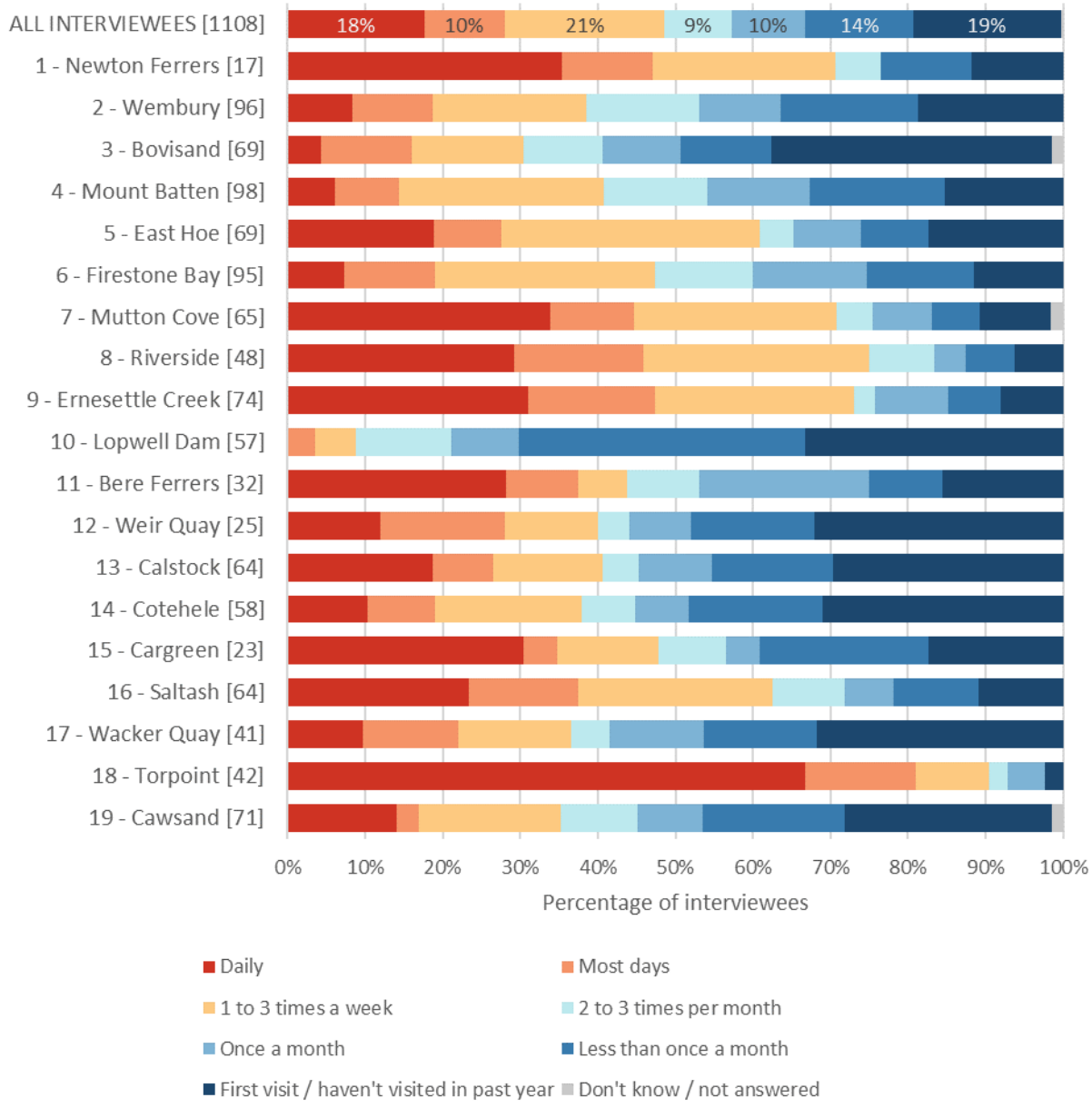


Figure 10: Visit frequency (Q4) of all interviewees and by survey location. Numbers in brackets refer to the sample size.

Visit duration (Q5)

4.19 The most common visit duration category was 30 minutes to 1 hour, given by 314 interviewees (28%). However, the visit duration varied by activity type (Figure 11). For example, those interviewees who were fishing (from shore) or kayaking/canoeing tended to have longer visits, with over 60% of them spending at least 2 hours there. Those who were dog walking or

swimming tended to have shorter visits, with over half of them spending less than an hour there.

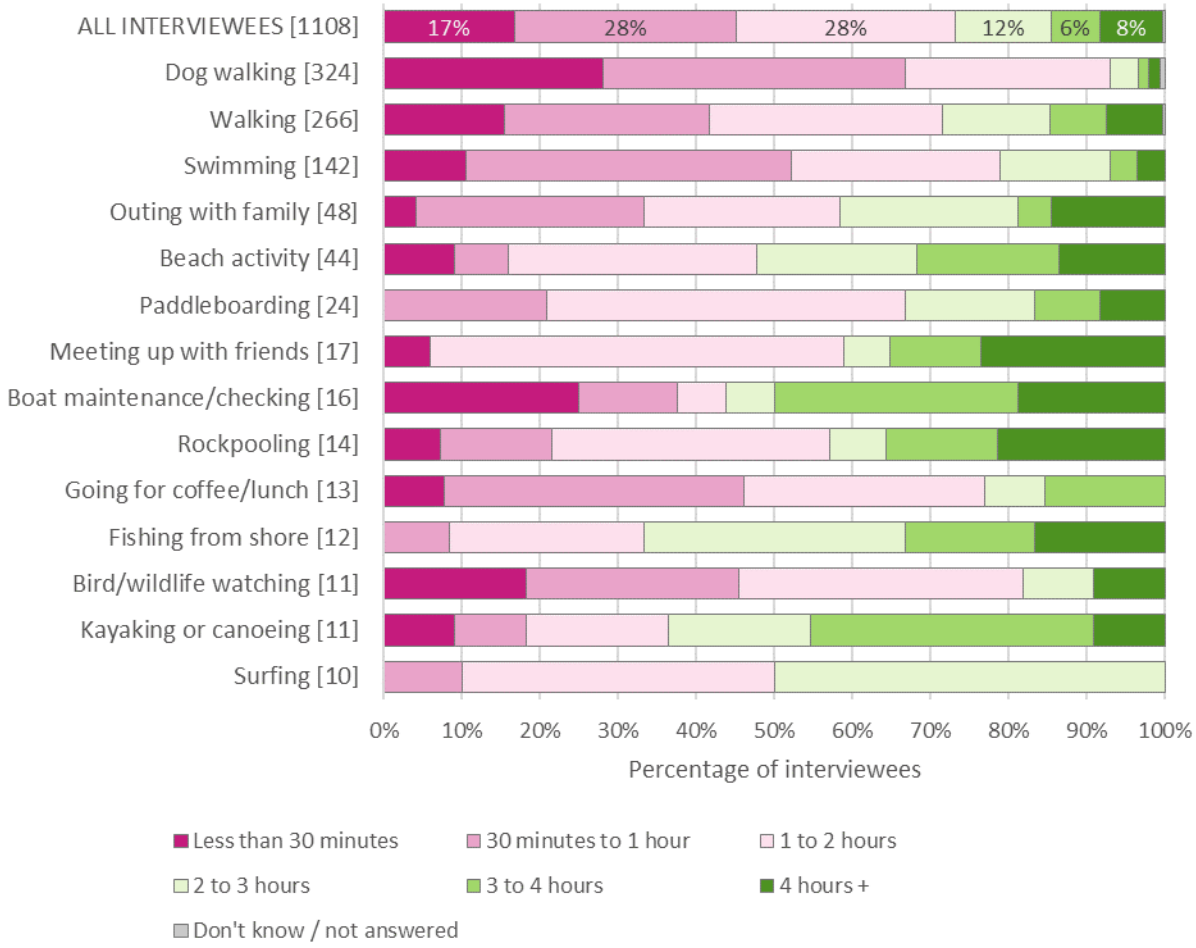


Figure 11: Visit duration (Q5) of all interviewees and by the interviewee's main activity, for activity types given by at least 10 interviewees. Numbers in brackets refer to the sample size.

4.20 Those interviewed during the summer tended to have longer visits, with 30% of them making visits of more than 2 hours, compared to 18% of those who were interviewed in the autumn.

4.21 Visit duration by survey point is summarised in Figure 12, which suggests a higher proportion of interviewees undertaking longer visits at Cawsand, Calstock and Wembury, and a higher proportion of interviewees taking shorter visits at Newton Ferrers, Torpoint and Riverside.

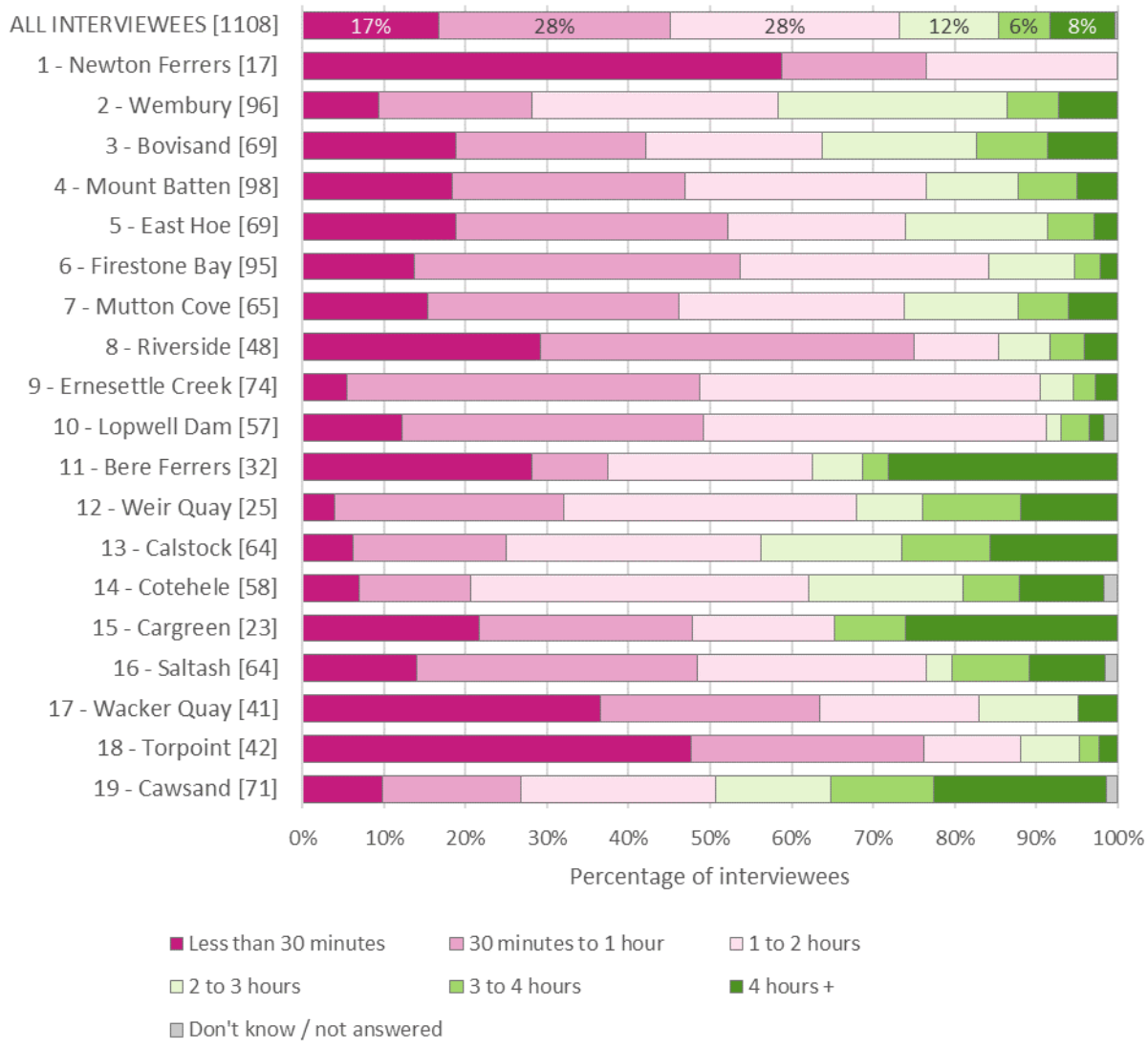


Figure 12: Percentage of interviewees and visit duration by survey point. Numbers in brackets refer to sample size. Data from Q5.

Time of day (Q6)

4.22 Overall, more than a third of interviewees (406, 37%) stated that the time of day they tended to visit varied and they had no particular visit pattern in relation to the time of day. However, visiting in the early morning was a clear preference for birdwatchers (45% preferring to visit early morning), dog walkers (35% preferring to visit early morning) and swimmers (35% preferring to visit early morning).

Time of year (Q7)

4.23 The majority of interviewees (653 interviewees, 59%) stated that they visited the interview location all year round for their activity. This was also true for each of the most common activity types, except for fishing from shore where the most common response was a preference for visiting in the summer (42% preferring to visit in summer).

Mode of transport (Q8)

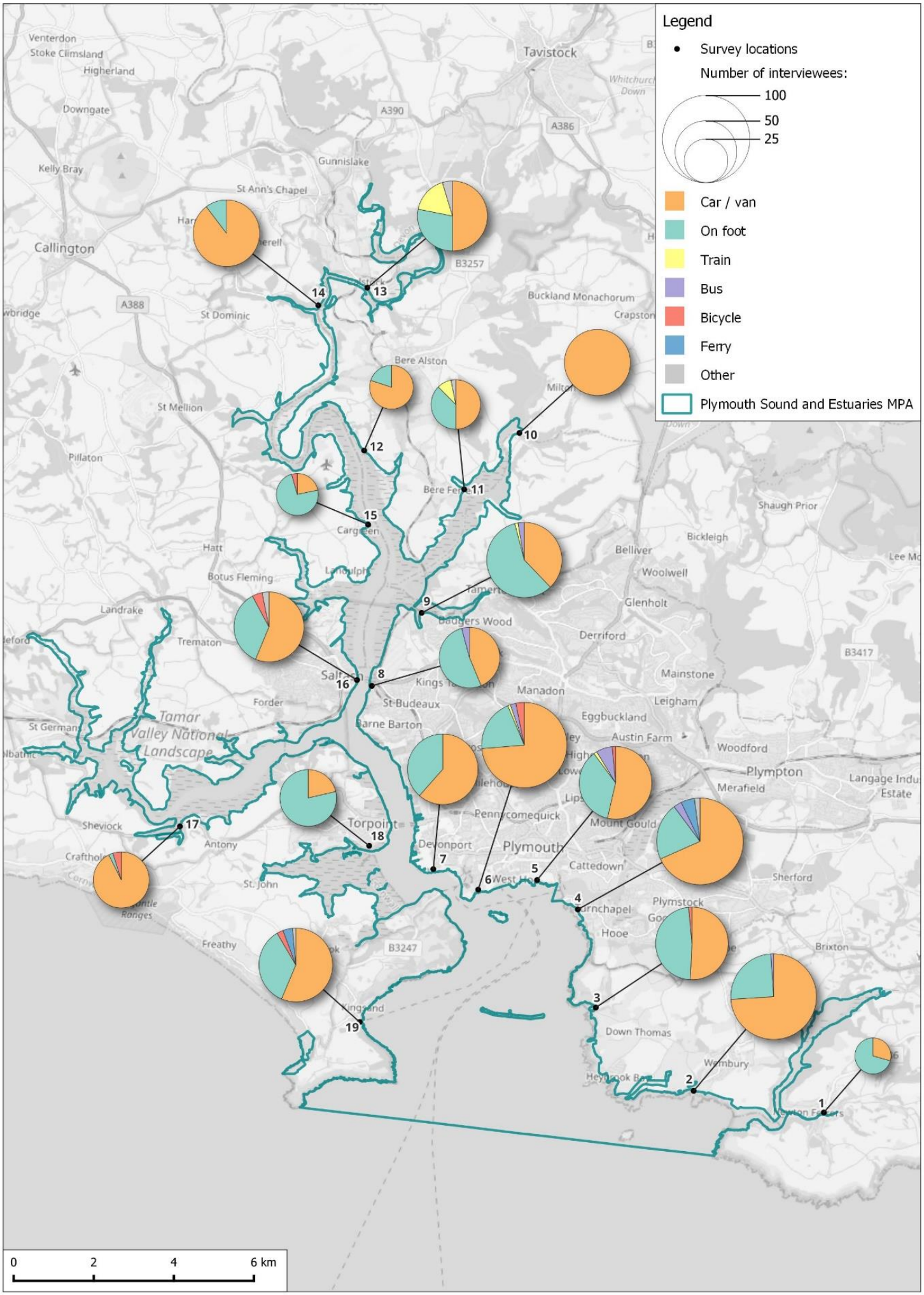
4.24 The majority of interviewees (679 interviewees, 61%) had travelled to the interview location by car or van. A further 367 interviewees (33%) had arrived on foot and 17 interviewees (2%) had come by train. The remaining 4% of interviewees had arrived either by bus, bicycle, ferry, boat, motorbike or taxi.

4.25 There was some variation between survey locations (Map 5), with over two thirds of interviewees at Torpoint, Cargreen and Newton Ferrers arriving on foot.

4.26 Car/van was the most common form of transport for all activity types except for those dog walking, where just over half (52%) had arrived on foot.

4.27 The mean group size for those who had arrived by car/van was 2.2 people.

Map 7: Main mode of transport used by interviewees to arrive at the survey location.



Reasons for choice of location (Q9-10)

4.28 Interviewees gave a wide range of reasons for choosing to visit the specific location where they were interviewed, rather than elsewhere (Figure 13). Overall, being close to home was the most common reason, cited by a third of interviewees (379 interviewees, 34%). Other common responses related to the scenery and views (235 interviewees, 21%) and wanting to be by the sea/coast (150 interviewees, 14%).

4.29 Free text responses categorised in Figure 13 as 'other reasons' were varied and included being close to their accommodation, membership of a particular club (e.g. sailing or swimming club), because they have National Trust membership or a pass, because the water is clean here and because they are walking the coast path.

4.30 The top three responses from interviewees with each of the six most common main activity types are summarised in Table 11.

Table 11: Top three reasons given by interviewees for choosing to visit the specific location where they were interviewed (Q9). Interviewees could give multiple responses to this question. Activity type is based on their main activity only (Q2).

Main activity	1st reason	2nd reason	3rd reason
Dog walking	Close to home	Scenery / views	Good for dog / dog enjoys it
Walking	Close to home	Scenery / views	To be by the sea / coast
Swimming	Close to home	Scenery / views	Good / easy parking
Outing with family	Refreshments / café / pub	Close to home	Scenery / variety of views
Beach activity	Close to home	Scenery / views (=) Habit / familiarity	
Paddleboarding	Close to home	Easy access to the water (=) Tide state	

4.31 Some interviewees mentioned particular weather conditions that were favourable for their activity. For those who were swimming, paddleboarding, kayaking, fishing and diving, they were looking for sheltered areas out of the wind. Surfers were looking for good waves, and windsurfers were interested in both wind speed and wind direction, with one of them saying that an easterly wind meant easier surfing.

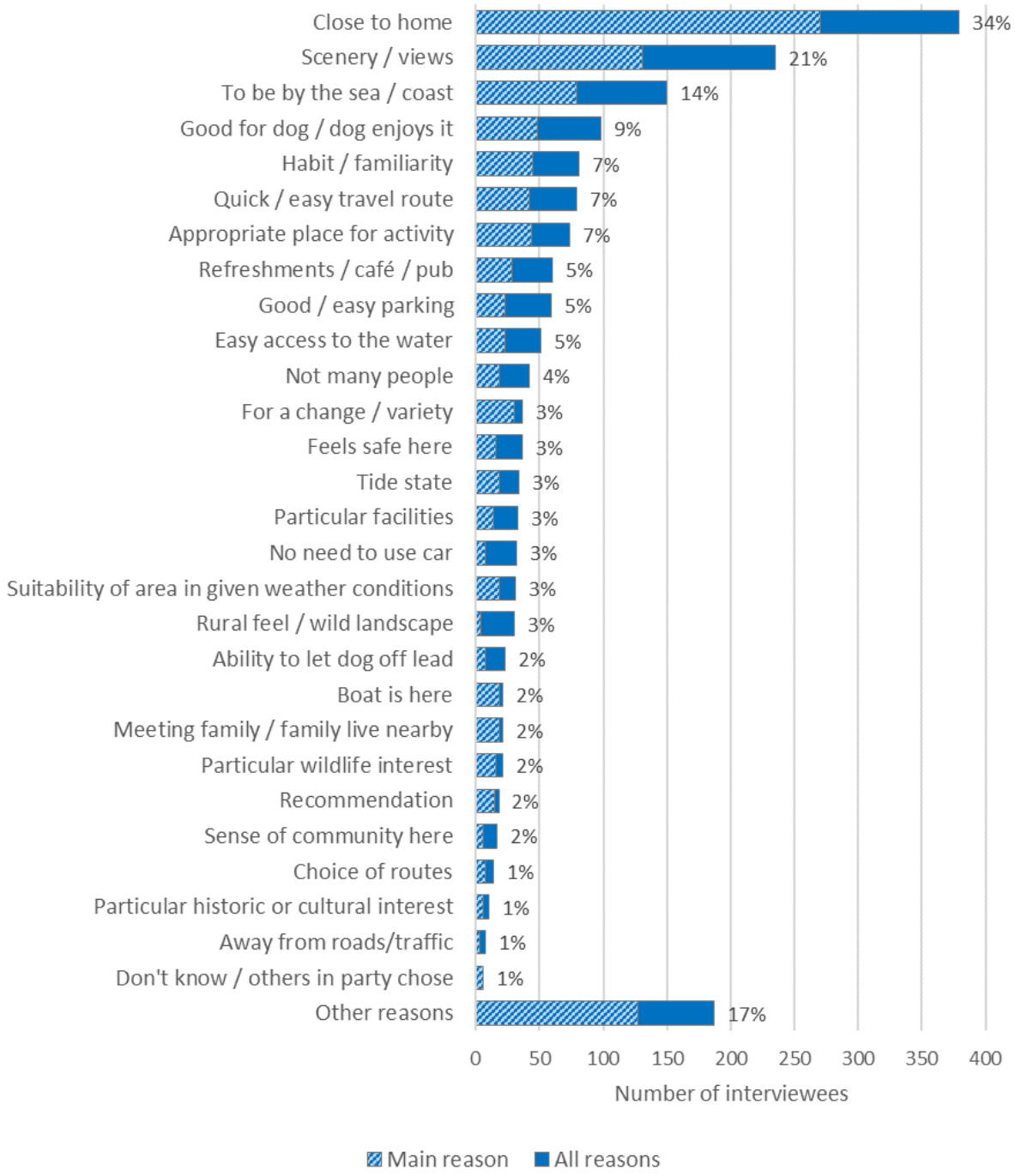


Figure 13: Reasons for visiting the specific location where interviewed that day rather than somewhere else (Q9-10). Interviewees could give multiple reasons and were then asked which of those was their main reason. Responses were categorised by the surveyor and additional categories were added following a review of free text responses. Labels give the total percentage of interviewees who cited that reason.

Routes taken on site (Q11-13)

4.32 Of the 1108 interviewees, 1060 (96%) were able to describe to the surveyor where they had been (or where they planned to go) during their visit. This included where they had been on the water, if applicable. These routes are displayed in Map 8 and as a heatmap in Map 9. The maps show how people spread out from the survey locations and they highlight popular areas such as the coast path between Mount Batten and Wembury, and the River Tamar around Calstock and Cotehele.

4.33 Across all interviewees, the median route length was 1.20 km. Out of the most common activity types, interviewees who were kayaking/canoeing had the longest median route length, at 5.73 km. However, the longest routes were taken by interviewees who were walking long distance paths such as the Tamara Coast to Coast Way, the South West Coast Path and the Tamar Valley Discovery Trail. Route length data are summarised by main activity type in Figure 14.

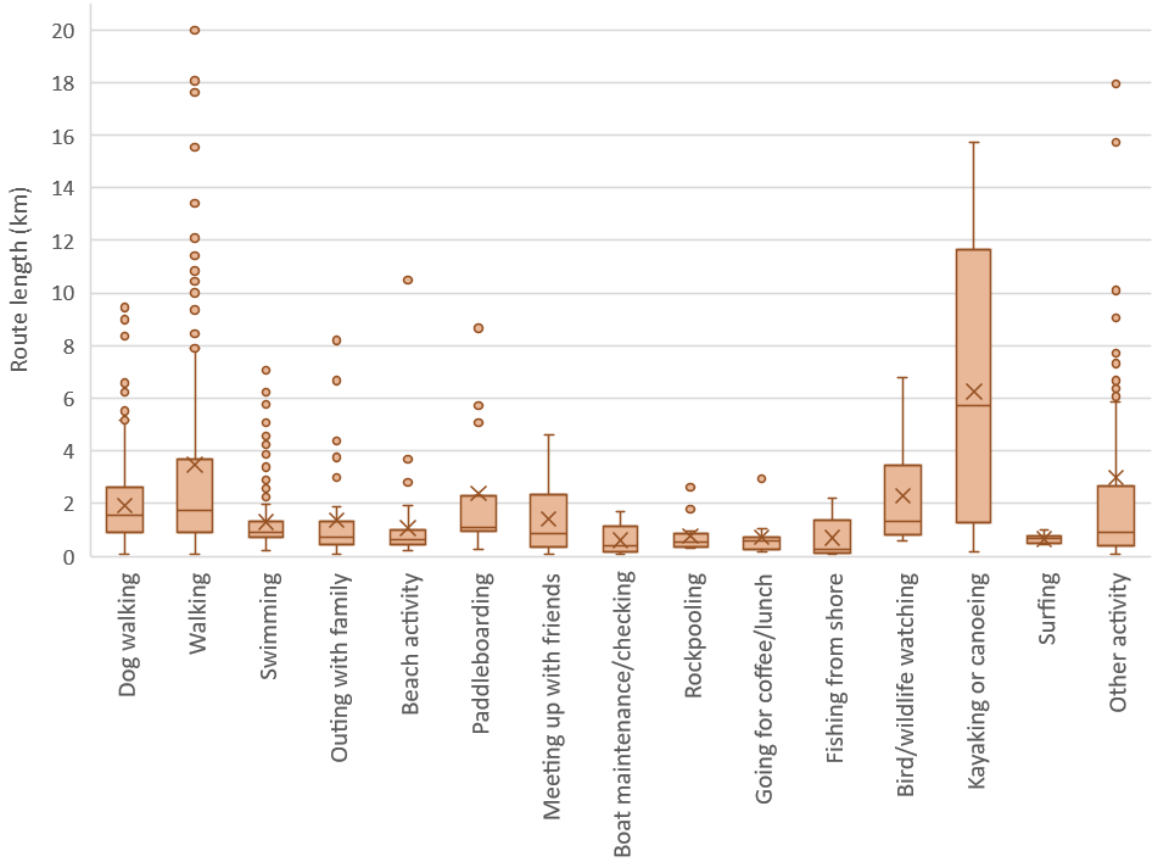


Figure 14: Route lengths by main activity (Q2). Horizontal lines show the median, crosses indicate the mean, the boxes show the interquartile range and the whiskers the maximum and minimum values. The y-axis is truncated at 20km, which omits 9 values; 4 of these were walking and 5 of them were 'other activity'. The maximum route length was 39.13 km.

4.34 Most interviewees (646, 58%) stated that the route they had followed or intended to follow that day was similar to their usual route length. 125 interviewees (11%) stated that the route was much shorter than normal while the route was much longer than normal for 17 (2%). The remaining interviewees were unsure, had no typical visit or were visiting for the first time.

4.35 Factors influencing where interviewees went during their visit are summarised in Figure 15. The most common factor was habit (e.g. their usual route), which was cited by 242 interviewees (22%). This was followed by being by the sea/river/beach (174 interviewees, 16%) and being related to the activity that they were doing (129 interviewees, 12%).

4.36 Factors grouped as 'Other factors' in Figure 15 were each given by a small number of interviewees and included responses such as 'ease of access', 'close to parking', 'avoiding mud' and 'following permissive path'.

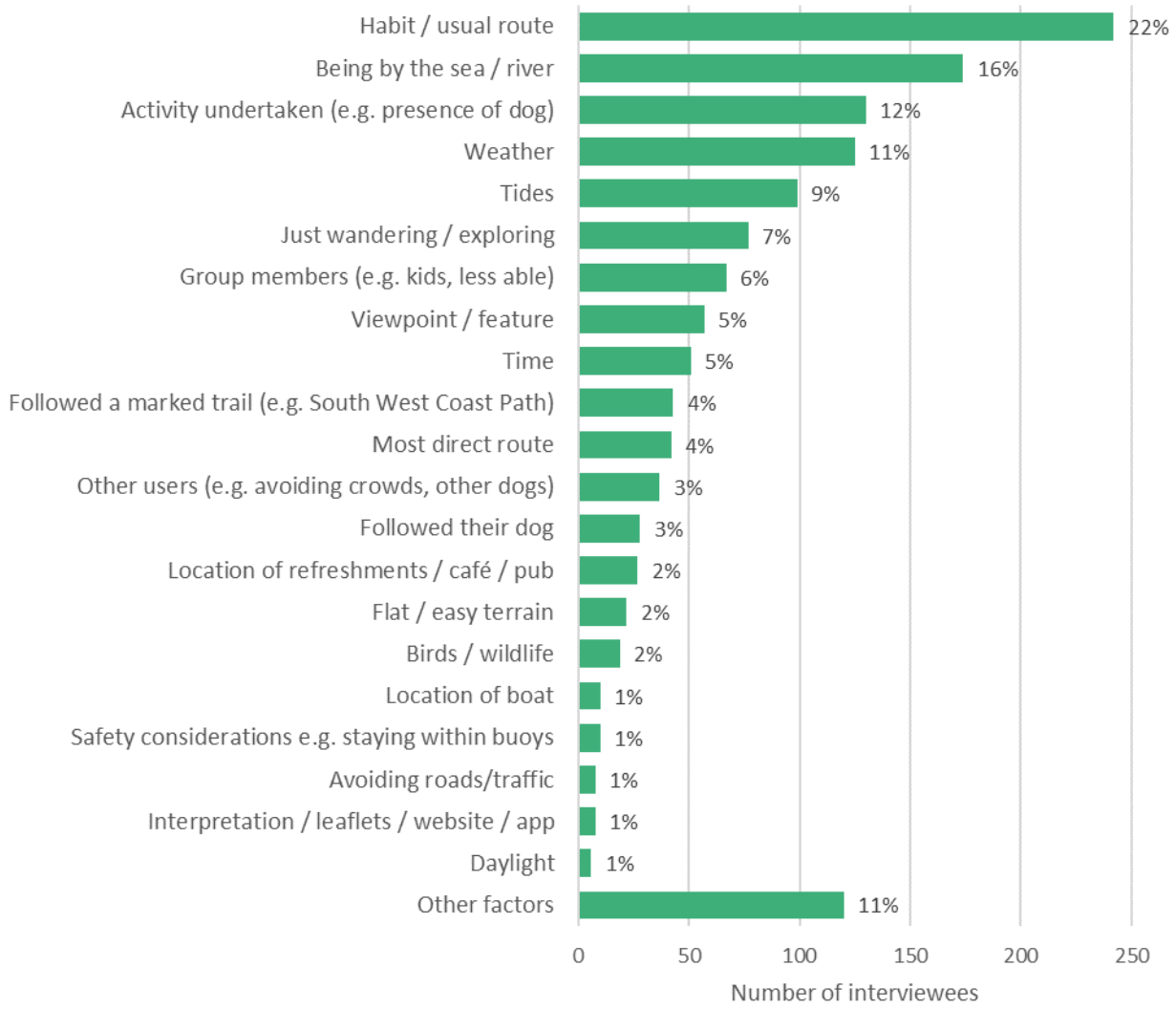
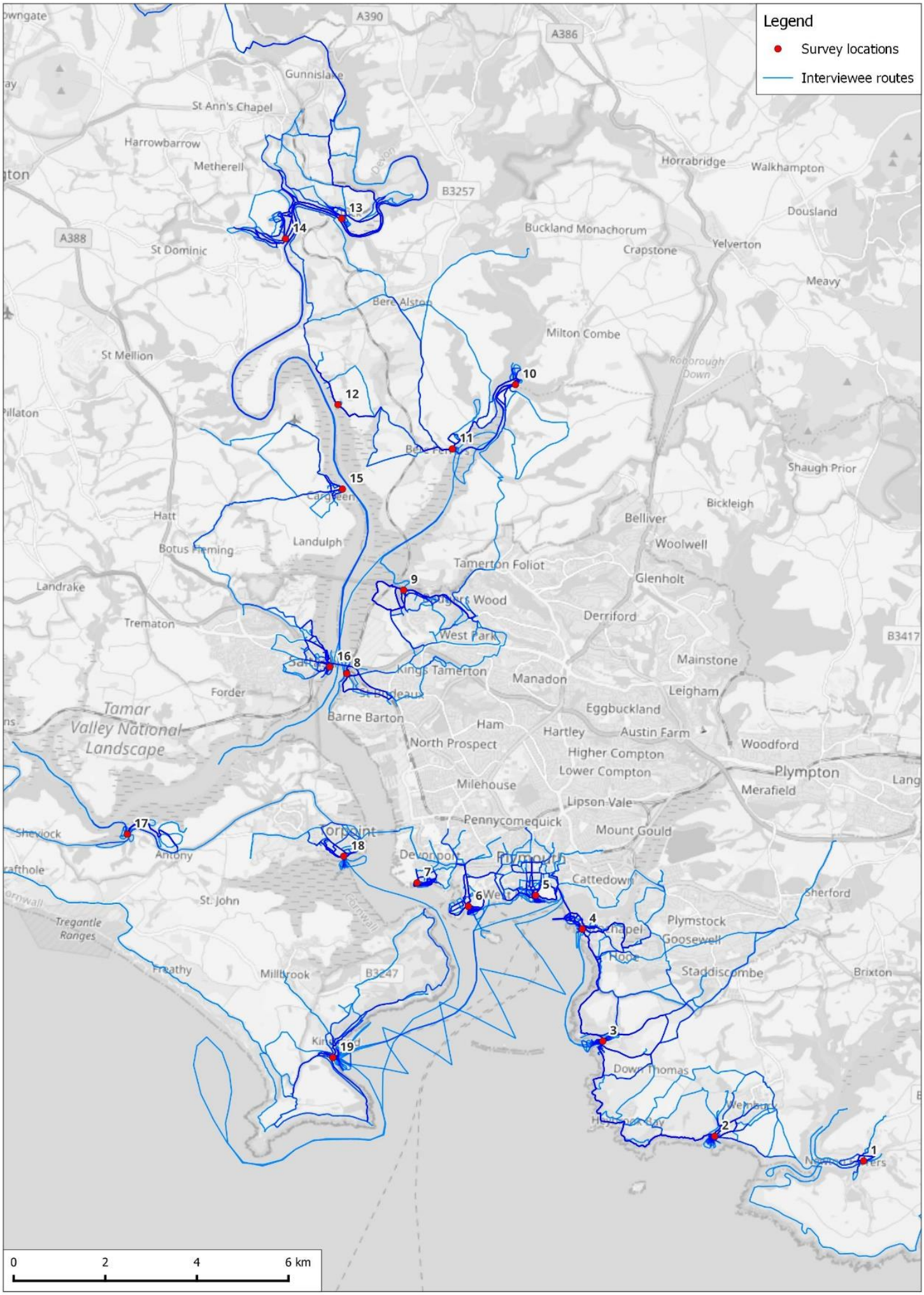
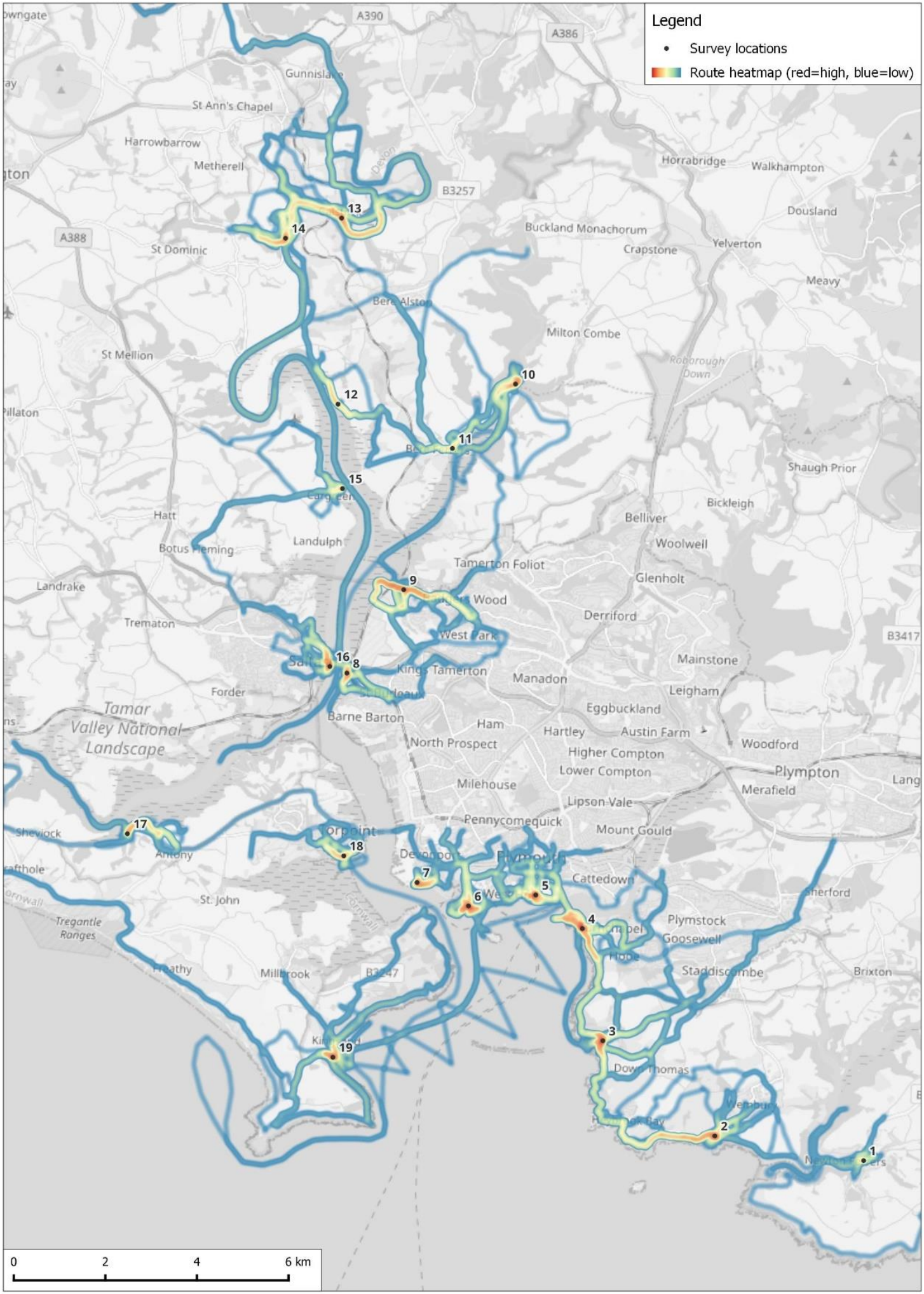


Figure 15: Factors influencing interviewees' route choice (from Q13). Responses were categorised by the surveyor and additional categories were added following a review of free text responses. Labels give the total percentage of interviewees who cited that factor. Multiple responses were possible for this question.

Map 8: Routes taken by interviewees during their visit that day.



Map 9: Routes taken by interviewees during their visit that day, shown as a heatmap.



Awareness of site designations and ecology (Q14-16)

4.37 A wide range of answers were given to Q14, which probed awareness of how the area is protected for wildlife. The most commonly mentioned protection was AONB (now known as National Landscapes) which was cited by 75 interviewees (7%), followed by being a Marine Protected Area (60 interviewees, 5%) and a SSSI (also 60 interviewees, 5%). The most common responses are shown in Figure 16.

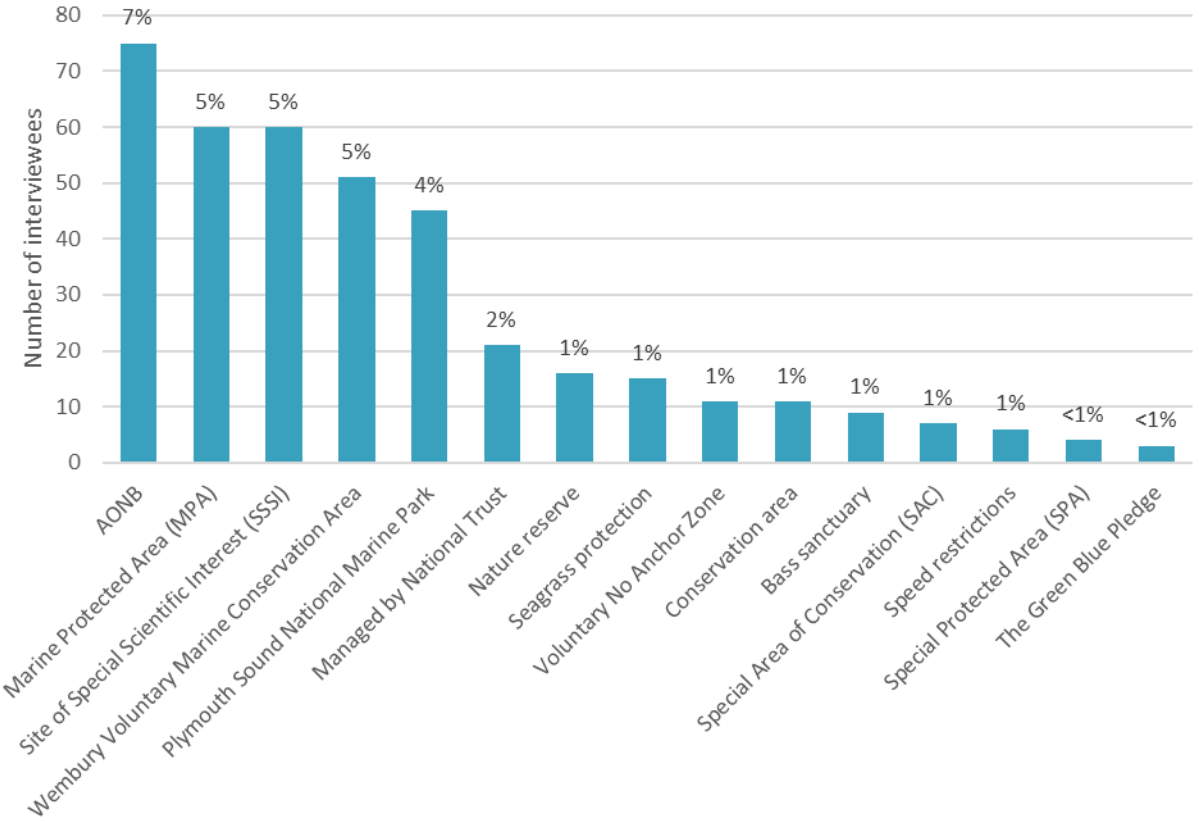


Figure 16: The most common responses to Q14. Interviewees were not prompted at all. Multiple responses were possible for this question.

4.38 Only 45 interviewees (4%) mentioned the Plymouth Sound National Marine Park in response to Q14. However, when asked directly if they had heard of the National Marine Park (Q15), 639 interviewees (58%) indicated that they had.

4.39 Overall, 596 interviewees (54%) answered Q16 and were able to name wildlife or habitats that they felt were special to the area. The most common responses are shown in Figure 17. There was a particularly good awareness amongst interviewees of the importance of seagrass, which was named by 197 interviewees (18%).

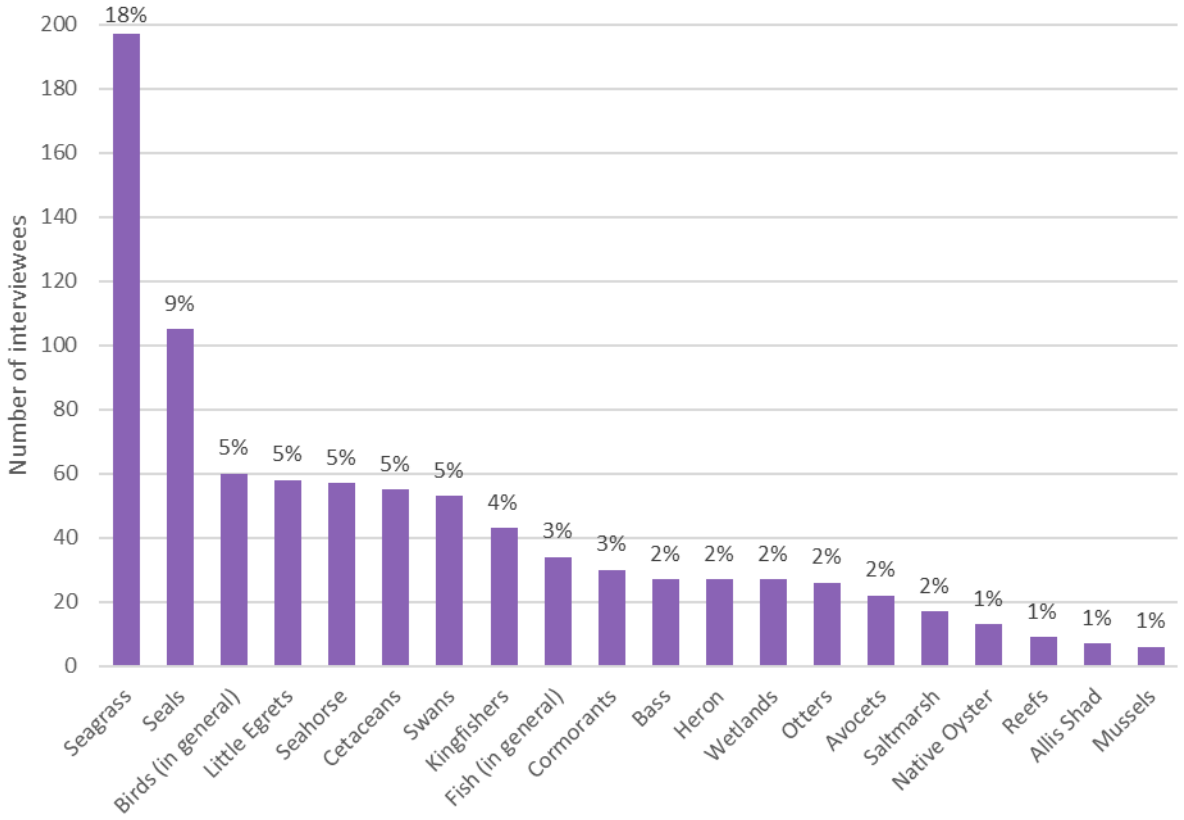


Figure 17: The most common responses to Q16. Interviewees were not prompted at all. Multiple responses were possible for this question. Responses have been categorised based on an analysis of free text responses.

4.40 There were some interesting differences between responses of interviewees at different survey locations, and these are summarised in Table 12. For example, seagrass was named by 47% of the interviewees at Newton Ferrers and 46% of interviewees at Cawsand. At Calstock there was a good awareness of wetland habitats, which was named by 31% of interviewees there, likely linked to the wetland creation scheme that has recently been completed there.

Table 12: Responses given to Q16 by at least 20 interviewees (in total), by survey location. N is the number of interviewees. Responses given by 20% or more of the interviewees at a particular survey location are highlighted in red font.

Survey location	N	Seagrass	Seals	Birds (in general)	Little Egret	Seahorse	Cetaceans	Swans	Kingfisher	Fish (in general)	Cormorants	Bass	Heron	Wetlands	Otters	Avocet
1 - Newton Ferrers	17	**47%**	0%	0%	0%	12%	6%	0%	0%	6%	0%	6%	0%	0%	0%	0%
2 - Wembury	96	19%	1%	6%	0%	3%	1%	0%	0%	2%	0%	0%	0%	0%	0%	0%
3 - Bovisand	69	17%	9%	4%	3%	9%	6%	0%	0%	1%	0%	3%	0%	0%	0%	0%
4 - Mount Batten	98	**24%**	2%	1%	2%	2%	4%	0%	0%	1%	1%	1%	0%	0%	0%	0%
5 - East Hoe	69	**25%**	12%	0%	0%	7%	7%	0%	0%	0%	4%	0%	0%	0%	0%	0%
6 - Firestone Bay	95	**21%**	**27%**	8%	1%	6%	14%	0%	0%	8%	6%	0%	2%	0%	1%	0%
7 - Mutton Cove	65	**23%**	9%	3%	0%	12%	9%	3%	0%	6%	0%	3%	0%	0%	0%	0%
8 - Riverside	48	13%	13%	2%	2%	2%	4%	10%	2%	6%	6%	2%	8%	0%	0%	0%
9 - Ernesettle Creek	74	8%	1%	11%	**26%**	1%	0%	5%	16%	1%	0%	3%	5%	0%	1%	1%
10 - Lopwell Dam	57	9%	9%	9%	9%	7%	0%	18%	16%	0%	0%	5%	7%	0%	5%	2%
11 - Bere Ferrers	32	3%	3%	9%	9%	0%	0%	0%	9%	0%	0%	0%	0%	0%	13%	19%
12 - Weir Quay	25	12%	4%	0%	8%	0%	4%	0%	0%	0%	4%	0%	0%	0%	4%	**28%**
13 - Calstock	64	14%	11%	5%	11%	3%	2%	5%	8%	3%	2%	5%	3%	**31%**	16%	0%
14 - Cotehele	58	5%	14%	7%	3%	0%	5%	5%	17%	3%	0%	2%	9%	10%	10%	3%
15 - Cargreen	23	13%	17%	9%	13%	9%	4%	0%	4%	13%	0%	4%	0%	0%	0%	17%
16 - Saltash	64	13%	3%	5%	3%	3%	5%	**36%**	0%	3%	13%	6%	2%	0%	0%	2%
17 - Wacker Quay	41	2%	0%	7%	15%	0%	0%	5%	2%	2%	2%	2%	2%	0%	0%	0%
18 - Torpoint	42	12%	7%	12%	7%	5%	2%	2%	2%	2%	5%	5%	10%	0%	0%	0%
19 - Cawsand	71	**46%**	**25%**	4%	0%	15%	13%	0%	0%	3%	6%	4%	0%	1%	0%	0%
All interviewees	**1108**	**18%**	**9%**	**5%**	**5%**	**5%**	**5%**	**5%**	**4%**	**3%**	**3%**	**2%**	**2%**	**2%**	**2%**	**2%**

Nature connectedness (Q17)

4.41 Overall, 91% of interviewees agreed that they feel connected to nature when they visited for their relevant activity. This included 56% who 'strongly agreed' with this statement.

4.42 Reponses given by interviewees with different activity types (based on Q2) are shown in Figure 18. Activity types which had the highest proportion of 'strongly agree' responses were rockpooling (79%), kayaking/canoeing (73%) and paddleboarding (71%).

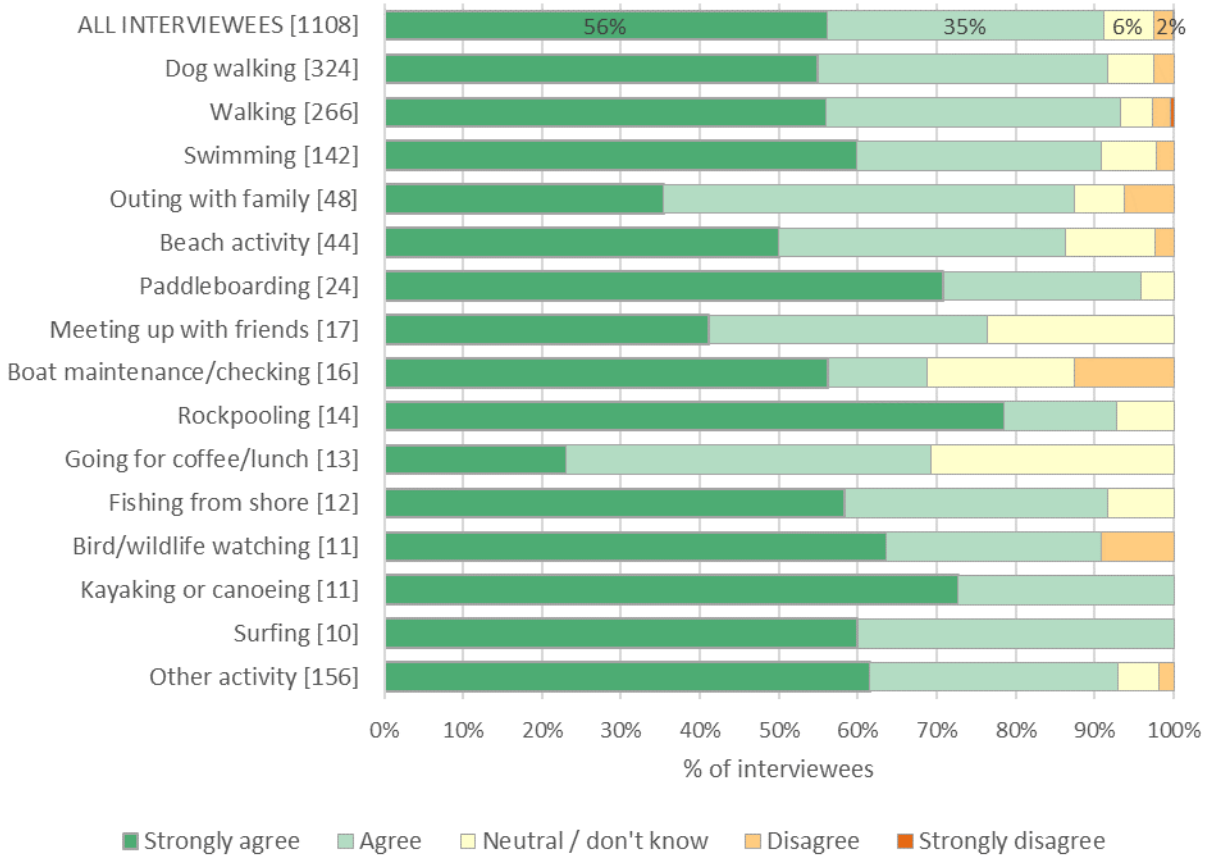


Figure 18: Responses to Q17 'I feel connected to nature when I come here' by interviewees' main activity (Q2). Numbers in square brackets indicate the number of interviewees.

Other locations visited (Q18-19)

4.43 When asked where they would have visited that day if they could not have visited the survey location, 853 interviewees (77%) named an alternative location, while 200 interviewees (18%) said that they would not have gone

anywhere. The remaining 55 interviewees (5%) were unsure or did not answer this question.

4.44 As well as this alternative location, interviewees were then asked to name up to two additional locations that they also visit for their activity. This initially resulted in a total of 819 different responses, however this included spelling errors and alternative names for the same place, which were rationalised to give around 400 different named alternative locations. The most common alternative location was Dartmoor, named by 146 interviewees (13%), followed by the Hoe (74 interviewees, 7%), Bovisand (68 interviewees, 6%) and Wembury (65 interviewees, 6%). Locations named by five interviewees or more are presented as a word cloud in Figure 19.

Figure 19: Word cloud showing the names of other locations that interviewees visit for their activity (Q18-19). Each interviewee could name up to three alternative sites. Font size indicates the frequency with which each site was named. Only sites named by at least five interviewees are shown, and non-specific locations such as 'the beach' are not included. Word cloud created using www.wordclouds.com.

Suggested site improvements (Q20)

4.45 Over half of the interviewees (610 interviewees, 55%) gave one or more suggestions as to how they would like the location they were visiting to be improved. The most common responses related to litter/bins (102 interviewees, 9%), better accessibility (75 interviewees, 7%) and comments relating to toilets, including opening times (54 interviewees, 5%). Responses are summarised in Figure 20.

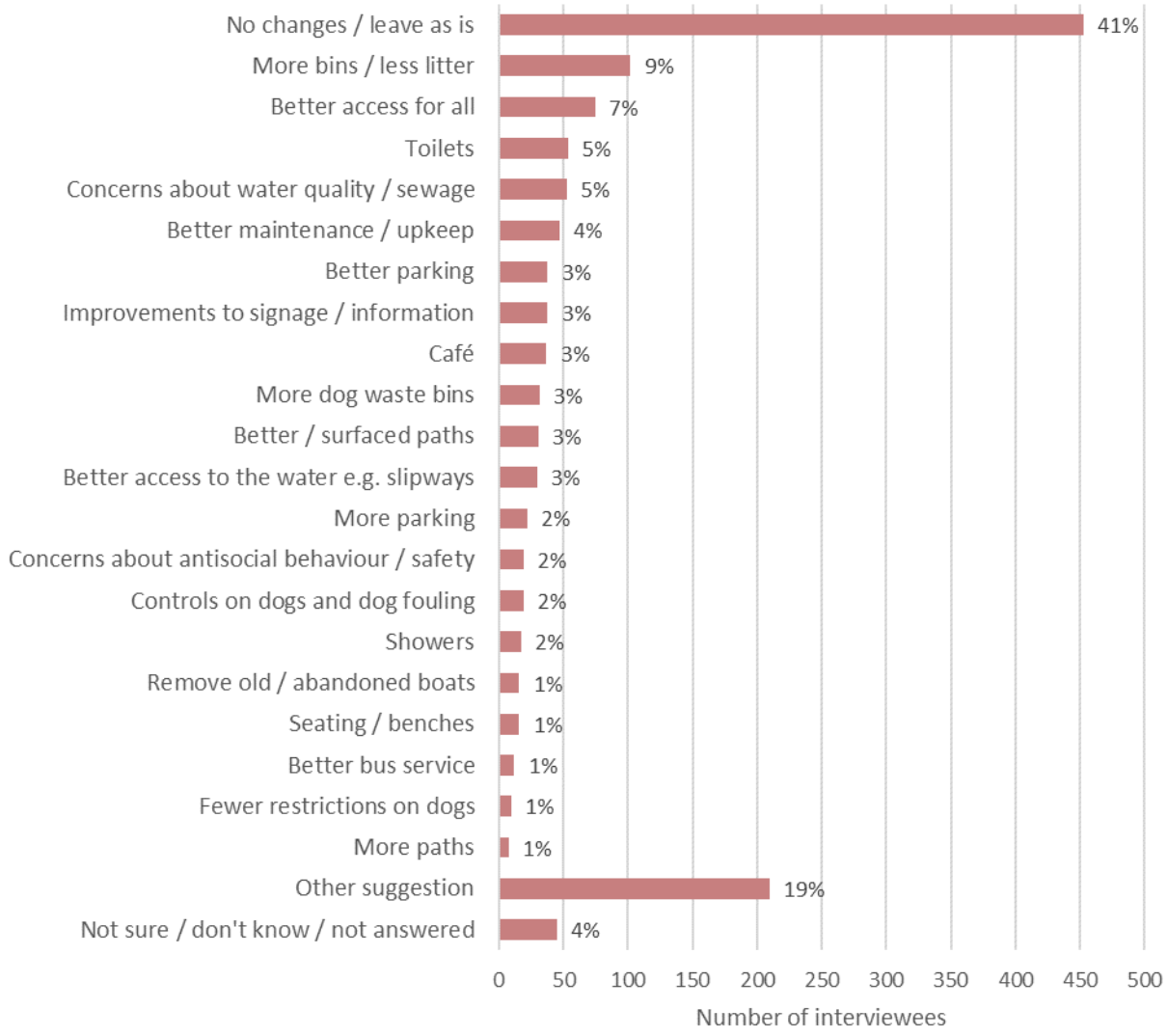


Figure 20: Suggested changes to site management given by interviewees (Q20). They were not prompted at all and multiple responses were possible for this question. Responses were categorised by the surveyor and several additional categories were added following an analysis of free text responses. Labels indicate the percentage of interviewees who gave each response.

4.46 Issues that were frequently raised at particular survey locations were:

- Litter was mentioned by 37% of interviewees at Wacker Quay, and some said that more enforcement or better signs were needed.
- At Lopwell Dam, 37% of interviewees said that they would like the café reopened, or a coffee cart.
- At East Hoe, a third of interviewees (33%) said that it needed better maintenance e.g. repainting, and a tidy up as they felt it looked a bit neglected.
- Better accessibility for buggies and wheelchair users was also frequently mentioned by interviewees at East Hoe (26%), with suggestions of handrails by the steps or a lift to enable access down to the beach.
- Water quality was a particular concern for interviewees at Newton Ferrers (24% of interviewees) and Firestone Bay (22%).

Further comments or feedback (Q21)

4.47 At the end of the interview, the participants had the opportunity to give any further comments or feedback about their visit. Many of these comments were additional suggestions for site improvements, so these have been incorporated into the analysis of Q20. There were also many positive comments, including words such as love (27 counts), lovely (19) and beautiful (13).

Visitor origins (Q22-24)

4.48 A total of 1,015 interviewees (92%) gave full valid UK postcodes that could be plotted in GIS. These are shown in Map 10. There were also 22 interviewees (2%) who lived outside of the UK.

4.49 Map 10 shows that interviewees who had come on a short visit or day trip (i.e. not staying overnight) originated mostly from Plymouth, Saltash and Torpoint, as well as others widely spread across Cornwall and Devon. Those interviewees who were on holiday or visiting friends and family came from across England and Wales, demonstrating the appeal that the area has as a tourist destination.

4.50 The City of Plymouth was the local authority area with the most interviewees (469, 42%) followed by Cornwall (233, 21%), South Hams (88, 8%) and West Devon (68, 6%). In total, interviewee postcodes spanned 108 local authorities (see Table 13).

Table 13: Number of interviewee postcodes by local authority. Only local authorities with more than 3 or more interviewees resident are shown.

Local authority name	Number (%) of interviewees
City of Plymouth	469 (42%)
Cornwall	233 (21%)
South Hams District	88 (8%)
West Devon District	68 (6%)
Dorset	7 (1%)
Buckinghamshire	6 (1%)
South Gloucestershire	5 (<1%)
Teignbridge District	5 (<1%)
Wiltshire	5 (<1%)
Dudley District	3 (<1%)
East Devon District	3 (<1%)
South Somerset District	3 (<1%)
Torbay	3 (<1%)
Warwick District	3 (<1%)
Woking District	3 (<1%)
Worcester District	3 (<1%)

4.51 The linear distance between the interviewee's home postcode and the interview location (survey point) was calculated in GIS. Data are summarised for different types of visitors in Table 14.

4.52 Overall, the median straight-line distance between an interviewee's postcode and the location where they were interviewed was 3.8 km and the 75th percentile distance (i.e. the radius within which 75% of interviewees originated) was 10.1 km.

4.53 Taking only those interviewees on a short visit or day trip from home (i.e. not staying overnight), the median distance was 3.0 km and the 75th percentile distance was 6.8 km.

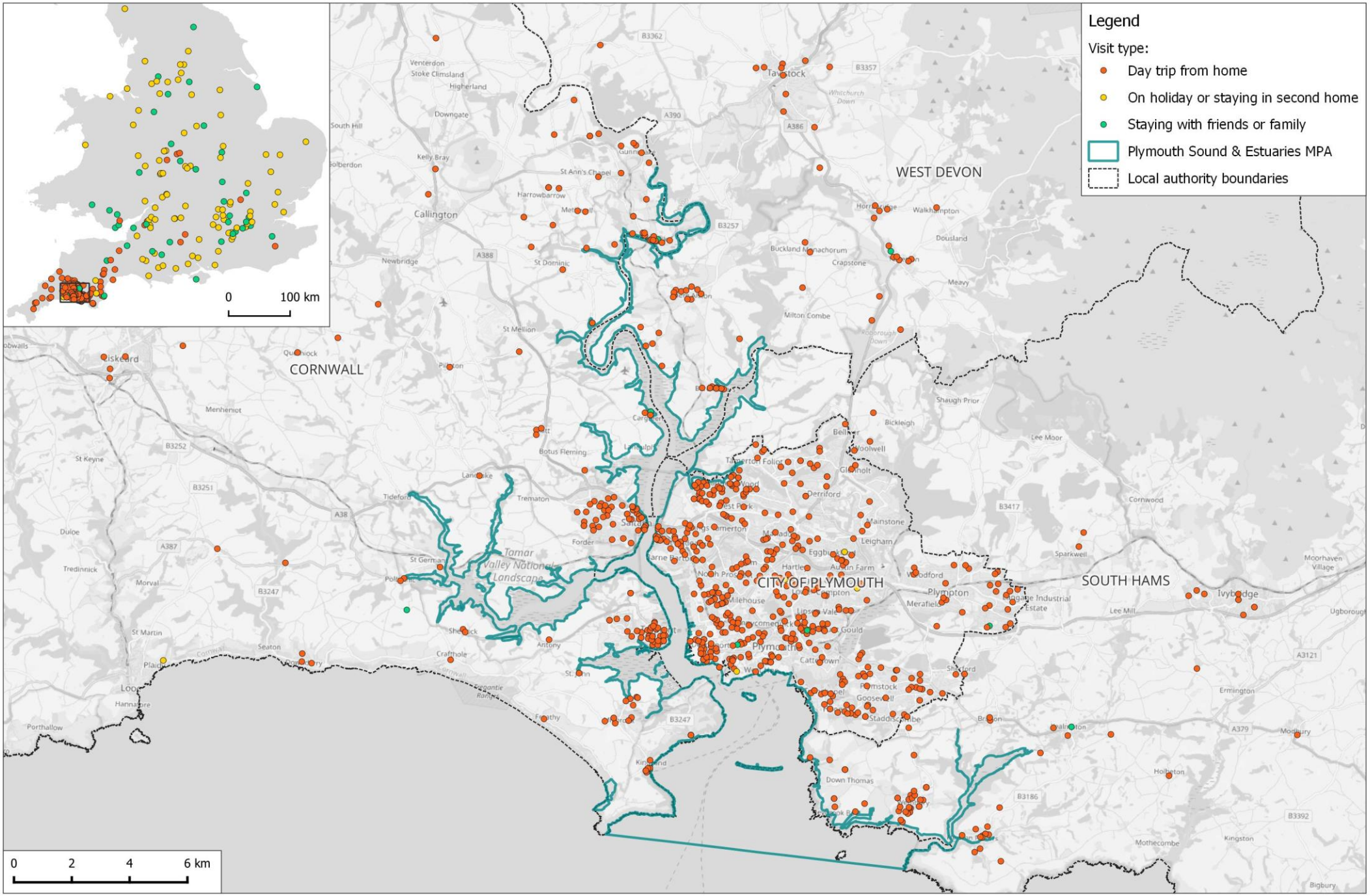
4.54 Newton Ferrers and Torpoint were survey locations with particularly local interviewees, since at both locations half of the interviewees lived within 0.4 km of the survey point.

4.55 Cotehele and Bovisand were the locations with the greatest median distance between the survey point and interviewees' postcodes, 9.1 km and 8.6 km respectively.

Table 14: Summary statistics for the straight-line distance (km) between the survey point and the home postcode for different groups of interviewees. N is the number of interviewees within each group who gave full valid UK postcodes, SE is the standard error of the mean and Q3 is the 75th percentile.

Category	N	Mean (± 1 SE)	Min	Median	Q3	Max
All interviewees	**1015**	**43.6 ± 3.2**	**0.0**	**3.8**	**10.1**	**622.2**
Visit type: Day trip/short visit from home	865	8.4 ± 0.9	0.0	3.0	6.8	334.5
Visit type: On holiday	102	263.9 ± 11.8	0.9	271.5	336.8	622.2
Visit type: Staying with friends/family	47	212.1 ± 19.3	0.2	251.5	311.8	482.1
Main activity: Dog walking	310	20.6 ± 4.2	0.0	1.6	4.4	607.3
Main activity: Walking	231	50.6 ± 6.6	0.0	5.6	18.8	477.3
Main activity: Swimming	131	22.8 ± 6.3	0.1	3.4	6.5	380.1
Main activity: Beach activity	43	144.1 ± 24.0	0.4	46.2	290.6	419.8
Main activity: Outing with family	43	72.9 ± 20.8	0.2	8.0	47.2	445.4
Main activity: Paddleboarding	22	37.5 ± 20.9	0.1	7.4	9.8	385.9
Survey location: 1 - Newton Ferrers	17	19.0 ± 15.5	0.1	0.4	2.4	264.7
Survey location: 2 - Wembury	85	64.8 ± 12.8	0.4	7.7	40.7	450.9
Survey location: 3 - Bovisand	61	117.3 ± 20.0	0.4	8.6	287.4	482.1
Survey location: 4 - Mount Batten	89	41.7 ± 10.7	0.2	3.9	7.7	477.3
Survey location: 5 - East Hoe	65	32.1 ± 10.2	0.3	3.2	7.1	403.3
Survey location: 6 - Firestone Bay	87	33.1 ± 9.5	0.3	3.6	7.8	401.2
Survey location: 7 - Mutton Cove	63	15.6 ± 8.1	0.1	1.2	4.2	376.1
Survey location: 8 - Riverside	44	3.6 ± 1.1	0.0	1.2	3.3	43.1
Survey location: 9 - Ernesettle Creek	71	8.8 ± 4.9	0.2	1.3	2.6	292.9
Survey location: 10 - Lopwell Dam	55	20.4 ± 7.9	2.5	7.4	10.1	380.0
Survey location: 11 - Bere Ferrers	30	16.4 ± 8.3	0.0	3.3	7.5	239.1
Survey location: 12 - Weir Quay	24	52.6 ± 19.5	0.4	5.3	52.1	297.7
Survey location: 13 - Calstock	64	68.2 ± 16.3	0.1	7.8	60.4	622.2
Survey location: 14 - Cotehele	55	65.2 ± 15.0	0.4	9.1	41.9	402.1
Survey location: 15 - Cargreen	20	95.0 ± 35.3	0.2	6.1	168.0	607.3
Survey location: 16 - Saltash	59	29.9 ± 10.5	0.0	1.6	3.3	360.3
Survey location: 17 - Wacker Quay	31	21.1 ± 7.9	1.1	4.9	12.3	198.8
Survey location: 18 - Torpoint	39	2.7 ± 1.3	0.1	0.4	0.7	43.8
Survey location: 19 - Cawsand	56	99.2 ± 18.4	0.1	8.0	242.1	445.4

Map 10: Postcodes of interviewees, by visit type.



5. Results: Online survey

Overview

5.1 In total, 427 people completed the online survey. The median time taken to complete the survey was 4.4 minutes. The number of responses was monitored regularly so that promotion could be boosted where necessary. Figure 21 shows the cumulative number of responses over time.

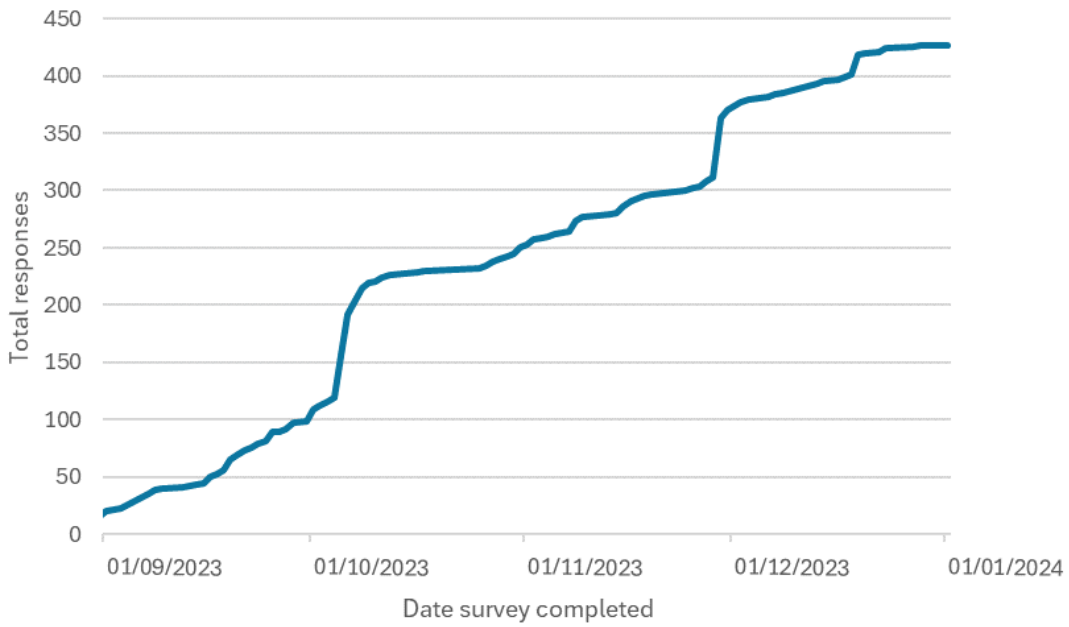


Figure 21: Cumulative total responses to the online survey over time.

Activity (Q1-2)

5.2 Activities undertaken by respondents are shown in Figure 22. A wide range of activities were represented, including some that were not encountered in the on-site visitor interviews e.g. fishing from a boat, freediving, spearfishing and jet skiing.

5.3 Activities cited by only 1 or 2 respondents are grouped as 'other activity' in Figure 22 and included meditation, socialising/eating out and creative pursuits such as painting or film-making.

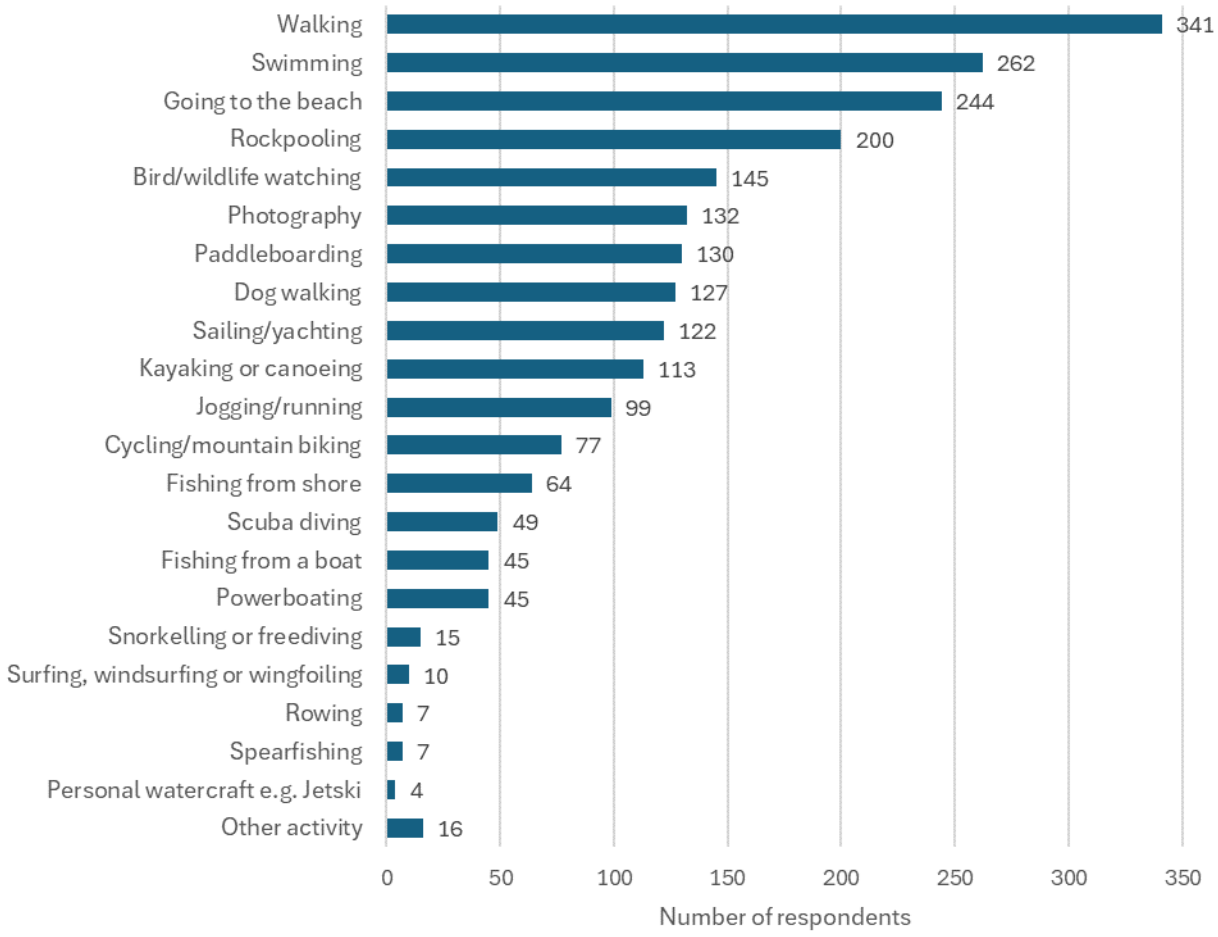


Figure 22: Activities undertaken by respondents (Q1). Multiple responses were possible for this question.

5.4 Most respondents indicated they tended to undertake a range of activities. However, in order for the remaining questions to gather useful information about specific activity types, the respondents were asked which activity they did most often. Responses to this question (Q2) are shown in Table 15. The most common main activities were swimming (100 respondents, 23%), walking (73 respondents, 17%) and sailing/yachting (63 respondents, 15%).

Table 15: Activity that each respondent does most often (Q2).

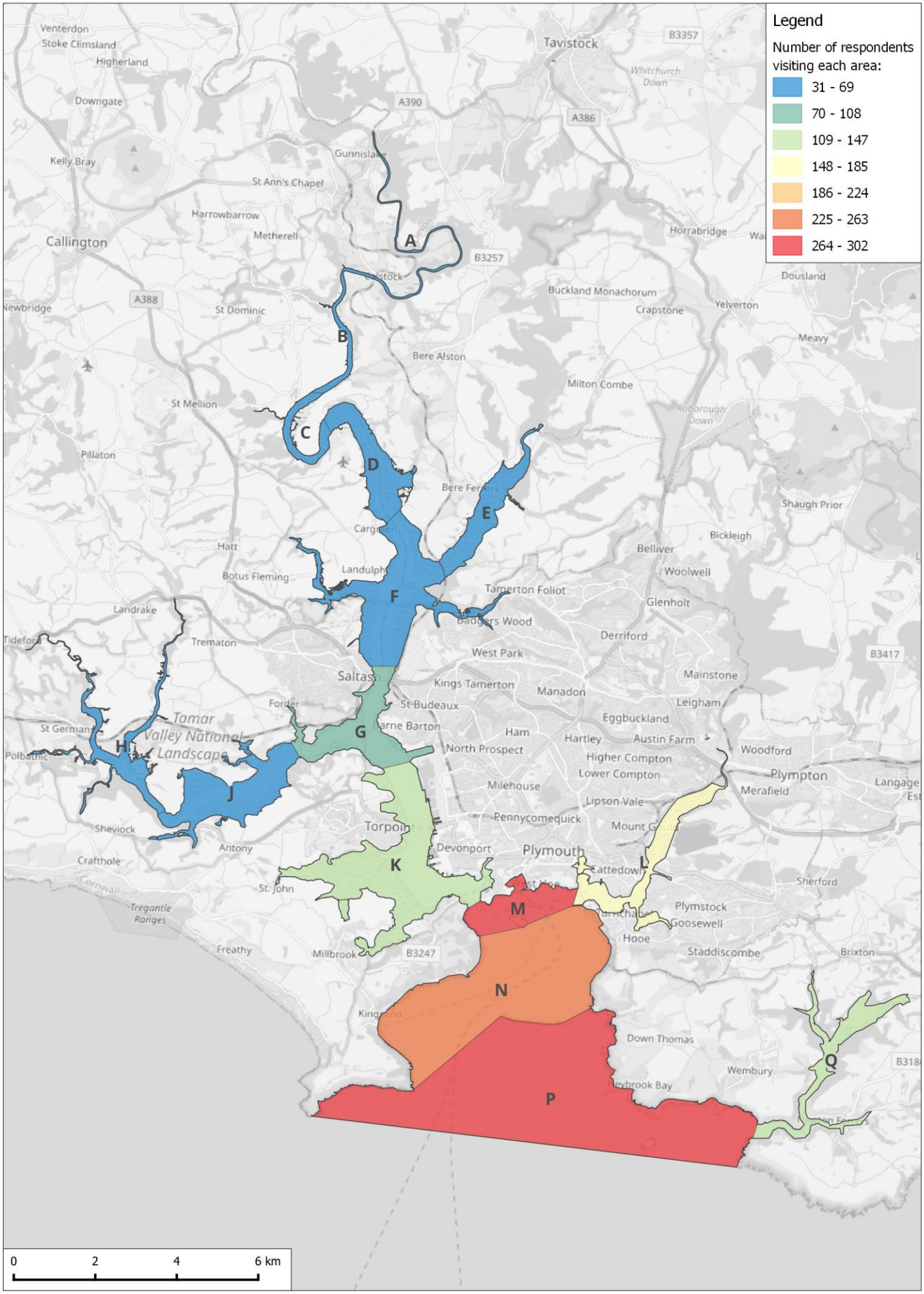
Activity type	Number (%) of respondents
Swimming	100 (23%)
Walking	73 (17%)
Sailing/yachting	63 (15%)
Dog walking	46 (11%)
Fishing from shore	23 (5%)
Going to the beach	17 (4%)
Scuba diving	17 (4%)
Kayaking or canoeing	15 (4%)
Rockpooling	12 (3%)
Powerboating	11 (3%)
Bird/wildlife watching	9 (2%)
Paddleboarding	8 (2%)
Photography	8 (2%)
Rowing	6 (1%)
Jogging/running	6 (1%)
Fishing from a boat	4 (1%)
Surfing, windsurfing or wingfoiling	3 (1%)
Cycling/mountain biking	3 (1%)
Spearfishing	2 (<1%)
Punt gunning	1 (<1%)
Total	**427 (100%)**

Areas visited (Q3)

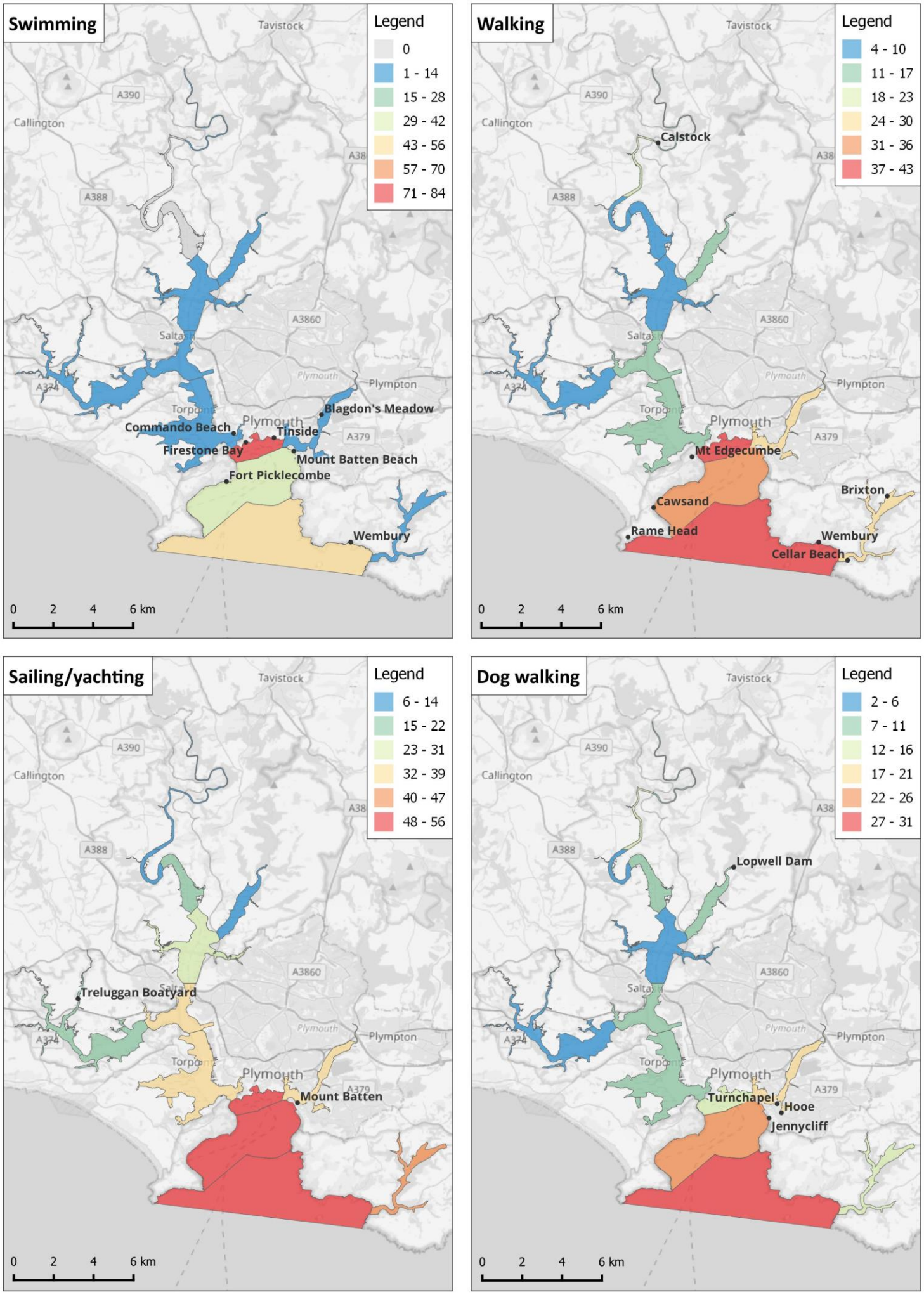
5.5 Most respondents indicated that they tended to visit multiple locations within the Plymouth Sound and Estuaries for their activity. The Plymouth waterfront area was visited by the most respondents (area M, 71% of respondents) followed by the southern part of the Sound (P, 66%) and the central part of the Sound (N, 58%). Far fewer respondents said that they visit the Lynher River, the upper parts of the Tamar or the Tavy (see Map 11).

5.6 Areas visited by respondents with the most common activity types are shown in Maps 12 and 13. Specific locations that were mentioned by respondents doing that activity type are labelled.

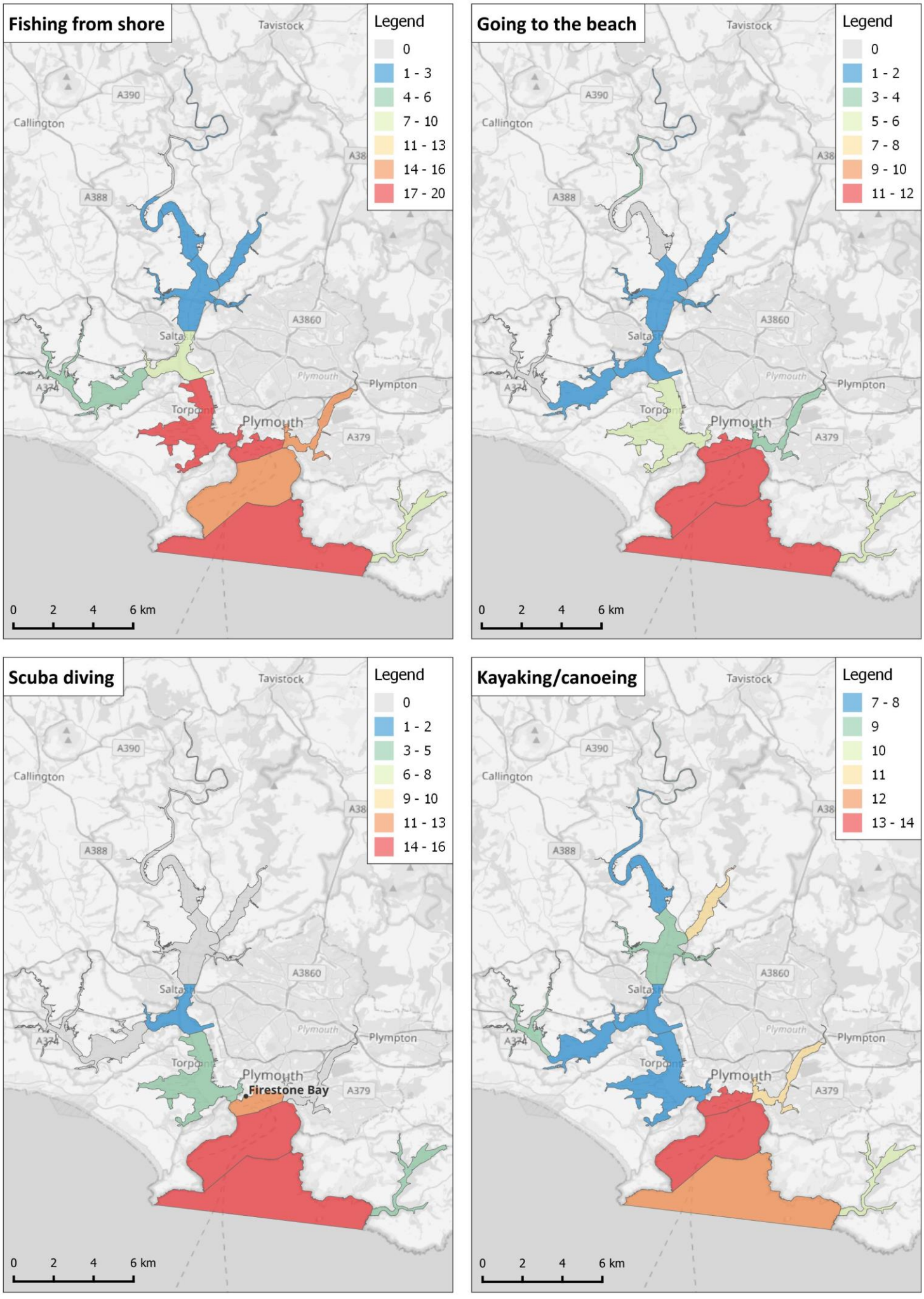
Map 11: Areas visited by online survey respondents



Map 12: Areas visited by online survey respondents, by activity



Map 13: Areas visited by online survey respondents, by activity



Visit frequency (Q4)

5.7 For most areas (A-K, N and Q), the most common visit frequency was 'less than once a month' (see Figure 23). The area which had the most frequent visitors was M (Plymouth waterfront); 41% of respondents who indicated that they visit this area do so at least once a week.

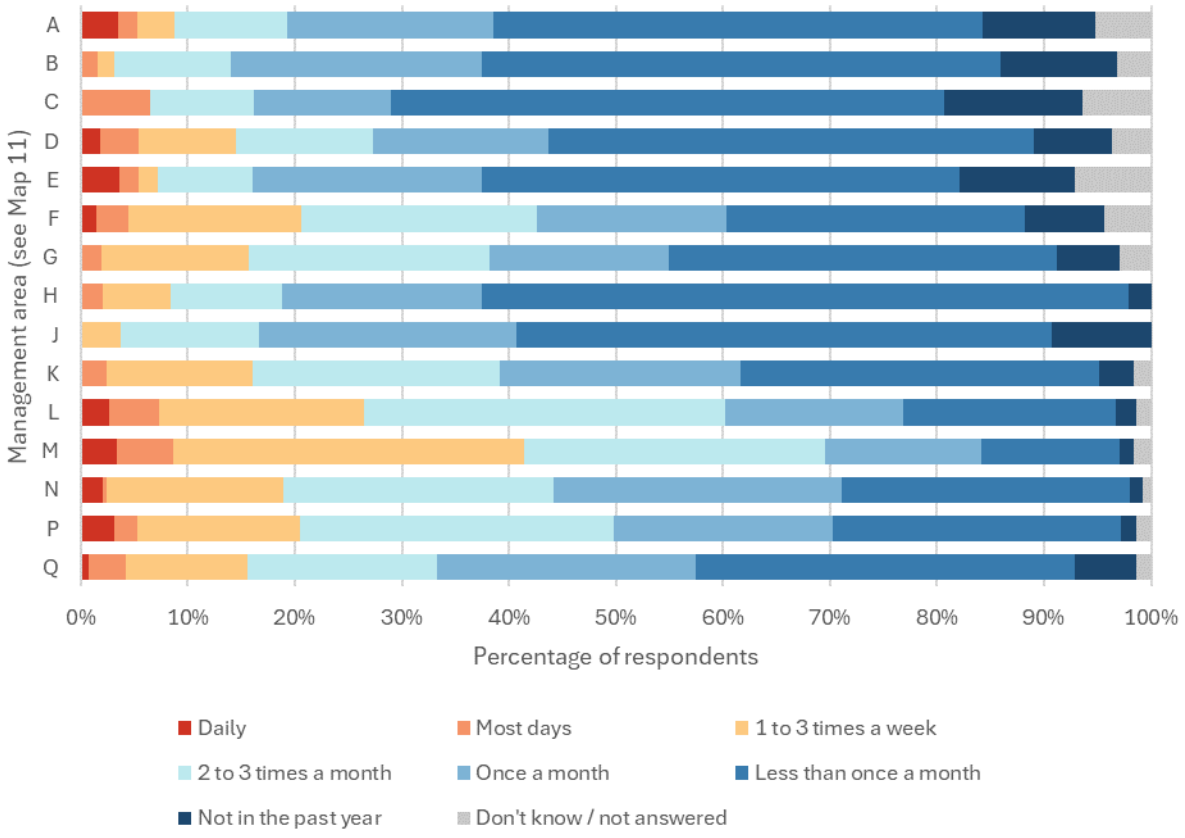
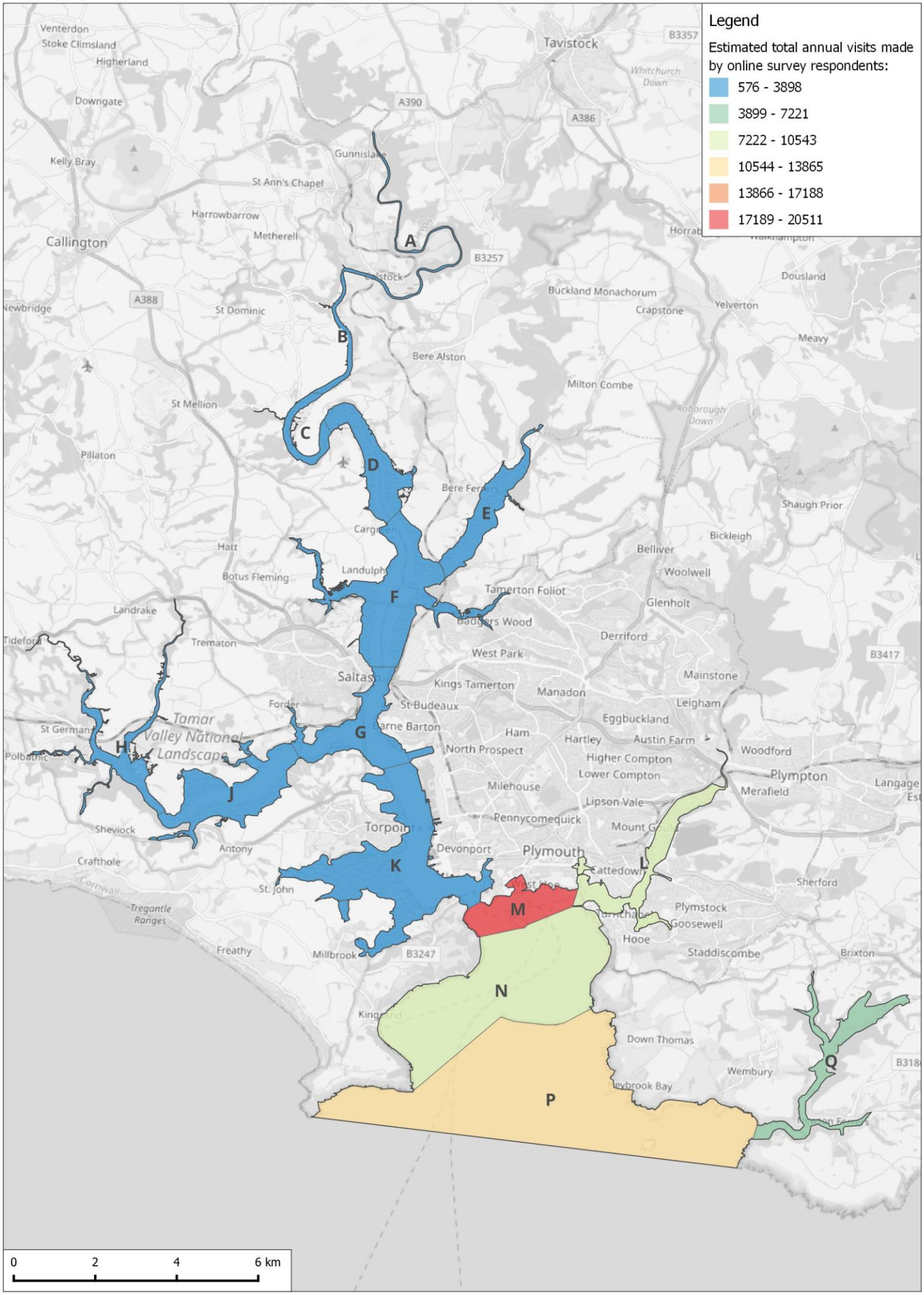


Figure 23: Frequency with which the online survey respondents visit different parts of the Plymouth Sound and Estuaries (see Map 11).

5.8 Map 14 shows the areas visited by the online respondents, weighted by their visit frequency[4]. Area M (Plymouth waterfront) had the highest number of annual visits by the respondents (approximately 20,500 annual visits).

[4] Calculated by using the following approximations for each visit frequency category: "Daily" = 350 visits; "Most days" = 200 visits, "1 to 3 times a week" = 110 visits; "2 to 3 times a month" = 27.5 visits; "Once a month" = 10.5 visits; "Less than once a month" = 3 visits; "Not in the past year" = 1 visit. Responses of "Don't know" are not used in this calculation.

Map 14: Areas visited by online survey respondents, weighted by visit frequency.



Seasonality (Q5)

5.9 The majority of respondents (304, 71%) indicated that they visit the Plymouth Sound and Estuaries all year round. This was also true for most activity types, although for those who were sailing/yachting or paddleboarding, there were more people who said that they tend to visit in summer or spring rather than all year round (Table 16).

Table 16: Times of year that respondents usually visit (Q5) by main activity (Q2). Responses are aggregated across all areas (A to Q). Respondents could either answer 'all year round' or they could name one or more specific seasons. The highest value in each row is highlighted in red. Activities given by fewer than 5 respondents are grouped as 'Other activity'.

Activity type	N	Spring (Mar-May)	Summer (Jun-Aug)	Autumn (Sep-Nov)	Winter (Dec-Feb)	All year round
Swimming	100	16 (16%)	28 (28%)	0 (0%)	0 (0%)	**69 (69%)**
Walking	73	8 (11%)	10 (14%)	0 (0%)	2 (3%)	**56 (77%)**
Sailing/yachting	63	31 (49%)	**37 (59%)**	0 (0%)	0 (0%)	25 (40%)
Dog walking	46	0 (0%)	1 (2%)	0 (0%)	0 (0%)	**45 (98%)**
Fishing from shore	23	3 (13%)	4 (17%)	0 (0%)	1 (4%)	**18 (78%)**
Going to the beach	17	1 (6%)	2 (12%)	0 (0%)	0 (0%)	**15 (88%)**
Scuba diving	17	3 (18%)	4 (24%)	0 (0%)	0 (0%)	**13 (76%)**
Kayaking or canoeing	15	2 (13%)	2 (13%)	0 (0%)	0 (0%)	**13 (87%)**
Rockpooling	12	5 (42%)	**6 (50%)**	0 (0%)	0 (0%)	**6 (50%)**
Powerboating	11	3 (27%)	4 (36%)	0 (0%)	0 (0%)	**6 (55%)**
Bird/wildlife watching	9	1 (11%)	0 (0%)	0 (0%)	1 (11%)	**8 (89%)**
Paddleboarding	8	**6 (75%)**	**6 (75%)**	0 (0%)	0 (0%)	2 (25%)
Photography	8	0 (0%)	0 (0%)	0 (0%)	0 (0%)	**8 (100%)**
Rowing	6	0 (0%)	0 (0%)	0 (0%)	0 (0%)	**6 (100%)**
Jogging/running	6	1 (17%)	1 (17%)	0 (0%)	0 (0%)	**5 (83%)**
Other activity	13	2 (15%)	2 (15%)	0 (0%)	3 (23%)	**9 (69%)**
Total	**427**	**82 (19%)**	**107 (25%)**	**0 (0%)**	**7 (2%)**	**304 (71%)**

5.10 The most common seasonal preference for all individual areas was 'all year round', followed by summer for all areas except J (Lynher) where autumn was the second most common response (Figure 24).

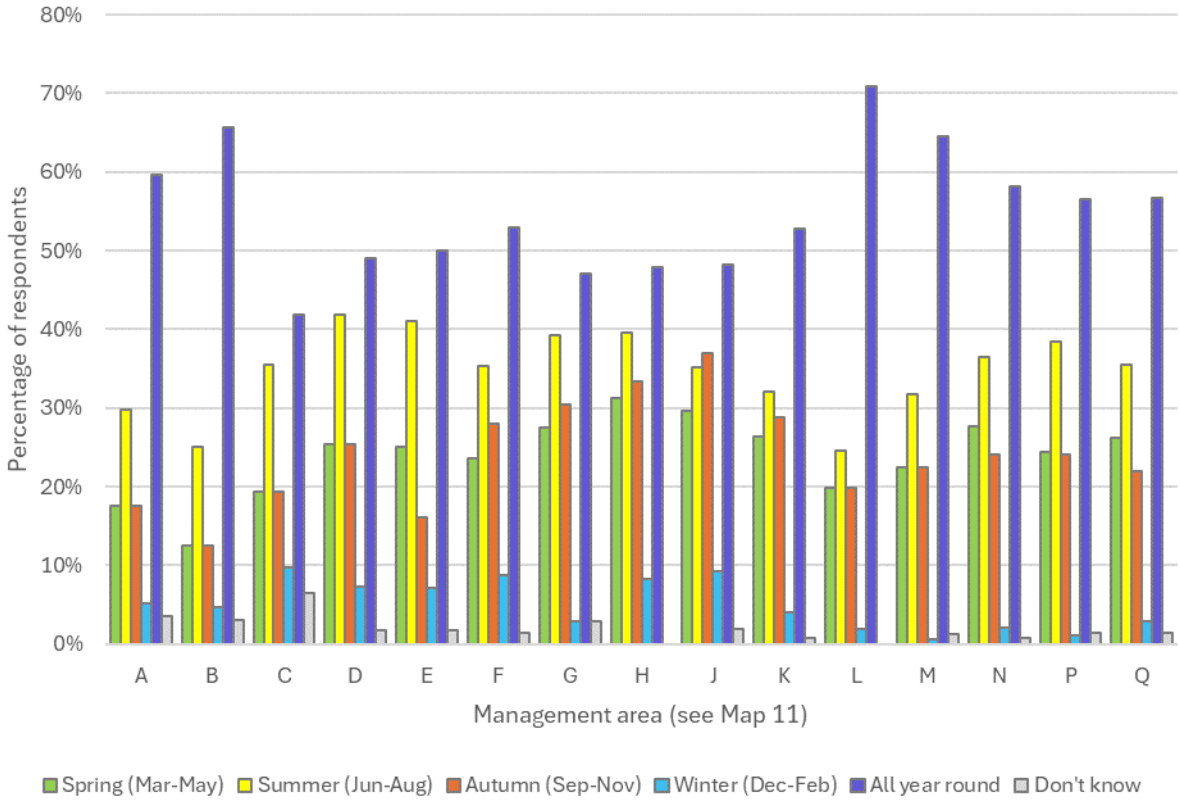


Figure 24: Seasonality of respondents' visits to each area (Q5). Respondents could either answer 'all year round' or they could name one or more specific seasons.

Mode of transport (Q6)

5.11 The most common forms of transport used by respondents when doing their activity in the Plymouth Sound and Estuaries were car or van (54%) and on foot (35%) (see Table 17).

Table 17: The main form of transport usually used by respondents to the online survey when doing their activity in the Plymouth Sound and Estuaries (Q6).

Main mode of transport	Number (%) of respondents
Car / van	232 (54%)
On foot	148 (35%)
Bus	13 (3%)
Boat (e.g. yacht, RIB, charter boat)	13 (3%)
Bicycle / e-bike	11 (3%)
Ferry	8 (2%)
Train	2 (<1%)
Total	**427 (100%)**

Reasons for choice of location (Q7)

5.12 Factors that attract the online survey respondents to the Plymouth Sound and Estuaries are summarised in Figure 25. The most common responses were that it is close to home (cited by 70% of respondents), the scenery/views (64%) and having easy access to the water (60%).

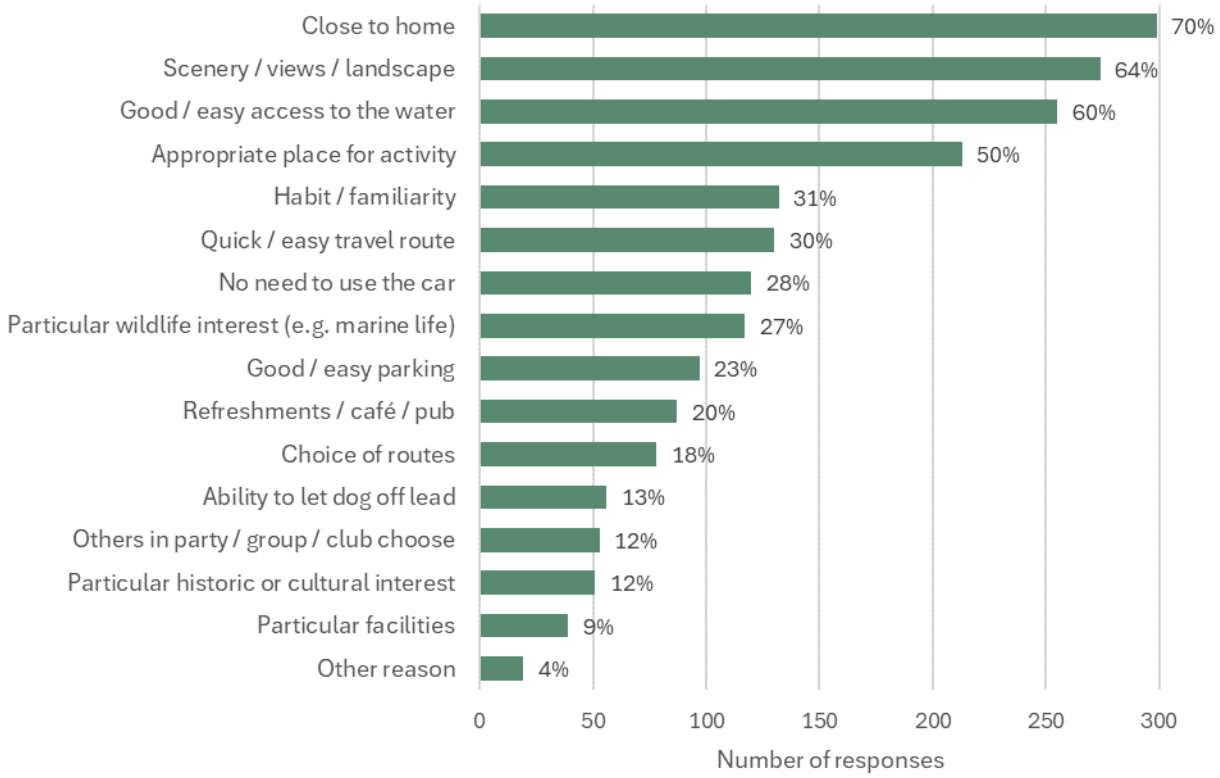


Figure 25: Qualities given by the online survey respondents that attract them to the Plymouth Sound and Estuaries for their activity (Q7). This was a multiple choice question. Labels indicate the percentage of respondents who gave each answer.

5.13 Responses that were common from respondents with particular activity types were:

- Good/easy access to the water was cited by 93% of kayakers and 85% of swimmers;
- Scenery/views was cited by 87% of kayakers and 79% of walkers;
- Being close to home was cited by 81% of swimmers and 76% of those going to the beach.

Awareness of the National Marine Park (Q8)

5.14 There was a high level of awareness of the Plymouth National Marine Park, with 397 respondents (93%) indicating that they had heard of it. Only 20 respondents (5%) said that they had not heard of it, and the remaining 10 (2%) were unsure or did not answer.

Nature connectedness (Q9)

5.15 Overall, 408 respondents (96%) agreed that they feel connected to nature when they do their activity in the Plymouth Sound and Estuaries, including 271 (63%) who strongly agreed with this statement (Figure 26).

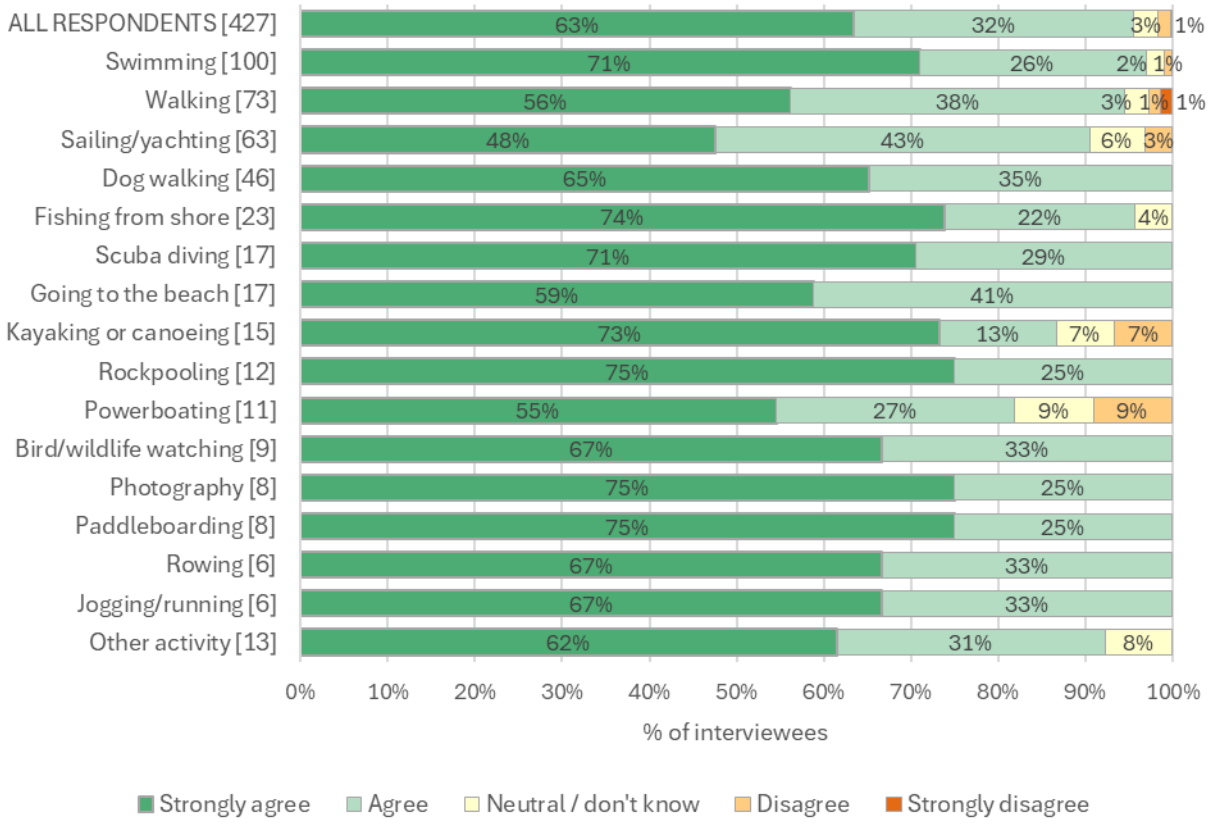


Figure 26: Responses to Q9 by respondents' main activity (Q2). The number of respondents is shown in square brackets.

Further comments (Q10)

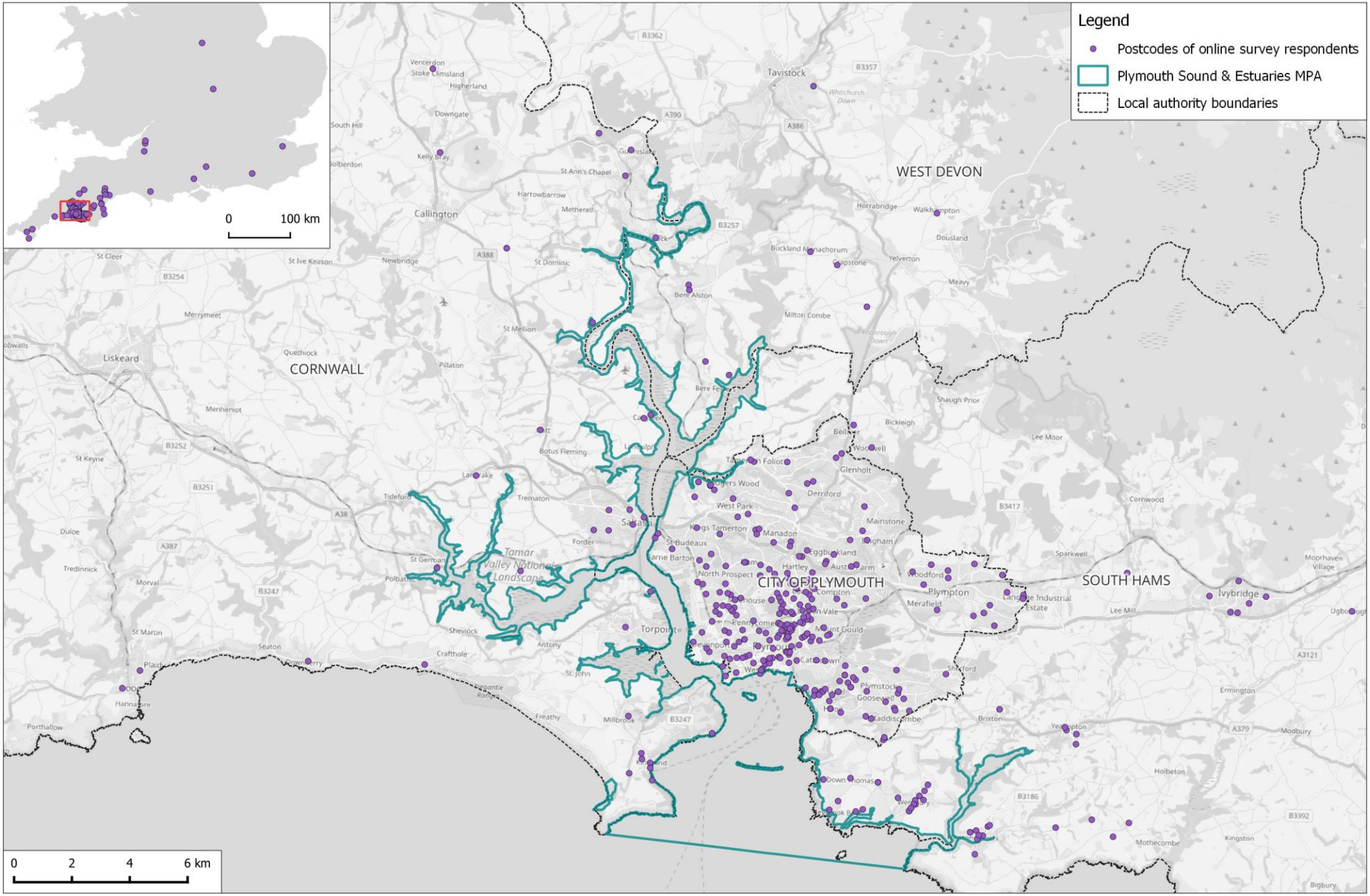
5.16 Further comments were made by 182 of the respondents (43%), covering a wide range of topics. Some key themes that emerged from their responses were:

- Concerns about water quality, especially amongst swimmers (39 respondents);
- Need for more public access to the water (e.g. more public slipways, more affordable moorings, better maintenance of slipways), or concerns about additional restrictions being made to access (e.g. from waterfront development, blocked public rights of way, no anchor zones) (26 respondents);
- Concerns about certain recreational activities e.g. noise and disturbance to wildlife from jet skis and powerboats, the impacts of anchoring on the seabed, sewage discharge from leisure craft, green laning (16 respondents);
- More inclusive access needed e.g. better access to the water for people with disabilities (11 respondents);
- Comments about parking being too expensive, and requests for free parking early in the mornings or a reduced rate for local residents (11 respondents);
- Recognition of the benefits to their health and wellbeing from spending time by the sea (9 respondents).

Postcodes of respondents (Q11)

5.17 The majority of respondents (397, 93%) provided their full home postcode and these postcodes are shown in Map 15. Respondents were concentrated around Plymouth, with some from other parts of south Devon and Cornwall, a few scattered across southern and central England.

Map 15: Postcodes of online survey respondents.



6. Results: Workshops

Overview

6.1 The workshops were attended by 43 people; 19 at Saltash and 24 at the Mount Batten Centre. Between them, the participants represented a wide range of clubs and groups (see Appendix 6) as well as several participants who were not members of any club or organisation. 38 workbooks were completed since some people chose to complete them in pairs.

6.2 Figure 27 shows the postcode sectors of workshop participants, who were mostly from areas close to the Sound and on either side of the Tamar Bridge.

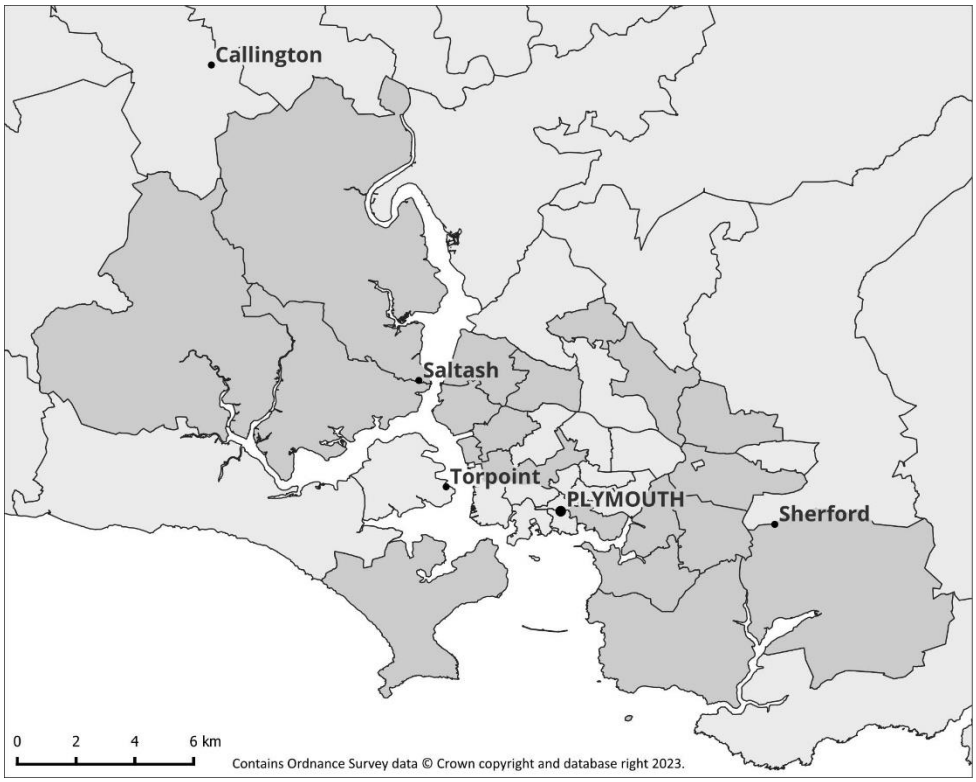


Figure 27: Map showing the postcode sectors of workshop participants (dark shading). Postcodes sectors include the part of the postcode before the space and the number after the space e.g. 'PL9 9'. Two workshop participants are off the map.

Activity types

6.3 Most workshop participants undertake multiple activities within the Plymouth Sound and Estuaries (Figure 28). The most common activities were swimming (24 participants), sailing/yachting (18), kayaking/canoeing (14) and rockpooling (14).

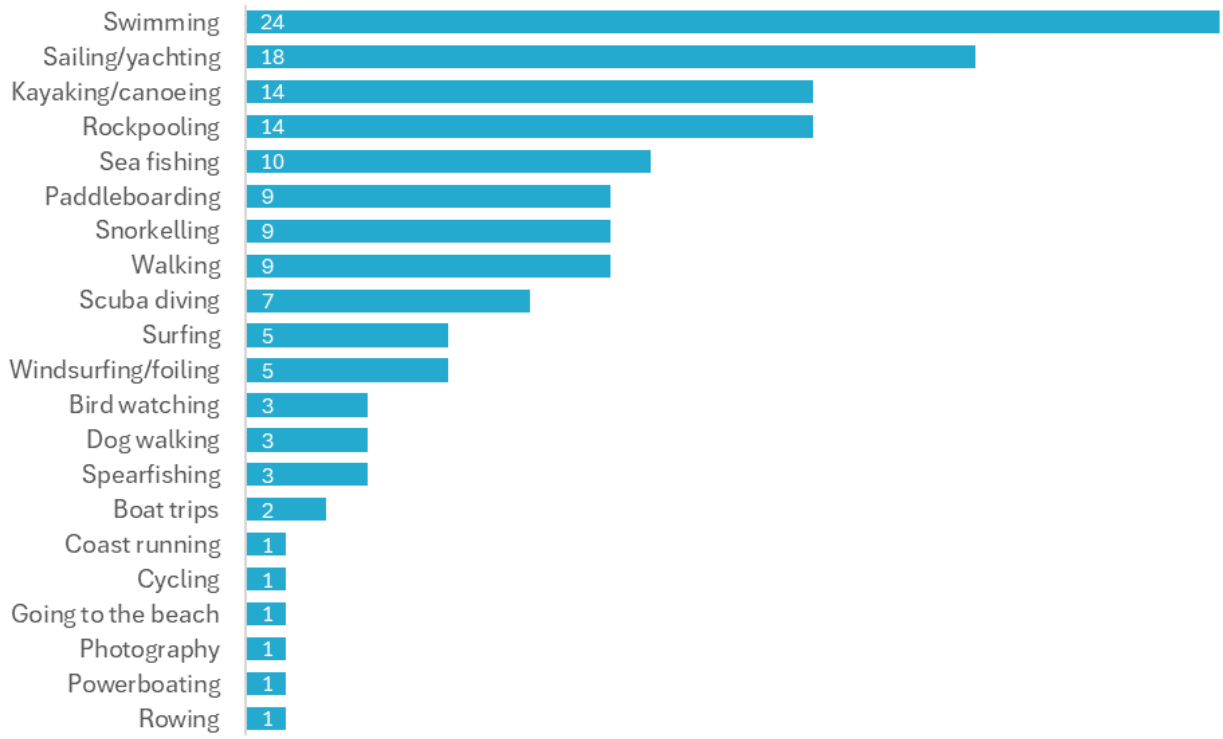


Figure 28: All activities that the workshop participants take part in, within the Plymouth Sound and Estuaries. Labels indicate the number of participants who named each activity.

Frequency

6.4 The most common visit frequency category was '1 to 3 times a week', given by 25 participants (66%). Three participants (8%) visit the area 'most days', 8 participants (21%) visit '2 to 3 times a month' and 2 participants (5%) visit 'less than once a month'.

Seasonality

6.5 Half of the participants (19, 50%) indicated that they do their activity/activities all year round. The other half indicated that they visit in summer months (19 participants), with most also visiting in spring (18) and/or autumn (16).

Influencing factors

6.6 Factors that influence when or where participants do their activities were:

- **Wind/sea state** – some activities require minimal wind (below F4/5) e.g. scuba diving, kayaking, paddleboarding and spearfishing. For sailing, most said that they go in all weathers except gales/storms. Windsurfing/foiling needs at least 12 knots and surfing needs swell and offshore winds.
- **Tide** – some activities (e.g. rockpooling) are typically done at low tide, preferably spring tides. For scuba diving and spearfishing, neap tides are preferrable. For some activities different locations are visited depending on the tide state e.g. some dive sites require slack water, some swimming spots are best around high tide, choice of high/low water marks for angling.
- **Underwater visibility** – good visibility important for scuba diving/freediving/spearfishing and visibility is reduced after heavy rain or strong winds.
- **Other water users** – avoiding high speed traffic (e.g. jet skis) and their wake; avoiding crowded areas/beaches/slipways.
- **Safety concerns** – blocked slipways, overcrowding and people not obeying rules are also safety concerns; avoiding locations with commercial fishing nets is relevant for freedivers and spearfishers.
- **Water quality** – e.g. not swimming after sewage alerts.
- **Seasonality of species of interest** – relevant for scuba diving and angling.
- **Other considerations** – time available; availability of others (e.g. sailing crew, dive buddies); availability of parking; gaining permission from King's Harbour Master; local regulations.

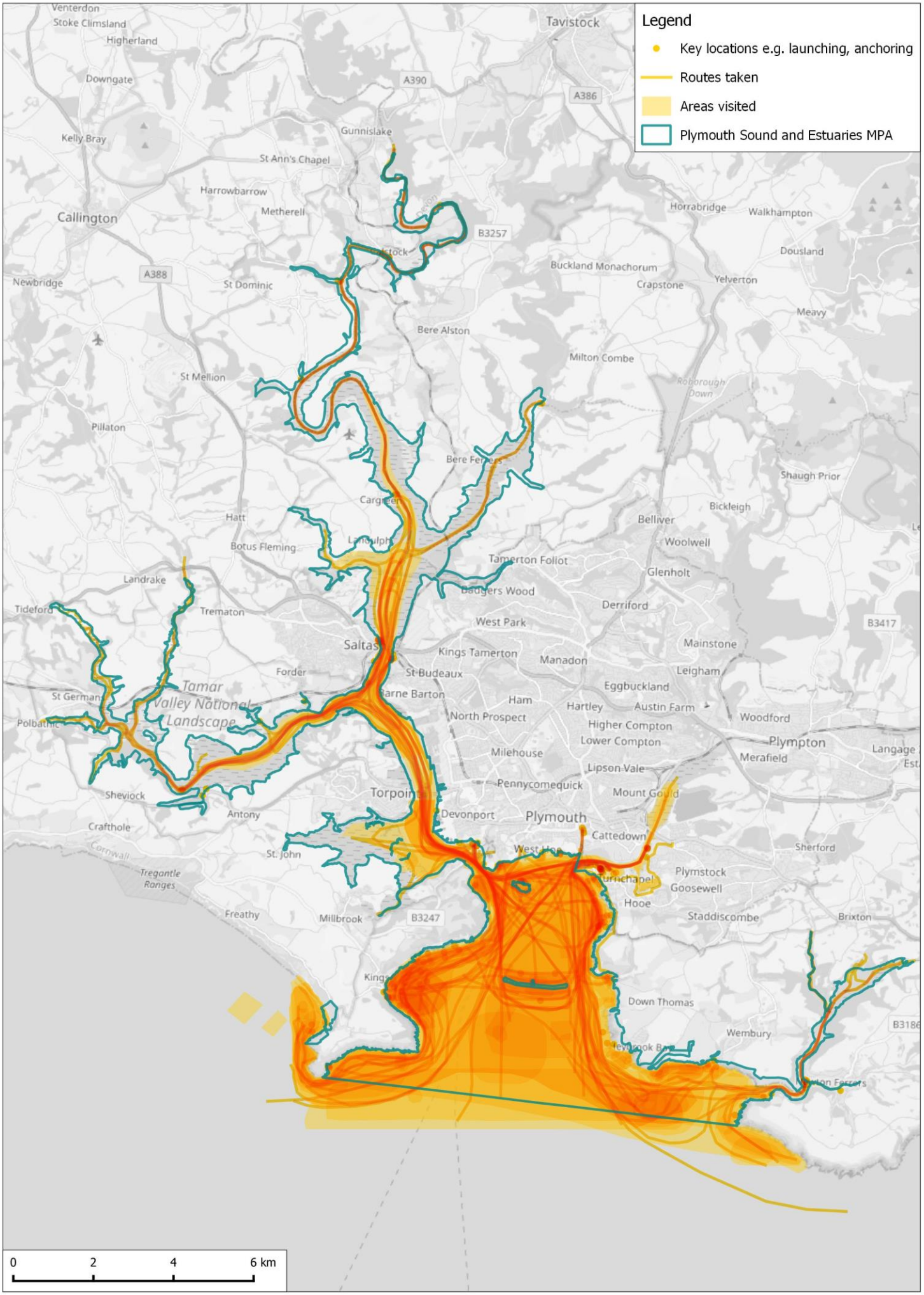
Locations visited

6.7 Map 16 presents the information that was mapped by the workshop participants for water-based or intertidal activities (i.e. excluding walking, dog walking and cycling). This shows a concentration of activity around the perimeter of the Sound (particularly at Cawsand and around the Mew Stone), the Cattewater, the Tamar and the Lynher.

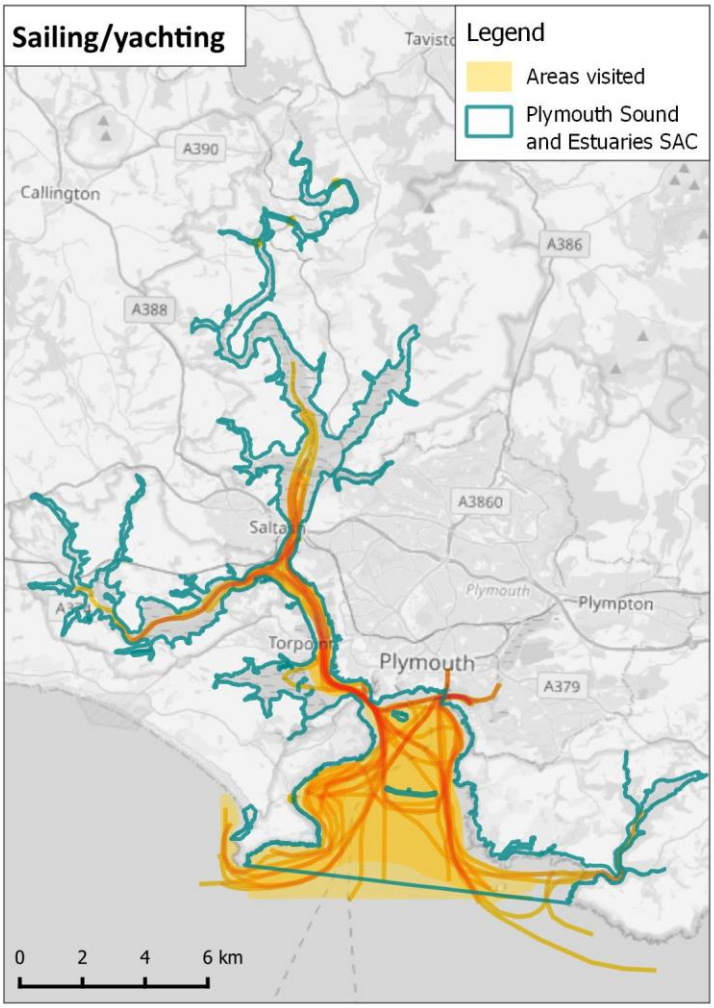
6.8 Areas visited for sailing/yachting, kayaking, scuba diving and spearfishing are shown separately in Map 17.

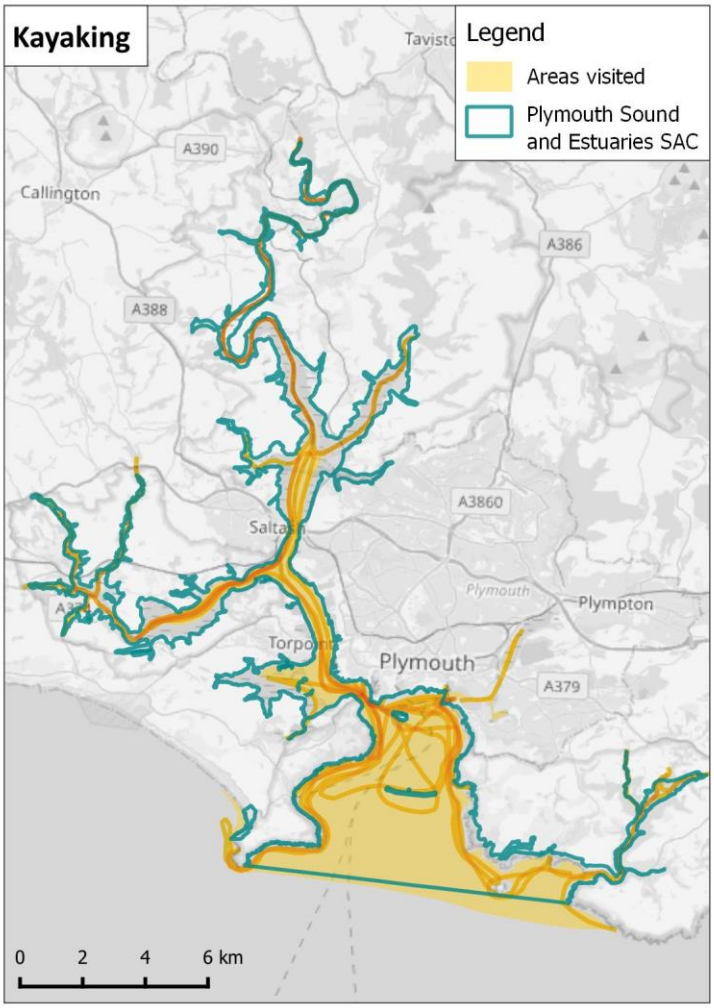
6.9 Launching locations included Mount Batten, Saltash, Oreston, Richmond Walk, Calstock and Newton Ferrers. Popular anchoring locations were around Cawsand Bay, Jennycliff Bay, Drake's Island and Dandy Hole.

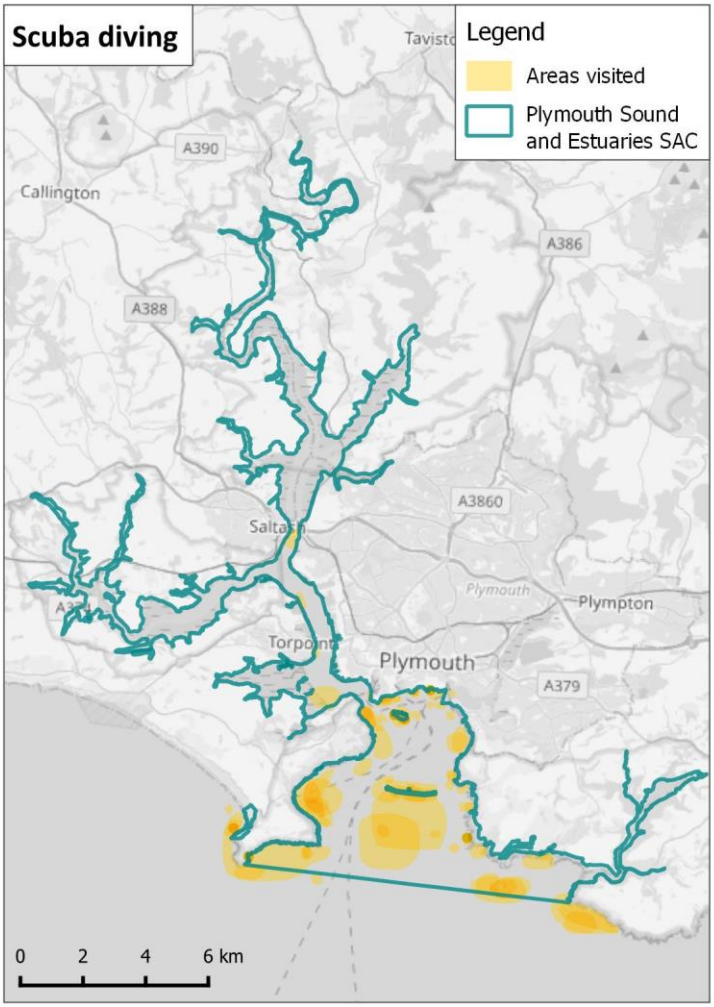
Map 16: Locations visited by workshop participants (water-based or intertidal activities only). Darkers areas indicate a concentration of activity.

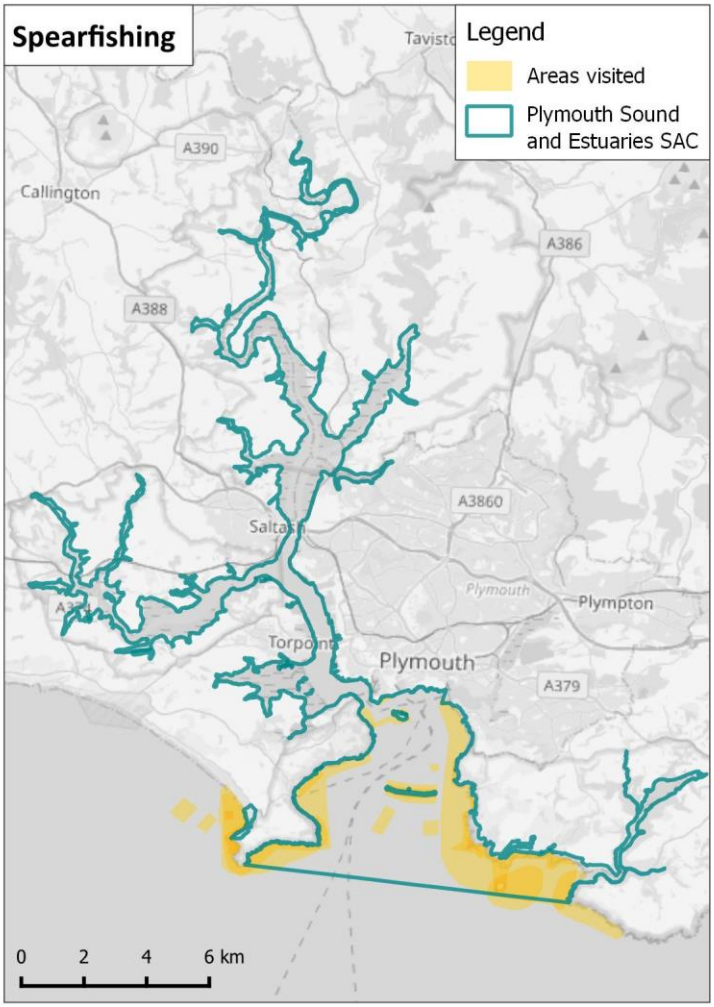


Map 17: Locations visited by workshop participants for different activities. Darkers areas indicate a concentration of activity.









Sensitive wildlife or habitats

6.10 Over half of the workshop participants (55%) cited seagrass beds as a sensitive habitat present with the MPA, and several of them named specific locations where it is found, such as Jennycliff or Cawsand.

6.11 Other species that were named included Sea Bass, Giant Gobies, Pink Sea Fans and Allis Shad. Sources of information that were mentioned were the KHM notices and the TECF guide for small craft.

6.12 Several participants mentioned responsible behaviours such as not anchoring in seagrass areas, observing fish size limits, and not fishing in Bass nursery areas.

Positive environmental impacts

6.13 During discussions, and within the 'other information' section of the workbook, some workshop participants highlighted positive impacts that recreational users can have on the marine environment. For example, those participating in activities such as scuba diving and rockpooling often contribute towards species monitoring, either by submitting records themselves, or indirectly through sharing observations (e.g. photos and videos) with others.

6.14 The 1000 Tyres Project[5] was referenced by some participants, run by The SHIPS Project CIC, this involves cleaning up rubbish from the seabed and foreshore, with the help of volunteers. Spearfishers also mentioned how they cut the doors off ghost crab pots and remove fishing line and hooks which they find snagged on the reef.

6.15 The benefits of engaging and educating people through recreational activities (e.g. guided rockpooling and snorkelling) were also highlighted by some participants.

Other comments

6.16 There were some detailed comments regarding the Wembury Marine Conservation Area (MCA), with some in favour of stricter regulations so that there is a "live and let live" attitude which would not allow any kind of removal (e.g. fishing, spearfishing, hooking, other hand gathering). Their

[5] https://1000tyres.org/

aspiration would be for marine life to be appreciated in its own right, rather than viewed as a food source. One of the spearfishers said that most local spearfishers respect the role of the Wembury MCA, however they will occasionally use it since it is safe and easy to access, and is one of very few west-facing sections of coast in south Devon meaning there is reasonable visibility after prolonged periods of easterly winds. They made the point that spearfishing is highly selective, with no bycatch or lost fishing gear and minimal impacts on fish populations, however they were open to further dialogue and discussions on improving the sustainability of spearfishing activities.

6.17 Several workshop participants had concerns about pollution from sewage discharges and would like more detailed information to be made available on water quality and on how bathing areas are affected. There were also questions about the level of discharges that are released from Devonport Dockyard.

6.18 One participant suggested that given the special nature of the area, there ought to be more policing carried out by the Inshore Fisheries and Conservation Authority (IFCA) and the Marine Management Organisation (MMO) in the Sound. This could include a combination of empowered volunteers and paid professionals.

6.19 A lack of slipway maintenance was raised by several participants, with comments about slipways being slippery or 'green'. There were also concerns about safety on and around slipways, as some had experiences of people blocking or sitting on slipways, and being unaware of 'slipway etiquette', perhaps due to not being part of an organisation.

6.20 One participant highlighted the risk of damage to the seabed from mooring buoys (for boats and swimming pontoons) and swimming area markers (e.g. at Firestone Bay) and suggested the use of advanced mooring systems (AMS) whereby the chains are supported by floats, reducing abrasion to the seabed.

7. Results: Stakeholder interviews

7.1 This section presents the information from the semi-structured interviews with selected stakeholders and therefore reflects the views of those interviewed. The interviews were often wide ranging, covering a broad span of topics. Focus was nevertheless placed upon extracting information concerning the types of activities undertaken within the study area and any factors that may influence their occurrence and distribution.

7.2 Findings from the interviews are summarised within the following headings:

- Distribution, frequency and seasonality of recreational activities;
- Potential impacts on the MPA;
- Additional concerns; and,
- Other relevant information.

7.3 While every attempt has been made to accurately convey information presented verbally during the interviews, there is inevitably an element of paraphrasing within each of the following sections. Those views or comments that were raised repeatedly across sessions/individuals have also been identified.

Distribution, frequency and seasonality of recreational activities

7.4 Interviewees identified a wide range of recreational activities undertaken within the study area and information on each of these is summarised below. However, note that some of these activities were only mentioned in passing, so information may be incomplete and limited to particular areas.

Sailing/yachting

- There are around 20 clubs around the estuary, some estimated to have approximately 200-300 members.
- Lots of yacht racing takes place, typically involving 30-40 yachts, each with a crew of five. Very competitive, both locally and nationally.
- Sailing is more frequent in the summer than the winter, although some sail throughout the year.
- Majority of sailing is in the main Sound area. Key locations are at Torpoint, Saltash, and further up the estuary at Cargreen and Weir Quay.

- At the height of summer (July/August) people sail further in yachts, potentially crossing the channel or heading along the coast. In early spring and autumn sailing tends to be more local.
- One interviewee suggested that a large proportion of yachts rarely leave the marinas within which they are stored, with the craft being used in a similar way to a second home.

Paddlesports (paddleboarding, kayaking and canoeing)

- Several interviewees had observed an increase in paddleboarding in recent years. One interviewee thought it has possibly peaked now, but is still very popular.
- Kayaking and canoeing thought to be staying fairly static numbers-wise, although 'sit on top' kayaking has increased dramatically and 'traditional' kayaking/open canoeing has possibly decreased, due to the higher level of skill required.
- Paddleboarding lessons take place in Firestone Bay and Stonehouse Pool.
- Stand up paddleboard (SUP) yoga sessions are held at Firestone Bay.
- Guided paddleboarding occurs at locations such as Drake's Island, Mt Edgecumbe, Cawsand, Bovisand, Lopwell Dam.
- Mount Batten Watersports Centre provides training for kayaking, canoeing and paddleboarding.
- Paddleboarding frequently observed at Wembury.
- Kayaking also popular at Wembury, although perhaps not as much as paddleboarding.
- The main season for paddleboarding is April to November, but some will continue year-round.
- For paddleboarding, factors affecting where they go and when are: wind (direction and speed), tides, currents, shipping movements and ability/experience. Local knowledge is also important.

Angling/fishing

- Target species over the winter include: Whiting *Merlangius merlangus*, Flounder *Paralichthys dentatus* and Pouting *Trisopterus luscus*.
- Target species over the summer include: Scad *Trachurus trachurus*, Mackerel *Scombrus scombrus*, Gar *Belone belone*, Bass *Dicentrarchus labrax*; sometimes also Mullet *Mugil cephalus* and Small-eyed Ray *Raja microocellata*.
- Key locations include: Mount Batten Breakwater, Mutton Cove, Elphinstone, Devil's Point, Halton Quay, West Hoe Pier, Penlee Point, Palmer Rock to Millbrook, Torpoint to St John's, and Saltash.

Mount Batten Breakwater and Mutton Cove are the most easily accessible.
- Various competitions are held in the area, such as the Three Rivers Flounder Competition (Tamar, Plym and Yealm), and club matches at Mount Batten and St John's Lake.
- Factors that affect where angling occurs include: tidal state, wind direction, experience level and fitness/ability.

Bait collecting

- Most anglers buy bait (including King Ragworm *Alitta virens* and lugworm) from bait shops rather than collect it themselves.
- Ragworm are dug from Torpoint Beach, Stonehouse Creek and points along the Plym.
- Lugworm are dug from the Plym and the Yealm.
- Other bait that are sometimes collected are Harbour Ragworm *Hediste diversicolor*, sand eels *Ammodytes* spp., razorfish *Ensis* spp., and peeler crabs.
- Digging for lugworm is occasionally observed at Wembury.
- Crab tiling has been observed in upper reaches of the estuary (e.g. Cargreen, Ernesettle Creek, River Lynher)

Scuba diving, free diving and spearfishing

- Dive sites within the Sound include: Breakwater Fort, Jennycliff Bay, Kingsand/Cawsand, Heybrook Bay, Firestone Bay, West Hoe, Bovisand and Wembury.
- Many divers also visit the wrecks of James Eagan Layne and Scylla (artificial reef) which are just outside the MPA in Whitsand Bay.
- Interest in freediving has increased – this is a much more affordable and accessible activity compared to scuba diving.
- Interest in spearfishing has also increased due to the appeal of catching something 'for the table' in a selective and sustainable way.
- Spearfishers are regularly seen at Wembury Beach (3-4 per day in good weather) and occasionally at Heybrook Bay and Wembury Point.
- Key considerations for users are wind and underwater visibility.
- Scuba diving is undertaken year-round if weather is suitable.

Windsurfing and wingfoiling

- Wingfoiling is increasing in popularity – exciting new sport and quicker to learn than windsurfing. There's an active WhatsApp group for wingfoilers in South Devon.
- Windsurfing is perceived to be less popular now, partly due to needing a van to transport kit.

- Locations for both activities are Mount Batten Beach, Bovisand, St John's Lake, Torpoint and River Plym.
- Windsurfing tends to be more common over the winter due to needing strong winds.
- Wingfoiling is less dependent on strong winds.

Pilot gig rowing

- Has increased in popularity.
- 4 or 5 boats on the River Tamar.
- Events hosted by the Mount Batten Watersports Centre.
- Also use the Cattewater.

Personal watercraft e.g. jet skis

- Thought to have increased in recent years.
- About 80 jet skiers currently registered with Cattewater Harbour Commission.

Swimming

- The friendly community at Firestone Bay was mentioned, which includes several swimming groups who meet there regularly, some all year-round.

Birdwatching

- The newly-created Calstock Wetlands was thought to have increased local interest in birdwatching, including an active Facebook group.

Pheasant shooting

- Takes place on estates adjacent to the River Tamar and the River Tavy.

Potential impacts on the MPA from recreation

General

- Natural England indicated that their biggest concern for the MPA is the cumulative impact of recreational pressure, with some activities having limited effects in isolation, but potentially causing problems in combination.
- Most activities were considered to be 'low impact' by interviewees.
- Positive behaviours were highlighted by some, for example scuba divers carrying out species recording or paddleboarders rescuing birds from ghost lines.

Sailing/yachting

- Potential for damage to seagrass beds and other sensitive habitats via mooring and anchoring. However, some felt that this was already being dealt with effectively through the ReMEDIES project.
- Most people are aware of seagrass but would like more accurate maps of where it is present.
- There was a suggestion that the area of seagrass at Cawsand could be marked with buoys in the same way as the area at Jennycliff is.
- Some problems were noted with overboard litter e.g. rope, although this was thought to be less of an issue now compared to the past.
- There is potential for pollution from anti-fouling paint.
- Pollution occurs from holding tanks of leisure vessels being emptied, not making use of pump out facilities available at marinas.
- There is a risk of pollution from fuel leaks – 4-stroke engines are better in this respect than 2-stroke, since oil is contained.

Personal watercraft e.g. jet skis

- Some interviewees were concerned about jet skis causing disturbance to wildlife (e.g. cetaceans, seals) either due to their noise, or from directly approaching them and getting too close.

Paddlesports

- Can cause damage if dragging equipment across mudflats or other intertidal habitats.
- One interviewee was concerned that a possible emerging issue is electric motors being attached to paddleboards and kayaks, enabling them to cover a larger range and go further offshore, increasing scope for disturbance (e.g. to cetaceans or seals).
- Biosecurity can be an issue when using equipment in different waterbodies.
- Above concerns are generally more relevant to individuals rather than organised activities. For example, committed paddlesports companies are likely to have their staff trained through the WiSe Scheme[6] and be more aware of environmental issues and responsible wildlife watching.

[6] https://www.wisescheme.org/

Angling/fishing

- At 'snaggy' locations such as Devil's Point and Mutton Cove less experienced anglers are more likely to lose tackle ('tackle graveyards').
- Work has been done on this previously through the Preventing Plastic Pollution project, although the anglers were unsure whether recommendations e.g. information boards on how to avoid tackle loss, were ever rolled out.
- Some tackle shops offer advice to customers on choosing suitable equipment etc. to avoid losing gear.
- There was a suggestion that a local guide to sea angling could be updated and could include advice on reducing tackle loss.

Spearfishing and hand gathering

- There were concerns about spearfishing taking place within the Wembury Voluntary Marine Conservation Area (MCA) contrary to its code of conduct.
- Concerns were also expressed about hooking for crabs and lobsters at low tide, and other hand gathering e.g. for cockles and winkles at Wembury. The Wembury MCA Advisory Group would welcome legislation on hand gathering (including spearfishing).

Drones (UAVs)

- Drones were seen as an emerging issue, causing disturbance to birds in the Yealm Estuary.

Pheasant shooting

- There were concerns about noise disturbance, lead shot (if used), predation of pheasants on invertebrates, reptiles and amphibians, and their feed attracting rats and squirrels, thereby increasing predator populations around the estuary.

Additional issues raised

Safety

- Several interviewees were concerned that jet ski and powerboat users don't necessarily have any training and can pose a serious threat to other water users. For example, they may not be aware of the diver-down/alpha flags used by scuba divers and spearfishers.
- The Cattewater Harbour Commission have been working on engaging with jet ski users (e.g. sending them a code of conduct and other safety information when they register) and no enforcement action was needed last year (2023).

- Paddleboarders have been involved in a number of incidents and near misses, usually due to inexperience, not having local knowledge of the area or lacking the right gear (e.g. not wearing buoyancy aids).
- The public slipway at Oreston is very busy and was flagged as a serious safety issue due to the number of people on and around the slipway, which is primarily for the launch and recovery of craft.
- There were safety concerns from some about spearfishing taking place from busy beaches where other swimmers and snorkellers are present in the water at the same time.

Access

- In the upper parts of the Tamar, there was an interest in more public access to the river, e.g. currently no access above Calstock other than at Morwellham Quay, since the land is privately owned. There are opportunities in this area for eco-tourism, low impact watersports and nature watching.
- Anglers were frustrated about having their access to the water restricted where it had previously been allowed for decades, for example at Yealmpton, Millbay Docks and around marinas.
- There was a desire from anglers to be included in discussions and for better communication with the angling community generally e.g. via clubs, tackle shops or angling Facebook groups.
- Limited access to the water was also raised by divers – very few places to launch a boat from if over 7m. Also not many shore dive sites that are easily accessible.

Membership and demographics

- Concerns were raised by several interviewees concerning a decrease in club membership amongst younger people and/or those new to certain activities (e.g. angling, paddlesports). This has potentially interrupted the transfer of local/specialist knowledge and guidance to unaffiliated individuals, and also made it harder to communicate with the individuals concerned.

Water quality

- Calstock residents are concerned about the impacts of poor water quality both on the health of swimmers and other water users, but also on wildlife (e.g. Alis Shad). The parish council have been trying to secure designated bathing water status for their stretch of the Tamar so that it is regularly monitored.

Changes in marine life

- The interviewed anglers had observed a "massive decrease" in the fish populations within the Sound in recent years.
- Divers are observing effects of climate change with UK summer sea temperatures much warmer than 30-40 years ago, and certain species more commonly seen now e.g. Octopus *Octopus vulgaris*, cetaceans, Tuna *Thunnus thynnus.*

8. Discussion

Key findings

8.1 The results of the study show that the Plymouth Sound and Estuaries is important to many people for a wide range of marine and coastal activities. The results provide an insight into current levels of use, visit patterns, factors influencing recreation use and the draw of the site. A summary of information for the most popular recreational activities is shown in Figure 29, drawing together findings from all of the data collection methods.

8.2 Visitors were drawn to the attractive scenery and the desire to be by the sea, as well as being close to home and easy to access. Many also referred to the strong sense of community and the benefits to their health and wellbeing that they experience from being able to access the coast. Over half (56%) of the on-site interviewees and 63% of the online survey respondents 'strongly agreed' that they feel connected to nature when they spend time around the Plymouth Sound and Estuaries.

8.3 In the on-site visitor survey, there were visitors from across the country (as well as some international visitors). However most were fairly local, with 75% of the interviewees living within 10.1 km of the survey location, or 6.8 km if only those on a day trip (i.e. not staying overnight) are considered.

8.4 Although much of the recreational activity was concentrated close to Plymouth city centre, the route maps of the on-site interviewees and the annotated maps from workshop participants showed that activities take place to some degree across almost all of the marine protected area.

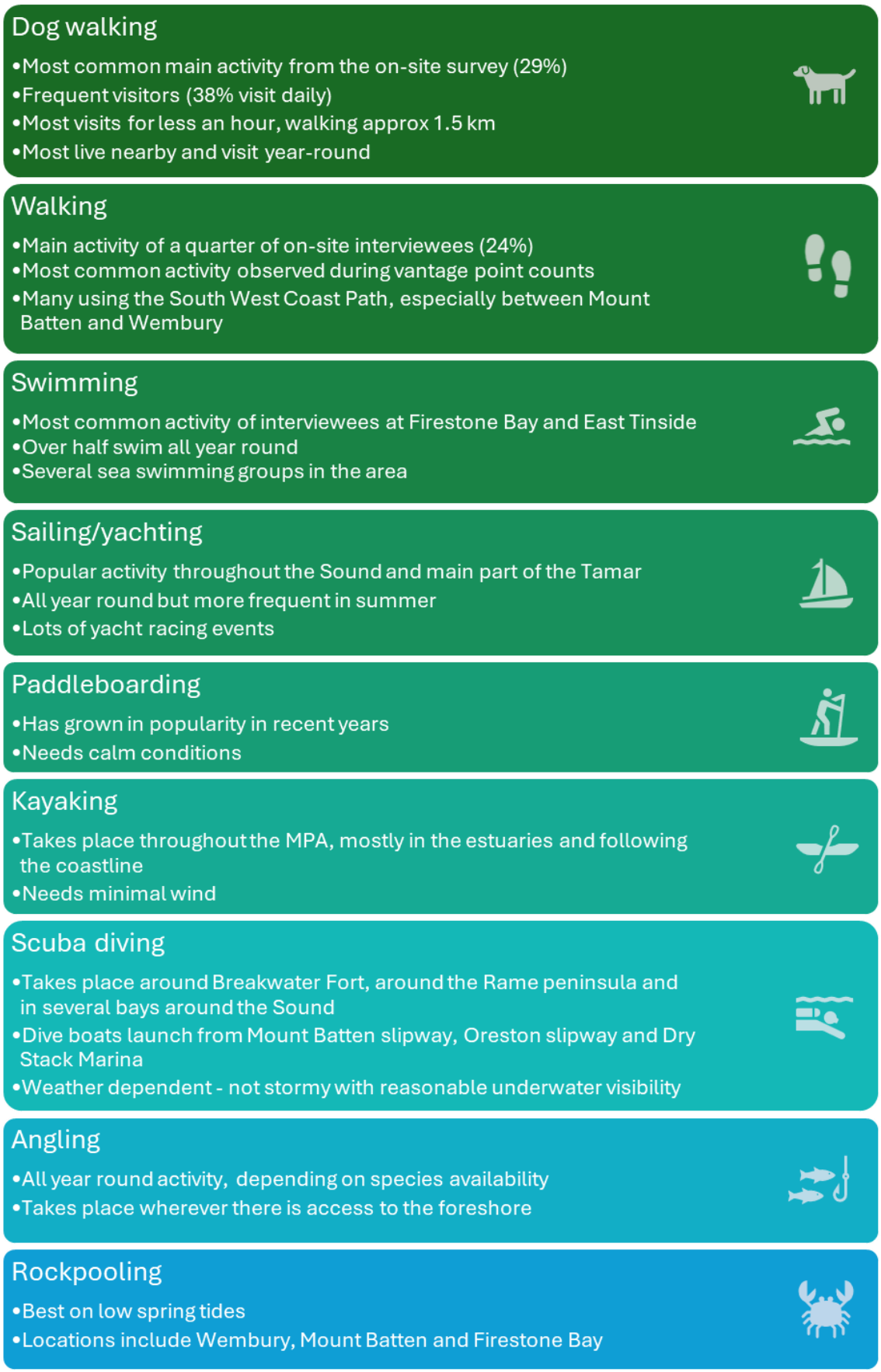


Figure 29: Summary information for some of the most common marine/coastal activities in the MPA.

Implications of visitor survey results for site features

8.5 Qualifying features of the Plymouth Sound and Estuaries MPA are listed in Table 18 which also summarises potential overlaps with recreation use, drawing on the data collected for this report (see also Caals et al., 2024 for background on the relevant features, their distribution and risks from recreation). No ecological fieldwork was undertaken, and therefore Table 18 merely highlights where there is a spatial overlap between recreation use and the qualifying feature. Where relevant, we indicate particular risks to the site features. The maps that follow Table 18 (Maps 18-22) show relevant survey data from this report alongside the habitat/species data. It should be noted that the information in Table 18 and subsequent maps reflects the available recent species data, reflecting the current distribution rather than the potential distribution.

8.6 Supplementary advice on the conservation objectives can be found on the Natural England Designated Sites website[7].

8.7 The table and maps do not include the MCZ features as these largely overlap with other interest features, and for Oyster and Smelt there is little evidence available in terms of species distribution and recreation activity.

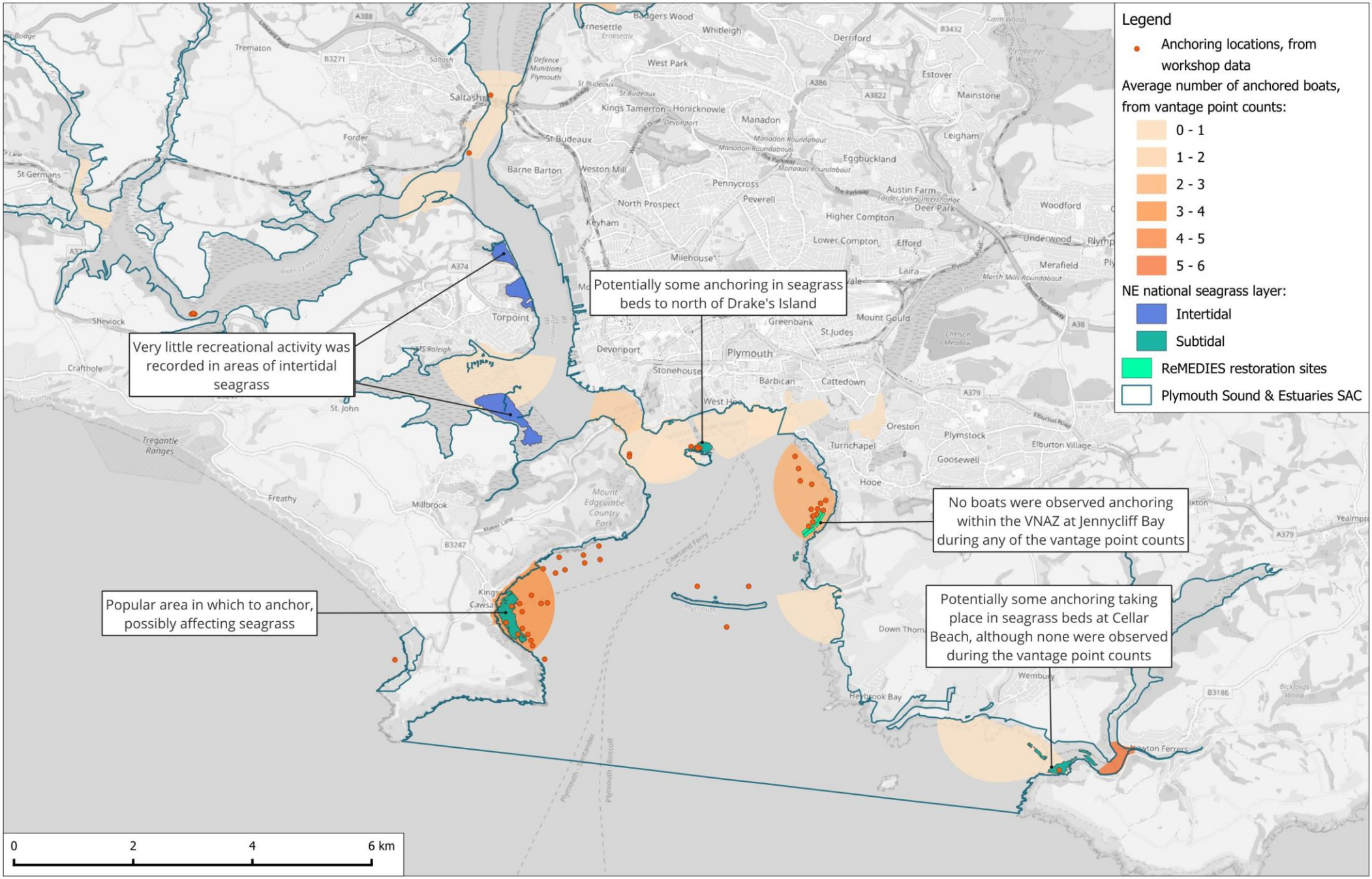
[7] Plymouth Sound and Estuaries SAC:
https://designatedsites.naturalengland.org.uk/Marine/SupAdvice.aspx?SiteCode=UK0013111&SiteName=plym&SiteNameDisplay=Plymouth+Sound+and+Estuaries+SAC&NumMarineSeasonality=4
Tamar Estuaries Complex SPA:
https://designatedsites.naturalengland.org.uk/Marine/SupAdvice.aspx?SiteCode=UK9010141&SiteName=tamar&SiteNameDisplay=Tamar+Estuaries+Complex+SPA&NumMarineSeasonality=2

Table 18: Qualifying features of the Plymouth Sound and Estuaries MPA and overlaps between distribution of the feature and recreational use.

Qualifying feature	Map number	Distribution of recreation in relation to feature
Sandbanks which are slightly covered by sea water all the time	18, 19	The study indicated that boat anchoring takes place in areas where subtidal seagrass is present at Cawsand Bay, north of Drake's Island and Cellar's Cove, with potential risks of damage to the seagrass beds. Most anchoring at Jennycliff Bay appeared to be outside of the VNAZ. Within other areas that support this feature, there were overlaps with recreational activities such as sailing, diving and kayaking.
Estuaries	18	Recreational intensity within the estuaries was much less than within the Sound. Activities were mostly shore-based, but also included sailing, kayaking and paddleboarding. There was just one record of anchoring within areas of subtidal seagrass in the Yealm Estuary (see row above).
Mudflats and sandflats not covered by seawater at low tide	18, 19	There appeared to be little overlap between areas of intertidal seagrass and recreational activities. Within other areas of mudflats and sandflats, recreational intensity was also relatively low, other than in small intertidal areas at Cawsand, Bovisand and Wembury.
Large shallow inlets and bays	18	Recreational intensity was high across this feature, including sailing, diving, spearfishing and kayaking. This also included anchoring within areas of subtidal seagrass beds such as Cawsand Bay (see row above for Sandbanks).
Reefs	19	Around the edge of the Sound (e.g. Mount Batten, Bovisand, Cawsand) there were overlaps between reefs and activities such as swimming, rockpooling and paddleboarding. Further out, there were overlaps between reefs and activities such as sailing, diving and spearfishing.
Atlantic salt meadows	19	There appeared to be no overlap between areas of saltmarsh and recreational activities. Impacts of recreation for saltmarsh will principally involve trampling damage where people walk on them, and while this is a risk, there was no evidence from the surveys of particular locations being walked over.
Allis Shad	-	Tamar Estuary is the only known UK breeding location of this migratory fish. There was no mention of it being seen/caught by anglers in the recreation survey, therefore thought to be little risk from recreational activities.

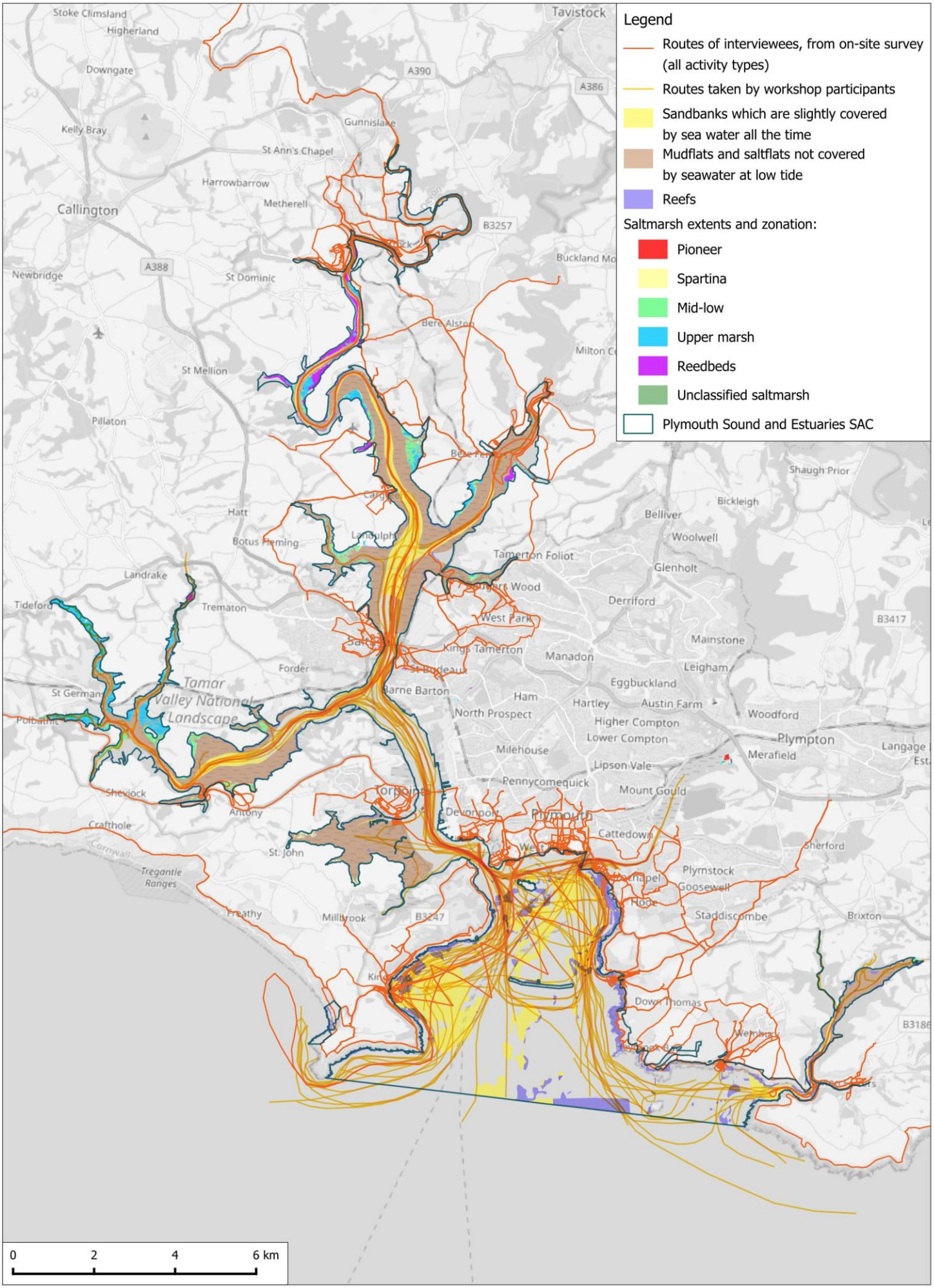
Qualifying feature	Map number	Distribution of recreation in relation to feature
Shore Dock	20	There are two key areas where this species is present within the MPA: at Rame along the sand/shingle beach of Whitsand Bay between Captain Blake's Point and Polhawn Cove, and between Wembury Point and Blackstone Rocks in shingle at the back of the rocky shore. Both locations have freshwater seepages. The species is potentially vulnerable to trampling, which could affect individual plants or prevent plants establishing. We didn't have a survey location or vantage point close to Whitsand Bay, so data on visitor use here is limited, however Wembury beach was one of the busiest visitor survey locations, popular for a variety of activities including walking, rockpooling and surfing. It should be noted that the distribution of this species is likely to change over time, and the species is potentially highly vulnerable to changes in access due to its small population. NE Supplementary Conservation Advice sets a target to maintain supporting habitat and also one to maintain the availability of regeneration niches to aid seedling establishment.
Little Egret	21	Feeds in shallow water on small fish and invertebrates. Widely distributed across the SPA with peak numbers in autumn and spring. Key areas are St John's Lake, the Tavy Estuary and just north of the Tamar Bridge. Potential for disturbance from shore-based activity e.g. walkers and water-based activity e.g. paddleboards and kayaks, especially where these coincide resulting in less room available for the birds to feed. Many parts of the SPA have limited access from the shoreline, however exceptions include Wacker Quay, Ernesettle Creek, Saltash, Lopwell Dam and Bere Ferrers. NE Supplementary Conservation Advice for the SPA sets a target to restrict the frequency, duration and/or intensity of disturbance and any increases in access at the above locations may have implications for the species.
Avocet	22	Non-breeding population present between September and March. They feed at low tide in soft sediment in upper parts of the estuary and roost on saltmarsh. As with Little Egret, they are vulnerable to disturbance from both walkers along the shore and water users such as kayakers and paddleboarders accessing shallow water. Key locations for Avocet are Hole's Hole, Weir Quay and Kingsmill Lake, where visitor use is relatively low. NE Supplementary Conservation Advice sets a target to restrict the frequency, duration and/or intensity of disturbance.

Map 18: Areas of seagrass (*Zostera* sp.) overlaid with selected data from the recreational survey.
Sources: Natural England, ReMEDIES

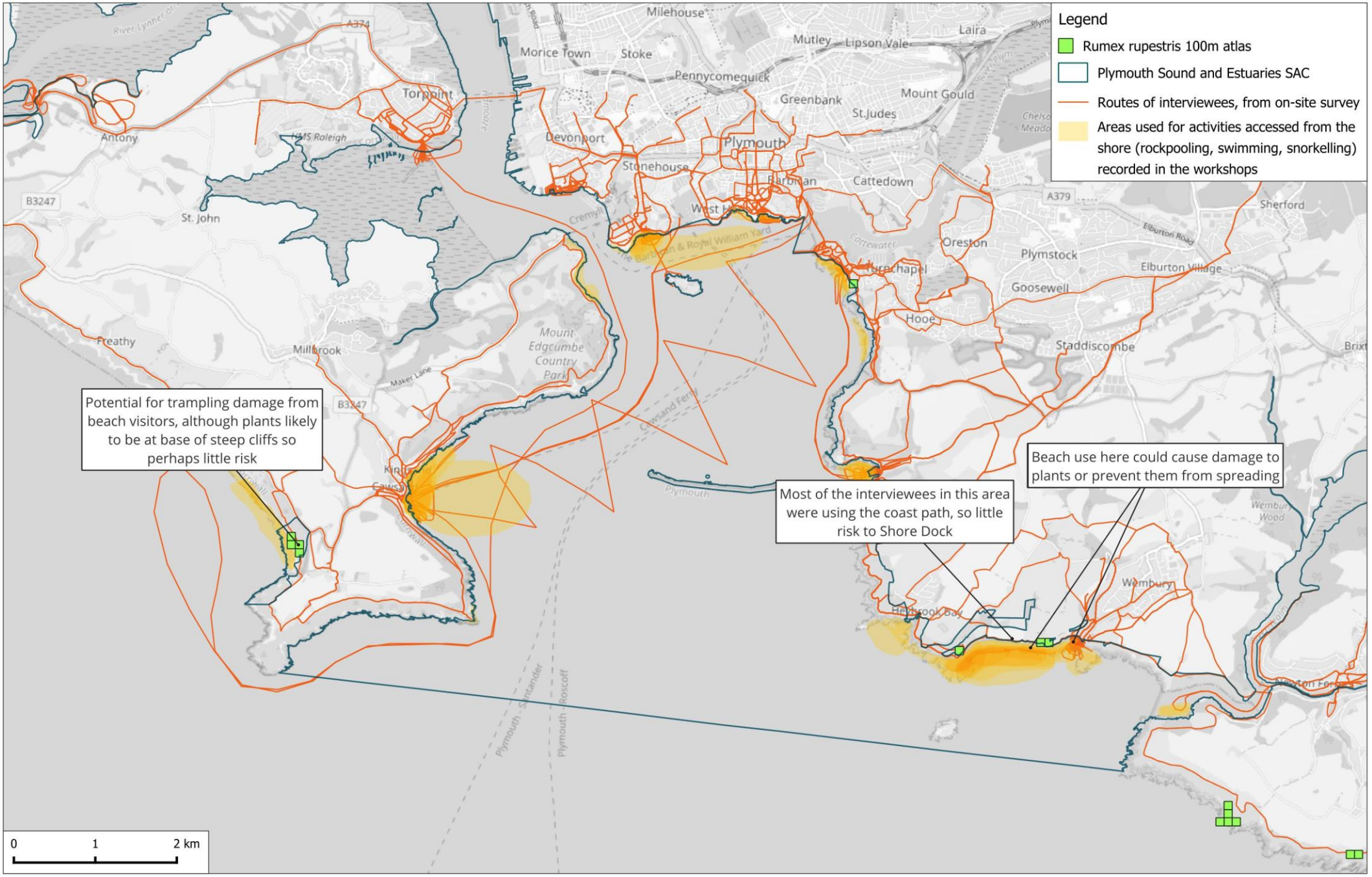


Map 19: Sandbanks, mudflats and saltflats, reefs and saltmarsh, overlaid with data from the recreational survey.

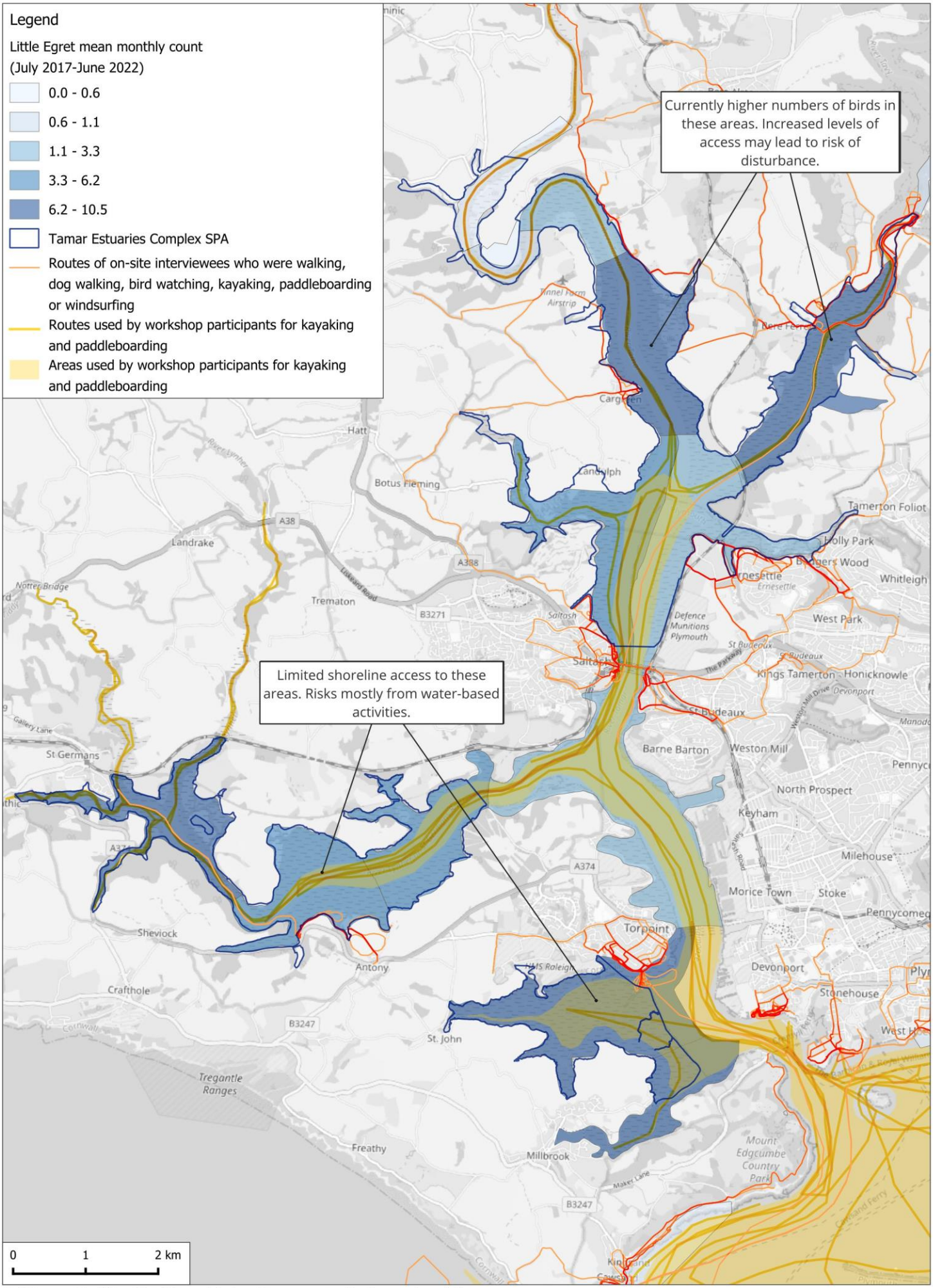
Source: Natural England



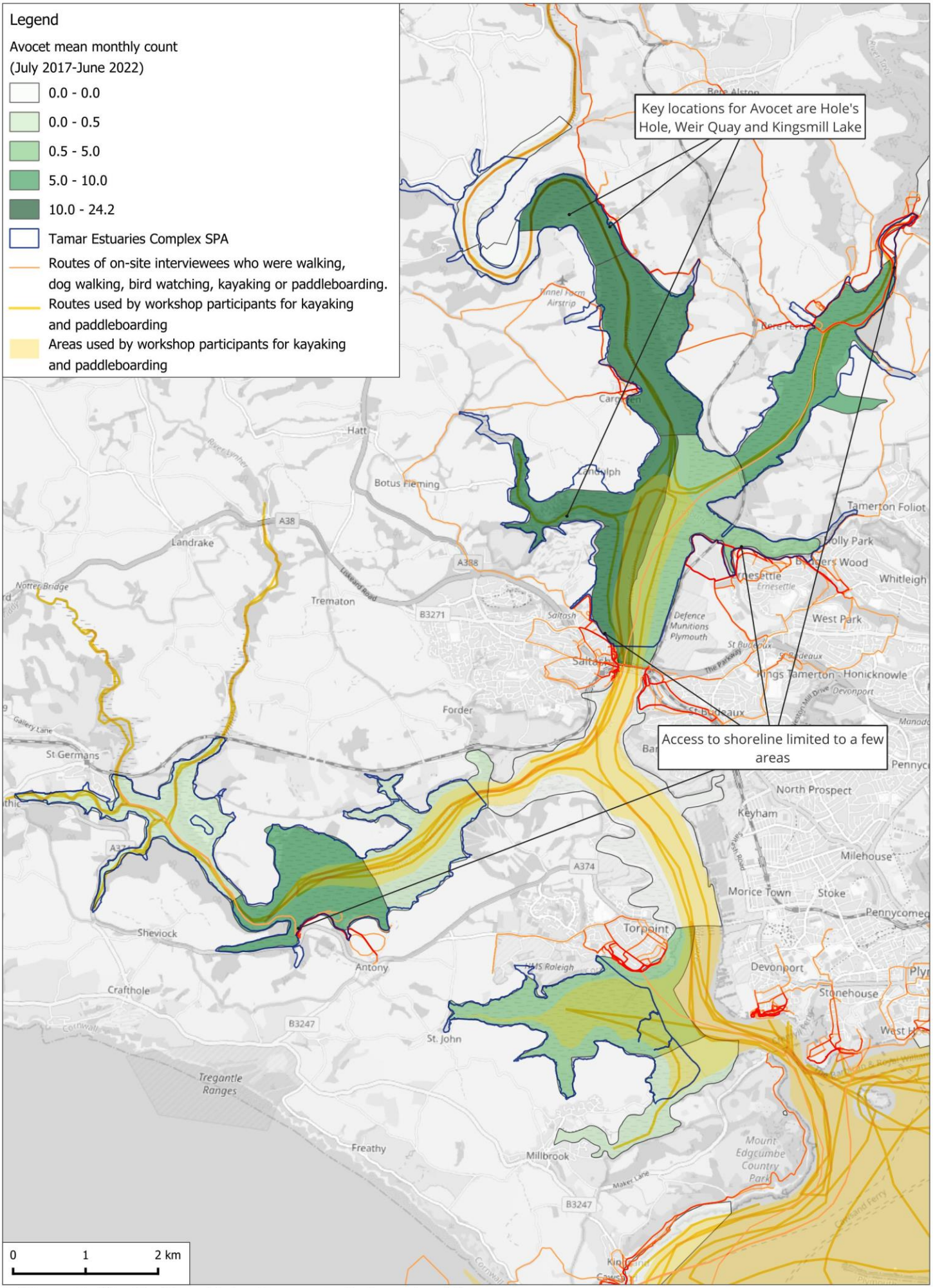
Map 20: Records of Shore Dock *Rumex rupestris* overlaid with selected data from the recreational survey.
Source: NBN Atlas



Map 21: Little Egret *Egretta garzetta* WeBS data overlaid with selected data from the recreational survey. Source: BTO Wetland Bird Survey (WeBS)



Map 22: Avocet *Recurvirostra avosetta* WeBS data overlaid with selected data from the recreational survey.



Data were provided by WeBS, a Partnership jointly funded by the British Trust for Ornithology, Royal Society for the Protection of Birds and Joint Nature Conservation Committee, in association with The Wildfowl & Wetlands Trust, with fieldwork conducted by volunteers.

Evaluation of survey methods

8.8 The on-site visitor interviews involved detailed information from a random sample of people using a range of carefully selected locations around the MPA. However, we acknowledge that certain users were more likely to be encountered by the surveyor, such as those making short, regular visits on land (including beaches). Those who were spending long periods out on the water may be less likely to have met the surveyor. The survey locations were chosen to be representative of the whole area, but still only reflect a sample of the locations people can visit around the site. While we were careful to choose locations which were felt to be representative, the results many not necessarily capture the whole range of use across the year and there are some parts of the shoreline where no face-to-face data were collected.

8.9 In addition, three days of survey work were undertaken at each location, and the data reflect a snapshot of usage for those dates. These may not necessarily reflect the use year-round, for example, some activities may have been influenced by the specific weather conditions on the days survey work took place. August was particularly mixed with periods of wet and windy weather, which could not always be avoided.

8.10 The above limitations were addressed in part by the inclusion of vantage point counts, which had the advantage of recording all activities present, including any boats and watersports offshore over a wide count area. They were also quick to complete (compared to visitor interviews) with only a few minutes needed at each location, and so could be repeated several times throughout the year. As such the vantage point counts provide a good baseline for direct comparison over time in terms of the volume of visitors and the activities undertaken.

8.11 The online survey was successful at gathering information about activities that were potentially underrepresented in the on-site interviews (for the reasons given in 8.8) however participation was self-selecting and therefore the results, whilst useful, are not a random sample of recreational users.

8.12 The workshops and stakeholder interviews provided a valuable opportunity for longer, more in-depth conversations and for collating detailed information about all locations that are visited for particular activities, rather than being asked about a single visit (as in the on-site visitor interviews).

Comparison with previous survey

8.13 A comparison of results from the on-site visitor surveys conducted in 2016 and 2023 is given in Table 19 and Table 20. Both surveys used a similar method, although there were some differences in survey effort and timings. For example, survey effort in the 2016 survey was concentrated towards the middle of the day, whereas in the recent survey, effort was evenly spread between 7am and 7pm. The 2016 survey covered a wider range of months, however not all locations were equally surveyed. There were also some differences in survey locations, although 17 of the 19 locations were the same (or similar) in both surveys. Therefore scope for comparison between the two surveys is limited.

8.14 The results show that the proportion of interviewees who were either walking or dog walking (the two most common activities) was similar in both surveys. However, the proportion of interviewees who were swimming had more than tripled from 5% to 17%.

8.15 The proportion of interviewees who visited at least once a week had increased from 28% to 49% and the proportion of interviewees who visited all year round for their activity had increased from 37% to 59%.

Table 19: Selected metrics from the on-site visitor surveys in 2016 and 2023.

Metric	2016	2023
Months	Mar - Dec	Aug - Oct
Number of survey points	19	19
Number of interviews	644	1,108
% visiting at least weekly	28%	49%
% on first visit	17%	19%
% visiting all year round	37%	59%
% arriving by car or motorcycle	69%	61%
% arriving on foot	23%	33%

Table 20: The 10 most common activities that interviewees were doing on the day of the interview, from the 2016 and 2023 on-site visitor surveys. Multiple responses were possible. In the 2023 visitor survey, data is taken from both Q2 and Q3. Note that the categories of 'beach activity', 'going for coffee/lunch' and 'meeting up with friends' were not used in the 2016 survey. Arrows in the 2023 column indicate whether the proportion of interviewees with that activity had increased or decreased in comparison to 2016.

	2016	2023
1	Walking (38%)	Dog walking (33%) ⇧
2	Dog walking (26%)	Walking (29%) ⇩
3	Outing with children/family (17%)	Swimming (17%) ⇧
4	Birdwatching/wildlife watching (8%)	Beach activity (9%)
5	Canoeing/kayaking (6%)	Outing with family (8%) ⇩
6	Rockpooling (6%)	Paddleboarding (4%) ⇧
7	Angling (5%)	Going for coffee/lunch (4%)
8	Swimming (5%)	Meeting up with friends (4%)
9	Sailing yacht (3%)	Rockpooling (2%) ⇩
10	Motor yacht (3%)	Bird/wildlife watching (2%) ⇩

8.1 These changes appear to reflect national trends, since the most recent UK watersports participation survey (The Nursery Research and Planning, 2023) found that regular participation in watersports has continued to rise in recent years, particularly in coastal activities (e.g. swimming, visiting the beach) and in paddlesport activities.

9. Recommendations

9.1 The Plymouth Sound and Estuaries MPA is a European Marine Site and afforded strict legal protection. This protection places particular duties on local planning authorities. As a result, the relevant local authorities have established a Recreational Mitigation and Management Scheme to address impacts to the site from recreation. In this section of the report, we draw on the results of the visitor survey to make broad recommendations for mitigation and future management.

- **Dog walking, wild swimming, paddleboarding, sit-on-top kayaking, wingfoiling, freediving, spearfishing** and **drone flying** are activities that are emerging or markedly increasing in popularity. With growing levels of participation these are activities that could be a focus for engagement, monitoring and survey work.
- Of these activities, **paddleboarding** and **kayaking** are notable in that they allow access at relatively low tide states and into areas of shallow water where risks of disturbance to birds (e.g. Clausen et al., 2020) and potentially damage to seagrass and other habitats is possible. Targeted monitoring and research on impacts from these activities within the Plymouth Sound and Estuaries MPA could be the focus of further data collection or form a student project.
- Few **jet skis** were logged within the survey, although they were often mentioned by other water users. Given the speed and disturbance impacts associated with this activity further data collection to better understand levels of use could be warranted.
- **Dog walking** was ubiquitous and has particular implications in terms of impacts (relating to disturbance and contamination). Given growing use, targeted advice around and engagement around where to go, which beaches are restricted, dogs on leads etc. is warranted. There may be scope to direct this activity to more robust locations outside the MPA. A gazetteer or similar may be effective in achieving this.
- **Litter** was a widely reported concern among visitors. Tackling marine litter is a good way to positively engage with visitors, through participation (e.g. litter picks, dive clean ups) and behaviour change (reducing consumption). The issue warrants continued/increased promotion.
- Results show that anchoring taking place at Cawsand Bay and around Drake's Island. Therefore, measures to **protect the seabed** are an important focus for the future. Options include additional eco moorings, a VNAZ or visitor moorings/pontoons etc. and could build on the work achieved through the ReMEDIES project to date.

- Concern was raised among interviewees around pumping out **waste/sewage from boats**, this is an issue that could warrant further guidance and research.
- As well as updating and improving the existing **water user guide**, there is scope for separate user guides with guidance for **specific activities** (e.g. boat users) covering in detail where to go, where to avoid, how to behave etc.
- Continued **positive engagement** with the various **local groups and clubs** is important to increase awareness of how their members can help and to explore opportunities for collaboration e.g. through clean ups, citizen science surveys, producing user guides.
- Many activities are carried out **independently** and some clubs have noticed a decline in membership, potentially causing a cultural shift in the way certain activities are undertaken, in the absence of mentoring and knowledge exchange from more experienced members. This suggests a need for good and easy to find **sources of information** (social media, user guides, where to go, how to behave, suggested routes), **clear signage** and **ranger provision** to direct and help people on-site.
- There is scope to work with **national bodies** where these exist for an activity (the NECR242 Toolkit (Roberts, 2017) provides a list) to increase buy-in and to make use of existing resources and communication channels.
- **Local businesses** such as bait/tackle shops and watersports shops may have a role in mitigation delivery e.g. through distributing leaflets or passing on advice regarding good practice.
- One of the stakeholders indicated that they have **WiSe training**. Ensuring such training is undertaken by all operators and refreshed as appropriate would be good to encourage.
- A high proportion of interviewees visited the Plymouth Sound and Estuaries regularly, at least once a week. **Regular visitors** will be more likely to have a strong connection with a place and will not necessarily look up information online or read signs etc. **Dynamic and changing interpretation/information** and **face-to-face engagement** are likely to work best to influence behaviour for this group.
- Those on holiday also accounted for a significant percentage. More **occasional visitors** and **first-time visitors** are likely to benefit most from **signage**, **online guidance** and **basic information** provision about what to do, where to go etc.
- Table 18 and Maps 18-22 provide a summary of where overlaps occur between recreational use of the site and the location of sensitive habitats/species, which can be used when deciding **where to target mitigation measures** (e.g. signage or wardening)

to ensure that conservation objectives for the site are not undermined and resources are used effectively.

- Access levels as a whole are increasing - the cumulative effects of increased recreational use and the combination of multiple activities taking place together create challenges for mitigation. **Strategic approaches** to retain or create less busy areas and focus recreation use in others (by promoting particular routes/areas, increasing facilities, improving access) are likely to be beneficial in the long term.
- Most strategic recreation mitigation schemes around the country include provision of **suitable alternative natural greenspace** (SANG) to divert recreational pressure away from the protected site for terrestrial activities such as dog walking. There may be merit in exploring the option of SANG in the long term in the Plymouth Sound area, particularly if dog walking continues to increase.
- Access patterns are not static and continued **regular monitoring** is important to pick up emerging trends and any changes in visitor patterns. The vantage point counts and on-site interviews conducted here provide a survey approach that can be repeated over time, potentially on a 5-year basis (with scope for the vantage point counts to be undertaken more frequently e.g. every 2 years).

9.2 For many of the above recommendations, collaboration and partnership working are key, to ensure consistent messaging, effective use of resources and to reach a wider audience.

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Appendix 1: Vantage point count recording form

757 PLYMOUTH & TAMAR VANTAGE POINT RECORDING FORM

Vantage point number:		**Surveyor:**		**Wind direction:**	**Sea state:**	**Cloud cover:** /8
Date:		**Time:**		**Weather description:**		
Tide (circle one):	Low	Intermediate	High	**Notes:**		
Visibility (circle one):	Good	Fair	Poor			

Activity	Count unit	Seawall/jetty/ promenade	Shore/beach above MHWM	Sandflats/mudflats below MHWM	Water	Notes
Swimming	People					
Paddleboarding	People					
Kayaking or canoeing	People					
Angling/fishing	People					
Personal watercraft e.g. Jetski	People					
Windsurfing	People					
Surfing or kitesurfing	People					
Waterskiing or wakeboarding	People					
Bait digging	People					
Crab tiling	People					
Rockpooling	People					
Sitting/sunbathing	People					
Walking (without a dog)	People					
Dog walking	People					
Dogs - off lead	Dogs					
Dogs - on lead	Dogs					
Jogging	People					
Bird/wildlife watching	People					
Foraging or spearfishing	People					
Other activity (please specify)	People					
Boats – moving *	Boats					
Boats – anchored *	Boats					
Boats – moored *	Boats					

* Don't include any large commercial boats/ferries/military vessels. 'Moored' means secured to a permanent fixture such as a buoy, whereas 'anchored' is secured to the seabed via an anchor. Record within the set count area only. Do not count people in cars. Counts are 'snapshots'. Scan count area systematically (e.g. left – right) and count as you do, do not add additional people if they then enter the count area after your scan. You may need to do a number of scans for the different rows in the table. "Seawall/promenade" relates to the area well above Mean High Water Mark (MHWM) – elevated and supporting vegetation. 'Shore/beach above MHWM' is above the strandline. Sandflats/mudflats is the intertidal zone. Not all zones will be present at each vantage point and may vary depending on tide state.

Appendix 2: Weather during fieldwork

Fieldwork started at the end of June 2023 and the weather over the summer months was generally warm, rather wet and unsettled[8]. Maximum daily temperatures recorded by the surveyors during the August visitor surveys ranged from 16 to 24°C. There were occasionally strong winds and the most common sea state recorded by surveyors during the summer vantage point counts was 2 (light breeze/small wavelets).

September started with a heatwave, after which the weather became more unsettled and autumnal with some wet and windy weather. However, in early October temperatures were above average. Maximum daily temperatures recorded by the surveyors during the autumn visitor surveys ranged from 14 to 20°C. The most common sea state during the autumn vantage point counts was 1 (light air/ripples).

During the December vantage point counts it was breezy and cloudy with sunny spells and for the final count in January it was cold, still and grey.

Visibility during the vantage point counts was mostly described by the surveyors as either 'good' or 'fair'. 'Poor' visibility was only encountered on two dates (30th June and 8th November) and then only affecting a few locations.

[8] https://www.metoffice.gov.uk/research/climate/maps-and-data/summaries/index

Appendix 3: On-site questionnaire

Good morning/afternoon. I am conducting a visitor survey on behalf of Plymouth City Council and the ReMEDIES team to look at marine recreation. Can you spare me a few minutes please?

Q1 ...

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

Further details

Q2 **What is the main activity you are undertaking today?** *Tick closest answer. Do not prompt. Single response only. Use the 'further details' box for any activities not listed.*

- ◯ Swimming
- ◯ Paddleboarding
- ◯ Kayaking or canoeing
- ◯ Surfing
- ◯ Powerboating
- ◯ Sailing/yachting
- ◯ Fishing from shore
- ◯ Rockpooling
- ◯ Beach activity (e.g. sitting/sunbathing/playing on the beach)
- ◯ Walking
- ◯ Dog walking
- ◯ Jogging/running
- ◯ Bird/wildlife watching
- ◯ Cycling/mountain biking
- ◯ Photography
- ◯ Outing with family
- ◯ Meeting up with friends
- ◯ Other, please detail:

Further details

Q3 **Are there any other activities that you or members of your group are undertaking today?** *Tick as many other activities as the interviewee gives. Do not prompt. Use the 'further details' box for any activities not listed.*

- [ ] Swimming
- [ ] Paddleboarding
- [ ] Kayaking or canoeing
- [ ] Surfing
- [ ] Powerboating
- [ ] Sailing/yachting
- [ ] Fishing from shore
- [ ] Rockpooling
- [ ] Beach activity (e.g. sitting/sunbathing/playing on the beach)
- [ ] Walking
- [ ] Dog walking
- [ ] Jogging/running
- [ ] Bird/wildlife watching
- [ ] Cycling/mountain biking
- [ ] Photography
- [ ] Outing with family
- [ ] Meeting up with friends
- [ ] Other, please detail:

Further details

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

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

Further details:

Q5 **How long have you spent / will you spend here today?** *Single response only. Do not prompt.*

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

Further details:

Q6 **Do you tend to visit this location at a certain time of day?** *Tick closest answers. Multiple answers ok. Do not prompt.*

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

Q7 **Do you tend to visit this location more at a particular time of year for [***insert given activity***]?** *Multiple answers ok. Do not prompt.*

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

Q8 **How did you get here today?** *If necessary prompt with:* **What forms of transport did you use?** *If multiple forms of transport used, then tick the main one and give details of others in box below.*

- ◯ Car / van
- ◯ On foot
- ◯ Bicycle
- ◯ Bus
- ◯ Train
- ◯ Ferry
- ◯ Other, please detail

Further details:

Q9 **Why did you choose to visit this specific location today, rather than somewhere else?** *Tick all responses given. Do not prompt, tick closest answers.*

- [ ] Don't know / others in party chose
- [ ] Close to home
- [ ] No need to use car
- [ ] Quick / easy travel route
- [ ] Good / easy parking
- [ ] Particular facilities
- [ ] Tide state
- [ ] Good/easy access to the water
- [ ] Refreshments / cafe / pub
- [ ] Choice of routes
- [ ] Away from roads/traffic
- [ ] Feels safe here
- [ ] Not many people
- [ ] Scenery / variety of views
- [ ] Rural feel / wild landscape
- [ ] To be by the sea / coast
- [ ] Particular wildlife interest (e.g. birds, plants)
- [ ] Particular historic or cultural interest
- [ ] Habit / familiarity
- [ ] Good for dog / dog enjoys it
- [ ] Ability to let dog off lead
- [ ] Appropriate place for activity
- [ ] Suitability of area in given weather conditions
- [ ] For a change / variety
- [ ] Other, please detail

Further details:

Q10 **Which of those reasons would you say had the most influence over your choice of location to visit today?** *Single choice, tick their main reason only. List is based on their answers to Q9.*

Q11 **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 (if applicable), **E** to indicate where they started and **X** to indicate where they finished. Mark the route with a solid line for the route already taken and a dotted line for the expected or remaining route, with arrows to indicate the direction.*

Enter the map reference below, or write 'no map' if no route map completed.

Q12 **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

Q13 **What, if anything, influenced your choice of route here today?** *Tick closest answers, do not prompt. Multiple responses ok.*

- ☐ Weather
- ☐ Tides
- ☐ Daylight
- ☐ Time
- ☐ Habit / usual route
- ☐ Other users (avoiding crowds, other dogs etc.)
- ☐ Group members (e.g. kids, less able)
- ☐ Being by the sea / beach
- ☐ Followed a marked trail (e.g. South West Coast Path)
- ☐ Activity undertaken (e.g. presence of dog)
- ☐ Birds / wildlife
- ☐ Followed their dog
- ☐ Interpretation / leaflets / promotion / app
- ☐ Viewpoint / feature
- ☐ Just wandering / exploring
- ☐ Other, please detail

Further details:

Q14 **Are you aware of any ways in which this area is protected for wildlife?** *Do not prompt.*

- [ ] Don't know
- [ ] Mentions the Marine Protected Area
- [ ] Mentions the Voluntary No Anchor Zone
- [ ] Mentions the Wembury Marine Centre or the Wembury Marine Conservation Area
- [ ] Mentions the Green Blue code of conduct
- [ ] Mentions the National Marine Park
- [ ] Other, please detail

Further details:

Q15 **Have you heard of the Plymouth Sound National Marine Park?**

- ◯ Yes
- ◯ No
- ◯ Not sure

Q16 **Do you know what species (plants or animals) or habitats (where they live) are special to this area?** *Do not prompt.*

- [ ] Seagrass
- [ ] Blue/Common Mussel
- [ ] Native Oyster
- [ ] Avocet
- [ ] Little Egret
- [ ] Reefs
- [ ] Saltmarsh
- [ ] Other, please detail

Further details:

Q17 **How much do you agree or disagree with the following statement: "I feel connected to nature when I come here for [given activity]". The options are: Strongly agree / agree / disagree / strongly disagree / don't know.**

- ◯ Strongly agree
- ◯ Agree
- ◯ Neutral / don't know
- ◯ Disagree
- ◯ Strongly disagree

Q18 **Where would you have visited today for [given activity] if you could not have visited here?** *Do not prompt. Ask for spelling if necessary.*

- ○ Nowhere / wouldn't have visited anywhere
- ○ Not sure / don't know
- ○ Site name:

Please could you tell me the name of 2 other locations that you also visit for [*given activity*]? *Do not prompt. Ask for spellings if necessary.*

Q19a **Site name:**

Q19b **Site name:**

Q20 **Are there any changes you would like to see here with regards to how this area is managed for access?** *Do not give options or prompt. Tick closest option(s).*

- ☐ No changes / leave as is
- ☐ More parking
- ☐ Better parking
- ☐ More paths
- ☐ Better / surfaced paths
- ☐ Better access to the water e.g. slipways
- ☐ More bins / less litter
- ☐ More dog waste bins
- ☐ Controls on dogs and dog fouling
- ☐ Facilities for dogs (e.g. training areas, washing facilities)
- ☐ Seating / benches
- ☐ Toilets
- ☐ Showers
- ☐ Cafe
- ☐ Changes to habitats / scenery
- ☐ More natural / wild
- ☐ Not sure / don't know
- ☐ Other, please detail below

Further details:

Q21 **Do you have any further comments or general feedback about your visit and access to this area?**

Q22 **Finally, to identify how far people have travelled, what is your full home postcode?**
This is an important piece of information, please make every effort to record correctly. If necessary, reassure them that we don't want their full address, and it will only be used to work out where people are coming from.

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

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

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

TO BE COMPLETED AFTER INTERVIEW FINISHED.

Q25 Survey location:

- ◯ 1 - Newton Ferrers
- ◯ 2 - Wembury
- ◯ 3 - Bovisand
- ◯ 4 - Mount Batten
- ◯ 5 - East Hoe
- ◯ 6 - Firestone Bay
- ◯ 7 - Mutton Cove
- ◯ 8 - Riverside
- ◯ 9 - Ernesettle Creek
- ◯ 10 - Lopwell Dam
- ◯ 11 - Bere Ferrers
- ◯ 12 - Weir Quay
- ◯ 13 - Calstock
- ◯ 14 - Cotehele
- ◯ 15 - Cargreen
- ◯ 16 - Saltash
- ◯ 17 - Wacker Quay
- ◯ 18 - Torpoint
- ◯ 19 - Cawsand

Number of people in group (including minors)	
Number of minors in group (under 18s)	
Number of dogs with group	
Number of dogs with group seen off lead	

Q26 **Did the interviewee struggle with answering questions because English was not their first language?**
Tick if you feel this may have influenced their responses.

☐

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 4: Online survey

This is a printer-friendly version of the online survey. The actual survey was interactive and had routing so that only options relevant to the participant were shown. For example, in Q4 and Q5 only those areas which were ticked in Q3 were listed.

Plymouth Sound and Estuaries Marine Recreation Survey

This survey is being run on behalf of **Plymouth City Council** and the **ReMEDIES** team to find out how people use the Plymouth Sound and Estuaries for outdoor recreation. The results will be used to help protect the Marine Protected Area. Whether you are local or an occasional visitor, and whatever activity you take part in, we would like to hear from you!

The map below shows the area relevant to this survey. It includes the Plymouth Sound (from Rame Head to the River Yealm), the Tamar Estuary, the River Lynher, the River Tavy, St John's Lake and Tamerton Lake.

The survey will run until **31st December 2023** and it should take about 5 minutes to complete. If you have any problems completing the survey, or require it in a different format, please contact info@footprint-ecology.co.uk.

Q1 **What activities do you do in this area? Tick all that apply.**

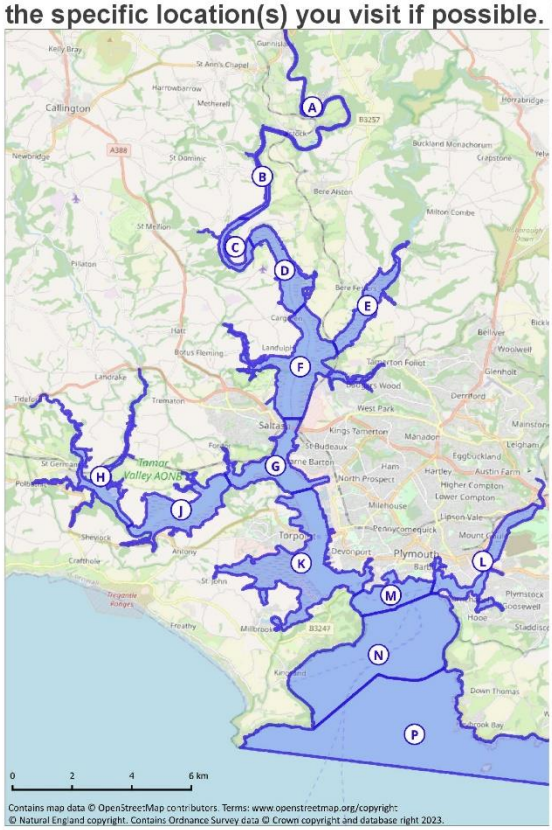
- [ ] Swimming
- [ ] Paddleboarding
- [ ] Kayaking or canoeing
- [ ] Powerboating
- [ ] Sailing/yachting
- [ ] Fishing from shore
- [ ] Fishing from a boat
- [ ] Scuba diving
- [ ] Spearfishing
- [ ] Jet skiing / other PWC
- [ ] Rockpooling
- [ ] Going to the beach (e.g. sitting/sunbathing/playing on the beach)
- [ ] Walking
- [ ] Dog walking
- [ ] Jogging/running
- [ ] Bird/wildlife watching
- [ ] Cycling/mountain biking
- [ ] Photography
- [ ] Other activity, please detail:

Other activity:

Q2 **Which of these do you do most often?**

- ○ Swimming
- ○ Paddleboarding
- ○ Kayaking or canoeing
- ○ Powerboating
- ○ Sailing/yachting
- ○ Fishing from shore
- ○ Fishing from a boat
- ○ Scuba diving
- ○ Spearfishing
- ○ Jet skiing
- ○ Rockpooling
- ○ Going to the beach
- ○ Walking
- ○ Dog walking
- ○ Jogging/running
- ○ Bird/wildlife watching
- ○ Cycling/mountain biking
- ○ Photography
- ○ Other activity

Q3 **Where do you go for {Q2}? Tick the relevant area(s) and give further details of the specific location(s) you visit if possible.**



- ☐ A - Tamar (Gunnislake, Morwellham, Calstock)
- ☐ B - Tamar (Cotehele)
- ☐ C - Tamar (Halton)
- ☐ D - Tamar (Weir Quay, Cargreen)
- ☐ E - Tavy (Bere Ferrers, Lopwell Dam)
- ☐ F - Tamar (Kingsmill - Ernesettle)
- ☐ G - Tamar (Saltash, Riverside)
- ☐ H - Lynher (St Germans, Tideford)
- ☐ J - Lynher (Wacker Quay, Antony)
- ☐ K - Tamar (Torpoint, Millbrook, Mutton Cove)
- ☐ L - Plym (Cattewater)
- ☐ M - Outer Estuary (Plymouth waterfront)
- ☐ N - Sheltered Bay (Kingsand/Cawsand, Jennycliff)
- ☐ P - Open Coast (Bovisand, Wembury)
- ☐ Q - Yealm (Newton Ferrers, Cellar Beach)

Q4 **Over the past year, roughly how often have you been {Q2} within each of these areas?**

	Daily	Most days	1 to 3 times a week	2 to 3 times a month	Once a month	Less than once a month	Not at all in the past year	Don't know
A - Tamar (Gunnislake, Morwellham, Calstock)	○	○	○	○	○	○	○	○
B - Tamar (Cotehele)	○	○	○	○	○	○	○	○
C - Tamar (Halton)	○	○	○	○	○	○	○	○
D - Tamar (Weir Quay, Cargreen)	○	○	○	○	○	○	○	○
E - Tavy (Bere Ferrers, Lopwell Dam)	○	○	○	○	○	○	○	○
F - Tamar (Kingsmill - Ernesettle)	○	○	○	○	○	○	○	○
G - Tamar (Saltash, Riverside)	○	○	○	○	○	○	○	○
H - Lynher (St Germans, Tideford)	○	○	○	○	○	○	○	○
J - Lynher (Wacker Quay, Antony)	○	○	○	○	○	○	○	○
K - Tamar (Torpoint, Millbrook, Mutton Cove)	○	○	○	○	○	○	○	○
L - Plym (Cattewater)	○	○	○	○	○	○	○	○
M - Outer Estuary (Plymouth waterfront)	○	○	○	○	○	○	○	○
N - Sheltered Bay (Kingsand/Cawsand, Jennycliff)	○	○	○	○	○	○	○	○
P - Open Coast (Bovisand, Wembury)	○	○	○	○	○	○	○	○
Q - Yealm (Newton Ferrers, Cellar Beach)	○	○	○	○	○	○	○	○

Q5 **Do you tend to visit these areas for {Q2} more at a particular time of year? Tick the relevant season(s) or 'All year round'.**

	Spring (Mar-May)	Summer (Jun-Aug)	Autumn (Sep-Nov)	Winter (Dec-Feb)	All year round	Don't know
A - Tamar (Gunnislake, Morwellham, Calstock)	☐	☐	☐	☐	☐	☐
B - Tamar (Cotehele)	☐	☐	☐	☐	☐	☐
C - Tamar (Halton)	☐	☐	☐	☐	☐	☐
D - Tamar (Weir Quay, Cargreen)	☐	☐	☐	☐	☐	☐
E - Tavy (Bere Ferrers, Lopwell Dam)	☐	☐	☐	☐	☐	☐
F - Tamar (Kingsmill - Ernesettle)	☐	☐	☐	☐	☐	☐
G - Tamar (Saltash, Riverside)	☐	☐	☐	☐	☐	☐
H - Lynher (St Germans, Tideford)	☐	☐	☐	☐	☐	☐
J - Lynher (Wacker Quay, Antony)	☐	☐	☐	☐	☐	☐
K - Tamar (Torpoint, Millbrook, Mutton Cove)	☐	☐	☐	☐	☐	☐
L - Plym (Cattewater)	☐	☐	☐	☐	☐	☐
M - Outer Estuary (Plymouth waterfront)	☐	☐	☐	☐	☐	☐
N - Sheltered Bay (Kingsand/Cawsand, Jennycliff)	☐	☐	☐	☐	☐	☐
P - Open Coast (Bovisand, Wembury)	☐	☐	☐	☐	☐	☐
Q - Yealm (Newton Ferrers, Cellar Beach)	☐	☐	☐	☐	☐	☐

Q6 **What is usually your main form of transport when you do {Q2} in Plymouth Sound and Tamar Estuaries?**

- ◯ Car / van
- ◯ On foot
- ◯ Bicycle
- ◯ Bus
- ◯ Train
- ◯ Ferry
- ◯ Other, please detail

Further details:

Q7 **What attracts you to visiting the Plymouth Sound and Tamar Estuaries for {Q2}? Tick all that apply.**

- ☐ Don't know
- ☐ Others in party/group choose
- ☐ Close to home
- ☐ No need to use the car
- ☐ Quick / easy travel route
- ☐ Good / easy parking
- ☐ Particular facilities
- ☐ Good/easy access to the water
- ☐ Appropriate place for activity
- ☐ Refreshments / cafe / pub
- ☐ Choice of routes
- ☐ Scenery / views / landscape
- ☐ Habit / familiarity
- ☐ Particular wildlife interest (e.g. birds, plants)
- ☐ Particular historic or cultural interest
- ☐ Ability to let dog off lead
- ☐ Other reason, please detail

Further details:

Q8 **Have you heard of the Plymouth Sound National Marine Park?**

- ◯ Yes
- ◯ No
- ◯ Not sure

Q9 **To what extent do you agree or disagree with the following statement: "I feel connected to nature when I am doing {Q2} in the Plymouth Sound and Estuaries"?**

- ◯ Strongly agree
- ◯ Agree
- ◯ Don't know
- ◯ Disagree
- ◯ Strongly disagree

Q10 **Do you have any further comments to make regarding recreation access in the Plymouth Sound and Estuaries?**

Q11 **What is your full home postcode? This will only be used to find out where people are coming from.**

Thank you very much for your time.

Appendix 5: Workbook used in the workshops

Map number(s)		MARINE RECREATION IN THE PLYMOUTH SOUND & ESTUARIES	
Attendee name			
Affiliation (if relevant)			
Home postcode		Workshop date	
Have you previously completed a face-to-face or online questionnaire?	Yes		No

Please tick a single main activity & as many other activities as are relevant	Sailing/ yachting	Sea fishing	Spearfishing	Snorkelling	Scuba diving	Swimming	Rockpooling	Rowing	Kayaking/ Canoeing	Surfing	Paddle-boarding	Windsurfing/ foiling			
Main activity															
Other activities															

Please tick all that apply to visits undertaken for your main activity	Daily	Most days	1 to 3 times a week	2 to 3 times a month	Once a month	Less than once a month	Not visited in last year	Spring	Summer	Autumn	Winter	Equally all year
Frequency												
Seasonality												

What are the optimal conditions (e.g. weather, tide, season, etc.) in which to undertake a typical visit for your main activity?

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What other factors affect where and when you go during a typical visit for your main activity?

If relevant, where do you typically launch from/moor and where do you typically anchor? Are these locations affected by conditions on the day? *Please also mark all launch/mooring/anchoring locations on the map.*

Are you aware of any sensitive wildlife or habitats present within Plymouth Sound & Estuaries and/or the areas that you visit for your main activity?

Is there any other information concerning your use of the Plymouth Sound & Estuaries that you'd like to share?

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Map number(s)		MARINE RECREATION IN THE PLYMOUTH SOUND & ESTUARIES	
Attendee name		Workshop date	

Additional notes.

Appendix 6: Organisations represented through stakeholder engagement

The following organisations were represented in the stakeholder interviews and/or workshops, either through individuals who were club members or those with more formal roles. In addition, there were several participants not affiliated to any club(s).

Name of organisation or club	Type	Interview (I) or workshop (W)
DOE SAC	Angling	I/W
Plymouth & District Shore League	Angling	I
Pot Black SAC	Angling	I
Roving Rods SAC	Angling	I/W
Wyvern Region Angling Trust	Angling	I/W
Port of Plymouth Canoeing Association (PPCA)	Canoeing	W
Devon Wildlife Trust	Conservation charity	I
Wembury MCA Advisory Group	Conservation group	I/W
Yealm Estuary Management Group	Estuary group	I
Cattewater Harbour Commissioners	Harbour authority	I
South West SUP	Paddleboarding	I
Calstock Parish Council	Parish council	I
South Devon National Landscape (formerly AONB)	Partnership	I
Natural England	Public body	I/W
The Rock Pool Project	Rockpooling	W
Mayflower Offshore Rowing Club	Rowing	W
Bounty Project	Sailing	W
Cawsand Sailing Club	Sailing	W
Plymouth Youth Sailing (PYS)	Sailing	W
Port of Plymouth Sailing Association	Sailing	W
Sailing Tectona CIC	Sailing	W
Tamar River Sailing Club (TRSC)	Sailing	W
The Island Trust	Sailing	W
Marine Biological Association	Scientific research	W
British Sub Aqua Club (BSAC)	Scuba diving	W
Plymouth Sound BSAC	Scuba diving	W
Sound Diving	Scuba diving	I
British Spearfishing Association	Spearfishing	W
Exe Spearfishing Club	Spearfishing	W
Batten Belles and Buoys	Swimming	W
Mount Batten Watersports & Activities Centre	Watersports centre	I
Royal Plymouth Corinthian Yacht Club (RPCYC)	Yachting	W
Royal Yachting Association (RYA)	Yachting	W